P3028-RD-00005

State Route 91 Corridor Improvement Project

Riverside and Orange Counties, California
ORA-91-R14.43/R18.91
RIV-91-R0.00/R13.04
RIV-15-35.64/45.14
EA 08-0F5400
PN 080000000136

Final Environmental Impact Report/Environmental Impact Statement

Volume I

Prepared by the
State of California Department of Transportation
and the
Riverside County Transportation Commission

The environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 USC 327.

Caltrans

August 2012

This page intentionally left blank

General Information about This Document

For individuals with sensory disabilities, this document can be made available in alternate formats. To obtain a copy in an alternate format, please call or write to the Riverside County Transportation Commission, Attn: Cathy Bechtel, Project Development Director, P.O. Box 12008, Riverside, CA 92502-2208, (951) 787-7141; or use the California Relay Service TTY number, 1 (800) 735-2929, or voice number 1 (800) 735-2922, or 711.

This page intentionally left blank

FHWA Highway ID No. RIV071250

SCH# 2008071075
Ora-91-R14.43/R18.91
RIV-91-R0.00/R13.04
RIV-15-35.64/45.14
EA 08-0F5400
PN 0800000136

The State Route 91 Corridor Improvement Project proposes widening, including the construction of one mixed-flow lane in each direction, one auxiliary lane in each direction, high-occupancy or tolled express lanes, and direct high-occupancy or tolled express lane connections between State Route 91 and Interstate 15.

FINAL ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 42 USC 4332(2)(C) and 49 USC 303

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

COOPERATING AGENCY:
UNITED STATES ARMY CORPS OF ENGINEERS

8/10/12
Date of Approval

Basem Muallem
District Director
District 8
California Department of Transportation
NEPA and CEQA Lead Agency

The following person may be contacted for additional information concerning this document:

Mr. Aaron Burton
California Department of Transportation, District 8
464 West 4th Street
6th Floor, MS 1162
San Bernardino, CA 92401-1400
Email: aaron_burton@dot.ca.gov
Telephone: (909) 383-2841

Abstract: The project is in Orange and Riverside Counties, within the jurisdiction of California Department of Transportation (Department) Districts 8 and 12. The Build Alternatives would provide facility improvements along State Route 91 (SR-91) and Interstate 15 (I-15), spanning the Cities of Anaheim and Yorba Linda in Orange County, and the Cities of Corona, Norco, and Riverside in Riverside County. There are two Build Alternatives extending on SR-91 from State Route 241 (SR-241) (in the Cities of Anaheim and Yorba Linda) to Pierce Street (in the City of Riverside), a distance of approximately 14 miles (mi), and on I-15 from the Hidden Valley Parkway interchange in the Cities of Corona and Norco to the Cajalco Road interchange in the City of Corona, a distance of approximately 6 mi. SR-91 is continuing to experience increased congestion as a result of population growth in Riverside County and the increase in jobs in Orange County. Improvements are necessary to address existing and projected deficiencies regarding mobility, access, goods movement, and freeway capacity on SR-91. The Build Alternatives would improve the vehicle, person, and goods movement travel times on SR-91 and I-15 to more effectively serve existing and future travel demand between and within Riverside and Orange Counties. Key issues include impacts to community character and cohesion, utilities and emergency services, biological resources, cultural resources, paleontological resources, aesthetics, residential and business relocations, water quality, air quality, and noise effects.

This page intentionally left blank

TABLE OF CONTENTS

VOLUME I

VOLUME II

This page intentionally left blank

LIST OF FIGURES

This page intentionally left blank

LIST OF TABLES

This page intentionally left blank

Executive Summary

Effective July 1, 2007, the California Department of Transportation (Department) has been assigned environmental review and consultation responsibilities under NEPA pursuant to Section 6005 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) (23 United States Code [USC] 327). On projects for which the Department has assumed NEPA responsibilities, the Department has also assumed responsibility for environmental review and consultation under other federal environmental laws.

RCTC, in cooperation with the Department, has proposed capacity, operational, and safety improvements on part of SR-91 and part of I-15, designated as the SR-91 Corridor Improvement Project (CIP). The project would widen the existing SR-91 from the SR-91/SR-241 interchange in the cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County. The project also includes improvements to I-15 in Riverside County between the I-15 and Cajalco Road interchange in the City of Corona and the I-15 and Hidden Valley Parkway interchange in the City of Corona. The project is subject to State and federal environmental review requirements. Project documentation has been prepared in compliance with both CEQA and NEPA. The Department is the lead agency under NEPA and CEQA for this project.

Lines were added to the margins of the pages in this document to assist the reader in noting places where substantive changes were made after the circulation of the Draft EIR/EIS during the preparation of this Final EIR/EIS.

S.1 Overview of the Project Study Area

The project study area extends along the project segments of SR-91 and I-15 in northeastern Orange County and western Riverside County. The Post Miles for the project on SR-91 in Orange County are between ORA-91-R14.43 and ORA-91-R18.91, in Riverside County between RIV-91-R0.00 and RIV-91-R13.04, and on I-15 in Riverside County between RIV-15-35.64 and RIV-15-45.14. The project limits on I-15 begin at Cajalco Road, approximately 5 mi south of SR-91 in the City of Corona. The project limits extend north on I-15 to Hidden Valley Parkway, approximately 1 mi north of SR-91 in the cities of Corona and Norco.

In the project study area, SR-91 currently has four 11- to 12-feet- (ft) wide, general-purpose (GP) travel lanes in each direction from the SR-241/SR-91 interchange to the

SR-91/I-15 interchange. It has three 12 ft wide GP lanes in each direction from the SR-91/I-15 interchange to Pierce Street. In addition, there are two tolled express lanes and one high-occupancy vehicle (HOV) lane in each direction within the project limits. The tolled express lanes, which are 11 or 12 ft wide depending on the location, begin west of the SR-91/State Route 55 (SR-55) interchange and terminate at the Orange/Riverside County line. The HOV lanes, which are 11 or 12 ft wide depending on the location, begin where the tolled express lanes end just east of the Orange/ Riverside County line and extend east to Mary Street in the City of Riverside.

One project, which was recently completed, and several approved or planned projects in the project study area may affect or require design coordination with the project. These projects are:

- SR-91 Eastbound Lane Addition Project between SR-241 and State Route 71 (SR-71) (operational)
- Santa Ana Mainstem Project – Santa Ana River Reach 9 Phase 2B Realignment/ Santa Ana River Interceptor Pipeline Reaches III and IV
- SR-91/SR-71 Interchange Improvement Project
- I-15 Corridor Improvement Project
- SR-241/SR-91 Direct Connector Project
- SR-91 between SR-55 and SR-241
- SR-91 Lane Addition from SR-55 to Weir Canyon Road north of SR-91
- State Route 57 (SR-57) Northbound Truck Climbing Lane
- SR-241/SR-91 HOV/High-Occupancy Toll (HOT) Connector
- Express bus service operating on SR-91 that provides connections from Riverside County to employment centers in Anaheim, Costa Mesa, Fullerton, and Irvine in Orange County.
- Four additional express bus routes are planned for implementation in 2016.
- The parking capacity of the North Main Street Corona MetroLink parking structure adjacent to SR-91 was increased in June 2009, which allowed commuter rail ridership to increase, thereby diverting trips from SR-91.
- Future MetroLink service improvements are anticipated to include at least 40 daily trips each on the IEOC Line and 91-Line by 2020.
- Mid County Parkway
- Coal Canyon Landscape Project
- Corridor A-1: Community and Environmental Transportation Acceptability Process (CETAP), Riverside County to Orange County, construct an intercounty

transportation corridor with two toll lanes in each direction on a new facility parallel to SR-91 from SR-241 to I-15

- SR-241/SR-91 Toll Connectors: Provide HOV/HOT connectors from northbound SR-241 to eastbound SR-91 and from westbound SR-91 to southbound SR-241
- I-15 HOV/Express Lanes: Provide 2 HOV and 2 HOT lanes in each direction on I-15 from SR-74 to the San Bernardino County line
- SR-71 Widening: Widen SR-71 to 3 mixed-flow lanes in each direction from SR-91 to the San Bernardino County line

In addition to these projects, a number of other transportation and land use projects are identified within the cumulative impact study area, including projects identified in the most current *SR-91 Implementation Plan* (Orange County Transportation Authority [OCTA]).

S.2 Purpose and Need

S.2.1 Project Purpose

The purpose of the project is to:

1. Improve the vehicle, person, and goods movement within the SR-91 corridor to more effectively serve existing and future travel demand between and within Riverside and Orange Counties.
2. Provide improvements along the SR-91 and I-15 transportation corridors as well as to related local roads and to reduce diversion of regional traffic from the freeways into the surrounding communities.

S.2.2 Project Need

SR-91 is the only major highway corridor that provides the home-to-work connection for Riverside and San Bernardino County residents working in Orange and Los Angeles Counties. SR-91 is currently used by more than 280,000 vehicles per day (vpd) at the Orange/Riverside County line, and this volume continues to grow. At the same time, travel speeds on SR-91 are well below 30 miles per hour (mph) during the lengthy morning (westbound) and evening (eastbound) peak travel periods. Existing congestion and delays on SR-91 and I-15 during peak travel periods result in freeway traffic diverting to adjacent local roads to avoid congestion and delays. This diversion of freeway traffic is particularly prevalent in the City of Corona as motorists on westbound SR-91 and motorists transitioning from northbound I-15 to westbound SR-91 seek less congested routes in the morning (westbound) peak travel period. Similarly, diversion of freeway traffic into the City occurs as motorists on eastbound

SR-91 and motorists transitioning from eastbound SR-91 to southbound I-15 seek less congested routes in the evening (eastbound) peak travel period.

SR-91 is continuing to experience increased congestion as a result of population growth in Riverside and San Bernardino Counties and the increase in jobs in Orange and Los Angeles Counties. Demographic projections for the SCAG region (Orange, Los Angeles, Ventura, Santa Barbara, and Riverside Counties), show that population and employment in Riverside and Orange Counties are forecast to increase substantially by 2035. As a result, traffic volumes on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in even greater congestion and delays on SR-91. The existing travel demand on SR-91 has led to a heavy directional commute pattern between Riverside and Orange/Los Angeles Counties that is projected to continue into the future.

Improvements are necessary to address existing and projected deficiencies regarding mobility, access, goods movement, and freeway capacity on the project segment of SR-91, which is the only major highway that links Riverside and Orange Counties.

S.3 Proposed Action

Both Build Alternatives would add one GP lane in each direction on SR-91 between SR-241 and I-15. Both Build Alternatives would include improvements to I-15 between the Cajalco Road interchange and the Hidden Valley Parkway interchange in the City of Corona.

The two Build Alternatives would provide auxiliary lanes or collector-distributor roads at interchanges and would modify the existing interchange geometrics within the project limits to improve traffic operations. The Build Alternatives would also upgrade existing SR-91 to standard shoulder, lane, and buffer widths where those upgrades can be accommodated.

Under Alternative 1, the existing HOV facilities and tolled express lanes on SR-91 would be maintained in their current configurations. Alternative 2 would result in two tolled express lanes in each direction on SR-91 between SR-241 and I-15. The existing HOV and express lanes would be converted into these two tolled express lanes. East of I-15, the HOV lanes in Alternative 1 and the tolled express lanes in Alternative 2 would be converted to join to the existing HOV and GP lanes at approximately Mary Street.

Alternative 1 would provide one median HOV lane in each direction on I-15 between SR-91 and Ontario Avenue. Alternative 2 would provide one median tolled express lane in each direction on I-15 between Hidden Valley Parkway and Cajalco Road.

Under Alternatives 1 and 2, existing local access to/from the existing interchanges is expected to be maintained except at West Grand Boulevard, where the existing half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange.

The Build and No Build Alternatives are described briefly in the following section.

S.3.1 Alternatives

S.3.1.1 No Build Alternative

The No Build Alternative would maintain existing SR-91 and I-15 in the project area. Under this alternative, there would be no additional GP lanes and no change in the existing express or HOV lanes on SR-91. No improvements on SR-91, I-15, or intersecting local roads would be provided. The *SR-91 Implementation Plan* would not be implemented under the No Build Alternative.

Under the future No Build Alternative, it is assumed the following independent projects have been constructed and are operational:

- SR-71/SR-91 Interchange Improvement Project
- SR-91 Eastbound Lane Addition Project between SR-241 and SR-71 (this project is now operational)
- SR-91 Lane Addition from SR-55 to Weir Canyon Road north of SR-91
- State Route 57 (SR-57) Northbound Truck Climbing Lane
- SR-241/SR-91 HOV/High-Occupancy Toll (HOT) Connector

It is not anticipated that other major corridor improvements would be implemented on the project segments of SR-91 and I-15 under the No Build Alternative. However, it is anticipated that smaller localized projects could be considered, approved, and implemented in the future on their own merits.

S.3.1.2 Alternative 1: Add General-Purpose Lanes and Maintain HOV Lanes (GP + HOV Lanes)

One GP lane would be constructed in each direction on SR-91 from the SR-91/SR-241 interchange in the Cities of Anaheim and Yorba Linda to Pierce Street in the City of Riverside under Alternative 1. The existing HOV lanes on SR-91 between the

Orange/Riverside County line and Pierce Street would be maintained. Alternative 1 would provide HOV lane connectors from eastbound SR-91 to southbound I-15 and from northbound I-15 to westbound SR-91. Those direct connectors would provide direct HOV lane access between I-15 and SR-91 which would allow vehicles in the HOV lanes to move from freeway to freeway, without the need to move through traffic in the GP lanes. One HOV lane would be constructed on I-15 in each direction from Ontario Avenue in the City of Corona to a proposed I-15/SR-91 HOV lane direct connector.

Alternative 1 would provide auxiliary lanes or collector-distributor roads at interchanges and would modify the existing interchanges within the project limits. Existing local access to/from the existing interchanges would be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Alternative 1 also includes upgrades to existing SR-91 to standard shoulder, lane, and buffer widths where those upgrades can be accommodated.

Alternative 1 includes four design variations (1a through 1d) that provide different designs at Auto Center Drive/Maple Street (design variations 1a and 1b) and Lincoln Avenue/Grand Boulevard (design variations 1c and 1d). The construction of Alternative 1 will cost approximately $990 million to $1.0 billion, based on the design variation.

S.3.1.3 Alternative 2: Add General-Purpose Lanes and Extend Tolled Express Lanes (GP + Tolled Express Lanes)

RCTC identified Alternative 2 as the Locally Preferred Alternative (LPA), as discussed in Chapter 2, Project Alternatives.

Under Alternative 2, one GP lane would be constructed in each direction on SR-91, from the SR-91/SR-241 interchange in the Cities of Anaheim and Yorba Linda to Pierce Street in the City of Riverside. The existing express lanes in Orange County would be extended east from the Orange/Riverside County line to I-15 in the City of Corona. The existing HOV lanes would be converted to tolled express lanes, and one additional tolled express lane would be added in each direction on SR-91 from the Orange/Riverside County line to I-15.

On June 7, 2012, the RCTC formally adopted the "RCTC 91 Express Lanes Toll Policy." The RCTC policy includes the same policies and toll pricing that exists today

for the OCTA 91 Express Lanes. Toll prices currently range from $1.35 in the non-peak hours to $10.05 in the eastbound SR-91 "super peak" hour from 3:00 to 4:00 p.m. on Fridays.[1] In addition to the posted tolls, the RCTC 91 Express Lane toll policy allows carpoolers with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans to ride free during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when they pay 50 percent of the posted toll.

A single eastbound SR-91 tolled express lane would extend past I-15 to McKinley Street and then convert back to an HOV lane at Pierce Street in each direction. In the westbound direction, the existing HOV lanes would be converted to a single tolled express lane east of McKinley Street and join a second tolled express lane at the I-15 interchange. Alternative 2 would add one tolled express lane in each direction on I-15 extending from the project express lane connectors north to Hidden Valley Parkway and south to Cajalco Road.

Single tolled express lane direct connectors between I-15 and SR-91 would provide access from northbound I-15 to westbound SR-91, extending on I-15 from SR-91 to the Hidden Valley Parkway interchange, and from eastbound SR-91 to southbound I-15, extending on I-15 from SR-91 to Cajalco Road. The direct connectors would allow express lane drivers to travel from the express lanes on one freeway into the express lanes on the other freeway without having to transition through the GP lanes.

Alternative 2 would also provide auxiliary lanes or collector-distributor roads at interchanges and would modify the existing interchanges within the project limits. Existing local access to/from the existing interchanges would be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Alternative 2 also includes upgrades to existing SR-91 to standard shoulder, lane, and buffer widths where those upgrades can be accommodated.

Alternative 2 includes eight design variations (2a through 2h) that provide different design options at Auto Center Drive/Maple Street (two design options), Smith Avenue (two design options), and Lincoln Avenue (two design options). The construction of Alternative 2 will cost approximately $1.345 to $1.426 billion,

[1] http://www.91expresslanes.com/schedules.asp.

depending on the design variation. Alternative 2f is estimated to cost $1,380,500,000, including roadway, structures and right-of-way costs.

S.3.1.4 Preferred Alternative

On September 20, 2011, the Project Development Team (PDT) evaluated the two Build Alternatives and the No Build Alternative to develop a recommendation to the Department and RCTC for the Preferred Alternative. The PDT is made up of representatives from Districts 8 and 12 of the Department; the Riverside County Transportation Commission; the Transportation Corridor Agencies, the Orange County Transportation Authority, the Cities of Corona, Riverside, Norco, and Anaheim; and consultants providing technical support to the Department and RCTC.

The approach of the PDT for developing that recommendation was conducted in two steps. Step 1 considered the ability of the two Build Alternatives and the No Build Alternative to meet the following five specific criteria: (1) the best alternative that meets the purpose of the project; (2) the alternative that provides the best travel time savings; (3) consideration of substantially differentiating environmental impacts for each of the Build Alternatives; (4) consideration of the comments provided by agencies and members of the general public during the public review period; and (5) consistency with transportation system planning for SR-91. As described in detail in Section 2.3.7.3, Development of the PDT Recommendation, Alternatives 1 and 2 both meet the project purpose. Alternative 2 results in the best travel time savings compared to Alternative 1 and the No Build Alternative. Alternatives 1 and 2 result in similar environmental impacts, but the larger footprint for Alternative 2 results in that Alternative having slightly greater impacts in some categories compared to Alternative 1. There was no strong preference for or against a specific alternative by the commenting agencies and members of the general public; however, the wider cross section in Alternative 2 better meets the system planning criterion compared to Alternative 1. Based on the evaluation of the ability of the No Build and Build Alternatives to meet these criteria, the PDT recommended Alternative 2 as the Preferred Alternative for the SR-91 CIP. RCTC, the Department, the City of Corona, the OCTA, and the Transportation Corridor Agencies (TCA), all members of the PDT, concurred with this recommendation. As a result, Alternative 2 is the Preferred Alternative for the SR-91 CIP.

Once the Preferred Alternative was identified, Step 2 considered the design variations for that Build Alternative and evaluated them on the following four criteria to determine which design variations should be included in the Preferred Alternative:

(1) the design variation that would minimize community and right-of-way impacts; (2) the design variation that would provide the best traffic operations; (3) consideration of substantially differentiating environmental impacts for each of the design variations; and (4) consideration of the comments provided by agencies and members of the general public during the public review period. The evaluation of the design variations provided in Section 2.3.7.4, PDT Recommendation for SR-91 CIP, based on a comparison of these four criteria, determined that design variation f better met these criteria than the other design variations applicable to Alternative 2.

The City of Corona indicated a strong preference for design variation f at the Auto Center Drive/Maple Street, Smith Avenue/Mid-City Access, and Lincoln Avenue interchanges. The PDT, including the Department and RCTC, concurred with the identification of design variation f for inclusion in the Preferred Alternative, and unanimously agreed with the recommendation of the identification of Alternative 2f as the Preferred Alternative for the SR-91 CIP.

S.3.2 Travel Time and Travel Speed

Table S.1 summarizes travel times and speeds on SR-91 between SR-241 and I-15 for the Baseline/Existing (2007) condition, and for 2015 and 2035 with the No Build and Build Alternatives based on the peak directions and hours of travel (i.e., westbound on SR-91 in the a.m. peak hour and eastbound in the p.m. peak hour). Key travel time and speed comparisons of Baseline/Existing (2007) conditions with the 2015 and 2035 No Build and with project conditions are described in the following sections. The project conditions are the Alternative 1 and 2 Ultimate Projects for both 2015 and 2035 and the Initial Phases of Alternatives 1 and 2 for 2015 only, which include only the initial improvements in Alternatives 1 and 2. As shown in the following discussion regarding travel times and travel speeds, the additional lane provided in each direction in Alternative 2 compared to Alternative 1 generally results in reduced travel times and increased travel speeds under Alternative 2 compared to both Alternative 1 and the No Build Alternative.

No Build Conditions in the AM Peak Hour (Westbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 8 minutes from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 15 minutes from Baseline/Existing (2007) to 2035 No Build conditions.

Table S.1 SR-91 Travel Time and Travel Speed Summary[1]

Lanes	Baseline/ Existing (2007)	2015				2035		
		No Build	Alt 1 Ultimate Project	Alt 2 Ultimate Project	Alt 2 Initial Project	No Build	Alt 1 Ultimate Project	Alt 2 Ultimate Project
SR-91 Westbound (AM Peak Hour)								
Travel Time (minutes)								
General Purpose	28.5	36.1	30.7	28.9	32.6	43.2	36.6	37.3
Percent change compared to Baseline/ Existing (2007)	--	26.7%	7.7%	1.4%	14.4%	51.6%	28.4%	30.9%
HOV/Tolled Express	12.1	18.4	15.5	13.1	12.0	25.9	23.5	12.6
Percent change compared to Baseline/ Existing (2007)	--	52.1%	28.1%	8.3%	-0.8%	114.0%	94.2%	4.1%
Travel Speed (mph)								
General Purpose	24.2	19.1	22.5	23.8	21.2	16.0	18.9	18.5
Percent change compared to Baseline/ Existing (2007)	--	-21.1%	-7.0%	-1.7%	-12.4%	-33.9%	-21.9%	-23.6%
HOV/Tolled Express	56.8	37.5	44.4	52.8	57.3	26.6	29.4	55.0
Percent change compared to Baseline/ Existing (2007)	--	-34.0%	-21.8%	-7.0%	0.9%%	-53.2%	-48.2%	-3.2%
SR-91 Eastbound (PM Peak Hour)								
Travel Time (minutes)								
General Purpose	44.0	79.1	66.3	63.7	70.6	86.4	73.3	73.7
Percent change compared to Baseline/ Existing (2007)	--	79.8%	50.7%	44.8%	60.5%	96.4%	66.6%	67.5%
HOV/Tolled Express	30.0	39.7	31.2	13.0	12.5	47.0	48.1	13.8
Percent change compared to Baseline/ Existing (2007)	--	32.3%	4.0%	-56.7%	-58.3%	56.7%	60.3%	-54.0%
Travel Speed (mph)								
General Purpose	15.7	8.7	10.4	10.8	9.8	8.0	9.4	9.4
Percent change compared to Baseline/ Existing (2007)	--	-44.6%	-33.8%	-31.2%	-37.6%	-49.0%	-40.1%	-40.1%
HOV/Tolled Express	23.0	17.4	22.1	53.0	55.0	14.7	14.4	50.0
Percent change compared to Baseline/ Existing (2007)	--	-24.3%	-3.9%	130.4%	139.1%	-36.1%	-37.4%	117.4%

Source: Speed surveys and the RCTC Model Results for the SR-91 CIP, as disclosed in Table 4-64 in the *Final Traffic Study Report* (January 2010).

[1] Travel times and speed are for SR-91 between SR-241 and I-15.

[2] The 2015 conditions under the Initial Phase of Alternative 1 are considered to be the same as for the Initial Phase of Alternative 2.

Alt = Alternative
CIP = Corridor Improvement Project
HOV = high-occupancy vehicle
I-15 = Interstate 15
mph = miles per hour
RCTC = Riverside County Transportation Commission
SR-91 = State Route 91
SR-241 = State Route 241

In the GP lanes, travel speed is forecast to decrease by approximately 5 mph from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 8 mph from Baseline/Existing (2007) to 2035 No Build conditions.

In the HOV/tolled express lanes, travel time is forecast to increase by approximately 6 minutes from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 14 minutes from Baseline/Existing (2007) to 2035 No Build conditions.

In the HOV/tolled express lanes, travel speed is forecast to decrease by approximately 19 mph from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 30 mph from Baseline/Existing (2007) to 2035 No Build conditions.

Alternative 1 in the AM Peak Hour (Westbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 2 minutes from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 8 minutes from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In the GP lanes, travel speed is forecast to decrease by approximately 2 mph from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 5 mph from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In HOV/tolled lanes, travel time is forecast to increase by approximately 3 minutes from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 11 minutes from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In HOV/tolled lanes, travel speed is forecast to decrease by approximately 12 mph from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 27 mph from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

Alternative 2 in the AM Peak Hour (Westbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 0.5 minute from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 9 minutes from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the GP lanes, travel speed is forecast to decrease by approximately 0.5 mph from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 6 mph from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the tolled express lanes, travel time is forecast to increase by approximately 1 minute from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by

approximately 0.5 minute from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the tolled express lanes, travel speed is forecast to decrease by approximately 4 mph from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 2 mph from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

No Build Conditions in the PM Peak Hour (Eastbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 35 minutes from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 42 minutes from Baseline/Existing (2007) to 2035 No Build conditions.

In the GP lanes, travel speed is forecast to decrease by approximately 7 mph from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 8 mph from Baseline/Existing (2007) to 2035 No Build conditions.

In the HOV/tolled express lanes, travel time is forecast to increase by approximately 10 minutes from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 17 minutes from Baseline/Existing (2007) to 2035 No Build conditions.

In the HOV/tolled express lanes, travel speed is forecast to decrease by approximately 6 mph from Baseline/Existing (2007) to 2015 No Build conditions and by approximately 8 mph from Baseline/Existing (2007) to 2035 No Build conditions.

Alternative 1 in the PM Peak Hour (Eastbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 22 minutes from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 29 minutes from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In the GP lanes, travel speed is forecast to decrease by approximately 5 mph from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 6 mph from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In the HOV/tolled express lanes, travel time is forecast to increase by approximately 1 minute from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 18 minutes from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

In the HOV/tolled express lanes, travel speed is forecast to decrease by approximately 1 mph from Baseline/Existing (2007) to 2015 with Alternative 1 conditions and by approximately 9 mph from Baseline/Existing (2007) to 2035 with Alternative 1 conditions.

Alternative 2 in the PM Peak Hour (Eastbound SR-91)

In the GP lanes, travel time is forecast to increase by approximately 20 minutes from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 30 minutes from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the GP lanes, travel speed is forecast to decrease by approximately 5 mph from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 6 mph from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the tolled express lanes, travel time is forecast to decrease by approximately 17 minutes from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 16 minutes from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

In the tolled express lanes, travel speed is forecast to increase by approximately 30 mph from Baseline/Existing (2007) to 2015 with Alternative 2 conditions and by approximately 27 mph from Baseline/Existing (2007) to 2035 with Alternative 2 conditions.

S.3.3 Modal Interrelationships Include System Linkages

SR-91 is an integral component of the regional transportation system. It provides a key linkage between the Inland Empire (Riverside and San Bernardino Counties) and Orange County as well as a gateway into southern Los Angeles County. It connects a large residential population to substantial employment opportunities. The project would provide enhanced mobility and system linkages between the counties as well as additional connectivity as a result of the provision of the direct HOV connectors to the tolled express lanes within the region.

Existing public transit linkages between Riverside and Orange Counties include bus and commuter rail. MetroLink commuter rail services between the two counties are nearing capacity on existing equipment. As identified in the Major Investment Study (MIS) Locally Preferred Strategy (LPS), all transit components in the Riverside County/Orange County study area were to be maximized as part of all future transportation improvements. Alternatives 1 and 2 do not specifically identify these

transit improvements, but they are part of the overall background of transit and transportation improvements required through the extensive elected officials, interested stakeholders, and public outreach process implemented as part of the MIS process by RCTC, OCTA, and the Department.

Some of the existing and planned multimodal components of the overall transportation system include:

- Express bus service operating on SR-91 that provides connections from Riverside County to employment centers in Anaheim, Costa Mesa, Fullerton, and Irvine in Orange County.
- Four additional express bus routes are planned for implementation in 2016. These routes would originate in the Riverside and Temecula areas with destinations to employment centers in Anaheim and Orange in Orange County.
- The parking capacity of the North Main Street Corona MetroLink parking structure adjacent to SR-91 was increased in June 2009, which allowed commuter rail ridership to increase, thereby diverting trips from SR-91.
- MetroLink currently operates 23 trips daily on the Inland Empire-Orange County (IEOC) Line between downtown Riverside, Laguna Niguel/Mission Viejo, and Oceanside.
- Future MetroLink service improvements are anticipated to include at least 40 daily trips each on the IEOC Line and 91-Line by 2020.

S.3.3.1 Logical Termini and Independent Utility

Logical Termini

The project limits for the SR-91 CIP were defined based on providing a logical and independent set of improvements. Logical termini are defined as rational end points for a transportation improvement and rational end points for a review of the environmental impacts of a proposed project. Refer to Figures 2.14 and 2.17, provided later in Chapter 2, Project Alternatives, which show the improvements in the Alternative 1 and 2 Initial Phases and Alternative 1 and 2 Ultimate Projects, respectively.

Logical Termini for the Alternative 1 and 2 Ultimate Projects

The Alternative 1 and 2 Ultimate Projects provide logical termini because they connect to major transportation facilities (SR-241, SR-71, and I-15), which are destinations of the major traffic volumes along SR-91, and terminate at major arterial interchanges (SR-241 on the west and Pierce Street on the east on SR-91, and Hidden

Valley Parkway on the north, and Cajalco Road on the south on I-15). The SR-91 CIP Build Alternatives can be implemented without being dependent on any other improvements, and they would provide substantial benefits to the traveling public between the project termini described without other improvements. Alternatives 1 and 2 for the SR-91 CIP have logical termini that allow for evaluation of potential environmental effects for a project large enough to address the defined traffic need in the affected part of the corridor.

Logical Termini for the Alternative 1 and 2 Initial Phases

Similar to the Ultimate Projects for Alternatives 1 and 2, the limits for the Initial Phases of those Build Alternatives were also defined based on providing a logical and independent set of improvements. The Initial Phase of Alternative 1 provides logical termini because it connects to major transportation facilities (SR-71 and I-15) and terminates at major arterial or freeway interchanges (Green River Road on the west on SR-91, at I-15 on the east on SR-91, and at Ontario Avenue on I-15). The Initial Phase of Alternative 2 also provides logical termini because it connects to major transportation facilities (SR-241, SR-71, and I-15) and terminates at major arterial or freeway interchanges (SR-241, Pierce Street on SR-91, and Hidden Valley Parkway and Ontario Avenue on I-15).

Independent Utility

A project has independent utility if it meets a project purpose in the absence of other improvements in the project segment or in other parts of the corridor. The SR-91 CIP has independent utility because the Alternative 1 and 2 Initial Phases and Ultimate Projects are usable improvements and represent reasonable expenditures even if no additional transportation improvements are made in the area. Alternatives 1 and 2 can be implemented in the absence of any other improvements and do not restrict consideration of alternatives for other reasonably foreseeable transportation improvements in the SR-91 and I-15 corridors.

S.3.4 Phasing and Funding of Alternatives 1 and 2

Implementation of the project will be in phases over a 20-year period, beginning with an Initial Phase and culminating with completion of the Ultimate Project by 2035. Phasing plans for the Build Alternatives were developed based on the funding anticipated to be available for the project after completion of the environmental process, including identification and approval of the Preferred Alternative. Separate phases would be identified and programmed to incorporate the components of the improvements on SR-91 and I-15 between the Initial Phase which would be

completed in 2017 and completion of the Ultimate Project by 2035, as funding becomes available. A summary of anticipated funding sources for Alternatives 1 and 2 is shown in Table S.2. Additional funds will be needed to construct all phases of the project. Potential funding sources for future phases include federal grants, State Transportation Improvement Program (STIP) funds, and Measure A.

Table S.2 Anticipated Funding Sources

Potential Funding Source	Alternative 1	Alternative 2
RCTC Contribution (Measure A)	$830,586,000	$734,944,000
Federal TIFIA Loan	0	$444,117,000
STIP Funds	$2,000,000	$2,000,000
Toll Revenue Bonds (CIBs/CABs)	0	$163,768,000
Total	**$832,586,000**	**$1,344,829,000**

Source: Riverside County Transportation Commission (2011).
CABs = Capital Appreciation Bonds
CIBs = Current Interest Bonds
RCTC = Riverside County Transportation Commission
STIP = State Transportation Improvement Program
TIFIA = Transportation Infrastructure Finance and Innovation Act

S.4 Joint CEQA/NEPA Document

The project is a joint project by the Department and FHWA, and is subject to State and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. The Department is the lead agency under NEPA and CEQA. In addition, FHWA's responsibility for environmental review, consultation, and any other action required in accordance with applicable federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 USC 327.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, it is quite often the case that a "lower level" document is prepared for NEPA. One of the most commonly seen joint document types is an EIR/EIS.

In accordance with CEQA, the Department determined that the project could have a significant effect on the environment and prepared an EIR. In addition, the Department has determined that the action may substantially impact the environment. Therefore, the Department, as assigned by FHWA, prepared an EIS.

Following a review of public comments received on the Draft EIR/EIS and circulation of the Final EIS, the Department will take actions regarding the

environmental document. The Department will certify the Final EIR, issue Findings and a Statement of Overriding Considerations under CEQA; and approve the Final EIS and issue a Record of Decision (ROD) under NEPA. Based on the project phasing discussed in Section S.3.4, the Department anticipates issuing separate RODs for the Initial Phase and the Ultimate Project.

At the time the Ultimate Project is programmed, RCTC will assess whether the project scope has changed, existing conditions in the study area have changed, and/or there is potential for substantial new adverse impacts not evaluated in the original Final EIR/EIS. That assessment may result a determination that additional environmental documentation (such as an Environmental Reevaluation under NEPA and an Addendum to the Final EIR under CEQA if there are no substantial changes in the project, the existing environment and the project impacts) and/or updated technical studies are needed prior to implementation of the Ultimate Project.

S.4.1 Determining Significance Under the California Environmental Quality Act

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance under NEPA is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental document.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA.

S.4.2 Discussion of Significance of Impacts Under CEQA

The significance of the potential impacts of the Build Alternatives under CEQA was assessed based on the CEQA Environmental Checklist provided in Appendix A, CEQA Environmental Checklist, as required per the California Department of Transportation (Caltrans) *Standard Environmental Reference*, and the analyses of project impacts discussed in detail in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures. The impacts of the Build Alternatives and the No Build Alternative are discussed and summarized throughout Chapter 3. Chapter 4, California Environmental Quality Act Evaluation, provides the applicable discussion regarding the determination of significance under CEQA based on the responses to the CEQA Checklist questions.

S.5 Project Impacts

S.5.1 Summary of Impacts and Measures

Table S.3, which follows the last page of text in this Executive Summary, summarizes the impacts of the Build Alternatives where there is a difference in the impacts between Alternatives 1 and 2. The environmental commitments (measures to avoid, minimize and/or mitigate impacts) to address those impacts are also summarized in Table S.3. All the measures in Table S.3 apply to both Alternatives 1 and 2, unless otherwise noted.

Table S.4, which follows Table S.3 at the end of this Executive Summary, lists those impacts that are the same or very similar for Alternatives 1 and 2. Measures to address those impacts are also summarized in Table S.4.

Tables S.3 and S.4 also indicate whether the individual avoidance, minimization, and mitigation measures apply to the Initial Phase (IP in Tables S.3 and S.4), the Ultimate Project (UP in Tables S.3 and S.4), or the Initial Phase and the Ultimate Project (IP and UP in Tables S.3 and S.4).

The impacts in Tables S.3 and S.4 are organized in the order in which the impact analyses occur in Chapter 3. For more detailed information regarding the impacts summarized in Tables S.3 and S.4, refer to the following sections in Chapter 3:

- 3.1 Land Use
- 3.2 Growth
- 3.3 Farmlands/Timberlands

- 3.4 Community Impacts
- 3.5 Utilities/Emergency Services
- 3.6 Traffic and Transportation/Pedestrian and Bicycle Facilities
- 3.7 Visual/Aesthetics
- 3.8 Cultural Resources
- 3.9 Hydrology and Floodplains
- 3.10 Water Quality and Storm Water Runoff
- 3.11 Geology/Soils/Seismic/Topography
- 3.12 Paleontology
- 3.13 Hazardous Waste/Materials
- 3.14 Air Quality
- 3.15 Noise
- 3.16 Energy
- 3.17 Natural Communities
- 3.18 Wetlands and Other Waters
- 3.19 Plant Species
- 3.20 Animal Species
- 3.21 Threatened and Endangered Species
- 3.22 Invasive Species
- 3.23 Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity
- 3.24 Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Action
- 3.25 Cumulative Impacts

S.5.2 Summary of Significant Adverse Impacts Under CEQA after Mitigation

As discussed in detail in Chapter 4, the following impacts of Alternatives 1 and 2 were determined to be significant, adverse, and unavoidable under CEQA, after implementation of the identified avoidance, minimization, and mitigation measures, as well as project design features:

- Permanent impacts to oak woodland
- Cumulative impacts
- Long-term noise
- Adverse effects on human beings

The remaining impacts of the Build Alternatives were determined to be either not significant or to be avoided or reduced to below a level of significance under CEQA, based on implementation of the project avoidance, minimization, and mitigation measures and project design features, as described in detail in Chapter 4.

S.6 Coordination with Public and Other Agencies

Public participation and agency consultation for this project have been accomplished through a variety of formal and informal methods, including monthly PDT meetings, interagency coordination meetings, resource agency meetings, public meetings, and consultation with interested parties.

S.6.1 Notice of Intent

The Notice of Intent (NOI) under NEPA was prepared by the Department and was published on July 3, 2008 in the Federal Register, Volume 73, No. 129. No written comments were received in response to the NOI.

S.6.2 Notice of Preparation

The Notice of Preparation (NOP) under CEQA was distributed to federal, tribal, State, regional, county, and local agencies; elected officials; special districts; groups; businesses, major property owners, and organizations; and property owners within 700 ft of the project segments of SR-91 and I-15.

The State Clearinghouse (SCH) distributed the NOP to a number of State agencies on July 15, 2008.

The Notice of Scoping/Initiation of Studies letters were sent on August 7, 2008, to elected and City officials, agencies, and other interested parties. These letters included a project location map.

In response to the NOP, letters were received from one federal agency, four State agencies, eight regional agencies, and three organizations/interested parties. The responses to the NOP are provided in Attachment 5.D, Responses to the Notice of Preparation, in Chapter 5, Comments and Coordination.

S.6.3 Public Outreach

S.6.3.1 Scoping Meetings

The RCTC and the Department hosted a public scoping meeting for the proposed project at the City of Corona Multi-Purpose Room at 400 South Vicentia Avenue in Corona, California, on July 29, 2008. Project aerial maps and display boards that

showed the project alternatives and display boards of the environmental process were provided. The aerial maps and display boards were described to meeting attendees by the RCTC, the Department, and consultant staff. Tables for scoping meeting participants to write and submit comment cards were provided. A court reporter was available to document verbal comments provided at the meeting.

The scoping meeting sign-in sheets showed 14 agencies and elected officials in attendance, as well as 11 property owners. A total of 64 people attended the meeting.

Refer to Section 5.2.5, Scoping Meetings, for additional discussion regarding the project scoping meetings.

S.6.3.2 Public Information Meetings

Two public information meetings were held to update interested parties on the progress of the project. The first meeting was on March 3, 2009, with 60 people attending. The second public information meeting was on August 26, 2010, with 280 people attending. Both public information meetings were held at the Corona Public Library, 650 South Main Street, Corona, California, 92882.

S.6.3.3 June 9, 2011 Public Hearing

On June 9, 2011, RCTC and the Department held an open-house format public hearing to provide information to the public regarding the project alternatives and the Draft EIR/EIS and to solicit input from the attendees regarding the project alternatives and the analyses provided in the Draft EIR/EIS. The public hearing was announced in newspaper advertisements and several mailings of project and hearing related materials. The open-house format included 17 stations, 53 exhibit boards, 5 large maps, and 6 viewing display monitors. Agency and consultant staff were available at each station to greet the attendees, describe the material at the station, answer attendees' questions, and direct attendees to other stations for other information relevant to their questions and/or comments. Approximately 260 agency representatives and members of the general public attended the public hearing. The meeting format allowed attendees to move from station to station at their own pace, and to review the available materials and discuss their questions/comments with the staff at each station. A total of 49 comment cards and 19 verbal comments transcribed by court reporters were received from attendees at the public hearing. In addition, many attendees discussed their concerns with staff present at the individual topic stations. Based on those interactions, the majority of the comments raised were related to right-of-way acquisition. Other topics of concern included the location of

noise walls, the phasing of the project, the proposed construction date of the project, and a preference for a certain alternative or design variation.

Refer to Section 5.2.6.3, June 9, 2011, Public Hearing, for additional description of the public hearing and comments provided by the hearing attendees regarding the project and the EIR/EIS.

S.6.3.4 Noise Barrier Survey Public Outreach Efforts

Permanent noise impacts were identified at 416 properties. In accordance with Department procedures, a noise barrier survey package was sent by certified mail to each property owner on May 20, 2011. Of the 416 packages sent, 320 went unclaimed and were returned. Only 24 completed surveys were received.

Based on the low number of completed surveys returned as part of the first noise barrier survey mail-out and the fact that several residents had requested additional clarification on the purpose of the noise barrier survey and the voting process, RCTC initiated an additional noise barrier public outreach effort that included a focused meeting for property owners affected by Noise Barriers (NBs) D1-B, I-1, and I-2, and a second mail-out of noise barrier survey information to all confirmed property owner addresses on the noise barrier mailing list.

The second noise barrier survey mail-out occurred on August 5, 2011. During the second round mail-out, 319 property owners received a noise barrier survey package. Of the 319 packages sent by both certified mail and regular first class mail, 45 went unclaimed and were returned, and 74 completed surveys were received.

Invitations to two noise barrier focus meetings were also sent on August 5, 2011, to residents affected by NBs D1-B, I-1, and I-2. A second mailing for that noise barrier focus meeting was sent August 17, 2011, to the same residents as a reminder of the upcoming focus meetings.

The first noise barrier focus meeting for property owners affected by NBs I-1 and I-2, was held at The Veranda at the Green River Golf Club, 5215 Green River Road, Corona, on August 23, 2011, from 7:00 p.m. to 8:00 p.m. A similar meeting with the same format and handouts was held for property owners affected by NB D1-B from 7:00 p.m. to 8:00 p.m. on August 25, 2011, in the Multipurpose Room in Corona City Hall, at 400 South Vicentia Avenue, Corona. All property owners were requested to provide their votes by September 9, 2011.

Due to a large number of no responses received from affected property owners, RCTC and the Department conducted a third round of public outreach efforts. RCTC and the Department prepared a cover letter and noise barrier survey that were distributed during door-to-door home visits conducted between the hours of 3:30 p.m. and 7:30 p.m. on September 30, 2011, and October 4, 2011. All teams that made personal visits to property owners were bilingual and provided noise barrier surveys with self-addressed stamped envelopes that requested the completed surveys be returned and postmarked no later than October 5, 2011. A total of 140 homes were visited during the third round public outreach process. A total of 39 noise barrier surveys were returned.

In addition, a focused effort was made to inform the Villaggio Condo Homeowners Association (HOA) about the proposed location of NB D1-B. RCTC and the Department held a meeting with the Villaggio HOA and interested residents at the Villaggio community pool on Saturday, November 12, 2011, from 11:00 a.m. to 12:30 p.m. Six agency and consultant staff and 15 homeowners attended the meeting. After the meeting, the HOA was asked to vote in support or against the construction of NB D1-B.

Based on comments received during the public review period of the Draft EIR/EIS and prior commitments made by previous Department projects to build NB K1-A, along I-15, a noise barrier survey was conducted for property owners affected by the construction of NB K1-A. Based on the surveys submitted by affected property owners, NB K1-A received a majority approval and will be carried through construction.

Refer to Sections 5.2.7, Noise Barrier Survey Public Outreach Efforts, and 3.15.3.2, Permanent Impacts (in the subsection titled Noise Barrier Survey Public Outreach Efforts) for additional discussion regarding the public outreach efforts regarding noise barriers.

S.6.4 Coordination with Agencies and Utilities

The Department has coordinated with the following agencies as Participating Agencies:

- United States Environmental Protection Agency (EPA), Region IX
- United States Fish and Wildlife Service (USFWS)
- Southern California Association of Governments (SCAG)
- South Coast Air Quality Management District (SCAQMD)

- Transportation Corridor Agencies (TCA)
- Orange County Transportation Authority (OCTA)
- Riverside County Transportation Department
- City of Corona
- City of Riverside

The Department has coordinated with the following agency as a Cooperating Agency:

- United States Army Corps of Engineers (Corps)

In addition to those agencies, coordination has been conducted with the following agencies and utility providers:

- Department of the Interior, National Park Service
- California Department of Transportation (Caltrans), District 12
- California Department of Fish and Game (CDFG)
- State Historic Preservation Officer
- Western Riverside County Regional Conservation Authority (RCA)
- Orange County Parks (OC Parks)
- California State Parks (State Parks)
- SCAG Transportation Conformity Working Group (TCWG)
- Regional Water Quality Control Board
- Orange County Flood Control District
- Orange County Public Works
- Riverside County Flood Control and Water Conservation District
- Burlington Northern Santa Fe Railroad
- Southern California Regional Rail Authority
- AT&T/Pac Bell
- Southern California Edison Company
- Southern California Gas Company
- Comcast Cable
- Sprint
- Time Warner Cable
- Level 3 Communications
- Santa Ana Watershed Project Authority
- Western Riverside Regional Wastewater
- Questar (Four Corners Pipeline Company)

Native American consultation and coordination was conducted with the following:

- Native American Heritage Commission (NAHC)
- Augustine Band of Cahuilla Mission Indians: Mary Ann Green
- Juaneño Band of Cahuilla Mission Indians: Anita Espinoza
- Juaneño Band of Cahuilla Mission Indians: Joe Ocampo
- Juaneño Band of Cahuilla Mission Indians, Acjachemen Nation: David Belardes
- Juaneño Band of Cahuilla Mission Indians: Sonia Johnston
- Gabrieleno/Tongva San Gabriel Band of Mission Indians: Anthony Morales
- Pechanga Band of Mission Indians: Paul Macarro
- Soboba Band of Luiseño Indians: Erica Helms
- Ti'At Society: Cindi Alvitre

S.7 Permits and Approvals

Table S.5 identifies the permits and/or approvals that are or may be required prior to or during construction and/or operation of Alternatives 1 and 2. Table S.5 is provided following Table S.4 at the end of this Executive Summary.

The SR-91 CIP is designated as an FHWA Major Project due to the project cost exceeding $500 million. For federal funding to be authorized for the financing of Major Projects such as the SR-91 CIP, the project owner (i.e., RCTC for the SR 91 CIP) must demonstrate to FHWA that the project has been carefully planned (i.e., costs have been estimated as accurately and meticulously as possible; risks have been carefully considered and mitigated; financing requirements and strategies have been clearly defined; and the implementation of the project delivery has been carefully planned). Through the different phases of project delivery and as required under SAFETEA-LU, the FHWA Major Project designation triggers a number of deliverables for submittal to FHWA for approval on the SR-91 CIP, including: (1) a Cost Estimate Review (CER), which must be approved prior to approval of a Final EIS; (2) an Operational Independence and Non-Concurrent Construction (OINCC) Determination; (3) an Initial Financial Plan (IFP); and (4) a Draft and Final Project Management Plan (PMP). The Draft PMP should be submitted to FHWA 60 days prior to approval of an ROD, and the Final PMP must be submitted no later than 90 days after approval of the ROD. The Plan of Finance (POF) required with RCTC's application for Transportation Infrastructure Finance and Innovation Act (TIFIA) funds will be submitted in lieu of the IFP per FHWA financial plan guidance. The FHWA Major Project deliverables schedule of approvals is included in Table S.5.

S.8 Unresolved Issues

The project involves consideration of a complex set of interrelated issues. Local and federal decision-makers (RCTC and the Department, respectively) must balance the need to provide transportation infrastructure to serve an increasing traffic demand with the need to protect natural resources and improve environmental quality. As part of the SAFETEA-LU 6002 process, the EPA sent a letter dated June 18, 2010, that identified that agency's concerns with regard to the proposed project. These concerns include independent utility, premature comparisons of the No Build and Build Alternatives, consistency with the RCTC's 10-Year Measure A Delivery Plan and the *SR-91 Implementation Plan*, transit and transportation system management/ transportation demand management alternatives and options, methodologies that include Mobile Source Air Toxics (MSAT), waters of the United States and waters assessment, on-site alternatives and minimization, compensatory mitigation, greenhouse gas (GHG) emissions and sustainable communities strategies, Section 6002 coordination for future projects, purpose and need and range of alternatives, Section 6002 process, and participating agency coordination meetings.

In addition, through the public review of this Draft EIR/EIS, issues that were identified have been resolved prior to approval of this Final EIR/EIS, the issuance of the Notice of Determination (NOD) under CEQA, and the issuance of the ROD under NEPA.

S.9 Areas of Controversy

During the scoping process, agencies and members of the general public identified a number of concerns and environmental issues regarding the proposed project. Those issues are summarized in Table S.6, which is provided following Table S.5 at the end of this Executive Summary.

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
Total Costs (Final Design, Right-of-Way, and Construction)	Not applicable	$990 million to $1.0 billion, depending on the design variation.	$1.345 to $1.426 billion, depending on the design variation. Alternative 2f is anticipated to cost $1.38 billion.	Not applicable
Acquisition and removal of Homes	No impact	Purchase and removal of 93 to 117 homes, depending on the design variation.	Purchase and removal of 114 to 161 homes, depending on the design variation. Alternative 2f would purchase and remove 145 homes.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)
Number of Residents Displaced	No impact	252 to 410 residents displaced, depending on the design variation.	399 to 564 residents displaced, depending on the design variation. Alternative 2f would displace 507 residents.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)
Acquisition and removal of Businesses	No impact	Purchase and removal of 110 to 189 businesses, depending on the design variation; removal of 9 billboards.	Purchase and removal of 221 to 275 businesses, depending on the design variations; removal of 10 billboards. Alternative 2f would purchase and removal 88 businesses, displace 242 nonresidential units, and remove 10 billboards.	Measure CI-1: Design refinements to minimize property acquisition; assistance in relocating billboards. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
				Measure CI-4: Assist with relocation of billboards within the City of Corona. (IP and UP)
Number of Employees Displaced	No impact	A range of between 114 and 527 employees, depending on the design variation and the employee displacement factors.	A range of between 133 and 554 employees, depending on the design variation and the employee displacement factors. Alternative 2f would displace 169 to 576 employees.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP) Measure CI-3: Reconfigure nonresidential uses on property only partially acquired for the project. (IP and UP)
Land Use: Existing and Future Land Uses	No impact	The Ultimate Project under Alternative 1 would result in the permanent use of between 61.8 and 65.7 ac of land designated in local General Plans for uses other than transportation.	The Initial Phase of Alternative 2 would result in the permanent use of 64.0 ac of land designated in local General Plans for uses other than transportation. The Ultimate Project under Alternative 2 would result in the permanent use of between 78.0 and 94.6 ac of land designated in local General Plans for uses other than transportation. The Initial Phase of Alternative 2f would also result in the permanent use of 64.0 ac and the Ultimate Project under Alternative 2f would result in the permanent use of 78.0 ac of land designated in local General Plans for uses other than transportation.	Measure LU-1: General Plan Amendments to modify the land use designations to transportation. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
Land Use: Parks and Recreation Facilities	No impact	Alternative 1 would result in a 1.65 ac permanent subsurface easement at CHSP. Alternative 1 would result in a 0.4 ac permanent subsurface easement at the New OC Park (NNL).	Alternative 2 would result in a 1.88 ac permanent subsurface easement at CHSP. Alternative 2 would result in a 2.2 ac permanent subsurface easement at the New OC Park (NNL).	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)
Farmlands and Timberlands	No impact	The Initial Phase of Alternative 1 and its design variations would result in a permanent conversion of 3.8 ac of designated Farmland of Local Importance and 2.7 ac of Grazing Land to nonagricultural uses. Alternative 1 and its design variations would result in a permanent conversion of 1.8 ac of designated Farmland of Local Importance and 15.2 ac of Grazing Land to nonagricultural uses. Alternative 1 and its design variations would result in the temporary use of 3.4 ac of Grazing Land.	The Initial Phase of Alternative 2 and its design variations, including Alternative 2f, would result in a permanent conversion of 3.8 ac of designated Farmland of Local Importance and 2.7 ac of Grazing Land to nonagricultural uses. Alternative 2 and its design variations, including Alternative 2f, would result in the permanent conversion of 4.1 ac of Farmland of Local Importance and 16.6 ac of Grazing Land. Alternative 2 and its design variations, including Alternative 2f, would result in the temporary use of 0.1 ac of Farmland of Local Importance and 3.5 ac of Grazing Land.	Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)
Community Impacts: Community Character and Cohesion	No impact	Alternative 1 would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining tieback and sound walls, thereby modifying existing visual quality and impacting community character.	Although Alternatives 1 and 2 including Alternative 2f would impact community character through the decrease of visual quality and cohesion, the visual quality under Alternative 2 and Alternative 2f would be altered more than under Alternative 1 due to a larger amount of hardscape, including retaining walls and sound walls.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
		Widened freeway cross sections would result in wider overcrossings and undercrossings, and increased lengths of pedestrian paths on/under those structures. The new parts of undercrossings would include lighting for vehicles and pedestrians consistent with local standards. However, segments of those roads under the existing overcrossings would experience a reduction in amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences as they cross the freeways.	Alternative 2 including Alternative 2f would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining tieback and sound walls, thereby modifying existing visual quality and impacting community character. Widened freeway cross sections would result in wider overcrossings and undercrossings, and increased lengths of pedestrian paths on/under those structures. The new parts of undercrossings would include lighting for vehicles and pedestrians consistent with local standards. However, segments of those roads under the existing overcrossings would experience a reduction in amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences as they cross the freeways.	locations to reduce the project effects on partial acquisition properties. (IP and UP) Measure CI-3: Reconfigure nonresidential uses on property only partially acquired for the project. (IP and UP) Measure T-4: Provision of lighting in undercrossings. (IP and UP)
Community Impacts: Relocations and Real Property Acquisition	No impact	Alternative 1 would result in the acquisition and removal of 21 single-family homes under all design variations, and 72 to 96 multifamily homes, depending on the design variation. Alternative 1 would result in the acquisition of between 110 and 189 business parcels, depending on the design variation. The total employees displaced under Alternative 1 range from 114 to 527 employees, depending on the design variation.	Alternative 2 would result in the acquisition and removal of 23 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. Alternative 2 would result in the acquisition of 221 and 275 business parcels, depending on the design variation. The total employees displaced under Alternative 2 range from 133 to 554 employees, depending on the design variation. Alternative 2 would result in between $274,216 and $399,372 in property tax	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP) Measure CI-3: Reconfigure nonresidential uses on property only partially acquired for the project. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
		Alternative 1 would result in between $188,691 and $279,889 in property tax revenue losses in the City of Corona, depending on the design variation. Under Alternative 1, the potential sales tax loss from the business displacements in the City of Corona would range between $314,888 and $359,872 (depending on the design variation), representing a loss of 1.1 to 1.2 percent of the overall sales tax revenues in the City. Alternative 1 would remove 50 to 122 storage units, depending on the design variation. Alternative 1 would generate between 21,762 and 22,736 total direct and indirect jobs, depending on the design variation.	revenue losses in the City of Corona, depending on the design variation. Under Alternative 2, the potential sales tax losses from the business displacements in the City of Corona would range between $277,402 and $299,894 (depending on the design variation), representing a loss of 0.8 to 1 percent of overall sales tax revenues in the City. Alternative 2 would remove 157 to 199 storage units, depending on the design variation. Alternative 2 would generate between 30,563 and 32,154 total direct and indirect jobs, depending on the design variation. The Initial Phase under Alternative 2f would result in the acquisition and removal of 18 single-family homes and 127 multifamily homes. The Ultimate Project under Alternative 2f would result in the additional acquisition and removal of 9 multifamily homes. Alternative 2f would result in the acquisition and removal of 88 businesses and a total of 242 nonresidential unit displacements. The total employees displaced under Alternative 2f range from 169 to 576 employees. Alternative 2f would result in $298,825 in property tax revenue losses in the City of Corona.	Measure CI-4: Assist with relocation of billboards within the City of Corona. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
			Under Alternative 2f, the potential sales tax losses from the business displacements in the City of Corona would be $659,766, representing a loss of 2.2 percent of overall sales tax revenues in the City. Alternative 2f would remove 154 storage units. Alternative 2f would displace 10 billboards. The Initial Phase of Alternative 2f would generate 7,681 direct jobs and 14,796 indirect jobs. The Ultimate Project under Alternative 2f would generate an additional 2,931 direct jobs and an additional 5,645 indirect jobs. Alternative 2f would generate a total of 31,053 direct and indirect jobs.	
Utilities and Emergency Services	No impact	No relocation of the SCE substation.	Design Variations 2c, 2d, 2g, and 2h would require relocation of the SCE substation. Design Variations 2a, 2b, 2e, and 2f would not require relocation of the SCE substation.	Measure UES-1: Coordination with SCE on the substation relocation (applies to Alternatives 2c, 2d, 2g, and 2h only). (IP and UP) Other: Coordinate with SCE on SCE preparation and processing of environmental documents for the substation relocation (applies to Alternatives 2c, 2d, 2g, and 2h only). Refer also to Measure HW-15 under Hazardous Waste and Materials.
Utilities	No impact	During construction, Alternative 1 and its design variations would result in the relocation, removal, or protection in-place of approximately 150 utility lines or facilities.	During construction, Alternative 2 and its design variations, including Alternative 2f, would result in the relocation, removal, or protection in-place of approximately the same 150 utility lines or facilities as Alternative 1 and would result in the relocation, removal, or protection in-place of the following additional utility facilities not affected by Alternative 1 and its design variations:	Measure UES-1: Coordination with utility providers/owners for relocation of utility facilities. (IP and UP) Measure HW-12: Notify Underground Service Alert (USA) at least 2 days prior to excavation. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
			• 4 SCG natural gas lines (includes 2 high-risk lines) • 4 SCE overhead and underground electric lines (includes 1 high-risk line) • 1 potable water line in Corona • 1 sanitary sewer line in Corona • 2 AT&T underground and overhead telephone lines • 1 Comcast cable television cable	
Traffic and Transportation/ Pedestrian and Bicycle Facilities	No impacts to pedestrian and bicycle facilities	Would increase the lengths of seven undercrossings on SR-91 and four undercrossings on I-15 to new total lengths of between 145 and 487 ft, depending on the individual undercrossing. Would increase the lengths of two overcrossings on SR-91 to new total lengths of between 250 and 375 ft, depending on the design variation and individual overcrossing.	Alternative 2 and Alternative 2f would increase the lengths of seven undercrossings on SR-91 and five undercrossings on I-15 to new total lengths of between 158 and 519 ft, depending on the individual undercrossing. Alternative 2 and Alternative 2f would increase the lengths of three overcrossings on SR-91 to new total lengths of between 250 and 690 ft, depending on the design variation and the individual overcrossing.	Measure T-4: Provision of lighting in undercrossings. (IP and UP) Measure V-1: Textured/site-specific aesthetic features on paved slopes along pedestrian and bicyclist travel paths. (IP and UP)
Visual and Aesthetics	No impact	Alternative 1 would result in expanded right-of-way; added hardscape; graded slopes; modified and new ramps, overcrossings, and bridges; concrete barriers; and new retaining, tieback, and sound walls. The lengths of the retaining walls in Alternative 1 range between 50 and 5,550 ft, and the heights of those retaining walls range between 2 and 28 ft. The lengths of the recommended noise barriers for Alternative 1 range from 424 to 9,284 ft, and the heights of those noise barriers range from 10 to 14 ft. The fill slopes, bridges, and other structures in Alternative 1 could	Alternative 2 including Alternative 2f would result in expanded right-of-way; added hardscape; graded slopes; modified and new ramps, overcrossings, and bridges; concrete barriers; and new retaining, tieback, and sound walls. The lengths of the retaining walls in Alternative 2 including Alternative 2f range from 50 to 5,755 ft, and the heights of those retaining walls range from 2 to 40 ft. The lengths of the recommended noise barriers for Alternative 2 range from 424 to 9,284 ft, and the heights of the recommended noise barriers range from 8 to 14 ft. Although Alternatives 1 and 2 and Alternative 2f have similar retaining wall and noise	Measure V-1: Structural enhancements and design measures identified in the *215/91 Corridor Master Plan* will be incorporated in the design and construction of sound walls, retaining walls, and bridge elements. (IP and UP) Measure V-2: Mitigation for the loss of landscaping through replacement planting approved by the District Landscape Architect. (IP and UP) Measure V-3: Lighting fixtures with non-glare hoods will be designed to illuminate only the right-of-way. (IP and UP) Measure V-4: Graffiti Reduction, Removal, and Control. The Department and the City of Corona have existing ongoing maintenance programs for Graffiti Removal and

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
		result in light and glare impacts. Alternative 1 would result in a graded/disturbed area of 351 ac. The largest wall (i.e., largest wall area in one location) in Alternative 1 would be 28 ft high and 1,894 ft long. In Alternative 1, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,200 ft long. Alternative 1 would add 120 ac of new impervious area/paving, which is a 27.5 percent increase over the existing facility, resulting in a smaller-scale facility under Alternative 1 than under Alternative 2.	barrier lengths and heights, the visual quality of the study area under Alternative 2 would be altered more than under Alternative 1 due to a larger total amount of hardscape features, including retaining walls and noise barriers. The fill slopes, bridges, and other structures in Alternative 2 including Alternative 2f could result in light and glare impacts. Alternative 2 including Alternative 2f would result in a graded/disturbed area of 503 ac. The largest wall (i.e., largest wall area in one location) in Alternative 2 would be 40 ft high and 2,376 ft long. Under Alternative 2 including Alternative 2f, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,650 ft long. Alternative 2 including Alternative 2f would add 173 ac of new impervious area/paving, which is a 39.6 percent increase over the existing facility, resulting in a larger-scale facility under Alternative 2 and Alternative 2f than under Alternative 1.	Control. Those programs would apply to all new and modified structures for Alternatives 1 and 2. (IP and UP)
Water Quality and Storm Water Runoff	No impact	Potential water quality benefits based on the Treatment BMPs. Would increase the impervious surface area by 117 ac (i.e., 27.0 percent) compared to the existing freeway facilities. Would increase the potential for erosion and sedimentation during	Potential water quality benefits based on the Treatment BMPs. Would increase the impervious surface area by 173 ac (i.e., 39.6 percent increase) compared to the existing freeway facilities. Would increase the potential for erosion and sedimentation during construction. The total soil area to be disturbed during construction	Measure WQ-1: Compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to construction activities for the project. (IP and UP) Measure WQ-2: Compliance with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
		construction. The total soil area to be disturbed during construction is estimated to be approximately 351 ac.	is estimated to be approximately 503 ac. Alternative 2f would increase the impervious surface the same as discussed for Alternative 2. Alternative 2f would increase the potential for erosion, and the total soil area to be disturbed during construction would be the same as discussed for Alternative 2.	Threat to Water Quality, Order No. R8-2009-0003, NPDES No. CAG998001, as they relate to discharge of non-storm-water dewatering wastes for the project. (IP and UP) Measure WQ-3: Prior to dewatering activities, issuance of the discharge authorization letter from RWQCB Executive Director will be required for the project.(IP and UP) Measure WQ-4: Compliance with the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (July 2010 or subsequent issuance) for implementing Design Pollution Prevention and Treatment BMPs for the project. Compliance with the provisions of the NPDES Permit, Statewide Storm Water Permit, and Waste Discharge Requirements for the State of California, Department of Transportation, Order No. 99-06-DWQ, NPDES No. CAS000003 and NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region, Order No. R8-2010-0033, NPDES No. CAS618033. (IP and UP)
Geology, Soil, Seismic, Topography	No impact	Alternative 1 would excavate (cut) 708,420 to 761,723 cy of material (depending on the design variation), which would be used elsewhere on the project site during construction. Alternative 1 would require 275,467 to 343,004 cy of additional imported fill material, depending on the design variation.	Alternative 2 would excavate 725,719 to 793,107 cy of material (depending on the design variation), which would be used elsewhere on the project site during construction. Alternative 2 would require 644,110 to 738,946 cy of additional imported fill material, depending on the design variation.	Measure GEO-1: A final geotechnical design report. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
Hazardous Waste and Materials	No impact	Would not require relocation of the SCE substation.	Design Variations 2c, 2d, 2g, and 2h would require the relocation of the SCE substation. Design Variations 2a, 2b, 2e, and 2f would not require the relocation of the SCE substation.	Measure HW-15: Coordination with SCE regarding relocation of the SCE substation. (IP)
Noise	Increased noise levels as a result of increased traffic	Would result in noise levels in 2035 greater than 67 dBA at up to 38 locations, depending on the design variation. Would result in noise level increases from existing levels to 2035 by 12 or more dBA at 6 or 7 receivers, depending on the design variation. Would result in noise levels in 2035 at 75 dBA or greater at 34 to 37 receivers depending on the design variation.	Would result in noise levels in 2035 greater than 67 dBA at up to 41 locations, depending on the design variation. Would result in noise level increases from existing levels to 2035 by 12 or more dBA at 6 or 7 receivers, depending on the design variation. Would result in noise levels in 2035 at 75 dBA or greater at 37 to 41 receivers depending on the design variation. Initial Phase under Alternative 2f in 2015 and the Ultimate Project in 2035 would result in noise levels greater than 67 dBA at up to 87 locations; 46 are predicted to have noise levels 75 dBA or greater.	Measure N-1: Provision of noise barriers as follows: <u>Alternative 1</u> Heights: 8 to 14 ft Number of Benefited Residences and Other Uses: 4 to 119 homes and the Green River Golf Club Lengths of Barriers: 424 to 9,284 ft Number of Barriers: 13 approved barriers <u>Alternative 2</u> Heights: 8 to 14 ft Number of Benefited Residences and Other Uses: 4 to 119 homes and the Green River Golf Club Lengths of Barriers: 424 to 9,284 ft Number of Barriers: 13 approved barriers (IP) Measure N-4: Separate project for the I-15 sound barriers (with the exception of NB K1-A) if the I-15 improvements are not constructed within 5 years of the completion of construction of the SR-91 CIP. (IP and UP)
Natural Communities	No impact	The Alternative 1 Ultimate Project would result in permanent impacts to 17.37 ac of CSS, 0.48 ac of riparian/riverine habitat, and 0.01 ac of oak woodlands. The Alternative 1 Ultimate Project would result in temporary impacts to 7.59 ac of CSS, 1.60 ac of riparian/riverine and 0.51 ac of oak woodlands.	The Alternative 2 Ultimate Project would result in permanent impacts to 25.58 ac of CSS, 0.47 ac of riparian/riverine habitat, and 0.02 ac of oak woodlands. The Alternative 1 Ultimate Project would result in temporary impacts to 8.02 ac of CSS, 2.04 ac of riparian/riverine and 0.50 ac of oak woodlands. The Alternative 2f Ultimate Project would result in permanent impacts to 25.58 ac of CSS, 0.47 ac of riparian/riverine habitat, and 0.02 ac of oak woodlands.	Compensatory Mitigation: Restoration of CSS and other vegetation communities used by CAGN and implementation of a project-specific HMMP for compensatory mitigation for impacts to CSS and riparian habitat. (IP) Measure NC-1: ESAs for CSS, chaparral, riparian/riverine vegetation, oak habitat, and restoration and mitigation areas in Coal Canyon. (IP and UP) Measure NC-2: Wildlife monitoring in the vicinity of ESAs. (IP and UP) Measure NC-3: Preconstruction nesting bird surveys and timing of vegetation removal. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
			The Alternative 2f Ultimate Project would result in temporary impacts to 8.04 ac of CSS, 1.29 ac of riparian/riverine and 0.50 ac of oak woodlands.	Measure NC-4: Vegetation clearing during the fire season. Operation of mechanized equipment not allowed during Red Flag Warning Periods as issued by the National Weather Service. (IP and UP) Measure NC-5: Use of nonsensitive upland areas during construction for equipment storage, fueling, and related activities. (IP and UP) Measure NC-7: The habitat areas adjacent to Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash that were disturbed during construction will be restored on a 1:1 ratio as construction in the affected areas is completed. Restoration will include the use of native vegetation, as determined by RCTC and the Department in coordination with the resource agencies. (IP and UP) Measure NC-17: Compliance with the Western Riverside County MSHCP Urban/Wildlands Interface Guidelines. (IP and UP) Measure NC-18: Compliance with the Western Riverside County MSHCP Construction Guidelines for Criteria Areas. (IP and UP) Measure NC-19: Compliance with the Western Riverside County MSHCP Construction Guidelines and Standard BMPs. (IP and UP)
Wetlands and Other Waters of the United States	No impact	Depending on the design variation, permanent impacts as follows: • Corps jurisdictional waters: 2.18 to 2.69 ac • CDFG jurisdictional areas: 2.84 to 3.54 ac • RWQCB jurisdictional areas: 1.68 ac	Depending on the design variation, permanent impacts as follows: • Corps jurisdictional waters: 0.42 to 2.49 ac • CDFG jurisdictional areas: 1.31 to 4.41 ac • RWQCB jurisdictional areas: 0.42 to 2.69 ac	Measure WET-1: Section 404 Nationwide Permit. (IP and UP) Measure WET-2: CDFG Streambed Alteration Agreement. (IP and UP) Measure WET-3: Section 401 Water Quality Certification from the RWQCB. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
			Alternative 2f permanent impacts: • Corps Jurisdictional Waters: 0.42 ac • CDFG Jurisdictional Areas: 1.31 ac • RWQCB Jurisdictional Areas: 0.42 ac	
		Depending on the design variation, temporary impacts as follows: • Corps jurisdictional waters: 1.90 to 1.91ac CDFG jurisdictional areas: 2.43 to 3.45 ac • RWQCB jurisdictional areas: 1.90 ac	Depending on the design variation, temporary impacts as follows: • Corps jurisdictional waters: 1.72 to 1.98 ac • CDFG jurisdictional areas: 2.01 to 3.85 ac • RWQCB jurisdictional areas: 1.94 to 2.07 ac Alternative 2f temporary impacts: • Corps Jurisdictional Waters: 1.98 ac • CDFG Jurisdictional Areas: 2.01 ac • RWQCB Jurisdictional Areas: 1.98 ac	Measure WET-1: Section 404 Nationwide Permit. (IP and UP) Measure WET-2: CDFG Streambed Alteration Agreement. (IP and UP) Measure WET-3: Section 401 Water Quality Certification from the RWQCB. (IP and UP)
Threatened and Endangered Species	No impact	6.56 ac of permanent direct impacts to CAGN habitat. The Ultimate Project under Alternative 1 would result in direct permanent impacts to 1.23 ac and temporary impacts to 2.6 ac of SKR HCP fee area. Permanent indirect impacts to 0.94 ac of LBV habitat. 1.08 ac of temporary direct impacts to CAGN habitat.	6.32 ac of permanent direct impacts to CAGN habitat. The Ultimate Project under Alternative 2 would result in direct permanent impact of 5.72 ac and temporary impacts to 18.88 ac of SKR HCP fee area. Permanent indirect impacts to 0.94 ac of LBV habitat. 2.09 ac of temporary direct impacts to CAGN habitat. The impacts under Alternative 2f would be the same as Alternative 2.	Measure TE-1: Designated biologist to be identified throughout the construction period. (IP and UP) Measure TE-2: Construction site to be watered to reduce dust during construction. (IP and UP) Measure TE-3: Erosion and sediment control devices will be biodegradable. (IP and UP) Measure TE-4: Noise during construction activity will be consistent with Caltrans Standard Specifications and will be limited at night. (IP and UP) Measure TE-5: Noise will be controlled near biologically sensitive areas. (IP and UP) Measure TE-6: Construction work conducted after 7:00 p.m. and before 7:00 a.m. will be coordinated with the affected local jurisdiction. (IP and UP) Measure TE-7: Construction work conducted after 7:00 p.m. and before 7:00 a.m. near major wildlife movement

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
				corridors will be coordinated with the Wildlife Agencies. (IP and UP) Measure TE-8: Pre-construction survey for Braunton's milk-vetch will be conducted at Coal Canyon. (IP and UP) Measure TE-9: Biologist will monitor construction in vicinity of CAGN designated critical habitat. (IP and UP) Measure TE-10: 16.03 ac of habitat suitable for CAGN breeding, dispersal, and foraging will be restored to offset permanent impacts. (IP) Measure TE-11: Loss of 3.01 ac of occupied CAGN habitat in Orange County, including 2.09 ac of CAGN-designated critical habitat, with in-kind on-site restoration. (IP) Measure TE-12: A restoration plan will be developed and approved by the USFWS for impacts to CAGN-designated critical habitat. (IP and UP) Measure TE-13: During nighttime construction, lighting will be shielded away from coastal sage scrub in CAGN-designated critical habitat. (IP and UP) Measure TE-14: Pre-construction survey will be conducted near riparian and riverine areas during the bird breeding season. (IP and UP) Measure TE-15: Additional project features will be investigated along with the USFWS to minimize effects from light intrusion and potential fire threat at Coal Canyon from operation of SR-91. (IP and UP) Measure TE-16: Coordination with Corps during SR-91 CIP construction for areas restored as part of the Santa Ana Reach 9 Phase 2B Realignment Project. (IP and UP)

Table S.3 Summary of Impacts for the No Build Alternative and Impacts with Differences Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Alternative 1	Alternative 2	Avoidance, Minimization, and Mitigation Measures[2]
				Measure TE-17: Coordination with Corps during construction of SR-91 CIP to not affect releases from Prado Dam or result in a permanent reduction of acreage within Santa Ana River Canyon Habitat Management Area. (IP and UP) Measures for natural communities, wetlands and other waters, plant species, and animal species would also mitigate project effects to threatened and endangered species.

[1] The Western Riverside County MSHCP provides this measurement in metric units.

[2] IP = Applies to the Initial Phases of Alternatives 1 and 2
UP = Applies to the Alternative 1 and 2 Ultimate Projects
IP and UP = Applies to the Initial Phases and Ultimate Projects for Alternatives 1 and 2

ac = acre, acres
BMPs = best management practices
CAGN = California gnatcatcher
Caltrans = California Department of Transportation
CDFG = California Department of Fish and Game
CHSP = Chino Hills State Park
CIP = Corridor Improvement Project
Corps = United States Army Corps of Engineers
CSS = coastal sage scrub
cy = cubic yards
dBA = A-weighted decibels
ESA = Environmentally Sensitive Areas
ft = feet, foot
HCP = Habitat Conservation Plan
HMMP = Habitat Mitigation and Monitoring Plan
I-15 = Interstate 15
LBV = least Bell's vireo
MSHCP = Multiple Species Habitat Conservation Plan
NB = Noise Barrier
New OC Park (NNL) = New Orange County Park (National Natural Landmark)
NPDES = National Pollutant Discharge Elimination System
RWQCB = Regional Water Quality Control Board
SCE = Southern California Edison
SCG = Southern California Gas Company
SKR = Stephens' kangaroo rat
SR-91 = State Route 91

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
Land Use: Existing and Future Land Uses	No impact	Alternatives 1, 2, and Alternative 2f would result in temporary impacts to existing land uses during construction that are related to disruption of local traffic patterns and access, noise, vibration, dust, and temporary uses of land for temporary construction easements.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP) Measure T-1: Development and implementation of the Final TMP. (IP and UP) Measure T-2: Development and implementation of the Final Ramp Closure Study. (IP and UP) Measure N-2: Compliance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," and SSP S5-310. (IP and UP) Measure N-3: Compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside). (IP and UP)
Land Use: Consistency with Federal, State, Regional, and Local Plans	Inconsistent with most plans	Alternatives 1 and 2 are consistent with the RCP, CGV, and the Western Riverside County MSHCP. The SR-91 CIP Preferred Alternative (Alternative 2f) is programmed in the 2012 RTP and 2011 FTIP (Amendment 24). The 2012 RTP and 2011 FTIP/Amendment 24 were approved on June 4, 2012; therefore, the SR-91 CIP is consistent with the RTP and FTIP.	No mitigation is required.
Land Use: Parks and Recreation Facilities	No impact	Alternatives 1 and 2 would not result in the permanent use of any land from the Santa Ana River Trail/Bike Lane, Featherly Regional Park, New OC Park (NNL), Griffith Park, and El Cerrito Sports Park.	No mitigation is required.
	No impact	Alternatives 1 and 2 would result in the permanent use of 0.48 ac in CHSP for two column footings, and an aerial easement for the Green River Road westbound off-ramp. Alternatives 1 and 2 would potentially result in temporary detours of part of the Santa Ana River Trail/Bike Lane during construction to protect Trail/Bike Lane users and construction workers, and TCEs at Featherly Regional Park (0.2 ac), CHSP (2.0 ac), Griffin Park (0.5 ac), and El Cerrito Sports Park (0.19 ac).	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
		Alternatives 1 and 2 would permanently relocate an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane further north.	Measure PR-1: During final design/construction of the Initial Phase, RCTC will contribute $100,000 to the planning and implementation of improvements in that area that would support and expand regional trail connectivity. (IP) Measure PR-2: During final design/construction of the Initial Phase, RCTC will coordinate with State Parks on the aesthetic features that will be included in the project specifications for the proposed retaining wall facing CHSP between SR-71 and the westbound Green River Road exit ramp, consistent with the aesthetic and features required in Measure V-1. The aesthetic treatment will include a texture to simulate a natural type appearance such as a soil or rock surface or equivalent. (IP) Measure PR-3: RCTC's Resident Engineer will require the design/build contractor to limit the hours of construction in CHSP to daylight hours (7:00 a.m. to 7:00 p.m.), with the exception of limited periods when evening or night construction is necessary for operational reasons. The entry gates at Coal Canyon must remain closed at all times except to provide access to and from the construction site for construction workers, materials delivery, and construction equipment, to prevent wildlife from inadvertently entering the freeway area. (IP and UP) **Other Commitments by RCTC Relevant to CHSP.** RCTC has committed to an a stand-alone project to construct barriers on the south and north sides of SR-91 to shield headlight glare and freeway noise, in tandem with the completion of the SR-91 widening in this area currently planned for completion in 2035. **The following other measures would also benefit CHSP.** Measure V-1: Structural enhancements and design measures identified in the *215/91 Corridor Master Plan* will be incorporated in the design and construction of sound walls, retaining walls, and bridge elements to address adverse impacts and bridge elements. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure V-2: Mitigation for the loss of landscaping through replacement planting approved by the District Landscape Architect. (IP and UP) Measure V-3: Lighting fixtures with non-glare hoods will be designed to illuminate only the right-of-way. (IP and UP) Measure V-4: The Department and the City of Corona have existing ongoing maintenance programs for Graffiti Removal and Control. Those programs would apply to all new and modified structures for Alternatives 1 and 2. (IP and UP) Measure SC-1: Compliance with SCAQMD Rule 403, control of ozone precursor emissions from construction equipment, compliance with State Vehicle Code Section 23114, with special attention to Section 23114(b)(F), (e)(2), and (e)(4) as amended, regarding hauling of loads of materials, and compliance with Caltrans Standard Specifications for Construction (Sections 10 and 18 for dust control, Section 39-3.06 for asphalt concrete plant emissions). (IP and UP) Measure SC-4: Testing for ACMs. (IP and UP) Measure SC-5: Appropriate removal and disposal of ACMs. (IP and UP) Measure N-2: Compliance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," and SSP S5-310. (IP and UP) Measure N-3: Compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside). (IP and UP) Areas used for TCEs will be restored prior to return of those lands to their original owners.
Growth	No impact	Alternatives 1 and 2 would not result in project related growth impacts.	No mitigation is required.
Farmlands and Timberlands	No impact	No permanent impacts related to remainder parcels, access to agricultural parcels, policies related to agricultural uses, and agricultural preserve and Williamson Act Contract lands.	Measure CI-3: Modifications to partial acquisitions. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
Community Impacts: Community Character, Cohesion and Environmental Justice	No impact	Alternatives 1 and 2, including Alternative 2f, would introduce additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls along the project segments of SR-91 and I-15. These changes would modify the visual quality of the area by introducing more urbanized and hardscape elements, and as a result, would affect the existing community character.	Measure V-1: Structural enhancements and design measures identified in the *215/91 Corridor Master Plan* will be incorporated in the design and construction of sound walls, retaining walls, and bridge elements to address adverse impacts and bridge elements. (IP and UP) Measure V-2: Mitigation for the loss of landscaping through replacement planting approved by the District Landscape Architect. (IP and UP) Measure V-3: Lighting fixtures with non-glare hoods will be designed to illuminate only the right-of-way. (IP and UP) Measure V-4: The Department and the City of Corona have existing ongoing maintenance programs for Graffiti Removal and Control. Those programs would apply to all new and modified structures for Alternatives 1 and 2. (IP and UP)
		Alternatives 1 and 2, including Alternative 2f, would improve pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. Under Alternatives 1 and 2, and Alternative 2f, freeway cross sections would be widened, resulting in wider overcrossings and undercrossings that would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings. Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. As a result, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways, which may inhibit their desire to cross the freeways and would therefore be an adverse effect on community cohesion.	Measure T-4: Provision of lighting in undercrossings. (IP and UP) Measure V-1: Structural enhancements and design measures identified in the *215/91 Corridor Master Plan* will be incorporated in the design and construction of sound walls, retaining walls, and bridge elements to address adverse impacts and bridge elements. (IP and UP) Measure V-4: The Department and the City of Corona have existing ongoing maintenance programs for Graffiti Removal and Control. Those programs would apply to all new and modified structures for Alternatives 1 and 2. (IP and UP)
		Construction activities would temporarily disrupt local traffic patterns and access to residences and businesses, increase traffic congestion, and increase noise, vibration, and dust.	Measure T-1: Development and implementation of the Final TMP. (IP and UP) Measure T-2: Development and implementation of the Final Ramp Closure Study. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure SC-1: Compliance with SCAQMD Rule 403, control of ozone precursor emissions from construction equipment, compliance with State Vehicle Code Section 23114, with special attention to Section 23114(b)(F), (e)(2), and (e)(4) as amended, regarding hauling of loads of materials, and compliance with Caltrans Standard Specifications for Construction (Sections 10 and 18 for dust control, Section 39-3.06 for asphalt concrete plant emissions). (IP and UP) Measure SC-4: Testing for ACMs. (IP and UP) Measure SC-5: Appropriate removal and disposal of ACMs. (IP and UP) Measure N-2: Compliance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," and SSP S5-310. (IP and UP) Measure N-3: Compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside). (IP and UP)
		Alternatives 1 and 2 and Alternative 2f would not cause disproportionately high and adverse effects on any minority or low-income populations per Executive Order 12898 regarding environmental justice.	No mitigation is required.
Utilities and Emergency Services	No impact	Alternatives 1 and 2 and their design variations 2a, 2b, 2e, and 2f would not result in permanent adverse impacts related to utilities and emergency services providers.	No mitigation is required.
		Alternatives 1 and 2 and their design variations, including Alternative 2f, would include additional CHP enforcement areas on SR-91.	No mitigation is required.
		During construction of Alternatives 1 and 2 and their design variations including Alternative 2f, the ability of emergency services providers to meet response times could be impaired as a result of temporary traffic delays; road, lane, and/or ramp closures; or detours.	Measure T-1: Development and implementation of the Final TMP. (IP and UP) Measure T-2: Development and implementation of the Final Ramp Closure Study. (IP and UP) Measure UES-2: Coordination of the Final TMP and the Final Ramp Closure Study with affected utility and emergency service providers. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
		Potential for fires in construction areas, associated with operating construction equipment, vehicles, and the presence of construction personnel.	Measure UES-3: Fire prevention and coordination with local fire departments during construction. (IP and UP) Measure UES-4: Fire prevention adjacent to CHSP with the equivalent of a continuous barrier 30 to 36 inches high on the edge of the shoulder on both westbound and eastbound SR-91 from SR-71 to SR-241. (UP)
		Alternative 1 and all its design variations and Alternative 2 with Design Variations 2a, 2b, 2e, and 2f would require the use of 0.018 ac of land from the SCE property for use as a TCE during construction.	Measure CI-1: Design refinements to minimize property acquisition. (IP and UP) Measure CI-2: Compliance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and Title VI of the Civil Rights Act of 1964. Parking studies will be conducted to investigate the use of adjacent acquisitions for replacement parking and options for reconfiguring parking lots, driveways, and/or delivery locations to reduce the project effects on partial acquisition properties. (IP and UP)
Traffic and Transportation/ Pedestrian and Bicycle Facilities	Impacts to traffic and transportation would worsen through continued increase of traffic congestion Deterioration of LOS	Alternatives 1 and 2 including Alternative 2f in design year 2035 would maintain or slightly improve VHT, VHD, and LOS along the SR-91 freeway mainline compared to 2035 No Build conditions. Under Alternative 1 in design year 2035, there would be a 2 percent reduction in VHT, a decrease of 13,000 hours in VHD, and four freeway segments on SR-91 would be improved from LOS F to LOS D or E when compared to 2035 No Build conditions. On I-15, one segment would worsen from LOS E to LOS F, one segment would improve from LOS F to LOS E, and one segment would improve from LOS D to LOS C when compared to 2035 No Build conditions.	No mitigation is required.
		Under Alternative 2 including Alternative 2f in design year 2035, there would be a 4 percent reduction in VHT, a decrease of 23,000 hours in VHD, and eight segments on SR-91 would improve from LOS F to LOS D or E when compared to 2035 No Build conditions. On I-15, one segment would improve from LOS F and two segments would respectively worsen from LOS B and C to LOS C and D when compared to 2035 No Build conditions. Permanent impacts may occur to local intersections.	Measure T-3: Fair Share Contributions. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
	No permanent impacts to pedestrian or bicycle facilities No added benefit related to pedestrian and bicycle access	Alternatives 1 and 2 and Alternative 2f in design year 2035 would provide an overall positive improvement to pedestrian and bicycle facilities within the project limits. All local streets that cross the project segments of SR-91 and I-15 would be returned to their existing conditions or, in some cases, widened across sections. Most sidewalks replaced under Alternatives 1 and 2 and Alternative 2f will be designed consistent with applicable ADA requirements for handicap access. The Santa Ana River Trail/Bike Lane within the State right-of-way for SR-91 will be relocated farther north as part of the project.	No mitigation required.
	No temporary impacts to traffic and transportation	Construction of Alternatives 1 and 2 and Alternative 2f would require complete closure of ramps or connectors for certain periods of time or on weekends. Staging plans were developed to ensure that closure durations are minimized, and every effort is made to prevent concurrent multiple closures. Because longer closures may occur as a result of Alternatives 1 and 2 and Alternative 2f, detour routes will be provided.	Measure T-1: Final TMP. (IP and UP) Measure T-2: Development and implementation of the Final Ramp Closure Study. (IP and UP)
	No temporary impacts to pedestrian or bicycle facilities	Temporary sidewalk closures at certain crossings would occur during construction. These closures may temporarily impact accessibility in the project limits. On street bicycle facilities along Green River Road and the Magnolia Avenue crossing at SR-91 may also experience temporary closures. It is possible that short segments of the Santa Ana River Trail/Bike Lane west of Green River Golf Club and east of Featherly Regional Park may be detoured temporarily during construction. However, these detours are anticipated to be very limited in duration, and alternate routes would be provided.	Measure T-1: Final TMP. (IP and UP)
Visual and Aesthetics	No impact	Alternatives 1 and 2, including Alternative 2f, would include no new lighting except for safety lighting at the interchanges and in undercrossings. Existing lighting on local streets, SR-91, and I-15 would be modified or relocated. Alternatives 1 and 2, including Alternative 2f, would result in an adverse impact to the segment of SR-91 eligible for designation as a State Scenic Highway.	Measure V-1: Structural enhancements and design measures identified in the *215/91 Corridor Master Plan* will be incorporated in the design and construction of sound walls, retaining walls, and bridge elements to address adverse impacts and bridge elements. (IP and UP) Measure V-2: Mitigation for the loss of landscaping through replacement planting approved by the District Landscape Architect. (IP and UP) Measure V-3: Lighting fixtures with non-glare hoods will be designed to illuminate only the right-of-way. The RCTC Project Engineer will coordinate with the City of Corona and other applicable cities and counties to ensure that sufficient lighting is provided as part of the improvements to local streets consistent with applicable local policies and street lighting codes. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure V-4: Sound barriers will include vine planting. The Department and the City of Corona have existing ongoing maintenance programs for Graffiti Removal and Control. Those programs would apply to all new and modified structures for Alternatives 1 and 2. (IP and UP)
Cultural Resources	No impact	Alternatives 1 and 2 and their design variations including Alternative 2f would result in permanent impacts to the National Register-listed Grand Boulevard Historic District; this would result in a finding of No Adverse Effect with Standard Conditions on this property.	Condition for Acorn-Style Streetlights: Up to seven acorn-style streetlights in the project limits will be relocated as close to their existing locations as possible based on the project design or elsewhere within the boundaries of the Grand Boulevard Historic District. An architectural historian will be on site during the removal, dismantling, and reinstallation of the acorn-style streetlights. (IP)
		Alternatives 1 and 2 and their design variations including Alternative 2f would result in the removal of 18 trees in the Grand Boulevard Historic District.	Measure CR-1: The 18 trees removed from the Grand Boulevard Historic District will be replaced at a ratio of 1:1 and will be compatible with the existing plantings in the Grand Boulevard Historic District. The replacement trees will be identified in consultation with the City of Corona, the Department's District Landscape Architect, and a Professional Qualified Staff Architectural Historian from the District. All replacement trees will be installed no later than the completion of construction activities in the Grand Boulevard Historic District. (IP)
		Discovery of cultural materials during construction.	Measure CR-2: Discovery of Cultural Materials. If cultural materials are discovered during construction, all earthmoving activity will be diverted within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. (IP and UP)
		Discovery of human remains during construction.	Measure CR-3: Discovery of Human Remains. If human remains are discovered during construction, State Health and Safety Code Section 7050.5 will be complied with, activities shall cease in the area, and the County Coroner shall be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, which will then notify the MLD. The Department will be contacted so they may work with the MLD on the respectful treatment and disposition of the remains. (IP and UP)
		Potential to impact archaeological resources.	Measure CR-4: A Native American monitor will be present and conducting monitoring during construction in areas identified and considered sensitive by the Pechanga Band of Mission Indians as shown on the project plans. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
Hydrology and Floodplain	No impact	Assuming a worst case using the existing FIRMs and the total improvements under Alternative 2, including Alternative 2f, the Build Alternatives would result in encroachments into the 100-year floodplain at the Santa Ana River at Wardlow Wash, at Country Club Creek, and at West Grand Boulevard. There would be no appreciable increase in the 100-year surface water elevations under Alternatives 1 and 2 and Alternative 2f. There would not be significant encroachments, and the encroachments would not result in significant adverse impacts to natural and beneficial floodplain values.	Construction Site, Design Pollution Prevention, and Treatment BMPs would be implemented to minimize water quality-related impacts to the 100-year floodplain and the associated beneficial uses. As discussed below for natural communities and wetlands and other waters, measures to minimize impacts and preserve natural and beneficial floodplain values include installation of construction fencing around riparian/riverine vegetation to be preserved and compensatory mitigation for temporary and permanent impacts to riparian and aquatic habitats. No further mitigation measures for impacts to floodplains are required. (IP and UP)
		Alternatives 1 and 2 and Alternative 2f could result in the erosion of exposed soil surfaces during construction, which would be controlled using BMPs as described in the SWPPP. Temporary detention basins would be used, as needed, during construction to prevent localized flooding. Therefore, the construction of Alternatives 1 and 2 and Alternative 2f will not result in adverse impacts related to floodplains.	The measures for water quality and storm water runoff, natural communities, and wetlands and other waters would minimize construction-related water quality impacts and preserve natural and beneficial floodplain values. No further mitigation measures for impacts to floodplains are needed. (IP and UP)
Geology, Soil, Seismic, Topography	No impact	Alternatives 1 and 2 and Alternative 2f would similarly permanently result in or be affected by the following geotechnical conditions: ground motion, liquefaction, fault rupture, and other effects related to seismic activity; retaining walls for slope stability; erosion of slopes and other unpaved areas; and permanent subsurface easements in CHSP and the New OC Park (NNL) adjacent to SR-91 for engineered tiebacks for the wall along SR-91 in those areas.	Measure GEO-1: A final geotechnical design report. (IP and UP) BMPs for water quality/erosion. (IP and UP)
		The construction of Alternatives 1 and 2 and their design variations, including Alternative 2f, would temporarily result in or be affected by the following geotechnical conditions: increased potential for soil erosion in areas of disturbed soil; ground motion, liquefaction, fault rupture, and other effects related to seismic activity; and the potential need for blasting in areas with non-rippable granitic bedrock.	Standard construction good housekeeping and worker safety practices. Measure GEO-1: A final geotechnical design report. (IP and UP) Measure GEO-2: Quality assurance/quality control plan. (IP and UP) Measure GEO-3: Blasting Plan. (IP and UP) BMPs for water quality/erosion. (IP and UP)
Paleontology	No impact	The construction of Alternatives 1 and 2 and their design variations could result in permanent impacts on paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the	Measure PAL-1: Preparation and Implementation of a Paleontological Mitigation Plan to provide guidance for developing and implementing paleontological mitigation efforts including field work, laboratory methods, and curation for significant paleontological resources that may exist within the project disturbance limits, including measures specific to sediments with high and low sensitivity.

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
		Ladd Formation. While there will be minor differences in areas disturbed during construction, the impacts of Alternatives 1 and 2 and their design variations including Alternative 2f on these sediments would be very similar because the construction of these alternatives would use similar techniques and would disturb approximately the same areas along the alignments. As a result, there is not a substantive difference in permanent impacts on paleontological resources under Alternatives 1 and 2 and their design variations including Alternative 2f.	
Hazardous Waste and Materials	No impact	Routine operation and maintenance of the facilities under Alternatives 1 and 2 including Alternative 2f would not introduce new sources of hazardous materials and wastes. Continued exposure to existing hazardous wastes through vehicle transport would continue. However, the transport of hazardous waste and/or materials is heavily regulated. Therefore, no new permanent adverse impacts related to hazardous wastes/materials (direct or indirect) beyond existing conditions would occur during operation of Alternatives 1 and 2 and their design variations and Alternative 2f. There is no difference in permanent impacts between Alternatives 1 and 2.	No mitigation is required.
		Properties zoned for industrial and automotive uses within the project disturbance limits may routinely store hazardous wastes and materials on site. Therefore, prior to acquisition of these properties, any potentially hazardous waste material present will be relocated and/or removed off site.	Measure HW-1: Phase I Environmental Site Assessments for 2 properties were conducted to characterize the extent of the contamination. These sites were identified to be a potential environmental concern during construction. Additional testing and/or remediation are required for these sites during the design/build phase. (IP)
		Impacted soils and/or groundwater have been identified at two properties within the disturbance limits for Alternatives 1 and 2 and their design variations.	Measure HW-2: Site investigations for any new potential release sites. (IP and UP)
		Contact with hazardous materials during construction would be further minimized through the sampling (Phase II Environmental Site Assessments) of suspected hazardous materials prior to construction. Other areas of environmental concern include potentially contaminated soils related to the BNSF railroad tracks, agricultural land uses, and ADL in areas not previously sampled; ACMs, LBPs, and PCBs in building structures that will be disturbed or demolished under Alternatives 1 and 2 and Alternative 2f; and ACMs and LBPs in road structures that will be disturbed or renovated as part of Alternatives 1 and 2 and Alternative 2f.	Measure HW-3: ADL testing in previously untested areas. (IP and UP) Measure HW-4: ACM, LBP, and PCB surveys for building structures during the design phase. ACM and LBP surveys were conducted for 21 freeway structures. Six bridges contained ACMs and three bridges contained LBPs. ACMs and LBPs must be removed by a certified contractor prior to disturbance or demolition. (IP and UP) Measure HW-5: Inspections for PCBs in utility pole-mounted transformers. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure HW-6: Testing and removal of traffic striping. (IP and UP) Measure HW-7: Compliance with NPDES permit requirements during construction dewatering. (IP and UP) Measure HW-8: Sampling of soil adjacent to the BNSF railroad tracks. (IP and UP) Measure HW-9: Preparation of a HASP prior to construction and implementation of the HASP. (IP and UP) Measure HW-10: Preparation and implementation of a Contaminant Management Plan. (IP and UP) Measure HW-11: Preparation and implementation of a Construction Contingency Plan for unknown hazards. (IP and UP) Measure HW-12: Notify Underground Service Alert at least 2 days prior to excavation. (IP and UP) Measure HW-13: Fee submittal to the SCAQMD at least 10 days prior to demolition or renovation of structure. (IP and UP) Measure HW-14: Testing and disposal for wood-treated materials. (IP and UP)
Air Quality	Potential permanent increase in pollutants associated with increased congestion	In the long term, Alternatives 1 and 2 including Alternative 2f would improve traffic flow by reducing congestion. This improvement in traffic flow would reduce regional vehicle emissions. In addition, the Build Alternatives would not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, Alternatives 1 and 2 and their design variations including Alternative 2f would not result in long-term adverse impacts related to air quality.	No mitigation is needed.
	No construction along the project segments of SR-91 and I-15 and, therefore, would not result in temporary air quality impacts	The construction of Alternatives 1 and 2, including Alternative 2f, has the potential to temporarily increase air quality emissions in the project area.	Measure SC-1: Finalization of the project-specific Construction Emissions Mitigation Plan, compliance with the Department's Standard Specification Section 10 and 18 (Dust Control), Section 39.3.06 for asphalt concrete plant emissions, and SCAQMD Rule 403. (IP and UP) Measure SC-2: Implementation of the Construction Emissions Mitigation Plan. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure SC-3: Project Engineer will ensure that grading plans and project specifications show anticipated duration of construction in individual areas along the project alignment. (IP and UP) Measure SC-4: During final design and prior to any ground disturbance, appropriate testing to determine if ACMs are present in the project disturbance limits. (IP and UP) Measure SC-5: Appropriate removal and disposal of ACMs. (IP and UP)
Noise	No impact	During construction of Alternatives 1 and 2 including Alternative 2f, noise from construction equipment and activities could reach 89 dBA at 50 ft from the noise source.	Measure N-2: Compliance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," and SSP S5-310. (IP and UP) Measure N-3: Compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside). (IP and UP) Measure N-4: RCTC will initiate a separate project to construct noise barriers for I-15 (with the exception of NB K1-A) if they are not constructed as part of a separate I-15 project within 5 years of completion of the construction of the SR-91 CIP. (UP) Measure N-5: Unusual and extraordinary abatement measures will be implemented if certain residences will experience a severe traffic noise impact of 75 dBA L_{eq} or higher. (IP and UP)
Energy	No impact	Alternatives 1 and 2 including Alternative 2f would result in permanent direct reductions of up to 3.0 percent in fuel consumption in 2015 and up to 4.15 percent by 2035.	No mitigation is needed.
		Alternatives 1 and 2 including Alternative 2f would result in very minor increases in indirect energy consumption, up to 0.7 percent, for energy used for the manufacturing and maintenance of vehicles operating on roads in the project study area; however, there would be no increase in indirect energy consumption for vehicles in the SCAG region. Alternatives 1 and 2 including Alternative 2f would not result in a substantial change in the demand for electricity for road and sign lighting, toll facilities, and ramp metering.	No mitigation is needed.
		Temporary energy consumption during the construction of Alternatives 1 and 2 including Alternative 2f would represent a very small percent of total regional consumption and would not result in a noticeable impact related to short-term energy demand.	No mitigation is needed.

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
Natural Communities	No impact	The Initial Phases of Alternatives 1 and 2, and Alternative 2f would result in permanent impacts of 9.87 ac of CSS, and temporary impacts to 3.38 ac of CSS, 1.72 ac of riparian/riverine, and 0.04 ac of oak woodlands.	Refer to compensatory mitigation and measures listed in Table S.3 for natural communities.
		The Initial Phases and Ultimate Projects under Alternatives 1 and 2 and Alternative 2f will not impact NCCP lands in Orange County.	No mitigation is needed.
		Alternatives 1 and 2 and Alternative 2f will result in temporary impacts to wildlife corridors during construction.	Measure NC-6: Identification of locations with existing wildlife fencing, installation of new fencing prior to removal of existing fencing, and protection of fencing. (IP and UP) Measure NC-8: Limiting construction equipment maintenance, lighting, and staging away from wildlife corridor entrances. (IP and UP) Measure NC-9: Directing construction noise and light away from wildlife corridors, bridges, and biologically sensitive areas. (IP and UP) Measure NC-10: Locating construction equipment and structures to avoid barriers to wildlife passage. (IP and UP) Measure NC-11: Existing overcrossing and culvert designs compatible with wildlife usage. Openness ratios of 1.96 for large mammals and 0.81 for medium-sized mammals will be provided in modified overcrossings and culverts as appropriate at each crossing. (IP and UP) Measure NC-12: Limiting construction to daylight hours in Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Canyon with the exception of limited periods when evening or night work is required for operational reasons. (IP and UP) Measure NC-13: Structures for bridge work structures will not block the main underpasses in Coal Canyon, B Canyon, Fresno Canyon/ Wardlow Wash, and Bedford Canyon. (IP and UP) Measure NC-14: Location restrictions for construction staging areas in Coal Canyon. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure NC-15: Maintenance of Coal Canyon for emergency access during construction. (IP and UP) Measure NC-16: Closing of the gates at Coal Canyon at the end of each construction day. (IP and UP)
Plant Species	No impact	Alternatives 1 and 2 including Alternative 2f would result in the permanent removal of 0.74 ac on which Southern California black walnut trees were observed, and the permanent removal of 0.33 ac on which Coulter's matilija poppy was observed.	The measures provided elsewhere in this table for natural communities and threatened and endangered species will adequately avoid and minimize permanent impacts to special-status plant species during construction of the Build Alternatives. However, Measure PS-1 was added as an additional minimization measure for: Measure PS-1: Replacement planting of Southern California black walnut and Coulter's matilija poppy.
		Alternatives 1 and 2 would not result in permanent or temporary impacts to any other special-status species in the BSA.	No mitigation is needed.
Animal Species	No impact	Alternatives 1 and 2 including Alternative 2f would not result in permanent direct impacts on BUOW but could result in indirect impacts to BUOW as a result of the loss of potential habitat.	Measure AS-1: Preconstruction BUOW surveys. (IP and UP)
		Alternatives 1 and 2 including Alternative 2f would not result in permanent direct impacts to other special-status animal species. Alternatives 1 and 2 and Alternative 2f could result in permanent indirect impacts to other special-status species as a result of habitat loss and fragmentation and edge effects such as noise, litter, lighting, and human encroachment.	Measures for natural communities, wetlands and other waters, and plant species would also mitigate project effects to animal species.
		Alternatives 1 and 2 including Alternative 2f would result in temporary effects to the BUOW and other special-interest animal species as a result of unavailability of potential habitat, noise, vibration, lighting, and other edge effects.	Measure AS-1: Preconstruction BUOW surveys. (IP and UP) Measure AS-2: Preconstruction bat surveys. (IP and UP) Measure AS-3: Bat exclusion devices installed for any structure with potential bat habitat. (IP and UP) Measure AS-4: Limited night construction at bridges. Limited evening and/or night construction may be required for safety and/or operations reasons. (IP and UP) Measure AS-5: Retention of riparian vegetation near bat roosting sites. (IP and UP) Measure AS-6: Bridge construction outside bird nesting season and installation of bird nesting exclusion devices. (IP and UP)

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
			Measure AS-7: Permanent bat exclusion and the provision of habitat replacement structures. (IP and UP) Measure AS-8: Installation and maintenance of silt fence barriers at all staging or construction areas at Coal Canyon and areas within CHSP to prevent small animals from entering those areas. (IP and UP)
Threatened and Endangered Species	No impact	Alternatives 1 and 2 and Alternative 2f would not result in permanent impacts to Braunton's milk vetch, the Santa Ana sucker, western yellow-billed cuckoo, SWWF, and bald eagle.	No mitigation is needed.
		Alternatives 1 and 2 and Alternative 2f would result in temporary indirect impacts to Braunton's milk vetch, CAGN, LBV, Santa Ana sucker, western yellow-billed cuckoo, SWWF, and bald eagle.	Compensatory Mitigation: Based on compliance with the Western Riverside County MSHCP for SKR and Measures TE-1 to TE-15, provided earlier in Table S.3. Measures for natural communities, wetlands and other waters, plant species, and animal species would also mitigate project effects to threatened and endangered species.
Invasive Species	No impact	Revegetation and landscaping under Alternatives 1 and 2 and Alternative 2f would be similar, would not include any plants with high or moderate ratings in the California Invasive Plant Inventory, and therefore would help to inhibit the spread of invasive species.	No mitigation is needed.
		Construction activities for Alternatives 1 and 2 and Alternative 2f have similar potential to spread invasive species.	Measure IS-1: Development and implementation of a Weed Abatement Program. (IP and UP)
Cumulative Impacts	No impact	Alternatives 1 and 2 and Alternative 2f would contribute incrementally, when considered with the other cumulative projects, to cumulative impacts related to: • Conversion of designated farmlands to nonagricultural use • Community character and cohesion • Acquisition and removal of existing residential and nonresidential uses • Short-term traffic impacts during construction • Impacts to the visual/aesthetic environment • Short- and long-term impacts to water quality • Permanent impacts to paleontological resources • Short-term air quality impacts associated with fugitive dust and construction equipment emissions • Long-term noise levels in the project area	Refer to the measures in Tables S.3 and S.4 for project-specific measures by environmental resource that address project-specific impacts.

Table S.4 Summary of Impacts for the No Build Alternative and Impacts With No Substantial Difference Between Alternatives 1 and 2

Potential Impact	No Build Alternative	Potential Impacts Under Alternatives 1 and 2 and Their Design Variations	Avoidance, Minimization, and Mitigation Measures[1]
		• Incremental impacts on natural communities and the plant and animal species associated with them • Incremental impacts on jurisdictional and other waters • Incremental impacts on threatened and endangered species and other special-interest species • Incremental impacts related to invasive species in northeast Orange County and western Riverside County	

[1] IP = Applies to the Initial Phases of Alternatives 1 and 2
UP = Applies to the Alternative 1 and 2 Ultimate Projects
IP and UP = Applies to the Initial Phases and Ultimate Projects for Alternatives 1 and 2

ac = acres, acre
ACMs = asbestos containing materials
ADA = Americans with Disabilities Act
ADL = aerially deposited lead
BMPs = best management practices
BNSF = Burlington Northern Santa Fe Railroad
BSA = biological study area
BUOW = burrowing owl
CAGN = California gnatcatcher
Caltrans = California Department of Transportation
CGV = Compass Growth Vision
CHP = California Highway Patrol
CHSP = Chino Hills State Park
CO = carbon monoxide
dBA = A-weighted decibels
Department = California Department of Transportation
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
FIRMs = Flood Insurance Rate Maps
FSTIP = Federal Statewide Transportation Improvement Program
ft = foot/feet
HASP = Health and Safety Plan
I-15 = Interstate 15
LBP = lead-based paint
LBV = least Bell's vireo
LOS = level of service
MLD = Most Likely Descendant
MSHCP = Multiple Species Habitat Conservation Plan
NAHC = Native American Heritage Commission
National Register = National Register of Historic Places
NCCP = Natural Communities Conservation Plan
New OC Park (NNL) = New Orange County Park (National Natural Landmark)
NPDES = National Pollutant Discharge Elimination System
PCBs = polychlorinated biphenyls
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
PRC = Public Resources Code
RCP = Regional Comprehensive Plan
RTP = Regional Transportation Plan
SCAG = Southern California Association of Governments
SCAQMD = South Coast Air Quality Management District
SCE = Southern California Edison
SKR = Stephens' kangaroo rat
SR-91 = State Route 91
SSPs = Standard Special Provisions
State Parks = California State Parks
SWPPP = Storm Water Pollution Prevention Plan
SWWF = southwestern willow flycatcher
TCEs = temporary construction easements
TMP = Transportation Management Plan
VHD = vehicle hours daily
VHT = vehicle hours traveled

Table S.5 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Federal Agencies		
FHWA	Approval for Modified Access Report to the Interstate System	A "Letter of Acceptability" approving the modified access was received from FHWA in a letter to the Department dated May 11, 2011. Final approval will occur in August 2012 after approval of the ROD
	Section 6005 of SAFETEA-LU for satisfying Air Quality Conformity Requirements	Approval was received from FHWA on June 6, 2012
	Major Project Operational Independence and Non-Concurrent Construction Determination	Concept submitted January 20, 2012 and final approval is expected by June 2012
	Cost Estimate Review	Approval received on March 23, 2012
	Draft Project Management Plan	Approved in May 2012
	Plan of Finance (in lieu of Initial Financial Plan)	Submittal is expected by July 2012
	Final Project Management Plan	Approval is expected by October 2012
	Close of Finance/Financial Plan Annual Update	The first annual update would be submitted in May 2013.
USFWS	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit	The BO was approved on November 30, 2011, by USFWS (refer to Appendix Q).
Corps	Section 404 Nationwide Permit for filling or dredging waters of the United States.	The application for this permit was submitted in July 2011.
	Section 408 Permit for modifications to Corps' facilities in three locations and a modified easement at a fourth location.	An initial application for this permit was submitted in December 2011.
National Park Service	Approval of the use of land from CHSP if that land is protected under Section 6(f)	Because the 0.48 ac of land in CHSP that will be used by the project is not currently protected by Section 6(f), no NPS approval is required at this time. If that land becomes protected under Section 6(f) prior to the use of 0.48 ac in CHSP for the SR-91 CIP, the requirements for protection under Section 6(f) will be analyzed and addressed with State Parks and the California Department of Parks and Recreation, Office of Grants and Local Services.
State Agencies		
CDFG	1602 Agreement for Streambed Alteration	The application for this agreement was submitted in February 2011.

Table S.5 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
California State Parks	Concurrence regarding the determination of the project effects on CHSP	State Parks provided written concurrence with the de minimis determination for project effects on CHSP in a letter dated March 26, 2012; a copy of that letter is provided in Appendix B.
	Right-of-Entry/Encroachment Permit	An approved Right-of-Entry/Encroachment Permit will be required prior to any construction encroaching onto land within the boundary of CHSP.
	Approval of a permanent aerial easement in CHSP	Prior to construction of the Green River Road westbound off-ramp.
California Transportation Commission	Approval of STIP funding	After the Department approves the Final EIR and files the Notice of Determination.
SWRCB	Section 402 NPDES (Construction Activity)	The notification for coverage under Order No. 2009-0009-DWQ, NPDES No. CAS000002 will be submitted prior to construction.
	Section 402 NPDES Permit (Department NPDES Permit)	Coverage under Order No. 99-06-DWQ, NPDES No. CAS000003 will be addressed with submittal of the NOI under NPDES No. CAS000002, which will be submitted prior to construction.
Santa Ana RWQCB	Section 402 NPDES (Groundwater Dewatering)	The notification for coverage under Order No. R8-2009-0003, NPDES No. CAG998001, will be submitted prior to construction.
	Section 401 Water Quality Certification	The application for this agreement was submitted in February 2011.
Regional and Local Agencies		
Western Riverside County RCA and the RCTC	JPARP	A Preliminary Determination of Biologically Equivalent or Superior Preservation is provided in Appendix O of the *Natural Environment Study* (2010).
Cities of Anaheim, Corona, Riverside, and Norco, and Counties of Riverside and Orange	Freeway Agreements	Freeway agreements reflecting the project will be finalized after completion of the Final EIR/EIS.
Cities of Anaheim, Corona, and Riverside, and Counties of Orange and Riverside	Encroachment permits for any encroachments into public right-of-way owned by these jurisdictions.	Prior to any encroachment
Cities of Anaheim, Corona, and Riverside, and Counties of Orange and Riverside	Approval of the TMP and any detour plans using local streets	Prior to construction
Orange County Flood Control District and Riverside County Flood Control District	Coordination for, and approval of, any project-related changes to the existing flood control facilities	During final design
County of Orange	Approval of a permanent subsurface easement in the New OC Park (NNL)	Prior to construction of the Ultimate Project

Table S.5 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Railroads		
BNSF Railroad Company	Memorandum of Understanding and a Construction and Maintenance Agreement with the railroad	Prior to any construction within or above railroad right-of-way
California Public Utilities Commission	Approval of the project, based on review of the Construction and Maintenance Agreement	Prior to any construction within or above railroad right-of-way
Utilities		
SCG SCE City of Corona AT&T/Pacific Bell Comcast Cable Sprint Time Warner Cable Questar/Four Corner Pipeline Company Level 3 Communications Temescal Valley Regional Interceptor City of Riverside Santa Ana Watershed Project Authority Western Riverside Regional Wastewater	Approvals to relocate, protect in place, or remove utility facilities	Prior to any construction activities that would affect utility facilities

BNSF = Burlington Northern Santa Fe
BO = Biological Opinion
CDFG = California Department of Fish and Game
Corps = United States Army Corps of Engineers
Department = California Department of Transportation
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
FHWA = Federal Highway Administration
JPARP = Joint Project Acquisition/Review Process
NOD = Notice of Determination
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
RCA = Regional Conservation Authority
RCTC = Riverside County Transportation Commission
ROD = Record of Decision
RWQCB = Regional Water Quality Control Board
SCE = Southern California Edison
SCG = Southern California Gas Company
SWRCB = State Water Resources Control Board
TMP = Transportation Management Plan
USFWS = United States Fish and Wildlife Service

Table S.6 Summary of Issues Raised During Scoping

General Topic	Issues	EIR/EIS Section Where Topic is Discussed
Project Alternatives	Comments related to the individual alternatives, funding, the use of Measure A funds for Alternative 2, operations, public transit instead of project.	Chapter 2, Project Alternatives
Right-of-Way Acquisition and Relocation	Comments related to the effect of project acquisition on residences and businesses adjacent to the project segment of SR-91. Comments from the City of Corona regarding the importance of attempting to avoid and minimize right-of-way impacts within the City limits and requesting the identification of potential right-of-way impacts for each Build Alternative.	Chapter 2, Project Alternatives and Section 3.4.2, Relocations and Real Property Acquisitions
Traffic	Comments regarding the expected traffic volumes for the proposed MCP project, how the project will address traffic congestion in the area once MCP begins to distribute numerous vehicles onto I-15 and how that might distribute the congestion onto SR-91, and the importance of optimizing SR-91 corridor traffic to accommodate future traffic demand.	Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities
Biological Resources	Comments regarding the importance of maximizing Chino Hills and Santa Ana Mountains habitat protection for future generations, effects of additional incremental lighting at entrances and exits to the constrained wildlife corridors, and the need to protect existing wildlife habitat and listed species on or near the project site.	Sections 3.17, Natural Communities; 3.18, Wetlands and Other Waters; 3.19, Plant Species; 3.20, Animal Species; 3.21, Threatened and Endangered Species; and 3.22, Invasive Species.
Land Use	Comments regarding consistency of the project with General Plans and regional plans.	Section 3.1, Land Use
Air Quality	Comments regarding air quality impacts during construction and operations, and compliance with AB 32.	Section 3.14, Air Quality
Cumulative Impacts	Suggestion to include other transportation projects in the analysis, including the MCP; cumulative analysis within the context of other CETAP projects.	Section 3.25, Cumulative Impacts
Growth	Growth inducement	Section 3.2, Growth
Floodplains and Drainage	Consider additional flood control improvements in the Lower Santa Ana River, including bank protection on the south bank of the River at several locations between Prado Dam and the western part of the Green River Golf Club as part of the County of Orange and Corps projects. Comments regarding the importance of fully evaluating the potential impacts of the project to master planned drainage facilities such as the La Sierra MDP facilities, which would provide flood protection and adequate drainage outlets to relieve substantial flooding problems. Concerns regarding the alteration of existing drainage patterns, the potential diversion or concentration of storm water flows, and the potential for increased runoff and potential impacts that could result from that runoff.	Section 3.9, Hydrology and Floodplains

Table S.6 Summary of Issues Raised During Scoping

General Topic	Issues	EIR/EIS Section Where Topic is Discussed
Noise	Comments regarding potential noise and vibration impacts at entrances to and exits from the constrained wildlife corridors and potential noise barriers constructed in front of homes and businesses.	Section 3.15, Noise
Historical Resources	Comments to protect historical resources.	Section 3.8, Cultural Resources
Hazards	The potential for exposure to hazardous wastes during construction activities.	Section 3.13, Hazardous Waste/Materials
Construction Impacts	Comments regarding potential impacts during construction, including air quality, visibility, biological resources, noise, traffic, and hazardous wastes; and requests for advanced notice of construction activities.	In the impacts analyses by topic throughout Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures
Mitigation	Mitigation for direct, indirect, and cumulative impacts.	In the avoidance, minimization, and/or mitigation measure sections by topic throughout Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

AB 32 = Assembly Bill 32
CETAP = Community and Environmental Transportation Acceptability Process
Corps = United States Army Corps of Engineers
I-15 = Interstate 15
MCP = Mid County Parkway
MDP = Master Drainage Plan
SR-91 = State Route 91

This page intentionally left blank

Chapter 1 Project

1.1 Introduction

1.1.1 Environmental Lead Agency

Effective July 1, 2007, the Department has been assigned environmental review and consultation responsibilities under NEPA pursuant to Section 6005 of SAFETEA-LU (23 USC 327). On projects for which the Department has assumed NEPA responsibilities, the Department has also assumed responsibility for environmental review and consultation under other federal environmental laws.

The Department is the lead agency under NEPA and CEQA for this project.

FHWA, the Department, and the RCTC are planned signatory parties to a High Profile Project Agreement that will outline the roles and responsibilities of these three major participants to the project. These roles and responsibilities are in relation to FHWA's charge with stewardship and oversight responsibilities for all federally funded programs under the Federal-Aid Highway Program. FHWA's roles and responsibilities and the status of these approvals are provided in Table 1.1. RCTC has initiated work with FHWA to move the project forward and entered into a Section 129 Toll Agreement for the project on August 18, 2009.

Table 1.1 Federal Highway Administration Approvals

Approval Required	Actual or Anticipated Approval Date
Cost Estimate Review – Approved by FHWA	Approved March 23, 2012
Draft Project Management Plan – Submitted to FHWA	May 16, 2012
Air Quality Conformity Determination (Program and Project Level)	June 4, 2012 (Program Level) and June 6, 2012 (Project Level)
OINCC – Formal Approval	June 2012
Plan of Finance (in lieu of Initial Financial Plan)	July 2012
Modified Access to the Interstate System	Conceptual Approval 2011, Final Approval 60 days after ROD
Final Project Management Plan – Approved by FHWA	October 2012
Close of Finance/Financial Plan Annual Update	May 2013

Source: Riverside County Transportation Commission (2012).
FHWA = Federal Highway Administration
OINCC = Operational Independence and Non-Concurrent Construction

1.1.2 Overview of the Project

1.1.2.1 Project Limits

The project limits extend on SR-91 from approximately SR-241 to just east of I-15 and on I-15 from approximately Hidden Valley Parkway to the north and Cajalco Road to the south. SR-91, within the project limits, currently has four GP lanes accommodating travel in each direction, with those lanes varying in width from 11 to 12 ft from the SR-241/SR-91 interchange to the SR-91/I-15 interchange, and three 12 ft wide GP lanes in each direction from the SR-91/I-15 interchange to Pierce Street. In addition, there are two tolled express lanes (within Orange County) and one HOV lane (within Riverside County) in each direction within the project limits. The tolled express lanes, which are 11 to 12 ft wide depending on the location, begin in Orange County west of the SR-91/SR-55 interchange and end at the Orange/Riverside County line. The two HOV lanes, which are 11 to 12 ft wide depending on the location, begin where the tolled express lanes end just east of the Orange/Riverside County line and extend to Mary Street in the City of Riverside. Figure 1-1 shows the project vicinity and the project limits on SR-91 and I-15.

The RCTC, in cooperation with the Department, is proposing capacity, operational, and safety improvements on segments of SR-91 and I-15 designated as the SR-91 CIP. The project is intended to widen the existing SR-91 from the junction of the SR-91 and SR-241 interchange in the Cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County. The project also includes improvements to I-15 in Riverside County between the I-15 and Cajalco Road interchange in the City of Corona and the I-15 and Hidden Valley Parkway interchange, also in the City of Corona. The project is subject to State and federal environmental review requirements.

1.1.2.2 FHWA Major Project Deliverables

The SR-91 CIP is designated as an FHWA Major Project due to the project cost exceeding $500 million. Based on SAFETEA-LU, a major project is defined as a project with a total estimated cost of $500 million or more that is receiving federal financial assistance. In order for federal funding to be authorized for the financing of Major Projects such as the SR-91 CIP, the project owner (i.e., RCTC for the SR-91 CIP) must demonstrate to the FHWA that the project has been carefully planned out (i.e., costs have been estimated as accurately and meticulously as possible; risks have been carefully considered and mitigated; financing requirements and strategies have been clearly defined; and the implementation of the project delivery has been carefully planned). Through the different phases of project delivery and as required

LEGEND

- SR-91 Project Limits
- City Boundary
- County Boundary

0 5 10
MILES

SOURCE: ESRI (2006); TBM (2007), PB (2008)

I:\PAZ0701\GIS\Basemap\Project_Vicinity_EIR.mxd (4/11/2011)

FIGURE 1-1

SR-91 Corridor Improvement Project

Project Vicinity

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

under SAFETEA-LU, the FHWA Major Project designation triggers a number of deliverables for submittal to FHWA for approval on the SR-91 CIP, including: (1) a Cost Estimate Review (CER), which must be approved prior to approval of a Final EIS; (2) an Operational Independence and Non-Concurrent Construction (OINCC) Determination; (3) an Initial Financial Plan (IFP); and (4) a Draft and Final Project Management Plan (PMP). The Draft PMP should be submitted to FHWA 60 days prior to approval of an ROD, and the Final PMP must be submitted no later than 90 days after approval of the ROD. The Plan of Finance (POF) required with RCTC's application for Transportation Infrastructure Finance and Innovation Act (TIFIA) funds will be submitted in lieu of the IFP per FHWA financial plan guidance. The FHWA Major Project deliverables schedule of approvals is provided in Table 1.1.

1.1.2.3 Programming Status

The project is currently programmed in the 2012 RTP, which was found to conform by the FHWA/FTA on June 4, 2012. The project is also programmed in the SCAG financially constrained 2011 FTIP (through Amendment 24), which was also found to be conforming by the FHWA/FTA on June 4, 2012. The description of the project in the 2012 RTP is as follows: Project ID No. RIV071250; Description: Phase 1: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). Phase 2: on SR-91/I-15: SR91 – Add 1 mixed flow lane in each direction (SR241 – SR71)(I15 – Pierce); I15 – add toll express lane (TEL) median direct connector (SB15 to WB91 & EB91 to NB15), 1 TEL each direction from Hidden Valley –SR-91 direct connector and from Ontario Interchange to Cajalco Interchange.

The description of the Initial Phase (Phase 1 as described in the RTP) in the 2011 FTIP (Amendment 24) is as follows: Project ID No. RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 TEL and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94).

The approved 2012 RTP and 2011 FTIP (Amendment 24) project listings are provided in Appendix K.

1.1.2.4 Funding Status

Alternative 1 would be funded by Measure A, which is a one-half-cent sales tax that was originally approved by Riverside County voters in 1998 and was extended in 2002. Alternative 2 would be funded by Measure A and toll revenue bonds. Toll revenues generated under Alternative 2 would be used as the funding source for the tolled express lanes. Refer to Section 2.3.4, Phasing Plans for the Build Alternatives, for a description of how the Initial Phase and Ultimate Project of the Preferred Alternative (Alternative 2f) would be funded.

1.1.3 Planning History of the Project

1.1.3.1 Route Concept Report

The approved *Route Concept Report* (Department, October 25, 1989) designated the ultimate concept facility for this segment of SR-91 as a 10-lane freeway with 8 GP lanes and 2 HOV lanes. The existing SR-91 meets or exceeds the ultimate concept facility defined in that report. However, the existing facility does not accommodate the existing demand in this corridor and generally operates under breakdown conditions during the morning and evening peak periods.

1.1.3.2 State Route 91 Congestion Relief Alternatives Analysis

The *State Route 91 Congestion Relief Alternatives Analysis* (Department, January 2003) outlined short-, mid-, and long-term alternatives to relieve congestion on SR-91 between SR-55 in Orange County and I-15 in Riverside County. This study was sponsored and conducted by Department Districts 8 and 12.

1.1.3.3 State Route 91 Implementation Plan

The *State Route 91 Implementation Plan* was completed by OCTA in June 2003, as required by Assembly Bill (AB) 1010, which was signed into law in September 2002. AB 1010 required OCTA, in consultation with the Department and RCTC, to issue a plan and a proposed completion schedule for improvements to SR-91 from I-15 to SR-55 to the State Legislature prior to July 1, 2003. The scope of the *2003 State Route 91 Implementation Plan* reiterated the alternatives in the *State Route 91 Congestion Relief Alternatives Analysis* and provided additional approaches, including the development of an MIS to evaluate potential new corridors and multimodal alternatives. Since 2003, this Plan has been updated annually to the current *State Route 91 Implementation Plan* (OCTA 2010).

1.1.3.4 Riverside County-Orange County Major Investment Study

The development of the MIS for Riverside and Orange Counties was initiated in June 2004 and was completed in December 2005. OCTA, in cooperation with the RCTC and Foothill-Eastern Transportation Corridor Agency, prepared the MIS. The purpose of the MIS was to address planning, environmental, and transportation issues that would result from the anticipated doubling of population in Riverside County (from 1.5 million residents in the early 2000s to approximately 3.1 million residents by 2035[1]) by developing an LPS that meets five key goals, to the extent feasible:

1. Provide improvements to SR-91 to improve mobility between counties.
2. Improve travel time and safety on existing facilities.
3. Improve goods movement capability through the corridor.
4. Reduce and manage the diversion of intercounty traffic from SR-91 to local streets.
5. Expand modal options throughout the corridor.

The scope of the MIS relied heavily on recommendations for improvements to SR-91 based on the earlier studies described above. The MIS examined a comprehensive range of capital and operational improvement alternatives to SR-91 and identified other intercounty multimodal transportation corridor opportunities. The MIS analyzed the potential benefits, costs, and consequences (economic, social, and environmental) of alternative transportation investment strategies in Orange and Riverside Counties. The MIS planning process was a cooperative and collaborative process whereby public agencies and the community assisted in the development of a definition and general scope of potential solutions and the development of evaluation criteria culminating in a recommendation for a preferred transportation strategy.

The project was identified as a key east-west transportation corridor improvement based on the environmental and transportation analyses conducted for the MIS. The MIS led to the development of the alternatives for the current project.

On October 28, 2005, the MIS Policy Committee provided guidance as to which components of the alternatives might best move forward towards an LPS for subsequent approval by the OCTA Board of Directors and the RCTC Board of Commissioners. Pertinent findings from the detailed evaluation of alternatives were presented at an Elected Officials Briefing on November 3, 2005, to the MIS Policy

---

1 *Regional Transportation Plan* (SCAG 2008).

Committee on November 18, 2005, and to the MIS PDT on December 7, 2005. The preliminary LPS was refined on the basis of input received at these meetings and then presented to the OCTA Board of Directors and RCTC Board of Commissioners for approval.

At their respective December 12, 2005, and December 14, 2005, meetings, the OCTA Board of Directors and RCTC Board of Commissioners unanimously approved the recommendations for the refined LPS. Figure 1-2 shows the Riverside County-Orange County MIS LPS. The LPS includes the following projects:

- *Immediate Capacity Enhancements to SR-91* – Add one new lane in each direction between I-15 and SR-241 and make additional improvements.
- *Lower Toll on Foothill Transportation Corridor (SR-241)* – Encourage more drivers on SR-241 by lowering the existing toll and adding new lanes.
- *Build 4-Lane or 6-Lane Elevated Highway (Corridor A)* – Build an entirely new elevated highway (viaduct) parallel to and within the existing right-of-way of SR-91 between I-15 and SR-241.
- *Build 4-Lane or 6-Lane Tunnel (Corridor B)* – Build an entirely new tunnel highway between I-15 at Cajalco Road in Riverside County and the vicinity of the SR-241 and State Route 133 (SR-133) interchange in Orange County.
- *Maximize Transit System* – Expand transit service by increasing Metrolink service through the corridor and evaluate the addition of express buses and high-speed trains such as Maglev. The goal of the LPS transit enhancements is to capture an equivalent 10,000 daily vehicle trips. The expanded transit network would incorporate a new Intermodal Transportation Center in Corona near Serfas Club Road with a park-and-ride facility (estimated at 3,000 parking spaces), shuttle/ circulator feeder buses, local and express buses including bus rapid transit, preferential treatment for HOVs, and linkages to the proposed Maglev train if a station is ultimately developed in Corona along the Ontario-Anaheim segment. Additional Metrolink services are also proposed. These transit enhancements are proposed in the LPS as separate projects.
- *Operational Improvements to SR-74* – Identify specific operational improvements to State Route 74 (SR-74) between Interstate 5 (I-5) and I-15.

The project satisfies the initial component of the MIS LPS of immediate capacity enhancements to SR-91.

Major Investment Study
Recommended Locally Preferred Strategy

- Maximize transit stystem
- Maximum and feasible widening to SR-91*
- Possible managed lane changes for SR-91 or Corridor A (Including reversible lanes)
- Continued study of Corridor A
- Continued study of Corridor B
- SR-74 operational improvements

LEGEND

- Existing Highway
- Proposed SR-91 Improvements
- Proposed Extension of SR-241
- Proposed Corridor A Alignment
- Proposed Corridor B Route
- Proposed SR-74 Improvements
- Proposed Maglev Alignment (By others)**
- (# Total) Number of Total SR-91 Lanes (Include baseline*)
- (# - # Added) Number of Added SR-91 Project Lanes (Exclude baseline*. Does not include auxiliary lanes)

NOTES

*Baseline SR-91 improvements include two lanes from SR-241 to I-15, and an EB lane addition from SR-241 to SR-71 (not shown on diagram).

**Maglev representative seed alignment shown (illustrative only).

FIGURE 1-2

SR-91 Corridor Improvement Project
Major Investment Study
Recommended Locally Preferred Strategy
Ora-91-R14.43/R18.91
Riv-91-R0.00/R13.04
Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

The improvements identified in the *SR-91 Project Study Report/Project Development Support* (PSR/PDS; Department, December 4, 2006) are consistent with the recommendations in the three studies discussed above.

1.2 Purpose of the Project

The project is intended to achieve the following purposes:

1. Improve the vehicle, person, and goods movement within the SR-91 corridor to more effectively serve existing and future travel demand between and within Riverside and Orange Counties.
2. Provide improvements along the SR-91 and I-15 transportation corridors as well as to related local roads, and to reduce diversion of regional traffic from the freeways into the surrounding communities.

1.3 Need for the Project

SR-91 is currently used by more than 280,000 vpd at the Orange/Riverside County line, and this volume continues to grow. At the same time, travel speeds on SR-91 are well below 30 mph during the lengthy morning (westbound) and evening (eastbound) peak travel periods in this corridor. Existing congestion and delays on SR-91 and I-15 during peak travel periods result in freeway traffic diverting to adjacent local roads to avoid congestion and delays. This diversion of freeway traffic is particularly prevalent in the City of Corona as motorists on westbound SR-91 and motorists transitioning from northbound I-15 to westbound SR-91 seek less congested routes in the morning (westbound) peak travel period. Similarly, diversion of freeway traffic into the City occurs as motorists on eastbound SR-91 and motorists transitioning from eastbound SR-91 to southbound I-15 seek less congested routes in the evening (eastbound) peak travel period.

SR-91 is continuing to experience increased congestion as a result of population growth in Riverside County and the increase in jobs in Orange County. Based on demographic projections for the SCAG region (Orange, Los Angeles, Ventura, Santa Barbara, and Riverside Counties) shown in Table 1.2, the numbers of vehicles on SR-91 are expected to increase by approximately 50 percent by 2035, which would result in continuing congestion and delays on SR-91. Those projections show that population and employment in Riverside and Orange Counties are forecast to increase substantially by 2035, as shown in Table 1.2. The existing travel demand on SR-91

Table 1.2 Regional Demographics

County	Resident Population	Households	Residents Employed	Employment		
				Retail	Service	Other
2007						
Orange	3,088,805	995,930	1,505,733	262,032	477,904	925,564
Los Angeles	10,150,878	3,353,688	4,350,670	745,294	1,949,761	2,110,727
Ventura	812,061	266,104	386,654	62,084	128,067	178,518
San Bernardino	1,896,234	593,927	785,714	150,508	225,648	334,636
Riverside	1,891,540	637,532	794,215	135,454	233,947	284,111
Total	**17,839,517**	**5,847,181**	**7,822,986**	**1,355,370**	**3,015,327**	**3,833,555**
2015						
Orange	3,355,771	1,052,763	1,667,209	284,872	520,114	1,011,401
Los Angeles	10,901,484	3,571,573	4,622,575	787,575	2,181,953	2,194,690
Ventura	879,328	287,731	414,104	67,113	144,948	188,016
San Bernardino	2,140,551	665,213	895,098	176,196	266,544	389,473
Riverside	2,282,363	771,633	973,711	167,649	297,903	326,008
Total	**19,559,497**	**6,348,913**	**8,572,697**	**1,483,405**	**3,411,462**	**4,109,588**
Percent Growth from 2007 to 2015						
Orange	9%	6%	11%	9%	9%	9%
Los Angeles	7%	6%	6%	6%	12%	4%
Ventura	8%	8%	7%	8%	13%	5%
San Bernardino	13%	12%	14%	17%	18%	16%
Riverside	21%	21%	23%	24%	27%	15%
Total	**10%**	**9%**	**10%**	**9%**	**13%**	**7%**
2035						
Orange	3,503,759	1,097,869	1,726,017	301,217	549,765	1,070,818
Los Angeles	12,218,726	4,075,232	5,010,587	854,881	2,365,214	2,321,531
Ventura	984,349	324,772	448,240	77,940	169,147	206,694
San Bernardino	2,678,172	831,100	1,073,448	235,974	340,935	478,223
Riverside	3,068,667	1,035,610	1,253,044	226,329	390,592	414,226
Total	**22,503,353**	**7,364,583**	**9,511,336**	**1,696,341**	**3,815,653**	**4,491,492**
Percent Growth from 2007 to 2035						
Orange	4%	4%	4%	6%	6%	6%
Los Angeles	12%	14%	8%	9%	8%	6%
Ventura	12%	13%	8%	16%	17%	10%
San Bernardino	25%	25%	20%	34%	28%	23%
Riverside	34%	34%	29%	35%	31%	27%
Total	**15%**	**16%**	**11%**	**14%**	**12%**	**9%**

Source: Riverside County Transportation Commission Model inputs for the SR-91 CIP, as disclosed in the *Traffic Study Report* (July 2010).
SR-91 CIP = State Route 91 Corridor Improvement Project

has led to a heavy directional commute pattern between Riverside and Orange/Los Angeles Counties that is projected to continue into the future.

Improvements are necessary to address existing and projected deficiencies regarding mobility, access, goods movement, and freeway capacity on the project segment of SR-91, which is the only major highway that links Riverside and Orange Counties.

1.3.1 Capacity, Transportation Demand, and Safety

1.3.1.1 Traffic Impact Study Areas and Traffic Analysis Years

Traffic Impact Study Areas

The project is a capacity-enhancing State Highway System project and, therefore, the project limits determined the traffic analysis study area. The project limits define the

adjacent interchanges that may be impacted by the capacity enhancements. As such, those interchanges at the project limits defined the extent of the traffic study area.

Because the project focuses on mainline capacity enhancements, all interchanges within the project limits were included in the traffic study area. The mainline refers to the through travel lanes on the freeway. In addition, all ramp intersections and adjacent intersections were included in the study area because they may be impacted by the project alternatives. Adjacent local roadway intersections were included in the study area to measure the effect of reducing traffic diversion from SR-91 to local roads.

For the ramp closure study, the study area was expanded to evaluate all intersections potentially impacted by closures of ramps during project construction.

The detour study area was defined through application of the regional model to evaluate where traffic diversion may occur as a result of ramp closures and through close coordination with the City of Corona.

Traffic Analysis Years

The traffic analysis for the SR-91 CIP described in this EIR/EIS considered traffic conditions for 3 years: Baseline/Existing (2007), 2015, and 2035. Typically, the traffic analysis year for existing conditions would be the year the NOP of an EIR/EIS was published. The NOP for the SR-91 CIP EIR/EIS was published in July 2008. Existing traffic counts were conducted in October 2007, less than 9 months before the publication of the SR-91 CIP EIR/EIS NOP in July 2008. However, as explained in detail later in this section, 2007 was selected as the Baseline/Existing (2007) analysis year because the 2007 traffic volumes were considered to more accurately reflect demand in the SR-91 corridor.

The Initial Phases under Alternatives 1 and 2 were originally programmed to be open for operation in 2015. However, the opening dates for the Initial Phases have been changed to 2017 as a result of RCTC's proposed amendment to the 2011 FTIP (Amendment 24) and the 2012 RTP. The traffic analysis described in this EIR/EIS is based on 2015 and 2035 forecasts developed from the adopted regional traffic forecasting model. Per the Supplemental Request for 20-year Period Design Exception approved by the Department on January 26, 2012, forecast volumes for 2017 were estimated based on existing traffic counts for 2010. Because 2010 traffic counts are approximately 4 percent lower than 2007 traffic counts, 2017 forecast volumes will be generally lower than the 2015 forecast volumes used for the analysis

of the SR-91 CIP. Because the opening year traffic volumes analyzed for 2015 are more conservative when compared to those for 2017, updating the traffic analysis for an opening year of 2017 was not necessary. Therefore, the opening year traffic analysis discussed in Sections 1.3.1.5, 2015 Traffic Projections – No Build, and in Section 3.6, Traffic and Transportation/Bicycle and Pedestrian Facilities, uses the original analysis of the 2015 opening year conditions. In addition, there have not been any regional or local transportation improvement projects implemented that would have an effect on the opening year traffic analysis. The SR-241/SR-91 Direct Connector Project being sponsored by the TCA is currently planned for an opening year of 2018. In addition, the County of Riverside's Cajalco Road Widening Project from Temescal Canyon Road to Interstate 215 (I-215) is currently planned for an opening year of 2019.

1.3.1.2 Existing Facilities and Capacity

The existing major east-west facilities in western Riverside County are State Route 60 (SR-60), SR-74, and SR-91. These facilities provide links with the following major north-south facilities in Riverside County: State Route 79 (SR-79), I-15, and I-215.

SR-91 is the major east-west corridor connecting Orange and Riverside Counties. In Orange County, SR-91 provides connections to SR-55, SR-241, SR-57, and I-5. These existing facilities serve all vehicles in western Riverside County and Orange County.

1.3.1.3 Level of Service

The quality of traffic flow can be defined in terms of levels of service (LOS). The measure used to provide an estimate of LOS on a transportation facility is the density of vehicles traveling on the facility at a specific time. There are six grades of LOS, ranging from LOS A (representing free-flow traffic conditions with low volumes and high speeds, resulting in low densities) to LOS F (representing conditions where the traffic volumes exceed capacity and result in forced flow operations at low speeds, resulting in high densities and delays). The defined LOS for a basic freeway segment are shown graphically and are described in text on Figure 1-3.

1.3.1.4 Baseline/Existing (2007) Traffic Volumes

To evaluate existing corridor conditions for SR-91 and I-15 in the traffic study area, Baseline/Existing (2007) daily and peak-hour traffic count data (numbers of vehicles) were collected. Fall 2007 traffic counts represent existing conditions. The traffic study area is SR-91 from SR-241 at the west to Pierce Street at the east, and I-15 from

Figure 1-3 LOS Thresholds for a Basic Freeway Segment

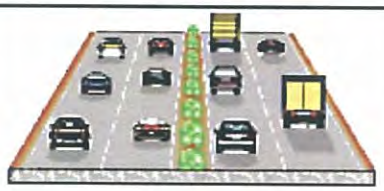
Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		70	Highest quality of service. Traffic flows freely with little or no restrictions on speed or maneuverability. **No delays**
B		70	Traffic is stable and flows freely. The ability to maneuver in traffic is only slightly restricted. **No delays**
C		67	Few restrictions on speed. Freedom to maneuver is restricted. Drivers must be more careful making lane changes. **Minimal delays**
D		62	Speeds decline slightly and density increases. Freedom to maneuver is noticeably limited. **Minimal delays**
E		53	Vehicles are closely spaced, with little room to maneuver. Driver comfort is poor. **Significant delays**
F		<53	Very congested traffic with traffic jams, especially in areas where vehicles have to merge. **Considerable delays**

FIGURE 1-3

SR-91 Corridor Improvement Project

LOS Thresholds for a Basic Freeway Segment

Ora-91-R14.43/R18.91
Riv-91-R0.00/R13.04
Riv-15-35.64/45.14
EA 0F540

SOURCE: Caltrans Standard Environmental Reference, 2008

I:\PAZ0701\G\LOS-Freeway.cdr (9/10/10)

This page intentionally left blank

Hidden Valley Parkway at the north to Cajalco Road at the south. The traffic study area includes the area of improvements plus the adjacent interchanges on SR-91 and I-15 so that impacts from the transition to and from the freeways within the project limits can be evaluated.

The Baseline/Existing (2007) traffic conditions were used to represent the existing conditions because they more closely represent normal conditions. Based on traffic counts from the Department's Traffic Data branch from the Average Annual Daily Traffic (AADT) Reports, traffic volumes on SR-91 at the Orange County/Riverside County line increased between 2000 and 2007 from 224,000 to 280,000 vehicles. The 2007 traffic conditions are approximately 5 percent higher than the 2008 conditions and are a more accurate estimate of the existing setting for comparative analysis than the 2008. The 2007 was selected as the Baseline/Existing analysis year because those traffic volumes were considered to more accurately reflect demand in the SR-91 corridor because historically (2000–2007) traffic numbers/volumes have steadily increased and the approximate 5 percent less difference from 2008 is negligible. The variation between 2007 and 2008 is considered negligible because the difference in the peak hour volumes has a minimal effect on the operating conditions (LOS) between those years. Also according to the Interim Guidance on the Application of Travel and Land Use Forecasting in NEPA (FHWA, March 2010), the "Base model year" (the calibration year for the travel model) and the "Base project year" (an updated base year that is validated and is as close as possible to the current year) do not necessarily need to be the same.

The year 2015 was selected as an interim analysis year to reflect traffic conditions with and without the Initial Phases under Alternatives 1 and 2. The year 2035 was selected as the planning horizon year to reflect traffic conditions with and without the Ultimate Projects under Alternatives 1 and 2. The *SR-91 Corridor Improvement Project Traffic Study Report* (January 2010) was based on the SCAG RTP 2004 model and the Orange County Traffic Analysis Model (OCTAM) 3.2. The trends of the model show increases in travel demand, and Section 2.4, Horizon Year Traffic Forecasts, and Table 2-2 in the SR-91 CIP *Traffic Study Report* show positive growth rates. Traffic data for 2007 were collected from various sources, including the Performance Monitoring System (PeMS) website, Department annual traffic volumes, City of Corona traffic count database, and actual ground counts performed at ramp intersections during the a.m. and p.m. peak periods.

The 2007 daily traffic volume (number of vehicles) at the Orange/Riverside County line was approximately 280,000 vpd. Table 1.3 presents the existing mainline and HOV/tolled express lane volumes, and Table 1.4 presents the Baseline/Existing (2007) freeway mainline peak-hour LOS. As shown in Table 1.4, at least six segments of SR-91 performed deficiently under Baseline/Existing (2007) conditions with four segments operating at LOS F in the peak direction of travel (both a.m. and p.m. peak hours). As noted in Table 1.3, several segments of the HOV lanes currently operate with volumes exceeding 1,700 vehicles per hour (vph). As volumes increase beyond 1,700 vph, increased travel times are experienced. Segments on I-15 operate at acceptable LOS during both peak hours with the exception of one southbound segment that performs deficiently in the p.m. peak hour.

Freeway mainline LOS is determined through the application of *Highway Capacity Manual*[1] (HCM) methodology for basic freeway segments. The LOS is determined through the density of vehicles within each roadway segment, or how many passenger cars per mile per lane (pc/mi/ln) are within the segment. The higher the density of vehicles, the higher the degree of congestion within the segment. For segments that operate at LOS F, density measurements are not provided. In this case, Table 1.4 presents volume-to-capacity (v/c) ratios to identify the level of congestion. The v/c ratios provide an assessment of how much of the capacity is utilized by the actual volume. The v/c ratios over 1.0 illustrate extreme congestion. The higher the v/c value, the more congestion occurs within a specific segment.

1.3.1.5 2015 Traffic Projections – No Build

Riverside County is forecast to continue to experience substantial growth in population and housing, based on the adopted General Plans for the study area cities and Riverside County. Refer to Sections 3.1, Land Use, and 3.2, Growth, later in this EIR/EIS for discussion of existing and General Plan-designated land uses in the project study area and the adopted demographic projections for the study area and the region. The growth is forecasted to increase both truck and general automobile traffic on SR-91 and I-15. The traffic forecasting process was initiated with the development of a regional model specifically for application in Riverside County and considering tolling activity.

---

[1] The *Highway Capacity Manual* (2000) is a publication of the Transportation Research Board that is used for a variety of transportation facility and traffic engineering applications, including LOS concepts (pages 23-2 and 23-3).

Table 1.3 Baseline/Existing (2007) Mainline Traffic Volumes[1]

SR-91 Segment	Eastbound GP Lanes			Eastbound Toll/HOV Lanes			Westbound GP Lanes			Westbound Toll/HOV Lanes		
	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT
SR-241 to Gypsum Canyon Rd	4,800	6,000	92,170	720	3,380	18,400	9,130	6,130	99,230	2,420	1,070	18,500
Gypsum Canyon Rd to Green River Rd	5,820	8,280	121,600	720	3,380	18,400	10,830	6,990	121,500	2,420	1,070	18,500
Green River Rd to SR-71	5,810	8,780	116,800	800	1,750	14,800	10,400	7,040	119,400	1,780	1,130	12,500
SR-71 to Auto Center Dr	5,980	8,630	117,100	390	1,940	15,900	10,180	6,880	116,600	1,850	1,030	16,700
Auto Center Dr to Maple St/Sixth St	5,390	8,970	118,400	880	1,650	16,000	9,300	6,680	120,600	1,860	1,030	12,500
Maple St/Sixth St to Lincoln Ave	4,810	8,090	113,800	900	1,620	15,800	8,640	6,690	116,500	1,590	810	12,000
Lincoln Ave to Grand Blvd	5,070	8,000	121,600	900	1,580	12,800	8,290	6,780	116,600	1,450	940	15,100
Grand Blvd to Main St	4,820	7,570	119,200	900	1,580	11,200	7,905	6,420	116,600	1,325	900	11,600
Main St to I-15	5,370	8,715	125,700	800	1,125	11,100	8,400	6,530	122,200	970	870	12,500
I-15 to McKinley St	4,270	7,440	100,900	780	940	11,100	8,245	5,360	99,900	665	630	11,600
McKinley St to Pierce St	4,160	7,380	93,500	790	1,090	11,100	8,350	4,990	92,700	920	780	11,900
Pierce St to Magnolia Ave	3,600	6,430	79,600	640	900	11,100	7,590	4,260	79,600	790	670	11,000

I-15 Segment	Northbound GP Lanes				Southbound GP Lanes			
	AM	PM	ADT		AM	PM	ADT	
North of Hidden Valley Pkwy	4,780	5,310	84,000	Not Applicable	5,680	5,990	86,700	Not Applicable
Hidden Valley Pkwy to SR-91	4,680	5,210	85,500		5,290	5,830	85,300	
SR-91 to Magnolia Ave	5,020	6,030	99,700		6,220	6,890	101,100	
Magnolia Ave to Ontario Ave	5,690	5,360	89,600		5,090	6,430	89,600	
Ontario Ave to El Cerrito Rd	5,890	5,020	83,600		4,500	6,360	84,000	
El Cerrito Rd to Cajalco Rd	5,630	4,940	80,800		4,500	6,490	81,600	
South of Cajalco Rd	5,050	4,640	75,700		4,160	6,670	77,300	

Source: California Department of Transportation, Performance Monitoring System as disclosed in the *Traffic Study Report* (July 2010).

[1] Numbers of vehicles in the a.m. and p.m. peak hours and total daily numbers of vehicles.

ADT = average daily traffic
GP = general purpose
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Table 1.4 Baseline/Existing (2007) Mainline Peak-Hour Performance

SR-91 Segment	Lane Type	AM Peak Hour						PM Peak Hour					
		Eastbound			Westbound			Eastbound			Westbound		
		Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C
SR-241 to Gypsum Canyon Rd	General Purpose	20.7	C			F	1.10	25.4	C		27.1	D	
Gypsum Canyon Rd to Green River Rd		25.4	C			F	1.31	43.5	E		23.8	C	
Green River Rd to SR-71		19.6	C			F	1.25	30.9	D		33.1	D	
SR-71 to Auto Center Dr		25.9	C			F	1.23		F	1.04	30.2	D	
Auto Center Dr to Maple St/Sixth St		23.9	C			F	1.12		F	1.08	31.0	D	
Maple St/Sixth St to Lincoln Ave		21.3	C			F	1.04	41.7	E		31.1	D	
Lincoln Ave to Grand Blvd		22.4	C		44.3	E		40.6	E		31.7	D	
Grand Blvd to Main St		21.3	C		39.6	E		31.6	E		29.3	D	
Main St to I-15		23.8	C			F	1.01		F	1.05	30.0	D	
I-15 to McKinley St		18.4	C		43.0	E		34.2	D		23.2	C	
McKinley St to Pierce St		24.6	C			F	1.34		F	1.19	30.7	D	
Pierce St to Magnolia Ave		23.6	C			F	1.22		F	1.03	27.9	D	
SR-241 to Green River Road	Toll/HOV	6.0	A		19.6	C		27.5	D		8.9	A	
Green River Road to Auto Center Drive		13.9	B		31.6	D		33.7	D		19.6	C	
Auto Center Drive to Lincoln Avenue		15.6	B		31.8	D		27.7	D		17.8	B	
Lincoln Avenue to Main Street		16.2	B		31.8	D		27.7	D		17.8	B	
Main Street to I-15		13.9	B		16.3	B		18.9	B		15.1	B	
I-15 to Pierce Street		13.7	B		15.4	B		18.3	B		13.5	B	
East of Pierce Street		11.1	A		13.3	B		15.1	B		11.6	B	

I-15 Segment	Lane Type	AM Peak Hour						PM Peak Hour					
		Northbound			Southbound			Northbound			Southbound		
		Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C	Density, pc/mi/ln	LOS	V/C
North of Hidden Valley Pkwy	General Purpose	22.3	C		26.9	D		24.9	C		28.7	D	
Hidden Valley Pkwy to SR-91		21.3	C		24.2	C		23.8	C		27.2	D	
SR-91 to Magnolia Ave		21.9	C		27.7	D		26.7	D		31.8	D	
Magnolia Ave to Ontario Ave		24.4	C		21.7	C		22.9	C		28.3	D	
Ontario Ave to El Cerrito Rd		38.6	E		19.7	C		29.8	D		28.6	D	
El Cerrito Rd to Cajalco Rd		35.4	E		26.1	D		29.1	D			F	1.03
South of Cajalco Rd		30.0	D		24.0	C		35.5	E			F	1.06

Source: Highway Capacity software results, as disclosed in the *Traffic Study Report* (July 2010).

Note 1: The Highway Capacity Software does not report a performance density greater than 45 pc/mi/ln. For mainline segments that experience densities greater than 45 pc/mi/ln, the V/C ratio is provided instead of density. The segments where V/C ratios are shown in this table were calculated to operate at LOS F. For mainline segments with densities less than 45 pc/mi/ln, the densities and LOS are shown, but no V/C ratios are provided.

Note 2: A black box (F) represents a deficient segment.

I-15 = Interstate 15 pc/mi/ln = passenger cars per mile per lane SR-91 = State Route 91 V/C = volume-to-capacity ratio

LOS = level of service SR-71 = State Route 71 SR-241 = State Route 241

This regional model, the RCTC traffic model, was developed based on a combination of the SCAG RTP 2004 model and the Orange County Transportation Analysis Model (OCTAM) Version 3.2. The RCTC model takes the mode choice component from OCTAM, which accounts for tolling activity. Traffic counts (numbers of vehicles) collected in fall 2007 were used to calibrate and validate the RCTC model for existing conditions. The SCAG RTP 2008 demographic data were applied to forecast future traffic activity throughout the SCAG region. Future interim year and horizon year no build and build conditions were analyzed through application of the model consistent with other future highway and transit system improvements identified in the RTP.

Table 1.5 summarizes vehicle trip generation projections for 2007 and build-out (2035) conditions for these southern California counties. As shown in Table 1.5, ADT generation in Riverside and Orange Counties is forecast to increase by an average of 14 percent between 2007 and 2015 and by an average of 29 percent between 2007 and 2035. As a result of the forecast increases in population, employment, and traffic generation by 2035, the daily number of vehicles traveling the project segment of SR-91 is also forecast to increase, which would increase traffic congestion in the study area under the existing lane configuration. As discussed in detail in the following section, without any improvements to existing SR-91, traffic volumes in the study area are forecast to increase by 2035, resulting in further decreases in the LOS.

Table 1.5 Regional Vehicle Trip Generation Projections

County	AM Peak Period	PM Peak Period	Daily
2007			
Orange County	2,266,565	3,444,428	10,893,861
Los Angeles	5,844,423	8,937,368	28,358,667
Ventura	577,148	905,054	2,865,211
San Bernardino	1,251,078	1,933,159	6,138,482
Riverside	1,134,826	1,774,288	5,631,613
Total	**11,074,040**	**16,994,297**	**53,887,834**
2015			
Orange County	2,458,009	3,730,682	11,834,622
Los Angeles	6,305,107	9,662,893	30,756,939
Ventura	620,137	977,761	3,107,388
San Bernardino	1,405,828	2,206,896	7,013,599
Riverside	1,421,219	2,195,474	6,983,611
Total	**12,210,300**	**18,773,706**	**59,696,159**
2035			
Orange County	2,544,506	3,860,647	12,205,429
Los Angeles	6,920,673	10,616,879	33,806,837
Ventura	700,621	1,105,922	3,500,385
San Bernardino	1,768,435	2,733,155	8,673,549
Riverside	1,829,235	2,888,410	9,170,997
Total	**13,763,470**	**21,205,013**	**67,357,197**

Source: Speed Surveys and the Riverside County Transportation Commission Model Results for the SR-91 CIP (2007).
CIP = Corridor Improvement Project
SR-91 = State Route 91

Tables 1.6 and 1.7 present the forecasted 2015 freeway mainline peak-hour LOS for SR-91 and I-15, respectively, without any improvements to SR-91 or I-15. As shown for SR-91, a total of 21 segments are forecast to operate at LOS F, with 8 of the segments operating at LOS F in the peak hours in both directions of travel (i.e., westbound in the a.m. peak hour and eastbound in the p.m. peak hour). As shown in Table 1.7, one segment on I-15 (El Cerrito to Cajalco Road) is forecast to operate at LOS F in both the a.m. and p.m. peak hours. In addition, the Ontario Avenue to El Cerrito Road segment is forecast to operate at LOS F in the a.m. peak hour, and the segment south of Cajalco Road is forecast to operate at LOS F in the p.m. peak hour. The HOV lane performance is forecast to deteriorate from current levels of service as HOV lane volumes increase. One HOV lane segment is forecast to operate at LOS F in the p.m. peak hour (eastbound HOV lane at the current SR-91 tolled express lanes terminus between Green River Road and Auto Center Drive), and two additional segments are forecast to operate at LOS E in the p.m. peak hour (the segments between SR-241 and Green River Road, and between Auto Center Drive and Lincoln Avenue) as volumes approach and exceed 2,000 vehicles per lane per hour (vplph).

1.3.1.6 2035 Future Traffic Volumes – No Build

Key projects identified in the 2008 RTP and included in the No Build Alternative have the potential to impact traffic activity throughout the study area. These projects include:

- Corridor A –1 RTP ID 3CO1MA03: Community and Environmental Transportation Acceptability Process (CETAP) – Riverside County to Orange County – Construct a new intercounty transportation corridor – 2 toll lanes in each direction on a new facility parallel to SR-91 from SR-241 to I-15
- SR-241/SR-91 Toll-to-Toll Direct Connectors – RTP ID 2T01135 – HOV/HOT Connector northbound SR-241 to eastbound SR-91 and westbound SR-91 to southbound SR-241
- I-15 HOV/Express Lanes – RTP ID 3HL0402 – Build HOV/HOT lanes: 2 HOV + Build 2 HOT lanes in each direction from SR-74 to the San Bernardino County line
- SR-71 Widening – RTP ID 3M01MA09 – Widen to 3 mixed-flow lanes in each direction from SR-91 to the San Bernardino County line
- Mid County Parkway (MCP) – RTP ID RIV031218: CETAP – Mid County Parkway Corridor: Construct a 4-8 lane limited access parkway from Corona (slightly west of I-15) to San Jacinto (to SR-79) and construct local interchanges at 15 locations.

Table 1.6 2015 No Build Alternative SR-91 Peak-Hour LOS

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume[1]	Density, pc/mi/ln	LOS	V/C	Volume[1]	Density, pc/mi/ln	LOS	V/C
SR-91 Eastbound										
SR-241 to Gypsum Canyon Road	General Purpose	4	4,880	21.4	C		7,920	39.1	E	
Gypsum Canyon Road to Green River Road		5	6,600	22.4	C		10,900	> 45.0	F	1.05
Green River Road to SR-71		5	5,040	17	B		8,320	28.5	D	
SR-71 to Auto Center Drive		4	6,320	27.9	D		10,650	> 45.0	F	1.28
Auto Center Drive to Maple Street		4	6,020	27	D		11,390	> 45.0	F	1.37
Maple Street to Lincoln Avenue		4	5,440	24.1	C		10,340	> 45.0	F	1.37
Lincoln Avenue to Grand Boulevard		4	6,010	27	D		10,160	> 45.0	F	1.23
Grand Boulevard to Main Street		4	5,530	24.6	C		9,450	> 45.0	F	1.14
Main Street to I-15		4	5,840	26.1	D		10,190	> 45.0	F	1.23
I-15 to McKinley Street		4	4,130	17.8	B		8,770	> 45.0	F	1.06
McKinley Street to Pierce Street		3	3,790	22.3	C		8,290	> 45.0	F	1.33
Pierce Street to Magnolia Avenue		3	3,140	20.6	C		7,170	> 45.0	F	1.15
SR-241 to Green River Road	Toll/HOV	2	1,000	8.3	A		4,200	37.4	E	
Green River Road to Auto Center Drive		1	900	15.6	B		2,900	> 45.0	F	1.26
Auto Center Drive to Lincoln Avenue		1	1,000	17.3	B		2,000	35.3	E	
Lincoln Avenue to Main Street		1	900	16.2	B		1,900	33.8	D	
Main Street to I-15		1	800	13.9	B		1,900	32.7	D	
I-15 to Pierce Street		1	1,000	17.3	B		1,800	30.5	D	
Pierce Street to Magnolia Avenue		1	900	15.6	B		1,700	28.6	D	
SR-91 Westbound										
SR-241 to Gypsum Canyon Road	General Purpose	4	10,620	> 45.0	F	1.28	6,200	27.5	D	
Gypsum Canyon Road to Green River Road		5	12,900	> 45.0	F	1.24	7,500	25.9	C	
Green River Road to SR-71		4	11,250	> 45.0	F	1.36	7,530	37.5	E	
SR-71 to Auto Center Drive		4	11,340	> 45.0	F	1.37	7,490	36.8	E	
Auto Center Drive to Maple Street		4	10,360	> 45.0	F	1.25	7,630	39.2	E	
Maple Street to Lincoln Avenue		4	9,030	> 45.0	F	1.09	7,420	37	E	
Lincoln Avenue to Grand Boulevard		4	8,760	> 45.0	F	1.06	7,510	37.9	E	
Grand Boulevard to Main Street		4	8,250	43.8	E		6,850	32.2	D	
Main Street to I-15		4	8,630	> 45.0	F	1.04	7,110	34.2	D	
I-15 to McKinley Street		4	8,300	43.7	E		5,600	24.4	C	
McKinley Street to Pierce Street		3	8,530	> 45.0	F	1.37	5,360	34.5	D	
Pierce Street to Magnolia Avenue		3	7,660	> 45.0	F	1.23	4,440	29.1	D	

Table 1.6 2015 No Build Alternative SR-91 Peak-Hour LOS

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume[1]	Density, pc/mi/ln	LOS	V/C	Volume[1]	Density, pc/mi/ln	LOS	V/C
SR-241 to Green River Road	Toll/HOV	2	2,900	23.4	C		1,500	12.5	B	
Green River Road to Auto Center Drive		1	2,000	35.3	E		1,300	22.5	C	
Auto Center Drive to Grand Boulevard		1	1,900	32.7	D		1,200	20.8	C	
Grand Boulevard to I-15		1	1,200	20.1	C		1,000	17.3	B	
I-15 to Pierce Street		1	1,100	18.5	B		900	15.6	B	
Pierce Street to Magnolia Avenue		1	1,000	16.8	B		900	15.6	B	

Source: Highway Capacity software results, as disclosed in the *Traffic Study Report* (July 2010).

Note 1: The Highway Capacity Software does not report a performance density greater than 45 pc/mi/ln. For mainline segments that experience densities greater than 45 pc/mi/ln, the V/C ratio is provided instead of density. The segments where V/C ratios are shown in this table were calculated to operate at LOS F. For mainline segments with densities less than 45 pc/mi/ln, the densities and LOS are shown, but no V/C ratios are provided.

Note 2: A black box (F) represents a deficient segment.

[1] Number of vehicles per peak hour.

HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = levels of service
pc/mi/ln = passenger cars per mile per lane
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
V/C = volume-to-capacity ratio

Table 1.7 2015 No Build Alternative I-15 Peak-Hour LOS

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume[1]	Density, pc/mi/ln	LOS	V/C	Volume[1]	Density, pc/mi/ln	LOS	V/C
I-15 Northbound										
North of Hidden Valley Parkway	General Purpose	4	5,630	26.6	D		6,230	30.3	D	
Hidden Valley Parkway to SR-91		4	5,790	26.9	D		6,300	30.2	D	
SR-91 to Magnolia Avenue		4	6,330	28.3	D		7,340	35.4	E	
Magnolia Avenue to Ontario Avenue		4	6,900	31.3	D		6,500	28.7	D	
Ontario Avenue to El Cerrito Road		3	7,290	> 45.0	F	1.16	6,000	40.1	E	
El Cerrito Road to Cajalco Road		3	7,040	> 45.0	F	1.12	5,650	35.6	E	
South of Cajalco Road		3	5,960	39.5	E		5,490	33.9	D	
I-15 Southbound										
North of Hidden Valley Parkway	General Purpose	4	6,190	30	D		6,780	34.6	D	
Hidden Valley Parkway to SR-91		4	5,900	27.6	D		6,810	34.2	D	
SR-91 to Magnolia Avenue		4	7,420	36.1	E		8,010	42.5	E	
Magnolia Avenue to Ontario Avenue		4	6,000	26	C		7,400	35.3	E	
Ontario Avenue to El Cerrito Road		4	5,380	23.5	C		7,550	37.3	E	
El Cerrito Road to Cajalco Road		3	5,440	33.4	D		7,820	> 45.0	F	1.24
South of Cajalco Road		3	4,510	26.2	D		7,340	> 45.0	F	1.17

Source: Highway Capacity software results, as disclosed in the *Traffic Study Report* (July 2010).

Note 1: The Highway Capacity Software does not report a performance density greater than 45 pc/mi/ln. For mainline segments that experience densities greater than 45 pc/mi/ln, the V/C ratio is provided instead of density. The segments where V/C ratios are shown in this table were calculated to operate at LOS F. For mainline segments with densities less than 45 pc/mi/ln, the densities and LOS are shown, but no V/C ratios are provided.

Note 2: A black box (F) represents a deficient segment.

[1] Number of vehicles per peak hour.

I-15 = Interstate 15
LOS = levels of service
pc/mi/ln = passenger cars per mile per lane
SR-91 = State Route 91
V/C = volume-to-capacity ratio

These transportation improvements are included in all future scenarios, including the No Build Alternative. In general, it is anticipated that the Corridor A project could relieve some congestion on SR-91 by providing an alternate route connecting Riverside and Orange Counties. The SR-241/SR-91 direct connectors could help to relieve the chokepoint at the SR-241 northbound to SR-91 eastbound connector. The I-15 HOV/express lanes would not directly affect traffic on SR-91. The SR-71 additional lanes could help to relieve the chokepoint at the SR-71/SR-91 interchange. Although the MCP would be east and south of SR-91, it would substantially affect the traffic conditions on SR-91 in the project area. Because Corridor A is assumed in the 2035 No Build and Build Alternatives, some 2035 forecast volumes along SR-91 decrease from the corresponding volumes in 2015. This occurs as a result of the shift of SR-91 traffic onto Corridor A, which is assumed to be a four-lane divided toll facility parallel to SR-91 between I-15 and SR-241. Table 1.8 presents total traffic growth from Baseline/Existing (2007) to 2035 No Build conditions and includes traffic demand for Corridor A. That growth throughout the study area ranges from approximately 22 to 90 percent.

Table 1.8 2035 No Build Alternative Daily Traffic Growth[1]

Segment	Baseline/ Existing (2007) ADT	2035 No Build Alternative		
		ADT	Growth	% Growth
SR-91 at Orange/Riverside County line	280,000	409,100	129,100	46.1%
SR-91 west of I-15	271,500	390,700	119,200	43.9%
SR-91 east of I-15	223,500	273,200	49,700	22.2%
I-15 north of SR-91	170,800	323,800	153,000	89.6%
I-15 south of SR-91	200,800	336,900	136,100	67.8%

Source: Speed surveys and the Riverside County Transportation Commission Model Results for the SR-91 CIP, as disclosed in the *Traffic Study Report* (July 2010).
[1] In total vehicles per day.
ADT = average daily traffic
CIP = Corridor Improvement Project
I-15 = Interstate 15
SR-91 = State Route 91

Table 1.9 summarizes the No Build Alternative peak-hour and daily traffic volumes on SR-91 and I-15 under build out (2035) conditions. The segment of SR-91 between Gypsum Canyon Road and Green River Road is at the eastern terminus of the existing tolled express lanes. The volume of 1,400 vph in the eastbound direction between SR-241 and Gypsum Canyon Road represents traffic conditions prior to the merge of the SR-241/SR-91 direct toll connector (a future project in the No Build condition). With the addition of the direct toll connector, the volume increases to 3,600 vph just east of this connection point. The segments of the tolled express lanes between

Table 1.9 2035 No Build Alternative SR-91 and I-15 Traffic Volumes[1]

SR-91 Segment	Eastbound GP			Eastbound Toll/HOV			Westbound GP			Westbound Toll/HOV		
	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT
SR-241 to Gypsum Canyon Rd	4,880	10,020	118,100	900	1,400	12,400	11,670	5,760	120,800	1,300	900	11,300
Gypsum Canyon Rd to Green River Rd	6,100	13,500	136,200	1,700	3,600	30,400	14,100	6,900	130,000	3,600	2,000	28,600
Green River Rd to SR-71	5,030	9,720	94,000	1,300	3,600	33,600	12,730	7,060	118,200	2,500	1,700	30,500
SR-71 to Auto Center Dr	6,020	12,720	127,700	1,400	2,300	24,800	13,050	6,970	118,700	2,100	1,600	28,900
Auto Center Dr to Maple St/Sixth St	5,850	12,780	127,200	1,400	2,100	26,100	11,920	7,110	117,300	2,100	1,500	29,300
Maple St/Sixth St to Lincoln Ave	5,340	12,270	120,800	1,400	1,800	25,600	10,650	6,820	111,700	2,100	1,400	27,800
Lincoln Ave to Grand Blvd	6,300	12,200	125,400	1,300	1,700	26,300	10,270	6,870	114,400	1,900	1,500	28,300
Grand Blvd to Main St	6,020	11,460	120,100	1,300	1,700	26,800	9,750	6,380	109,300	1,700	1,300	28,900
Main St to I-15	6,390	12,400	134,600	1,000	1,700	21,200	9,880	6,470	128,000	1,700	1,300	22,100
I-15 to McKinley St	5,410	11,160	120,100	1,000	1,600	17,100	9,840	5,300	115,400	950	950	20,600
McKinley St to Pierce St	5,070	10,670	113,300	1,300	2,000	19,800	9,710	4,800	111,500	1,400	1,200	19,800
Pierce St to Magnolia Ave	4,390	9,620	96,500	1,200	1,800	19,300	8,440	3,880	94,300	1,600	1,100	20,100

I-15 Segment	Northbound GP			Northbound Toll			Southbound GP			Southbound Toll		
	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT	AM	PM	ADT
North of Hidden Valley Pkwy	10,220	7,890	148,100	1,900	600	13,700	8,930	11,050	146,600	600	1,800	12,600
Hidden Valley Pkwy to SR-91	9,210	7,650	143,600	3,200	1,000	21,100	8,230	10,150	138,500	900	2,700	20,600
SR-91 to Magnolia Ave	9,350	8,660	147,900	3,200	1,000	21,100	8,560	10,980	147,300	900	2,700	20,600
Magnolia Ave to Ontario Ave	10,100	7,700	137,000	3,200	1,000	21,100	7,000	10,200	139,500	900	2,700	20,600
Ontario Ave to El Cerrito Rd	10,160	7,380	131,900	3,200	1,000	21,100	6,200	10,420	136,300	900	2,700	20,600
El Cerrito Rd to Cajalco Rd	11,260	7,420	134,200	1,300	300	10,900	6,540	11,320	139,500	300	1,200	11,000
South of Mid County Pkwy	6,760	6,290	106,300	1,300	300	10,900	4,780	7,610	112,500	300	1,200	11,000

Source: Speed surveys and the Riverside County Transportation Commission Model Results for the SR-91 CIP, as disclosed in the *Traffic Study Report* (July 2010).

[1] In numbers of vehicles in the a.m. and p.m. peak hours and total daily number of vehicles.

ADT = average daily traffic
CIP = Corridor Improvement Project
GP = general-purpose lanes
HOV = high-occupancy vehicle lanes
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

SR-241 and Gypsum Canyon Road and between Gypsum Canyon Road and Green River Road are two-lane toll segments. The direct toll connectors from SR-241 join between these segments, resulting in an increase in toll activity east of that connection. East of Green River Road, the existing tolled express lanes terminate into the innermost GP lane and HOV lane.

Table 1.10 summarizes the SR-91 GP and HOV/tolled express lane peak-hour LOS under 2035 No Build conditions. As shown in Table 1.10, during the a.m. peak hour, all the westbound general-purpose SR-91 segments and one HOV/toll lane segment are forecast to operate at LOS F with densities greater than 45 pc/mi/ln. LOS F is used to identify segments operating deficiently (i.e., segments on which the traffic volumes exceed the road capacity) because LOS E is identified as the minimum traffic LOS standard for regional highways (except for highways that operated at LOS F in 1991) in the approved *Riverside County Congestion Management Program* (December 14, 2011). Because the densities are not reported for segments operating at LOS F, the v/c ratios provide a planning level quantitative analysis of the relative deficiency for the segments. A review of the v/c ratios suggests that substantial capacity deficiencies occur, with the segment from SR-71 to Auto Center Drive experiencing the highest v/c ratio (i.e., 1.57).

No segments are forecast to operate deficiently in the eastbound direction during the a.m. peak hour.

Table 1.11 summarizes the I-15 GP and HOV/tolled express lane peak-hour LOS under 2035 No Build conditions. Along I-15 in 2035, all northbound mainline segments are forecast to operate at LOS F during the a.m. peak hour, while four of the seven segments are anticipated to operate at LOS F during the p.m. peak hour. A review of the v/c ratios reveals that the most substantial congestion is forecast to occur on the two segments between Cajalco Road and Ontario Avenue in the a.m. peak hour, where v/c ratios are forecast to be 1.79 and 1.61, respectively. Four southbound mainline segments are forecast to operate at LOS F in the a.m. peak hour. All the mainline southbound segments on I-15 are forecast to operate at LOS F during the p.m. peak hour, with the segment between El Cerrito Road and Cajalco Road experiencing the highest v/c ratio (i.e., 1.80).

Table 1.10 2035 No Build Alternative SR-91 Peak-Hour LOS[1]

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume	Density, pc/mi/ln	LOS	V/C	Volume	Density, pc/mi/ln	LOS	V/C
SR-91 Eastbound										
SR-241 to Gypsum Canyon Road	General Purpose	4	4,880	21.1	C		10,020	> 45.0	F	1.21
Gypsum Canyon Road to Green River Road		5	6,100	20.1	C		13,500	> 45.0	F	1.30
Green River Road to SR-71		5	5,030	17.0	B		9,720	37.0	E	
SR-71 to Auto Center Drive		4	6,020	26.2	D		12,720	> 45.0	F	1.53
Auto Center Drive to Maple Street		4	5,850	26.1	D		12,780	> 45.0	F	1.54
Maple Street to Lincoln Avenue		4	5,340	23.7	C		12,270	> 45.0	F	1.48
Lincoln Avenue to Grand Boulevard		4	6,300	28.6	D		12,200	> 45.0	F	1.47
Grand Boulevard to Main Street		4	6,020	27.0	D		11,460	> 45.0	F	1.38
Main Street to I-15		4	6,390	29.2	D		12,400	> 45.0	F	1.50
I-15 to McKinley Street		4	5,410	23.5	C		11,160	> 45.0	F	1.35
McKinley Street to Pierce Street		3	5,070	31.5	D		10,670	> 45.0	F	1.72
Pierce Street to Magnolia Avenue		3	4,390	28.8	D		9,620	> 45.0	F	1.55
SR-241 to Green River Road	Toll/HOV	2	1,700	14.2	B		3,600	29.6	D	
Green River Road to Auto Center Drive		1	1,400	24.2	C		3,600	> 45.0	F	1.57
Auto Center Drive to Lincoln Avenue		1	1,400	24.2	C		2,100	38.3	E	
Lincoln Avenue to Main Street		1	1,300	23.5	C		1,700	29.8	D	
Main Street to I-15		1	1,000	17.3	B		1,700	28.6	D	
I-15 to Pierce Street		1	1,300	22.5	C		2,000	35.3	E	
Pierce Street to Magnolia Avenue		1	1,200	20.8	C		1,800	30.5	D	
SR-91 Westbound										
SR-241 to Gypsum Canyon Road	General Purpose	4	11,670	> 45.0	F	1.41	5,760	25.2	C	
Gypsum Canyon Road to Green River Road		5	14,100	> 45.0	F	1.36	6,900	23.5	C	
Green River Road to SR-71		4	12,730	> 45.0	F	1.54	7,060	33.2	D	
SR-71 to Auto Center Drive		4	13,050	> 45.0	F	1.57	6,970	32.2	D	
Auto Center Drive to Maple Street		4	11,920	> 45.0	F	1.44	7,110	34.2	D	
Maple Street to Lincoln Avenue		4	10,650	> 45.0	F	1.28	6,820	32.0	D	
Lincoln Avenue to Grand Boulevard		4	10,270	> 45.0	F	1.24	6,870	32.4	D	
Grand Boulevard to Main Street		4	9,750	> 45.0	F	1.18	6,380	29.1	D	
Main Street to I-15		4	9,880	> 45.0	F	1.19	6,470	29.6	D	
I-15 to McKinley Street		4	9,840	> 45.0	F	1.19	5,300	22.9	C	
McKinley Street to Pierce Street		3	9,710	> 45.0	F	1.56	4,800	29.2	D	
Pierce Street to Magnolia Avenue		3	8,440	> 45.0	F	1.36	3,880	25.4	C	

Table 1.10 2035 No Build Alternative SR-91 Peak-Hour LOS[1]

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume	Density, pc/mi/ln	LOS	V/C	Volume	Density, pc/mi/ln	LOS	V/C
SR-241 to Green River Road	Toll/HOV	2	3,600	29.6	D		2,000	16.7	B	
Green River Road to Auto Center Drive		1	2,500	> 45.0	F	1.09	1,700	29.6	D	
Auto Center Drive to Grand Boulevard		1	2,100	38.3	E		1,500	26.0	C	
Grand Boulevard to I-15		1	1,700	28.6	D		1,300	22.5	C	
I-15 to Pierce Street		1	1,400	23.5	C		1,200	20.8	C	
Pierce Street to Magnolia Avenue		1	1,600	26.9	D		1,100	19.0	B	

Source: Highway Capacity software results, as disclosed in the *Traffic Study Report* (July 2010).

Note 1: The Highway Capacity Software does not report a performance density greater than 45 pc/mi/ln. For mainline segments that experience densities greater than 45 pc/mi/ln, the V/C ratio is provided instead of density. The segments where V/C ratios are shown in this table were calculated to operate at LOS F. For mainline segments with densities less than 45 pc/mi/ln, the densities and LOS are shown, but no V/C ratios are provided.

Note 2: A black box (F) represents a deficient segment.

[1] In numbers of vehicles in the a.m. and p.m. peak hours.

HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = levels of service
pc/mi/ln = passenger cars per mile per lane
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
V/C = volume-to-capacity ratio

Table 1.11 2035 No Build Alternative I-15 Peak-Hour LOS[1]

Segment	Lane Type	No. of Lanes	AM Peak Hour				PM Peak Hour			
			Volume	Density, pc/mi/ln	LOS	V/C	Volume	Density, pc/mi/ln	LOS	V/C
I-15 Northbound										
North of Hidden Valley Parkway	General Purpose	4	10,220	> 45.0	F	1.30	7,890	> 45.0	F	1.00
Hidden Valley Parkway to SR-91		4	9,210	> 45.0	F	1.17	7,650	43.9	E	
SR-91 to Magnolia Avenue		4	9,350	> 45.0	F	1.11	8,660	> 45.0	F	1.03
Magnolia Avenue to Ontario Avenue		4	10,100	> 45.0	F	1.20	7,700	38.2	E	
Ontario Avenue to El Cerrito Road		3	10,160	> 45.0	F	1.61	7,380	> 45.0	F	1.17
El Cerrito Road to Cajalco Road		3	11,260	> 45.0	F	1.79	7,420	> 45.0	F	1.18
South of Cajalco Road		3	6,760	> 45.0	F	1.07	6,290	44.9	E	
North of Hidden Valley Parkway	Toll/HOV	2	1,900	15.3	B		600	4.8	A	
El Cerrito Road to Hidden Valley Parkway		2	3,200	25.9	C		1,000	8.0	A	
South of El Cerrito Road		2	1,300	10.1	A		300	2.3	A	
I-15 Southbound										
North of Hidden Valley Parkway	General Purpose	4	8,930	> 45.0	F	1.14	11,050	> 45.0	F	1.40
Hidden Valley Parkway to SR-91		4	8,230	> 45.0	F	1.05	10,150	> 45.0	F	1.29
SR-91 to Magnolia Avenue		4	8,560	> 45.0	F	1.02	10,980	> 45.0	F	1.31
Magnolia Avenue to Ontario Avenue		4	7,000	32.1	D		10,200	> 45.0	F	1.21
Ontario Avenue to El Cerrito Road		4	6,200	27.6	D		10,420	> 45.0	F	1.24
El Cerrito Road to Cajalco Road		3	6,540	> 45.0	F	1.04	11,320	> 45.0	F	1.80
South of Cajalco Road		3	4,780	28.0	D		7,610	> 45.0	F	1.21
North of Hidden Valley Parkway	Toll/HOV	2	600	4.8	A		1,800	14.5	B	
El Cerrito Road to Hidden Valley Parkway		2	900	7.2	A		2,700	21.7	C	
South of El Cerrito Road		2	300	2.3	A		1,200	9.3	A	

Source: Highway Capacity software results, as disclosed in the *Traffic Study Report* (July 2010).

Note 1: The Highway Capacity Software does not report a performance density greater than 45 pc/mi/ln. For mainline segments that experience densities greater than 45 pc/mi/ln, the V/C ratio is provided instead of density. The segments where V/C ratios are shown in this table were calculated to operate at LOS F. For mainline segments with densities less than 45 pc/mi/ln, the densities and LOS are shown, but no V/C ratios are provided.

Note 2: A black box (F) represents a deficient segment.

[1] In numbers of vehicles in the a.m. and p.m. peak hours.

HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = levels of service
pc/mi/ln = passenger cars per mile per lane
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
V/C = volume-to-capacity ratio

HOV lane performance is forecast to continue to deteriorate under 2035 conditions, with two segments operating at LOS E and one segment (Green River Road to Auto Center Drive) continuing to operate at LOS F during the p.m. peak hour in the eastbound direction. One segment operates at LOS F during the a.m. Peak Hour In The Westbound Direction (Green River Road To Auto Center Drive).

1.3.1.7 Traffic Diversion

When the segment of SR-91 between Green River Road and Main Street in the City of Corona operates at LOS F, local and regional traffic avoids using the freeway and travels on local roads in the City of Corona paralleling SR-91, adding additional trips on those roads. This existing traffic behavior has been substantiated by the City of Corona Traffic Management Center, which monitors traffic through video cameras mounted at 50 intersections in the City.

In the future No Build condition, traffic shifting from SR-91 to the parallel arterials to avoid freeway congestion is verified based on the 2015 model results. Sixth Street from Main Street to I-15 will operate at LOS E under No Build conditions and will be improved to LOS D under the Initial Phases of the SR-91 CIP. Based on the 2035 model results, Sixth Street from Maple Street to Smith Avenue and from Main Street to I-15 will operate at LOS E and F under No Build conditions and will be improved to LOS D and E under SR-91 CIP Ultimate Project conditions, respectively. These results indicate that the SR-91 CIP Build Alternatives will divert local traffic back to the freeway and improve the arterial levels of service.

Using data from the RCTC traffic model (used in the approved Traffic Study Report [2010]), Table 1.12 shows that the reduced congestion on SR-91 with the Build Alternatives reduces traffic volumes along key local roads that parallel SR-91. For example, as shown in Table 1.12, Alternatives 1 and 2 would reduce the diversion of traffic onto Sixth Street Road which is one-half mile south of SR-91 by 7 percent and 13 percent, respectively, in 2015, and by 8 percent and 9 percent, respectively, in 2035.

Table 1.12 Local Street Traffic Diversion Percentages

Location	2015 Difference[1]		2035 Difference[1]	
	Change with Alternative 1	Change with Alternative 2	Change with Alternative 1	Change with Alternative 2
Segments between SR-241 and SR-71				
Green River Road	-9%	-25%	0%	-4%
Segments between SR-71 and I-15				
6th Street (e/o Main St.)	-7%	-13%	-8%	-9%
Ontario Blvd. (w/o Magnolia)	-28%	-40%	-5%	-7%
Railroad Street (w/o Main St.)	-29%	-27%	-20%	-22%
Segments between I-15 and Pierce Street				
Magnolia Ave. (w/o McKinley)	-35%	-36%	-10%	-10%
Hidden Valley (e/o I-15)	-19%	-21%	-3%	-3%

Source: RCTC Traffic Model (*Traffic Study Report*, 2010).

[1] Change in traffic volumes on local roads when comparing the SR-91Build Alternatives to the No Build Alternative.

Blvd. = Boulevard
e/o = east of
EB = eastbound
GP = general-purpose lane
I-15 = Interstate 15
SR-91 = State Route 91
St. = Street
w/o = west of
WB = westbound

1.3.1.8 Travel Time and Travel Speeds

Table 1.13 summarizes travel times and speeds on SR-91 between SR-241 and I-15 for the Baseline/Existing (2007) condition, and for 2015 and 2035 with the No Build and Build Alternatives based on the peak directions and hours of travel (i.e., westbound in the a.m. peak hour and eastbound in the p.m. peak hour). The a.m. peak hour direction of travel is on westbound SR-91. The p.m. peak hour direction of travel is eastbound on SR-91. A travel time and speed comparison of the 2015 and 2035 conditions (No Build and project alternatives) with Baseline/Existing (2007) conditions is provided in the following sections. As shown in the following discussion regarding travel times and travel speeds, the additional lane provided in each direction in Alternative 2 compared to Alternative 1 generally results in reduced travel times and increased travel speeds under Alternative 2 compared to both Alternative 1 and the No Build Alternative.

SR-241 and Gypsum Canyon Road and between Gypsum Canyon Road and Green River Road are two-lane toll segments. The direct toll connectors from SR-241 join between these segments, resulting in an increase in toll activity east of that connection. East of Green River Road, the existing tolled express lanes terminate into the innermost GP lane and HOV lane.

Table 1.13 SR-91 Travel Time and Travel Speed Summary[1]

Lanes	Baseline/ Existing (2007)	2015				2035		
		No Build	Alt 1 Ultimate Project	Alt 2 Ultimate Project	Alt 2 Initial Phase[2]	No Build	Alt 1 Ultimate Project	Alt 2 Ultimate Project
SR-91 Westbound (AM Peak Hour)								
Travel Time (minutes)								
General Purpose	28.5	36.1	30.7	28.9	32.6	43.2	36.6	37.3
Percent change compared to Baseline/Existing (2007)	--	26.7%	7.7%	1.4%	14.4%	51.6%	28.4%	30.9%
HOV/Tolled Express	12.1	18.4	15.5	13.1	12.0	25.9	23.5	12.6
Percent change compared to Baseline/Existing (2007)	--	52.1%	28.1%	8.3%	-0.8%	114.0%	94.2%	4.1%
Travel Speed (mph)								
General Purpose	24.2	19.1	22.5	23.8	21.2	16.0	18.9	18.5
Percent change compared to Baseline/Existing (2007)	--	-21.1%	-7.0%	-1.7%	-12.4%	-33.9%	-21.9%	-23.6%
HOV/Tolled Express	56.8	37.5	44.4	52.8	57.3	26.6	29.4	55.0
Percent change compared to Baseline/Existing (2007)	--	-34.0%	-21.8%	-7.0%	0.9%	-53.2%	-48.2%	-3.2%
SR-91 Eastbound (PM Peak Hour)								
Travel Time (minutes)								
General Purpose	44.0	79.1	66.3	63.7	70.6	86.4	73.3	73.7
Percent change compared to Baseline/Existing (2007)	--	79.8%	50.7%	44.8%	60.5%	96.4%	66.6%	67.5%
HOV/Tolled Express	30.0	39.7	31.2	13.0	12.5	47.0	48.1	13.8
Percent change compared to Baseline/Existing (2007)	--	32.3%	4.0%	-56.7%	-58.3%	56.7%	60.3%	-54.0%
Travel Speed (mph)								
General Purpose	15.7	8.7	10.4	10.8	9.8	8.0	9.4	9.4
Percent change compared to Baseline/Existing (2007)	--	-44.6%	-33.8%	-31.2%	-37.6%	-49.0%	-40.1%	-40.1%
HOV/Tolled Express	23.0	17.4	22.1	53.0	55.0	14.7	14.4	50.0
Percent change compared to Baseline/Existing (2007)	--	-24.3%	-3.9%	130.4%	139.1%	-36.1%	-37.4%	117.4%

Source: Speed surveys and the RCTC Model Results for the SR-91 CIP, as disclosed in Table 4-64 in the *Traffic Study Report* (July 2010).

[1] Travel times and speeds are for SR-91 between SR-241 and I-15.

[2] The 2015 conditions under the Initial Phase of Alternative 1 are considered to be the same as for the Initial Phase of Alternative 2.

Alt = Alternative
CIP = Corridor Improvement Project
HOV = high-occupancy vehicle
I-15 = Interstate 15
mph = miles per hour
RCTC = Riverside County Transportation Commission
SR-241 = State Route 241
SR-91 = State Route 91

No Build Conditions In the AM Peak Hour (Westbound SR-91)

In the a.m. peak hour, the westbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 8 minutes (or an increase of 26.7 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 15 minutes (or an increase of 51.6 percent) to 2035 No Build conditions.

In the a.m. peak hour, the westbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 5 mph (or a decrease of 21.1 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 8 mph (or a decrease of 33.9 percent) to 2035 No Build conditions.

In the a.m. peak hour, the westbound travel time in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 6 minutes (or an increase of 52.1 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 14 minutes (or an increase of 114.0 percent) to 2035 No Build conditions.

In the a.m. peak hour, the westbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 19 mph (or a decrease of 34.0 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 30 mph (or a decrease of 53.2 percent) to 2035 No Build conditions.

No Build Conditions in the PM Peak Hour (Eastbound SR-91)

In the p.m. peak hour, the eastbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 35 minutes (or an increase of 79.8 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 42 minutes (or an increase of 96.4 percent) to 2035 No Build conditions.

In the p.m. peak hour, the eastbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 7 mph (or a decrease of 44.6 percent) from Baseline/ Existing (2007) to 2015 No Build conditions, and by approximately 8 mph (or a decrease of 49.0 percent) to 2035 No Build conditions.

In the p.m. peak hour, the eastbound travel time in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 10 minutes (or an increase of 32.3 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 17 minutes (or an increase of 56.7 percent) to 2035 No Build conditions.

In the p.m. peak hour, the eastbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 6 mph (or a decrease of 24.3 percent) from Baseline/Existing (2007) to 2015 No Build conditions, and by approximately 8 mph (or a decrease of 36.1 percent) to 2035 No Build conditions.

Alternative 1 in the AM Peak Hour (Westbound SR-91)

In the a.m. peak hour, the westbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 2 minutes (or an increase of 7.7 percent) from Baseline/ Existing (2007) conditions to 2015 with Alternative 1, and by approximately 8 minutes (or an increase of 28.4 percent) to 2035 with Alternative 1.

In the a.m. peak hour, the westbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 2 mph (or a decrease of 7.0 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1 conditions, and by approximately 5 mph (or a decrease of 21.9 percent) to 2035 with Alternative 1 conditions.

In the a.m. peak hour, the westbound travel time in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 3 minutes (or an increase of 28.1 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1, and by approximately 11 minutes (or an increase of 94.2 percent) to 2035 with Alternative 1.

In the a.m. peak hour, the westbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 12 mph (or a decrease of 21.8 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1, and by approximately 27 mph (or a decrease of 48.2 percent) to 2035 with Alternative 1.

Alternative 1 in the PM Peak Hour (Eastbound SR-91)

In the p.m. peak hour, the eastbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 22 minutes (or an increase of 50.7 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1 and by approximately 29 minutes (or an increase of 66.6 percent) to 2035 with Alternative 1.

In the p.m. peak hour, the eastbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 5 mph (or a decrease of 33.8 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1, and by approximately 6 mph (or a decrease of 40.1 percent) to 2035 with Alternative 1.

In the p.m. peak hour, the eastbound travel time in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 1 minute (or an increase of 4.0 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1, and by approximately 18 minutes (or an increase of 60.3 percent) to 2035 with Alternative 1.

In the p.m. peak hour, the eastbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 1 mph (or a decrease of 3.9 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 1, and by approximately 9 mph (or a decrease of 37.4 percent) to 2035 with Alternative 1.

Alternative 2 in the AM Peak Hour (Westbound SR-91)

In the a.m. peak hour, the westbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 0.5 minute (or an increase of 1.4 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 9 minutes (or an increase of 30.9 percent) to 2035 with Alternative 2.

In the a.m. peak hour, the westbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 0.5 mph (or a decrease of 1.7 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 6 mph (or a decrease of 23.6 percent) to 2035 with Alternative 2.

In the a.m. peak hour, the westbound travel time in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 1 minute (or an increase of 8.3 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 0.5 minute (or an increase of 4.1 percent) to 2035 with Alternative 2.

In the a.m. peak hour, the westbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 4 mph (or a decrease of 7.0 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 2 mph (or a decrease of 3.2 percent) to 2035 with Alternative 2.

Alternative 2 in the PM Peak Hour (Eastbound SR-91)

In the p.m. peak hour, the eastbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 20 minutes (or an increase of 44.8 percent) from Baseline/Existing (2007) to 2015 with Alternative 2, and by approximately 30 minutes (or an increase of 67.5 percent) to 2035 with Alternative 2.

In the p.m. peak hour, the eastbound travel speed in the GP lanes is forecast to decrease by approximately 5 mph (or a decrease of 31.2 percent) from Baseline/ Existing (2007) conditions to 2015 with Alternative 2, and by approximately 6 mph (or a decrease of 40.1 percent) to 2035 with Alternative 2.

In the p.m. peak hour, the eastbound travel time in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 17 minutes (or a decrease of 56.7 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 16 minutes (or a decrease of 54.0 percent) to 2035 with Alternative 2.

In the p.m. peak hour, the eastbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 30 mph (or an increase of 130.4 percent) from Baseline/Existing (2007) conditions to 2015 with Alternative 2, and by approximately 27 mph (or an increase of 117.4 percent) to 2035 with Alternative 2.

Initial Phase of Alternative 2 in the AM Peak Hour (Westbound SR-91)

In the a.m. peak hour, the westbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 4 minutes (or an increase of 14.4 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the a.m. peak hour, the westbound travel speed in the GP lanes on SR-91 is forecast to decrease by approximately 3 mph (or a decrease of 12.4 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the a.m. peak hour, the westbound travel time in the HOV/tolled express lanes on SR-91 is forecast to be relatively unchanged (or a decrease of 0.8 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the a.m. peak hour, the westbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 1 mph (or an increase of 0.9 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

Initial Phase of Alternative 2 in the PM Peak Hour (Eastbound SR-91)

In the p.m. peak hour, the eastbound travel time in the GP lanes on SR-91 is forecast to increase by approximately 27 minutes (or an increase of 60.5 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the p.m. peak hour, the eastbound travel speed in the GP lanes is forecast to decrease by approximately 6 mph (or a decrease of 37.6 percent) from Baseline/ Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the p.m. peak hour, the eastbound travel time in the HOV/tolled express lanes on SR-91 is forecast to decrease by approximately 18 minutes (or a decrease of 58.3 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

In the p.m. peak hour, the eastbound travel speed in the HOV/tolled express lanes on SR-91 is forecast to increase by approximately 32 mph (or an increase of 139.1 percent) from Baseline/Existing (2007) to 2015 with the Initial Phase of Alternative 2.

1.3.1.9 Safety

Accident data for individual segments on SR-91 and I-15 were reviewed for the 3-year period from November 1, 2004, to October 31, 2007[1]. Those data are summarized in Table 1.14 for accident rates on the mainline freeways, on freeway-to-freeway connector ramps, and on SR-91 and I-15 local road interchange ramps. The actual accident rates were compared with the Statewide average accident rates for similar facilities. The actual accident rate on the eastbound SR-91 mainline is higher than the Statewide average. Actual accident rates on the westbound direction of the SR-91 mainline and on both directions of the I-15 mainline are below the Statewide average. The Caltrans District 8 2004–2007 Traffic Accident and Surveillance and Analysis System (TASAS) data provided in The *Traffic Study Report* (July 2010)

indicate that the predominant types of these accidents are rear-end and sideswipe crashes, which account for approximately 50 percent and 25 percent of all accident types, respectively.

As shown on Table 1.14, the "Total" columns show the total accident rates. The other columns are the fatal accidents ("F") and fatal + injury accidents ("F+I"). The totals include property-damage-only accidents (which are not shown in Table 1.14) so they are not just a sum of the "F" and "F+I" columns.

---

[1] The Department TASAS data are compiled in 3-year increments. At the time the *Traffic Study Report* (July 2010) was approved, the 2004–2007 TASAS data were the most current data available.

Table 1.14 Summary of Accident Rates

Segment	Actual Accident Rate[1]			Statewide Average Accident Rate[1]		
	F	F+I	Total	F	F+I	Total
Freeway Mainline Segments						
SR-91 EB: SR-241 to Riverside County Line	0.003	0.39	***1.60***	0.006	0.39	1.23
SR-91 WB: SR-241 to Riverside County Line	0.010	0.27	0.98	0.006	0.39	1.23
SR-91 EB: Orange County Line to Pierce St	0.004	0.35	***1.18***	0.006	0.36	1.13
SR-91 WB: Orange County Line to Pierce St	0.005	0.26	0.89	0.006	0.36	1.13
I-15 NB: Cajalco Rd to Hidden Valley Pkwy	0.004	0.25	0.95	0.011	0.37	1.07
I-15 SB: Cajalco Rd to Hidden Valley Pkwy	0.006	0.17	0.61	0.011	0.37	1.07
Freeway-to-Freeway Direct Connectors						
SR-91 EB to SB SR-241	0.000	0.00	0.00	0.004	0.15	0.45
SR-91 WB to NB SR-241	0.000	0.26	0.26	0.006	0.19	0.55
SR-91 EB to NB SR-241	0.000	0.14	***0.92***	0.006	0.33	0.90
SR-91 WB to SB SR-241	0.000	0.04	0.24	0.006	0.21	0.60
SR-91 WB to SR-71 SB	0.076	0.38	***0.91***	0.004	0.13	0.40
SR-91 EB to SR-71 NB	0.000	0.00	0.37	0.004	0.26	0.90
SR-91 WB to SR-71 NB	0.065	0.20	0.39	0.004	0.15	0.45
SR-91 EB to SR-71 SB	0.000	0.00	***0.63***	0.006	0.19	0.55
SR-91 WB to SB I-15	0.000	0.05	0.20	0.006	0.19	0.55
I-15 NB to SR-91 (both EB & WB)	0.000	0.22	***1.10***	0.002	0.08	0.25
SR-91 EB to I-15 SB	0.000	0.00	***0.06***	0.004	0.13	0.04
I-15 SB to SR-91 EB	0.000	0.07	0.33	0.004	0.26	0.90
SR-91 WB to I-15 NB	0.064	0.13	0.32	0.004	0.13	0.40
I-15 SB to SR-91 WB	0.000	0.18	0.42	0.004	0.15	0.45
SR-91 EB to I-15 NB	0.000	0.03	0.13	0.006	0.19	0.55
SR-91 Freeway-to-Arterial Ramps						
Gypsum Canyon Rd EB off-ramp	0.000	0.38	0.38	0.005	0.61	1.50
Gypsum Canyon Rd WB on-ramp	0.000	0.00	0.00	0.003	0.22	0.60
Gypsum Canyon Rd EB on-ramp	0.000	0.20	0.20	0.001	0.24	0.70
Gypsum Canyon Rd WB on-ramp	0.000	0.00	0.00	0.001	0.24	0.70
Gypsum Canyon Rd EB on-ramp	0.000	0.00	***1.53***	0.003	0.22	0.60
Gypsum Canyon Rd WB off-ramp	0.000	0.24	0.24	0.005	0.61	1.50
Green River Rd EB off-ramp	0.000	0.15	0.46	0.005	0.61	1.50
Green River Rd WB on-ramp	0.000	0.00	0.10	0.002	0.32	0.80
Green River Rd WB off-ramp	0.000	0.23	***1.87***	0.005	0.61	1.50
Green River Rd EB on-ramp	0.000	0.51	0.51	0.002	0.32	0.80
SR-91 Freeway-to-Arterial Ramps						
Auto Center Dr WB on-ramp	0.000	0.00	0.69	0.002	0.32	0.80
Auto Center Dr EB off-ramp	0.000	0.42	0.69	0.005	0.61	1.50
Auto Center Dr EB on-ramp	0.000	0.11	0.34	0.002	0.32	0.80
Auto Center Dr WB off-ramp	0.000	0.43	1.14	0.005	0.61	1.50
Maple St EB off-ramp	0.083	0,83	1.49	0.005	0.61	1.50
Maple St WB on-ramp	0.000	0.09	0.60	0.003	0.32	0.85
Maple St EB on-ramp	0.000	0.29	0.44	0.003	0.17	0.45
Maple St WB off-ramp	0.000	0.46	1.22	0.005	0.61	1.50
Lincoln Ave WB on-ramp	0.000	0.00	0.42	0.002	0.32	0.80
Lincoln Ave EB off-ramp	0.000	1.27	***3.68***	0.004	0.50	1.35
Lincoln Ave WB off-ramp	0.000	0.08	0.38	0.005	0.61	1.50
Lincoln Ave EB on-ramp	0.000	0.61	***1.98***	0.002	0.32	0.80
Vicentia Ave EB off-ramp	0.000	0.00	0.23	0.003	0.31	0.90
School St (Grand) WB on-ramp	0.000	0.00	0.00	0.002	0.19	0.55
Main St WB on-ramp	0.000	0.32	***0.86***	0.003	0.17	0.45
Main St EB off-ramp	0.000	0.27	***2.15***	0.006	0.33	0.90
Main St WB off-ramp	0.000	0.30	***1.04***	0.006	0.35	0.90
Main St EB on-ramp	0.000	0.55	***1.34***	0.002	0.32	0.80
McKinley St WB on-ramp	0.000	0.21	0.66	0.002	0.32	0.80
McKinley St EB off-ramp	0.000	0.13	0.87	0.005	0.61	1.50
McKinley St WB off-ramp (loop)	0.000	0.44	**1.31**	0.003	0.42	1.25
McKinley St EB on-ramp (loop)	0.000	0.00	0.31	0.001	0.24	0.70
McKinley St EB on-ramp	0.000	0.19	***1.33***	0.003	0.22	0.60
McKinley St WB off-ramp	0.000	0.00	0.34	0.006	0.33	0.90

Table 1.14 Summary of Accident Rates

Segment	Actual Accident Rate[1]			Statewide Average Accident Rate[1]		
	F	F+I	Total	F	F+I	Total
Pierce St WB on-ramp	0.000	0.39	0.52	0.002	0.32	0.80
Pierce St EB off-ramp	0.000	0.20	0.92	0.005	0.61	1.50
Magnolia Ave WB on-ramp	0.000	0.83	***1.04***	0.003	0.22	0.60
Magnolia Ave EB off-ramp	0.000	0.00	1.22	0.003	0.42	1.25
Magnolia Ave WB off-ramp	0.000	0.57	0.71	0.003	0.42	1.25
Magnolia Ave EB on-ramp	0.000	0.00	0.45	0.003	0.22	0.60
I-15 Freeway-to-Arterial Ramps						
Cajalco Rd NB off-ramp	0.000	0.55	***1.46***	0.006	0.19	0.60
Cajalco Rd NB on-ramp	0.000	0.36	***0.54***	0.005	0.16	0.45
Cajalco Rd SB on-ramp	0.000	0.00	0.30	0.009	0.35	0.85
Cajalco Rd SB off-ramp	0.000	0.18	***0.71***	0.007	0.24	0.70
El Cerrito Rd NB off-ramp	0.000	1.28	***2.88***	0.005	0.61	1.50
El Cerrito Rd SB on-ramp	0.000	0.27	0.54	0.002	0.32	0.80
I-15 Freeway-to-Arterial Ramps						
El Cerrito Rd NB on-ramp	0.000	0.00	0.32	0.002	0.32	0.80
El Cerrito Rd SB off-ramp	0.000	0.63	***2.99***	0.005	0.61	1.50
Ontario Ave NB off-ramp	0.000	0.24	0.96	0.005	0.61	1.50
Ontario Ave SB on-ramp	0.000	0.56	***0.89***	0.002	0.32	0.80
Ontario Ave NB on-ramp	0.000	0.13	0.67	0.002	0.32	0.80
Ontario Ave SB off-ramp	0.000	0.13	0.79	0.005	0.61	1.50
Magnolia Ave SB on-ramp	0.000	0.46	***1.70***	0.002	0.32	0.80
Magnolia Ave NB off-ramp	0.000	1.72	***3.65***	0.005	0.61	1.50
Magnolia Ave NB on-ramp	0.000	0.05	***1.57***	0.002	0.32	0.80
Magnolia Ave SB off-ramp	0.000	0.23	1.01	0.005	0.61	1.50
Hidden Valley Pkwy NB off-ramp	0.000	0.37	0.73	0.005	0.61	1.50
Hidden Valley Pkwy SB on-ramp	0.000	0.21	***1.27***	0.002	0.32	0.80
Hidden Valley Pkwy NB on-ramp	0.000	0.11	0.75	0.002	0.32	0.80
Hidden Valley Pkwy SB off-ramp	0.000	0.18	***2.01***	0.005	0.61	1.50

Source: Caltrans District 8 2004–2007 Traffic Accident and Surveillance and Analysis System (TASAS).
Note 1: The Department TASAS data are compiled in 3-year increments. At the time the *Traffic Study Report* (July 2010) was approved, the 2004–2007 TASAS data were the most current data available.
Note 2: ***Bold italics*** indicate segments that have higher accident rates than the Statewide average for similar facilities.
[1] Accidents are reported as: (1) number of accidents per million vehicle miles (MVM) on the freeway mainline, and (2) number of accidents per million vehicles (MV) on freeway ramps. The totals are totals of Property Damage Only (PDO) accidents.
Ave = Avenue
Dr = Drive
EB = eastbound
F = Number of fatal accidents per million vehicle miles traveled
F+I = Number of accidents with both fatalities and injuries per million vehicle miles traveled
I-15 = Interstate 15
NB = northbound
Pkwy = Parkway
PM = Post Mile
Rd = Road
SB = southbound
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
St = Street
Total = total number of accidents (including non-fatal and non-injury) per million vehicle miles traveled
WB = westbound

Table 1.14 shows that the accident rates for 4 of 6 mainline segments and 10 of 15 connectors are similar to or below the statewide average for similar facilities. Several project elements that are described below would be expected to improve overall corridor safety and potentially reduce accidents.

- The accident rate on the southbound SR-71 to westbound SR-91 connector is more than twice the State average for highway connectors. This connector would be improved under Alternatives 1 and 2 because the SR-71/SR-91 system interchange would be modified to accommodate the project improvements on SR-91.
- The accident rate on the northbound I-15 to SR-91 westbound and eastbound connectors is more than four times the statewide average. These connectors would be improved under Alternatives 1 and 2. The collector-distributor facility in the westbound direction on SR-91 between I-15 and Main Street that would be constructed as part of the project is expected to reduce congestion and related accidents on the connectors.

The fatality rate on the westbound SR-91 to northbound I-15 connector is above the statewide average, likely due to weaving constraints from the Main Street ramps. Braiding the ramps at Main Street under the Build Alternatives is expected to improve safety on this segment of the freeway as the weaves would be eliminated (a "weave" is where traffic entering the freeway conflicts with traffic exiting the freeway) and a longer separation of connector and mainline traffic would be provided.

Table 1.14 shows that 40 of 60 ramps experience accident rates that are similar to or below the statewide average for similar facilities. As a result, 20 (approximately 33 percent) of the local interchange ramps in the study area have reported accident rates higher than the statewide average. In addition, some interchange ramps have reported fatality rates above the statewide average. However, for the time period covered in the accident analysis, several interchanges, including Green River Road on SR-91 and Magnolia Avenue and El Cerrito Road on I-15, were under construction. Alternatives 1 and 2 incorporate local interchange improvements at virtually all interchange ramps on the project segment of SR-91. These improvements are forecast to improve operations, efficiency, and safety on the project segment of SR-91 as follows:

- Enhanced ramp capacity (extended ramps to ensure sufficient stopping distance for off-ramps and adequate storage at ramp meters for on-ramps) and improved interchange geometrics are expected to improve safety and potentially reduce accidents associated with the SR-91 corridor ramps.
- Two ramp braids (a braid is where on- and off-ramps are grade separated so that there is not a merging conflict between vehicles entering and exiting the freeway) are incorporated into the project, specifically the SR-91 eastbound ramp braids between Auto Center Drive and Maple Street and the eastbound Main Street on-ramp to SR-91 under the I-15 corridor connectors. The ramp braids eliminate short weaves and reduce the potential for sideswipe accidents.

1.3.2 Existing Roadway Operational Deficiencies

SR-91 passes through Santa Ana Canyon immediately south of the Santa Ana River. The topography of the canyon is a constraint to the two major transportation corridors that run through it: SR-91 and the Burlington Northern Santa Fe (BNSF) rail line. The result is that nearly all surface and rail traffic between Riverside and Orange Counties is funneled into this single corridor, which has limited physical opportunity for expansion as a result of the substantial slopes on the north and south sides of the Santa Ana Canyon and the Santa Ana River in the canyon bottom. In addition, the topography of the canyon limits the opportunities for arterial road connections to SR-91.

Specific structural and other limitations on the project segment of SR-91 are discussed in detail in the following sections.

1.3.2.1 Freeway Geometry

The existing SR-91 GP lanes within the project limits were constructed beginning in 1959 as a four-lane divided facility at a lower design speed than current standards. Two additional GP lanes (one in each direction) were completed in 1974. The HOV lanes within the project limits completed in 1993 were designed to fit within the existing roadway width. Other freeway improvements in the SR-91 corridor study area include the construction of SR-241 in the late 1990s, the addition of toll lanes on SR-91 within Orange County in the early 1990s, the Eastbound Lane Addition (which opened for operation in 2011), and the construction of I-15 on the western end of the SR-91 corridor study area.

Two primary considerations have resulted in a facility that does not meet current freeway geometric standards: (1) design and construction of the original SR-91

facility as a lower design speed than the current design speed standard (Chapter 2 of the Caltrans Highway Design Manual [May 2012] requires the design speed of freeways to be 10–15 mph greater than the posted speeds); when the existing facility was constructed, the posted speed was 10 mph less than the current posted speed limits; and (2) construction of the existing HOV lanes within the limited right-of-way available at that time. The existing nonstandard geometric features include:

- Sight distance
- Design speed
- Weaving distance
- Deceleration distance
- Grade of local road at ramp connection
- Horizontal clearance
- HOV preferred lane (on-ramp)
- Interchange spacing
- Intersection spacing
- Lane width
- Length of single-lane branch connectors
- Outer separation
- Ramp gore geometry
- Shoulder width
- Side slope steepness
- Standards for curvature
- Superelevation rate/transition/runoff

1.3.2.2 Pavement

Sections of the SR-91 that are on embankments through the City of Corona between Lincoln Avenue and Main Street have experienced localized settlement, resulting in areas of uneven pavement surfaces. This situation has required maintenance efforts over the past 10 years, specifically the use of pavement overlays, to maintain the structural integrity of the pavement and the ride quality. Potential settlement remains a matter of continuing concern that would be considered during the design/build phase for the project. Re-evaluation of the existing pavement condition would be appropriate during the design/build phase regardless of any localized problem areas. Based on the latest pavement condition survey conducted by the Department in 2006 along I-15 and in 2007 along SR-91 (refer to Tables B-1 and B-2 in the *Preliminary Geotechnical Design Report* [July 2010]), the predominant pavement distress

observed in the jointed plain concrete pavement was faulting at the pavement panel joints, which results in poor ride quality.

1.3.2.3 Drainage

The majority of the existing drainage system for SR-91 was constructed in the 1960s, and in certain locations the system is reaching the end of its expected 50-year service life. Although specific deficiencies in the existing drainage system have not been identified, RCTC and the Department have agreed to work together in an effort to assess the structural integrity of the system. RCTC would investigate the necessary locations and propose a fix prior to or during the design-build phase for the project. A sample investigation process to address these drainage concerns could include:

- All culvert inlets and outlets within the project limits and the outlets of any laterals coming from the median would be photographed. The condition of the pipe material at these locations would be described.
- If needed for visibility, a strong flashlight may be used to examine each culvert. Any noticeable deformations would be noted. The presence of standing water would be noted.
- Based on what is seen at each inlet and outlet, a more detailed investigation may be warranted. Those culverts may be remotely videoed, which may in turn require clearing/cleaning of the culvert.
- Special consideration would be given to larger culverts because they present the greatest threat to safety.
- Based on the investigation, a determination would be made regarding culvert rehabilitation (following Department Design Information Bulletin No. 83) or replacement.
- Improvements to failing culverts would be made where necessary. Funding issues would be discussed with the Department depending on the nature of repairs, and the Department and RCTC would develop a mutually acceptable plan to fix the problem areas during the construction phase of the project.

The drainage structures under Alternatives 1 and 2 are listed in detail later in Table 2.5.

1.3.2.4 Structures

Bridge inspection reports provided by the Department in 2006 were reviewed in conjunction with advance planning studies for structures. The reports determined that

the McKinley Street undercrossing of SR-91 is designated "Functionally Obsolete[1]" because of the nonstandard 14.75 ft vertical clearance at the north edge of the bridge over the local street below. The proposed SR-91 CIP westbound widening would be on a new higher off-ramp structure that meets the minimal vertical clearance standard of 15 ft.

The Temescal Wash bridge and overhead on SR-91 are designated "Structurally Deficient"[2] as a result of the deck condition on that structure. Because the deck was sealed with methacrylate in 2009 which corrected/improved the deck condition, the "Structurally Deficient" designation would likely be removed from the new bridge inspection report for this structure.

Several structures have been identified for seismic retrofit in conjunction with the widening. The bridge structure work, including construction of new structures and replacement, widening, and retrofitting of existing structures, is detailed later in Tables 2.3 and 2.4, respectively, for Alternatives 1 and 2.

1.3.3 Social Demands and Economic Development

There is substantial existing development along the project segments of SR-91 and I-15. Those existing land uses, which contribute to the traffic demand in this corridor, include residential, commercial, industrial, and institutional uses in the cities along the corridor (Anaheim, Yorba Linda, Corona, Riverside, and Norco) and in unincorporated areas in Orange and Riverside Counties. While these areas are largely built out or are protected open space, such as Featherly Regional Park, CHSP, and the New Orange County Park (National Natural Landmark) (New OC Park [NNL]), additional development is planned in other areas along the alignments of SR-91 and I-15. That proposed development is based on these cities' and counties' adopted General Plans as well as a number of Specific Plans. This future development would

---

1 The National Bridge Inventory, General Condition Ratings is a coding system developed by FHWA to evaluate the condition of existing, in-place bridges or culverts. A bridge designated as "Structurally Deficient (SD)" is considered to have load carrying elements that are found to be in poor condition due to deterioration and/or damage. A bridge designated as "Functionally Obsolete (FO)" is considered to have deck geometry, load carrying capacity, clearance, or approach roadway alignment that no longer meets the current building standards for bridges.

2 Ibid.

contribute to demand in the SR-91 corridor for work as well as other trips between Riverside and Orange Counties. The existing and planned land uses, the adopted General Plans, and a number of Specific Plans in the Cities of Anaheim, Yorba Linda, Corona, Riverside, and Norco, and Orange and Riverside Counties in the vicinity of the project segment of SR-91 are discussed in more detail later in Sections 3.1, Land Use, and 3.25, Cumulative Impacts.

1.3.4 Legislation

California Senate Bill 1316 (SB 1316) (2008) authorizes OCTA to eliminate its rights, interests, and obligations in the Riverside County part of the existing SR-91 toll lanes by partial assignment to the RCTC. It further deletes the 2030 limitation on the issuance of bonds and the collection of tolls by OCTA. It authorizes the use of toll revenues for the toll lane and other related transportation purposes in the Orange County part of the SR-91 corridor.

SB 1316 also authorizes the RCTC to impose tolls for 50 years on the transportation facilities in its part of the SR-91 corridor. SB 1316 authorizes the use of toll revenues for capital and operating costs, including debt service, of those facilities and related transportation purposes in the SR-91 corridor.

1.3.5 Modal Interrelationships and System Linkages

The existing public transit linkages between Riverside and Orange Counties are bus and commuter rail. Metrolink commuter rail services between Riverside and Orange Counties operate on railroad tracks owned by BNSF. Metrolink commuter rail service between the two counties is nearing capacity on existing equipment.

As identified in the MIS LPS, all transit components within the Riverside to Orange County study area were to be maximized as part of all future transportation improvements. The project improvements do not specifically identify these transit improvements, but they are part of the overall background of transit improvements required through the extensive elected officials, interested stakeholders, and public outreach process implemented as part of the MIS process by RCTC, OCTA, and the Department.

Currently, express bus service operating on SR-91 provides connections from Riverside County to employment centers in Anaheim, Costa Mesa, Fullerton, and Irvine in Orange County. This service is provided on the Galleria at Tyler in Riverside to South Coast Metro in Costa Mesa line, which was implemented in fall 2006. Four additional express bus routes are planned for implementation in 2016.

These routes would originate in the Riverside and Temecula areas with destinations to employment centers in Anaheim and Orange in Orange County.

The North Main Street Corona MetroLink parking structure improvements were completed in June 2009. These improvements increased the parking capacity at this station adjacent to SR-91 and allowed commuter rail ridership to increase, thereby diverting trips from SR-91.

Metrolink currently operates 23 trips daily on the IEOC Line between downtown Riverside, Laguna Niguel/Mission Viejo, and Oceanside. The 91-Line operates between Riverside and Los Angeles via Corona, Fullerton, and Norwalk. Future service improvements to Metrolink are envisioned in the Southern California Regional Rail Authority (SCRRA) *Strategic Assessment* (Metrolink, January 19, 2007). It is anticipated there will be at least 40 daily trips each on the IEOC Line and 91-Line by 2020. Additional information on planned bus and rail transit improvements between Riverside and Orange Counties is provided later in Table 2.21. The project would not preclude implementation of any existing or future transit projects between the two counties.

No commercial or cargo airports are adjacent to or in the immediate vicinity of the project segments of SR-91 and I-15. The nearest airport is Corona Municipal Airport, a general aviation airport approximately 0.8 mi north of SR-91. The nearest commercial airports are Ontario International Airport (located in Ontario in western San Bernardino County), John Wayne Airport (located in Santa Ana in central Orange County), and March Air Reserve Base (located in Riverside County, south of SR-91 and east of and adjacent to I-215). The Build Alternatives would not provide for any direct interface with any airport.

1.3.5.1 Corridor System Linkages

The SR-91 corridor is an integral component of the regional transportation system. It provides a key linkage between the Inland Empire and Orange County and a gateway into southern Los Angeles County. The corridor connects a burgeoning residential population to substantial employment opportunities. As a result of topography, there are few viable transportation alternatives between Riverside and Orange Counties. The project provides enhanced mobility between the two counties as well as additional connectivity between I-15 and SR-91 through direct connections to the tolled express lanes or HOV lanes within the region.

Information concerning related projects provides contextual information for the project and identifies how the transportation agencies have coordinated transportation planning efforts. The SR-91 CIP will be implemented in a manner that is consistent with the programmed and planned improvements as identified later in Table 3.25.1 and shown on Figure 3.25-1, which represents system linkages within the overall two-county regional transportation system. These related system improvements are on facilities that represent future connections or are complementary to the project.

1.3.5.2 Regional Goods Movement

Regional goods movement is concerned with the movement of all types of goods and materials across and through the southern California region. Specifically, SCAG has identified goods movement as a critical component of transportation system planning in southern California. The *Southern California Strategy for Goods Movement: A Plan for Action* (SCAG, March 2005) identified the existing and projected volumes of goods transported through the Ports of Los Angeles and Long Beach. The Plan also identified strategies to address the movement of these goods from the ports to their eventual destinations in the United States via both rail and surface transportation facilities. According to that Plan, over one-third of waterborne freight container traffic at United States' ports is handled by the Ports of Los Angeles and Long Beach, with 50 to 60 percent of this freight then transported to destinations outside the southern California region via rail or truck.

In summary, the key component to addressing regional goods movement in southern California is providing appropriate infrastructure and facilities to support the ship, rail, and surface transportation movement of goods. SR-91, as a major east-west freeway, provides critical connections between trucks coming from/going to the Ports of Los Angeles and Long Beach, and destinations across southern California and points to the east. In addition to high volumes of goods being shipped to/from the two ports, goods movement truck traffic is also generated at rail/truck transfer yards at several locations in southern California and in the general area around the March Air Reserve Base. As a result, it is important for regional goods movement that the freeways in southern California, including SR-91, provide adequate capacity to accommodate goods movement truck traffic in the region in the future. For example, on SR-91, truck trips are approximately 6.7 percent of the Existing 2007 total daily traffic volumes on the study area segments of SR-91 and I-15, as shown on Table 1.15. The context for comparing the percentage of trucks in total traffic is for informational purposes and is related to the analysis of the corridor and potential impacts of trucks on mainline performance (i.e., the greater the number of trucks,

Table 1.15 Baseline/Existing (2007) Truck Volumes

Segment	Daily Trucks	Truck Percentage of Total Traffic
SR-91 at Orange/Riverside County line	15,500	5.5
SR-91 west of I-15	14,500	5.3
SR-91 east of I-15	16,300	7.3
I-15 north of SR-91	17,900	10.5
I-15 south of SR-91	10,300	5.1

Source: Speed surveys and the Riverside County Transportation Commission Model Results for the SR-91 CIP, as disclosed in the *Traffic Study Report* (July 2010).
CIP = Corridor Improvement Project
I-15 = Interstate 15
SR-91 = State Route 91

the worse the LOS and operations of the facility become). The average truck volume percentage of 6.7 percent of total traffic on the SR-91 and I-15 study area segment is consistent with the average percentage of freeway truck volumes of 6.9 percent for the SCAG region (SCAG, Regional Screenline Traffic Count Program, June 24, 2004).

As shown on Table 1.15, the volumes that have been reported on I-15 would be considered high at 10.5 percent compared to the regional average of 6.9 percent, but because this is a key truck trade corridor (based on the SCAG 2012 RTP/SCS Goods Movement Appendix, Exhibit 1), they are not atypical. Truck activity on I-15 is not forecast to increase with implementation of the project. As shown in Table 1.15, the 10.5 percent of trucks on I-15 might indicate the need for a truck climbing lane. However, because the project does not interfere with truck operations on I-15 north of SR-91, a truck climbing lane is not proposed with this project.

1.3.6 Air Quality Improvements

The Build Alternatives include HOV lanes or tolled express lanes. Most of the ramps on the project segments of SR-91 and I-15 are already metered, and those ramp meters would be retained in the Build Alternatives. These project features would contribute to air quality emissions reductions in the long term. While the Build Alternatives do not include any specific transit-related improvements, the preferential lanes (HOV and tolled express lanes) and the ramp metering would directly benefit transit vehicles (and their passengers) traveling on the project segments of SR-91 and I-15. Specifically, RCTC and OCTA offer rideshare services and programs, including commuter and local bus services; commuter rail services; and assistance in forming, joining, and managing carpools and vanpools. Commuter assistance or programs to reduce the number of drive-alone travelers in Riverside County is a mandated part of

RCTC's Measure A program.[1] The carpool, vanpool, and bus services in the SR-91 corridor would benefit from the time savings as a result of using the preferential lanes (HOV and tolled express lanes) provided by the Build Alternatives. RCTC has been coordinating with the Riverside Transit Agency on enhanced express bus service for the SR-91 corridor. The addition of tolled express lanes on SR-91 under Alternative 2 provides the opportunity to nearly double the amount of express bus service that is currently offered in this corridor (to a total of 41 trips per day). While this service is not a specific component of the SR-91 CIP, it is an important element of RCTC's plan for improved mobility in the corridor. The express bus service would benefit from the SR-91 CIP because, without the project, future congestion in the corridor would be severe and express bus service would not be viable.

Although the Build Alternatives do not include specific transit, Transportation Systems Management (TSM), or Transportation Demand Management (TDM) components, they are supportive of the various shared-ride modes currently offered by RCTC and OCTA. Refer to Chapter 2, Project Alternatives, for additional discussion of TSM and mass transit services in the project area.

1.3.7 Independent Utility and Logical Termini

1.3.7.1 Logical Termini

The project limits for the SR-91 CIP were defined based on providing a logical and independent set of improvements. Logical termini are defined as rational end points for a transportation improvement and rational end points for a review of the environmental impacts of a proposed project. Refer to Figures 2.14 and 2.17, provided later in Chapter 2, Project Alternatives, which show the improvements in the Alternative 1 and 2 Initial Phases and Alternative 1 and 2 Ultimate Projects, respectively.

Logical Termini for the Alternative 1 and 2 Ultimate Projects

The Alternative 1 and 2 Ultimate Projects provide logical termini because they connect to major transportation facilities (SR-241, SR-71, and I-15) that are destinations of major traffic volumes along SR-91 and terminate at major arterial interchanges (SR-241 on the west and Pierce Street on the east on SR-91, and Hidden Valley Parkway on the north and Cajalco Road on the south on I-15).

Under Alternatives 1 and 2, the western project terminus is at the SR-241 interchange because that interchange represents the western point of substantial change in traffic

[1] http://www.rctc.org/commuterassistance.asp (accessed August 13, 2010).

demand on SR-91. Specifically, as shown in detail on Figure 3-2 in the Traffic Study Report (page 46), approximately 18 percent of the westbound SR-91 traffic exits to southbound SR-241, and approximately 18 percent of the eastbound SR-91 traffic, east of SR-241, is traffic that exits from northbound SR-241 to eastbound SR-91. Although I-15 represents the eastern point of substantial change, where approximately 30 percent of the traffic leaves or enters on SR-91, the eastern project terminus is farther east on SR-91, at the Pierce Street interchange. That endpoint was based on being able to facilitate traffic operations by providing a sufficient distance from I-15 to transition the SR-91 CIP lane configuration back to the existing lane configuration on SR-91.

Under Alternatives 1 and 2, the southern project terminus on I-15 at the Cajalco Road interchange was based on being able to facilitate traffic operations by providing a distance from SR-91 to convert the SR-91 CIP lane configuration back to the existing lane configuration on I-15 and to provide access to the I-15 northbound to SR-91 westbound direct Express Lane connector. The northern terminus on I-15 at the Hidden Valley Parkway interchange was based on being able to facilitate traffic operations by providing a sufficient distance from SR-91 to transition the SR-91 CIP lane configuration back to the existing lane configuration on I-15.

The SR-91 CIP Build Alternatives can be implemented without being dependent on any other improvements, and they would provide substantial benefits to the traveling public between the project termini described without other improvements. Alternatives 1 and 2 for the SR-91 CIP have logical termini that allow for evaluation of potential environmental effects for a project large enough to address the defined traffic need in the affected part of the corridor.

The SR-91 CIP Build Alternatives can be implemented without being dependent on any other improvements, and they would provide substantial benefits to the traveling public between the project termini described without other improvements. Alternatives 1 and 2 for the SR-91 CIP have logical termini that allow for evaluation of potential environmental effects for a project large enough to address the defined traffic need in the affected part of the corridor.

Logical Termini for the Alternative 1 and 2 Initial Phases

Similar to the Ultimate Projects for Alternatives 1 and 2, the limits for the Initial Phases of those Build Alternatives were also defined based on providing a logical and independent set of improvements.

The Initial Phase of Alternative 1 provides logical termini because it connects to major transportation facilities (SR-71 and I-15) and terminates at major arterial or freeway interchanges (Green River Road on the west on SR-91, at I-15 on the east on SR-91, and at Ontario Avenue on I-15). The western terminus for the Initial Phase of Alternative 1 is west of SR-71 at Green River Road to provide a sufficient distance from the SR-71 interchange to convert the SR-91 CIP lane configuration back to the existing lane configuration on SR-91. SR-71 is the western point where a fifth general-purpose lane will be added to eliminate the existing capacity reduction from five to four general-purpose lanes in each direction. The eastern terminus is at I-15, with the direct HOV lane connectors from eastbound SR-91 to southbound I-15 and from northbound I-15 to westbound SR-91. I-15 represents the eastern point of substantial change in traffic demand on SR-91. The southern terminus on I-15 is at Ontario Avenue to facilitate traffic operations by providing a sufficient distance from SR-91 to convert the SR-91 CIP lane configuration back to the existing lane configuration on I-15.

As shown on Figure 2-16, the Initial Phase of Alternative 2 also provides logical termini because it connects to major transportation facilities (SR-241, SR-71, and I-15) and terminates at major arterial or freeway interchanges (SR-241, Pierce Street on SR-91, and Hidden Valley Parkway and Ontario Avenue on I-15). The western terminus for the Initial Phase of Alternative 2 is at the SR-241 interchange because that interchange represents the western point that encompasses the extension of tolled express lanes from the Orange/Riverside County line, including the transition lane required for access to and from the tolled express lanes. Although I-15 represents the eastern point of substantial change in traffic demand on SR-91, the eastern terminus for the Initial Phase of Alternative 2 is farther east on SR-91, at the Pierce Street interchange. That endpoint was based on being able to facilitate traffic operations by providing a sufficient distance from I-15 to convert the SR-91 CIP lane configuration back to the existing lane configuration on SR-91. The southern terminus on I-15 at the Ontario Avenue interchange was based on being able to facilitate traffic operations by providing a sufficient distance from SR-91 to convert the SR-91 CIP lane configuration back to the existing lane configuration on I-15.

1.3.7.2 Independent Utility

A project has independent utility if it meets a project purpose in the absence of other improvements in the project segment or in other parts of the corridor. The Initial Phases of Alternatives 1 and 2 include improvements on SR-91 from approximately the Orange/Riverside County line to the I-15 interchange (a distance of about 8 mi)

and single-lane direct connectors to and from the I-15 south of SR-91, extending from SR-91 to the Ontario Avenue interchange (a distance of about 3 mi). The Initial Phases of Alternatives 1 and 2 would generally implement shorter segments of the Alternative 1 and 2 Ultimate Projects on SR-91 and I-15. A key component of the Initial Phases is the extension of the HOV or tolled express lanes from the Orange/Riverside County line to I-15. I-15 is a logical terminus for the HOV or tolled express lanes extending through a major bottleneck location along this corridor to the next major system interchange. The HOV or tolled express lane direct connectors to and from I-15 south of SR-91 are also a logical connection for the Initial Phases of Alternatives 1 and 2 due to current congestion experienced for these movements. A GP lane in each direction would also be constructed through the City of Corona along with substantial improvements to four local interchanges and the SR-91/I-15 system interchange. The GP lane addition extends an existing GP lane that currently starts/ends at SR-71 east to I-15, which is a logical terminus for these lane extensions. The improvements proposed with the Initial Phases of Alternatives 1 and 2 represent approximately 70 percent of the improvements in the Alternative 1 and 2 Ultimate Projects. The traffic analyses for the Initial Phases of Alternatives 1 and 2 that were prepared for a 2015 opening year demonstrate substantial benefits in travel time savings and increases in travel speed through the SR-91 corridor compared to the 2015 No Build condition. A comparative summary of these performance measures was shown previously in Table 1.13.

Based on the above discussion, the SR-91 CIP has independent utility because the Alternative 1 and 2 Initial Phases and Ultimate Projects meet the project purpose by improving the vehicle, person, and goods movement in the SR-91 corridor and providing usable improvements along the SR-91 and I-15 transportation corridors. In addition, the Alternative 1 and 2 Initial Phases and Ultimate Projects represent a reasonable expenditure even if no additional transportation improvements are made in the area, they can be implemented in the absence of any other improvements, and they do not restrict consideration of alternatives for other reasonably foreseeable transportation improvements in the SR-91 and I-15 corridors. As a result, because the Alternative 1 and 2 Initial Phases and Ultimate Projects meet the project purpose in the absence of other improvements in the SR-91 and I-15 corridors, the SR-91 CIP would have independent utility.

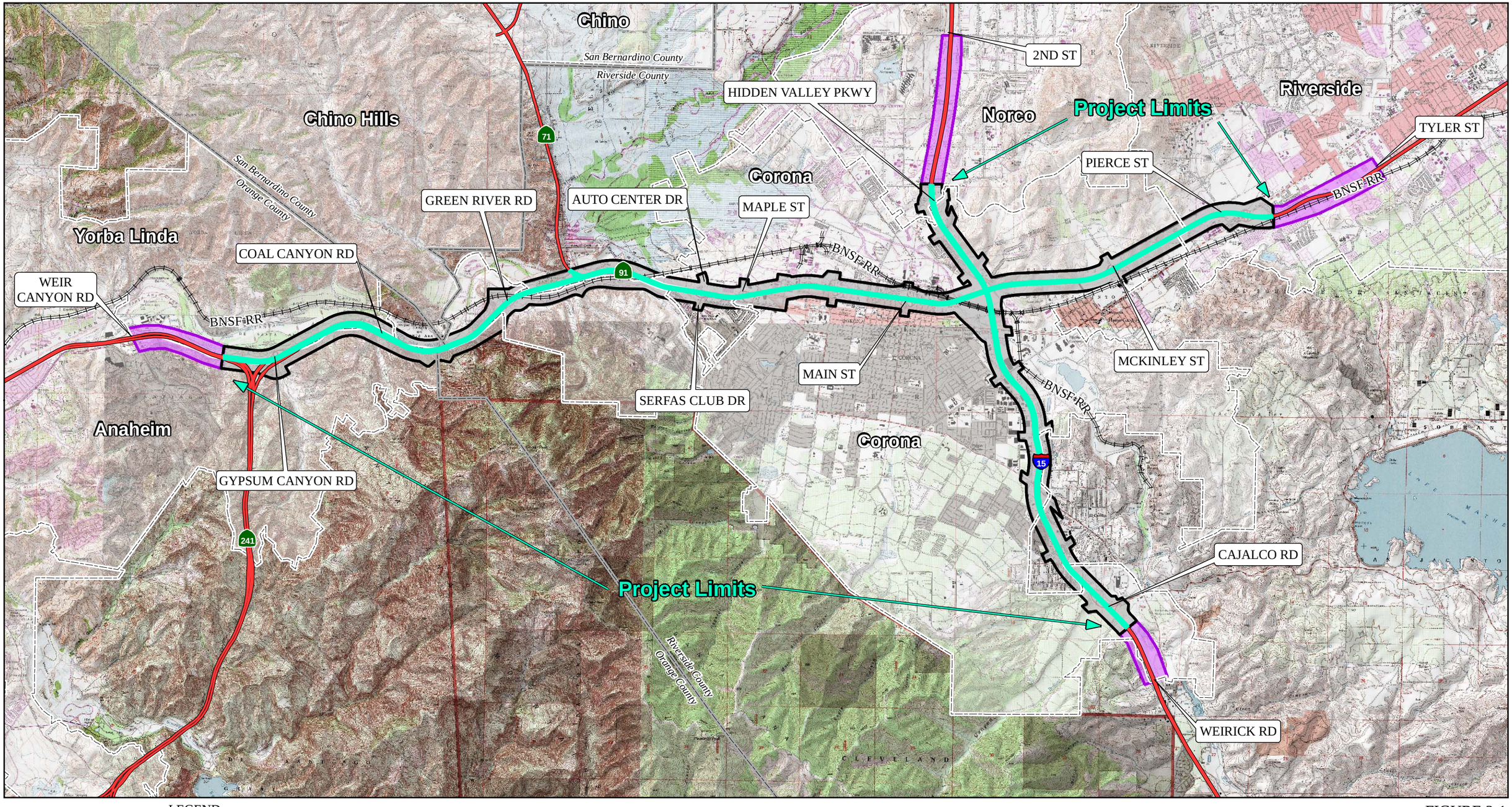
Chapter 2 Project Alternatives

2.1 Project Description

This chapter describes the proposed action and the alternatives that were developed to meet the identified purpose and need for the project, while avoiding or minimizing the potential for adverse environmental impacts. The alternatives described in detail in this chapter and evaluated in this EIR/EIS are shown on Figure 2-1 and all described briefly below:

- **No Build Alternative**
  - Would maintain existing SR-91 and I-15 in the project area.
  - No additional GP lanes and no change in the existing tolled express or HOV lanes on SR-91.
  - Provides a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternatives.
- **Alternative 1: Add General-Purpose Lanes and Maintain HOV Lanes (GP + HOV Lanes)**
  - Would add one GP lane in each direction on SR-91 from the SR-91/SR-241 interchange to Pierce Street.
  - Would maintain the existing tolled express lanes in Orange County and the existing HOV lanes on SR-91 between the Orange/Riverside County line and Pierce Street.
  - Would add one HOV lane on I-15 in each direction from Ontario Avenue in Corona to HOV lane direct connectors from eastbound SR-91 to southbound I-15 and from northbound I-15 to westbound SR-91.
- **Alternative 2: Add General-Purpose Lanes and Extend Tolled Express Lanes (GP + Tolled Express Lanes)**
  - Would add one GP lane in each direction on SR-91, from the SR-91/SR-241 interchange to Pierce Street in the City of Riverside.
  - Would extend the existing tolled express lanes and would add one tolled express lane in each direction from Orange County east to I-15 in Corona (express lanes are separate lanes with limited access/egress points that provide long-lasting, reliable, free flow travel for eligible users in an otherwise per vehicle congested corridor; users pay tolls but buses, HOVs with three or more persons, motorcycles, zero-emission vehicles, and vehicles driven by

This page intentionally left blank



LEGEND

- Project Limits (the construction limits for the Alternative 1 and 2 improvements, excluding the Advanced Signage Areas)
- Advanced Signage Area (part of project; signing installation in the freeway right-of-way only, and no other project construction)
- SR-91 Study Area for the Build Alternatives
- City Boundaries
- County Boundaries

N

0 0.625 1.25 Miles

SOURCE: USGS 7.5'QUAD - BLACK STAR CANYON ('88), CORONA NORTH ('81), CORONA SOUTH ('88), PRADO DAM ('81), RIVERSIDE WEST ('81); CALIF.

I:\PAZ0701\GIS\Basemap\SR91_I15_ProjectAlignments.mxd (4/11/2011)

FIGURE 2-1

SR-91 Corridor Improvement Project

Project Location on SR-91 and I-15

Ora-91-R14.43/R18.91
Riv-91-R0.00/R13.04
Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

handicapped persons, including disabled veterans, would pay a reduced or no toll).

- Would convert the existing SR-91 HOV lanes to tolled express lanes.
- Would provide express lane direct connectors between the express lanes on SR-91 and I-15.
- Would extend one tolled express lane in each direction on I-15 from the express lane connectors north to Hidden Valley Parkway and south to Cajalco Road.

This chapter also provides a brief history of the project; describes the proposed action and the alternatives developed to meet the identified purpose and need, while avoiding or minimizing the potential for adverse environmental impacts; discusses phasing for the two Build Alternatives; and discusses other alternatives that were considered but were eliminated from further evaluation in this EIR/EIS.

The project is in Orange and Riverside Counties along the existing SR-91 corridor and includes connections to I-15 in Riverside County. Figure 1-1, provided in Chapter 1, shows the project vicinity. Figure 2-1 shows the project location on SR-91 and I-15. The western project limit on SR-91 is at the SR-91/SR-241 interchange in the east part of the City of Anaheim in northeast Orange County. The eastern project limit on SR-91 is Pierce Street in the City of Riverside, just east of the City of Corona. The project limits extend approximately 14 mi along SR-91.

The project limits on I-15 begin at Cajalco Road and extend approximately north 5 mi on I-15 to Hidden Valley Parkway in the City of Corona.

The project study area extends approximately 2 mi beyond the project limits on SR-91 and I-15 to allow for the placement of advance signage for construction areas and tolled express lane access. The advanced signage areas, as the ends of the project limits on SR-91 and I-15, are shown on Figure 2-1.

The improvements in Alternatives 1 and 2 will be implemented in phases: the Initial Phase and the Ultimate Project.

2.2 Project Background

2.2.1 State Route 91

SR-91 is one of the major surface transportation facilities connecting Orange and Riverside Counties. SR-91 begins in Los Angeles County at the junction with SR-1 in

Hermosa Beach and continues east through Los Angeles, Orange, and Riverside Counties, terminating at the SR-91/SR-60/I-215 interchange in the City of Riverside. Traveling west on SR-91, the freeway ends at I-110, but SR-91 continues on Artesia Boulevard as a highway until it terminates at SR-1.

The existing SR-91 GP lanes within the project limits were constructed beginning in 1959 as a four-lane divided facility. Two additional GP lanes (one each direction) were completed in 1974. The construction of the HOV lanes within the project limits was completed in 1993. The construction of the tolled express lanes within the project limits was completed in 1995. Within the project limits, SR-91 currently has three to four GP lanes in each direction, which vary in width from 11 to 12 feet (ft) from the SR-241/SR-91 interchange to the SR-91/I-15 interchange, and three 12 ft wide GP lanes in each direction from the SR-91/I-15 interchange to Pierce Street. There are two tolled express lanes in each direction within the project limits. Those tolled express lanes begin west of the SR-91/SR-55 interchange and end at the Riverside/ Orange County line. Two HOV lanes, one in each direction, extend from the terminus of the existing tolled express lanes to beyond the project limits at approximately Marshall Street on the eastbound side and McKinley Street on the westbound side.

An Initial Study with Proposed Mitigated Negative Declaration/Environmental Assessment was prepared and approved in December 2007 by Department Districts 8 and 12, in conjunction with OCTA and RCTC, for the SR-91 Eastbound Lane Addition Project. This project along SR-91 is between SR-241 in eastern Orange County and SR-71 in western Riverside County and construction of this project began in 2010. The project added an additional GP lane and widened all lanes and shoulders to standard widths on eastbound SR-91 by widening SR-91 to the south. This project is now operational.

2.2.2 Interstate 15

I-15 starts in San Diego, extends north-northwest through the States of California, Nevada, Utah, Idaho, and Montana, and continues north as Alberta Highway 4 in Canada. Regionally, I-15 is an important intercounty link between San Diego, Riverside, and San Bernardino Counties. In the project area, I-15 is an eight-lane divided highway with a center median. I-15 converts to a six-lane divided facility north and south of SR-91. As it proceeds across the Mojave Desert, it converts to a four-lane facility.

2.2.3 Other Major Projects In the Project Area

One transportation project is operational, and several approved or planned transportation projects and one water pipeline project in the general area of the project may affect or require design coordination with the project. These projects, described in Table 2.1, are each independent of the project and the other projects listed in the table. Each of the transportation projects would function effectively as an individual project and would provide specific benefits to the traveling public regardless of whether or not the other projects are implemented.

In addition to those projects listed in Table 2.1, many other transportation and land use projects are within the cumulative study area, including projects identified in the *State Route 91 Implementation Plan* (OCTA 2010). Refer to Section 3.25, Cumulative Impacts, for a description of the cumulative impact study area and a full listing and evaluation of cumulative projects relevant to the project.

The Corps and local sponsors (Orange County Flood Control and Riverside County Flood Control Districts) are implementing a series of Santa Ana River Bank Protection projects north of SR-91 between Gypsum Canyon Road and SR-71. Those Corps projects will be completed as follows:

- **Reach 9 Phase 2B:** From east of Coal Canyon to west of Green River Road; completion in 2012
- **Reach 9 Phase 2A:** From Prado Road to SR-71; completion in 2014
- **Reach 9 Phase 3:** From Gypsum Canyon Road to Coal Canyon Road; completion in 2015

2.3 Range of Alternatives

The two Build Alternatives for the project were developed to implement one component of the MIS LPS. Section 2.3.5.3, Major Investment Study Build Alternatives, provides additional information regarding the MIS alternatives and the LPS.

The two Build Alternatives are:

- **Alternative 1:** Add General-Purpose Lanes and Maintain HOV Lanes (GP + HOV Lanes) Alternative; and
- **Alternative 2:** Add General-Purpose Lanes and extend Tolled Express Lanes (GP + Tolled Express Lanes) Alternative.

Table 2.1 Other Related Major Projects

Project Title[1]	Summary	Completion Time Frame
SR-91 Eastbound Lane Addition Project Between SR-241 and SR-71	The project will add one additional GP lane and widen the existing lanes and shoulders to standard widths on eastbound SR-91 between SR-241 in eastern Orange County and SR-71 in western Riverside County. This project is being accommodated in the SR-91 CIP design. This project is now operational.	Operational
Santa Ana Mainstem Project – Santa Ana River Reach 9, Phases 2A and 2B/Santa Ana River Interceptor Pipeline Reaches III and IV	These projects will reinforce the banks of the Santa Ana River by providing grouted stone bank protection and sheet pile to protect river bank below the Prado Dam (Phase IIA) and near the Riverside/Orange County line (Phase IIB) from damage that would be caused by a full release of stored water from Prado Dam and also relocate the SARI pipeline currently located in the river channel. These projects will accommodate the SR-91 CIP design.	Reach 9, 2B–2012 SARI Line–2013 Reach 9, 2A–2014
SR-91/SR-71 Interchange Improvement Project	This project proposes replacing the existing single-lane connection between eastbound SR-91 and northbound SR-71 with a two-lane, direct flyover ramp. It also proposes a new, separate eastbound road just south of and parallel to SR-91 to provide improved access between the Green River Road interchange and the SR-91/SR-71 interchange. This project will accommodate the SR-91 CIP design.	Post-2018
I-15 Corridor Improvement Project	As part of other congestion relief projects in Riverside County, RCTC is planning improvements to I-15 from just north of the I-15/I-215 separation in the City of Murrieta, north to the San Bernardino County line. The I-15 CIP extends approximately 44 mi along I-15. Two Build Alternatives are under consideration: an HOV lane and mixed-flow lane alternative, and a tolled express lane and mixed-flow lane alternative. The SR-91 CIP and the I-15 CIP Build Alternatives each accommodate the design of the improvements on the other freeway.	2018
SR-241/SR-91 Direct Connectors	This project would allow SR-241 toll road users to transition directly onto the SR-91 tolled express lanes and vice versa. This project will accommodate the SR-91 CIP design. This project will be constructed after the Initial Phase of the SR-91 CIP.	Late 2018
SR-91 between SR-55 and SR-241	This project will add one GP lane in each direction on SR-91. This project is west of the limits for the SR-91 CIP and would not affect the SR-91 CIP. This project is under construction.	Mid-2013
SR-91 Westbound Lane Addition at Tustin Avenue	This project would add a westbound auxiliary lane on SR-91 from the northbound SR-55 to the westbound SR-91 connector through the Tustin Avenue interchange. The project would include the reconstruction of the Tustin Avenue overcrossing structure. The total project length is 1.6 mi. The primary features of this project are: widening of the SR-91 bridge over the Santa Ana River (by adding either one or two GP lanes over the Santa Ana River), the addition of GP lanes from northbound SR-55 to westbound SR-91 through Tustin Avenue (by adding either one or two GP lanes), and realignment of the westbound SR-91 Tustin Avenue off- and on-ramps.	2018

Table 2.1 Other Related Major Projects

SR-57 Northbound Lane Addition Project	This project will add a lane on SR-57 from north of SR-91 near Orangethorpe Avenue in Placentia to Lambert Road in Brea, and Katella Avenue and Lincoln Avenue in Anaheim. The environmental phase was completed in December 2007, and construction on the Orangethorpe Avenue to Lambert Road segment began construction in January 2011. The environmental phase for the Katella Avenue to Lincoln Avenue segment was completed in November 2009, design was completed in spring 2011, and construction is expected to begin in early 2012.	2014
Cajalco Road Widening and Safety Enhancement Project between Temescal Canyon Road and I-15	This project would widen Cajalco Road from two to four lanes between Harvill Avenue on the east and Temescal Canyon Road on the west, and from four to six lanes between the I-215 southbound ramps and Harvill Avenue. Additional proposed improvements include traffic signals, bus turnouts, additional turn lanes, and watercourse crossing and drainage improvements.	2019

Source: Riverside County Transportation Commission (2010 and 2011).

[1] The locations of these projects, except the SR-57 Northbound Lane Addition Project, which is several miles west of the project limits, are shown later on Figure 2-16.

CIP = Corridor Improvement Project
GP = general-purpose
HOV = high-occupancy vehicle
I-15 = Interstate 15
I-215 = Interstate 215
mi = mile/miles
RCTC = Riverside County Transportation Commission
SARI = Santa Ana River Interceptor
SR-55 = State Route 55
SR-57 = State Route 57
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Alternative 1 includes four design variations (1a through 1d) and Alternative 2 includes eight design variations (2a through 2h). These alternatives are described in detail in the following sections.

2.3.1 Project Build Alternatives

Each Build Alternative would add one GP lane in each direction on SR-91. These lane additions would be continuous throughout the project limits. Both Build Alternatives would provide auxiliary lanes or collector-distributor roads at interchanges and would modify the existing interchange geometrics within the project limits to improve traffic operations. Existing local access to/from all the existing interchanges would be maintained except at West Grand Boulevard, where the existing half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. The Build Alternatives include upgrades to existing SR-91 standard shoulder, lane, and buffer widths where those upgrades can be accommodated.

Alternative 1 would maintain one median HOV lane in each direction on SR-91 within the project limits. It would also construct two HOV lane connectors: from eastbound SR-91 to southbound I-15, and from northbound I-15 to westbound SR-91.

Alternative 1 would add one HOV lane in each direction on I-15 extending from the new HOV lane connectors south to Ontario Avenue.

Alternative 2 would convert the existing HOV lanes to two tolled express lanes in each direction on the SR-91 from the Orange/Riverside County line to I-15, including two tolled express lane connectors, one from eastbound SR-91 to southbound I-15 and one from northbound I-15 to westbound SR-91. Alternative 2 also proposes to add tolled express lane connectors from eastbound SR-91 to northbound I-15 and from southbound I-15 to westbound SR-91. Alternative 2 would also add one tolled express lane in each direction on I-15 extending north to Hidden Valley Parkway and south to Cajalco Road.

In addition to the schematic figures of Alternatives 1 and 2 provided in this chapter, detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations are provided in Appendix L, Project Features. The figures in Appendix L show the existing and proposed State and City rights-of-way; freeway lanes, centerlines, and ramps; permanent easements and temporary construction easements (TCEs); retaining walls, concrete barriers, and sound barriers; limits on existing and proposed bridges; storm water best management practices (BMPs); and the boundaries of individual land parcels.

The project alignments on SR-91 and I-15 are shown on Figure 2-1.

2.3.2 Common Features of the Build Alternatives

Alternatives 1 and 2 have a number of permanent features and components that are the same or very similar. In addition, these alternatives have the same or similar temporary project features that would occur during construction. These common features of the Build Alternatives are described in this section.

Typical mainline one-directional cross sections on SR-91 and I-15 for the No Build Alternative and Alternatives 1 and 2 are shown in Table 2.2.

2.3.2.1 Nonstandard Mandatory and Advisory Design Features

The following categories of nonstandard mandatory and advisory design features are common to Alternatives 1 and 2:

- Clear width to bridge rails
- Compound/reverse curves
- Corner/decision sight distance

Table 2.2 Typical Mainline One-Directional Cross Sections for the No Build Alternative and Alternatives 1 and 2

Freeway Segments	No Build Alternative	Alternative 1[1]	Alternative 2[2]
Typical Cross Sections on SR-91			
SR-241 to the Orange/Riverside County line	• 2 tolled express lanes • 5 general-purpose lanes	• 2 tolled express lanes • **6 general-purpose lanes**	• 2 tolled express lanes • **6 general-purpose lanes** • **1 express auxiliary lane**[3]
Orange/Riverside County line to SR-71	• 2 HOV lanes • 5 general-purpose lanes	• 2 HOV lanes • **6 general-purpose lanes**	• **2 tolled express lanes** • **6 general-purpose lanes** • **1 express auxiliary lane**[3]
SR-71 to I-15	• 1 HOV lane • 4 general-purpose lanes	• 1 HOV lane • **5 general-purpose lanes** • **1 auxiliary lane**	• **2 tolled express lanes** • **5 general-purpose lanes** • **1 auxiliary lane**
I-15 to Pierce Street	• 1 HOV lane • 3 general-purpose lanes	• 1 HOV lane • **4 general-purpose lanes**	• **1 tolled express lane** • **4 general-purpose lanes**
Typical Cross Sections on I-15			
Cajalco Road to Ontario Avenue	• 3 general-purpose lanes	• 3 general-purpose lanes	• **1 tolled express lane** • 3 general-purpose lanes
Ontario Avenue to SR-91	• 4 general-purpose lanes	• **1 HOV lane** • 4 general-purpose lanes	• **1 tolled express lane** • 4 general-purpose lanes
SR-91 Interchange to Hidden Valley Parkway	• 4 general-purpose lanes	• 4 general-purpose lanes	• **1 tolled express lane** • 4 general-purpose lanes

Source: *Project Report* Attachment 8 (September 2011).
Note: **Bold** indicates a change in the cross section when compared to the cross section under the No Build Alternative.
[1] Refer to Figures 2-2 and 2-3 for figures showing the typical sections on SR-91 and I-15, respectfully, under Alternative 1.
[2] Refer to Figures 2-10 and 2-11 for figures showing the typical sections on SR-91 and I-15, respectfully, under Alternative 2.
[3] An express auxiliary lane is provided as a weaving lane for traffic entering and exiting the express lane facility.
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

- Design speed standards
- Grade of local road at ramp connection
- Horizontal clearance to wall
- Horizontal curve radius
- HOV preferred lane (on-ramp)
- Interchange spacing
- Lane width
- Length of single lane/branch connectors
- Mainline reduction at interchange
- Minimum clearances
- Outer separation
- Superelevation rates and transitions
- Ramp gore geometry
- Shoulder width
- Side slope
- Standards for curvature
- Standard freeway entrance/exit
- Stopping sight distance (horizontal and vertical)
- Superelevation rate/transition/runoff
- Through/ramp lane drop
- Vertical curve length

All nonstandard design exceptions identified during the preliminary engineering phase and the development of the Project Report have been or will be approved and signed by the appropriate Department staff, in accordance with the procedures and standards described in the Department's Design Manual, prior to approval of the final Project Report by the Department's District Director. The design exception fact sheets and geometric approval drawings for the Initial Phase and Ultimate Project designs for Alternative 2f, which has been identified as the Preferred Alternative, will be included in the final Project Report.

2.3.2.2 Permanent Project Features

Bridges

Alternative 1 would require bridge work involving up to 27 structures and Alternative 2 would require bridge work involving up to 34 structures. For both Build Alternatives, this work would be a combination of modifications to existing structures, replacement of existing structures, and construction of new bridges. Some

existing bridges that would be widened would also be seismically retrofitted. The structures work under Alternatives 1 and 2 is summarized in Tables 2.3 and 2.4, respectively.

Table 2.3 Structures Work under Alternative 1

PM	Bridge Name	Bridge No.	New	Replace	Widen	Retrofit
Ora-91-R17.95	Coal Canyon Road UC	55-0507 L/R			X	
Riv-91- R0.07	County Line Creek	56-0366			X	
Riv-91-TBA	Green River WB Off-ramp OH	TBA	X			
Riv-91-R1.14	West Prado OH	56-0634 L			X	
Riv-91-R2.08	Rte 91/71 Sep	56-0587			X	
Riv-91-R2.08	E91-N71 Conn Sep	56-0635			X	X
Riv-91-R2.84	Prado OH	56-0637 L/R			X	
Riv-91-R3.71	Serfas Club Drive UC	56-0368 L/R			X	X
Riv-91-TBA	Westbound Maple On-ramp	TBA	X[1]			
Riv-91-TBA	Eastbound Maple Off-ramp	TBA	X			
Riv-91-4.16	Maple Street OC	56-0344		X		
Riv-91-5.38	Lincoln Avenue OC	56-0362			X	
Riv-91-5.70	Buena Vista Avenue UC	56-0373 L/R			X	
Riv-91-5.99	West Grand Boulevard UC	56-0445 L/R			X	X
Riv-91-6.34	Main Street UC	56-0448 L/R		X		
Riv-91-TBA	Main Street EB On-Ramp BOH	TBA	X			
Riv-91-6.65	East Grand Boulevard UC	56-0364 L/R			X	X
Riv-91-TBA	EB On-ramp E Grand Blvd UC	TBA	X			
Riv-91-6.93	Temescal Wash BOH	56-0446 L/R			X	X
Riv-91-TBA	E91-N15/S15 Connector BOH	TBA	X			
Riv-91-TBA	N15/S15-W91 Connector BOH	TBA	X			
Riv-91-9.18	McKinley Street UC	56-0365 L/R			X	X
Riv-91-10.29	Buchanan Street OC	56-0368		X		
Riv-91-TBA	91-15 Express Viaduct	TBA	X			
Riv-91-TBA	S-W Express Viaduct (15/91)	TBA	X			
Riv-38.69	Ontario Avenue UC	56-0498 L R			X	X
Riv-39.40	Old Temescal Rd UC	56-0644 L/R			X	X

Source: *Project Report* (September 2011).
[1] Selected design variations only.
BOH = bridge and overhead
Conn Sep = Connector Separation
EB = eastbound
L/R = left/right
OC = overcrossing
OH = overhead
Ora = Orange County
R = realigned
RCB = reinforced concrete box
Riv = Riverside County
Rte = Route
SW = southwest
TBA = to be assigned
UC = undercrossing
WB = westbound

Table 2.4 Structures Work under Alternative 2

PM	Bridge Name	Bridge No.	New	Replace	Widen	Retrofit
Ora-91-R17.95	Coal Canyon Road UC	55-0507 L/R			X	
Riv-91- R0.07	County Line Creek	56-0366			X	
Riv-91-TBA	Green River WB Off-ramp OH	TBA	X			
Riv-91-R1.14	West Prado OH	56-0634 L			X	
Riv-91-R2.08	Rte 91/71 Sep	56-0587			X	
Riv-91-R2.08	E91-N71 Conn Sep	56-0635			X	X
Riv-91-R2.84	Prado OH	56-0637 L/R			X	
Riv-91-R3.71	Serfas Club Drive UC	56-0368 L/R			X	X
Riv-91-TBA	Westbound Maple On-ramp	TBA	X[1]			
Riv-91-TBA	Eastbound Maple Off-ramp	TBA	X			
Riv-91-4.16	Maple Street OC	56-0344		X		
Riv-91-4.71	***Smith Avenue OC***	***56-0357***		***X[1]***		
Riv-91-TBA	***Smith Avenue Drop-ramp***	***TBA***	***X[1]***			
Riv-91-5.38	Lincoln Avenue OC	56-0362			X	
Riv-91-5.70	Buena Vista Avenue UC	56-0373 L/R			X	
Riv-91-5.99	West Grand Boulevard UC	56-0445 L/R			X	X
Riv-91-6.34	Main Street UC	56-0448 L/R		X		
Riv-91-TBA	Main Street EB On-Ramp BOH	TBA	X			
Riv-91-6.65	East Grand Boulevard UC	56-0364 L/R			X	X
Riv-91-TBA	EB On-ramp E Grand Blvd UC	TBA	X			
Riv-91-6.93	Temescal Wash BOH	56-0446 L/R			X	X
Riv-91-TBA	E91-N15/S15 Connector BOH	TBA	X			
Riv-91-TBA	N15/S15-W91 Connector BOH	TBA	X			
Riv-91-9.18	McKinley Street UC	56-0365 L/R			X	X
Riv-91-10.29	Buchanan Street OC	56-0368		X		
Riv-91-10.81	***Pierce Street UC***	***56-0369 L/R***			***X***	***X***
Riv-91-TBA	91-15 Express Viaduct	TBA[2]	X			
Riv-91-TBA	S-W Express Viaduct (15/91)	TBA[2]	X			
Riv-91-TBA	***E91-N15 Express Connector***	***TBA***[2]	***X***			
Riv-15-TBA	***N-W Express Viaduct (15/91)***	***TBA***[2]	***X***			
Riv 37.82	***El Cerrito Road UC***	***56-0558 L/R***			***X***	***X***
Riv-38.69	Ontario Avenue UC	56-0498 L R			X	X
Riv-39.40	Old Temescal Rd UC	56-0644 L/R			X	X
Riv-42.45	***Corona Ave UC***	***56-0644 L/R***			***X***	***X***

Source: *Project Report* (September 2011).
Note: ***Bold italics*** indicate structures work that is required under Alternative 2 but not under Alternative 1.
[1] Selected design variations only.
[2] These are new structures that do not have assigned bridge numbers yet.
BOH = bridge and overhead
Conn Sep = Connector Separation
EB = eastbound
L/R = left/right
OC = overcrossing
OH = overhead
Ora = Orange County
R = realigned
RCB = reinforced concrete box
Riv = Riverside County
Rte = Route
SW = southwest
TBA = to be assigned
UC = undercrossing
WB = westbound

As shown in Table 2.4, Alternative 2 requires work on seven more structures than Alternative 1.

It is important to note that the Smith Avenue overcrossing replacement and new Smith Avenue drop ramp structure would be required in only four of the eight design variations (2c, 2d, 2g, and 2h) under Alternative 2 where access to the tolled express lanes will be from Smith Avenue. For the other 27 structures, the bridge work in Alternatives 1 and 2 is similar. However, in Alternative 2, the undercrossing and bridge structures generally would be widened an additional 12 ft on either side of SR-91 compared to Alternative 1.

Interchanges

The existing local road interchanges on SR-91 at Gypsum Canyon Road, Green River Road, Auto Center Drive, Maple Street, Lincoln Avenue, West Grand Boulevard, Main Street, McKinley Street, and Pierce Street would be modified to accommodate the improvements on SR-91 under Alternatives 1 and 2. The existing system interchanges with SR-91 at SR-241, SR-71, and I-15 would also be modified to accommodate the improvements on SR-91 under Alternatives 1 and 2. The specific modifications at these local road interchanges and system interchanges are described in detail by alternative later in this section.

Major Drainage and Culvert Facilities

There are over 105 major cross-drainage structures and numerous inlets and contributory structures on the alignments of Alternatives 1 and 2. The potential project changes at each crossing under Alternatives 1 and 2 are summarized in Table 2.5. There are 32 locations where the anticipated project changes differ slightly between Alternatives 1 and 2, with approximately 12 ft (on average) of additional culvert lengthening on either side of SR-91 under Alternative 2 compared to Alternative 1. Those locations are highlighted in Table 2.5.

Water Quality/Erosion Control

Erosion control will be required for Alternatives 1 and 2 to assure storm water quality compliance and minimize long-term facility maintenance requirements. For slopes steeper than 4:1, an erosion control plan will be developed under the supervision of the Department District Landscape Architect stating how the steeper slopes will be stabilized. For slopes steeper than 2:1, the erosion control plan will include a Geotechnical Report that addresses the stability of slopes steeper than 2:1 and will have concurrence by the District Maintenance Storm Water Coordinator.

Table 2.5 Drainage Structures Work Under Alternatives 1 and 2

Post Mile	Alternative 1 Drainage Structure Impacts			Alternative 2 Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification	Existing Drainage Structure	Impact	Modification
SR-91 – Orange County						
R16.4	Trpl 12'x10' RCB	Protect In Place	None	Trpl 12'x10' RCB	Protect In Place	None
R16.61	60" RCP	Protect In Place	None	60" RCP	Protect In Place	None
R17.00	60" RCP	Extend Rt	2' Rt	60" RCP	Extend Rt	2' Rt
R17.09	60" CMP	Protect In Place	None	60" CMP	Protect In Place	None
R17.38	5'x5' RCB	Protect In Place	None	5'x5' RCB	Protect In Place	None
R17.43	5'x5' RCB	Protect In Place	None	5'x5' RCB	Protect In Place	None
R17.70	3'X3' RCB	Protect In Place	None	3'x3' RCB	Protect In Place	None
R17.94	Dbl. 10'x8' RCB	Protect In Place	None	Dbl 10'x8' RCB	Protect In Place	None
R18.16	36" RCP	None	See Note 1	36" RCP	None	See Note 1
R18.25	36" RCP	Extend Rt	27' Rt	36" RCP	Extend Rt	27' Rt
R18.37	36" RCP	None	See Note 1	36" RCP	None	See Note 1
R18.55	48" RCP	None	See Note 1	48" RCP	None	See Note 1
R18.66	48" RCP	None	See Note 1	48" RCP	None	See Note 1
R18.72	60" RCP	None	See Note 1	60" RCP	None	See Note 1
R18.82	30" RCP	None	See Note 1	30" RCP	None	See Note 1
R18.89	54" RCP	None	See Note 1	54" RCP	None	See Note 1
SR-91 – Riverside County						
R0.07	Tunnel	None	See Note 1	Tunnel	None	See Note 1
R0.12	54" RCP	None	See Note 1	54" RCP	None	See Note 1
R0.21	36" CMP	None	See Note 1	36" CMP	None	See Note 1
R0.35	12'x12' RCB	None	See Note 1	12'x12' RCB	None	See Note 1
R0.47	36" CMP	Extend Rt	32' Rt	36" CMP	Extend Rt	32' Rt
R0.59	36" CMP	Extend Rt	27' Rt	36" CMP	Extend Rt	27' Rt
R0.78	36" CMP	Extend Rt	70' Rt	36" CMP	Extend Rt	70' Rt
R0.91	24" CMP	Abandon Portion	Remove 13'	24" CMP	Abandon Portion	Remove 13'
R1.13	24" CMP	Protect In Place	None	24" CMP	Protect In Place	None
R1.22	54" CMP	Protect In Place	None	54" CMP	Protect In Place	None
R1.38	72" CMP	Protect In Place	None	72" CMP	Protect In Place	None
R1.52	72" CMP	Protect In Place	None	72" CMP	Protect In Place	None
R1.73	12'x9' RCB	Protect In Place	None	12'x9' RCB	Protect In Place	None
R2.55	24" CMP	Protect In Place	None	24" CMP	Protect In Place	None
R3.13	***24" CMP***	***Extend Rt***	***21' Rt***	***24" CMP***	***Extend Rt***	***33' Rt***
R3.26	24" CMP	Protect In Place	None	24" CMP	Protect In Place	None
R3.41	24" CMP	Protect In Place	None	24" CMP	Protect In Place	None

Table 2.5 Drainage Structures Work Under Alternatives 1 and 2

Post Mile	Alternative 1 Drainage Structure Impacts			Alternative 2 Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification	Existing Drainage Structure	Impact	Modification
R3.47	***8'x8' RCB***	***Extend Rt***	***75' Rt***	***8'x8' RCB***	***Extend Rt***	***87' Rt***
R3.98	***42" RCP***	***Protect In Place***	***None***	***42" RCP***	***Extend Rt & Lt***	***17' Rt & 4' Lt***
4.24	***42" RCP***	***Extend Rt & Lt***	***16' Rt & 27' Lt***	***42" RCP***	***Extend Rt & Lt***	***28' Rt & 39' Lt***
4.39	***30" RCP***	***Extend Rt & Lt***	***31' Rt & 40' Lt***	***30" RCP***	***Extend Rt & Lt***	***55' Rt & 64' Lt***
4.44	***24" RCP***	***Extend Rt & Lt***	***50' Rt & 51' Lt***	***24" RCP***	***Extend Rt & Lt***	***62' Rt & 63' Lt***
4.51	***4'x3' RCB***	***Extend Rt***	***54' Rt***	***4'x3' RCB***	***Extend Rt***	***66' Rt***
4.65	***Dbl 4'x3' RCB***	***Extend Rt***	***48' Rt***	***Dbl 4'x3' RCB***	***Extend Rt***	***60' Rt***
4.71	***24" RCP***	***Extend Rt & Lt***	***29' Rt & 34' Lt***	***24" RCP***	***Extend Rt & Lt***	***41' Rt & 46' Lt***
4.74	***24" RCP***	***Extend Rt & Lt***	***27' Rt & 13' Lt***	***24" RCP***	***Extend Rt & Lt***	***39' Rt & 25' Lt***
4.91	***24" RCP***	***Extend Rt***	***15' Rt***	***24" RCP***	***Extend Rt***	***25' Rt***
5.05	2–3" RCP	Extend Rt	36' Rt	2-30" RCP	Extend Rt	36' Rt
5.20	***24" RCP***	***Extend Rt & Lt***	***50' Rt & 45' Lt***	***24" RCP***	***Extend Rt & Lt***	***50' Rt & 50' Lt***
5.39	30" RCP	Abandon Portion Rt	Abandon 40' Rt	30" RCP	Abandon Portion Rt	Abandon 40' Rt
5.43	12'x7.5' RCB	Extend Rt & Lt	110' Rt & 32' Lt	12'x7.5' RCB	Extend Rt & Lt	110' Rt & 32' Lt
5.45	17'x14' RCB	Protect In Place	None	17'x14' RCB	Protect In Place	None
5.50	***24" RCP***	***Extend Lt***	***10' Lt***	***24" RCP***	***Extend Lt***	***20' Lt***
5.58	***24" RCP***	***Extend Rt & Lt***	***75' Rt & 50' Lt***	***24" RCP***	***Extend Rt & Lt***	***65' Rt & 60' Lt***
5.71	54" RCP	Protect In Place	None	54" RCP	Protect In Place	None
5.72	***18" RCP***	***Extend Rt & Lt***	***35' Rt & 40' Lt New 24" RCP***	***18" RCP***	***Extend Rt & Lt***	***78' Rt & 75' Lt***
5.84	***30" RCP***	***Abandon Portion Rt***	***50' New 30" RCP Rt***	***30" RCP***	***Abandon Portion Rt***	***60' New 30" RCP Rt***
5.85	***30" RCP***	***Abandon Portion Rt***	***50' New 30" RCP Rt***	***30" RCP***	***Abandon Portion Rt***	***55' New 30" RCP Rt***
6.00	36" RCP	Protect In Place	None	36" RCP	Protect In Place	None
6.02	18" RCP	Abandon Entire	Abandon 270'	18" RCP	Abandon Entire	Abandon 270'
6.06	84" RCP	Protect In Place	None	84" RCP	Protect In Place	None
6.08	36" RCP	Protect In Place	None	36" RCP	Protect In Place	None
6.14	36" RCP	Extend Rt & Lt	5' Rt & 226' Lt	36" RCP	Extend Rt & Lt	5' Rt & 226' Lt
6.22	***48" RCP***	***Extend Rt***	***25' Rt***	***48" RCP***	***Extend Rt***	***30' Rt***
6.29	***48" RCP***	***Extend Rt***	***12' Rt***	***48" RCP***	***Extend Rt***	***25' Rt***
6.32	***18" RCP***	***Extend Lt***	***40' New 24" RCP Lt***	***18" RCP***	***Extend Lt***	***50' New 24" RCP Lt***
6.35	48" RCP	Protect In Place	None	48" RCP	Protect In Place	None
6.37	48" RCP	Protect In Place	None	48" RCP	Protect In Place	None
6.38	***18" RCP***	***Extend Lt***	***70' New 24" RCP Lt***	***18" RCP***	***Extend Lt***	***90' Lt***
6.43	48" RCP	Protect In Place	None	48" RCP	Protect In Place	None

Table 2.5 Drainage Structures Work Under Alternatives 1 and 2

Post Mile	Alternative 1 Drainage Structure Impacts			Alternative 2 Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification	Existing Drainage Structure	Impact	Modification
6.50	***30" RCP***	***Extend Rt***	***112' Rt***	***30" RCP***	***Extend Rt***	***125' Rt***
6.58	***48" RCP***	***Extend Rt & Lt***	***90' Rt & 178' Lt***	***48" RCP***	***Extend Rt & Lt***	***110' Rt & 190' Lt***
6.63	30" RCP	Extend Rt	70' Rt	30" RCP	Extend Rt	70' Rt
6.68	18" RCP	Protect In Place	None	18" RCP	Protect In Place	None
6.82	18" RCP	Abandon Entire	Abandon 146'	18" RCP	Abandon Entire	Abandon 146'
6.92	***18" RCP***	***Extend Lt***	***36' New 24" RCP Lt***	***18" RCP***	***Extend Lt***	***40' New 24" RCP Lt***
7.29	24" RCP	Protect In Place	None	24" RCP	Protect In Place	None
7.33	18" RCP	Extend Lt	30' New 24" RCP Lt	18" RCP	Extend Lt	30' New 24" RCP Lt
7.38	24" RCP	Extend Rt & Lt	20' Rt & 15' Lt	24" RCP	Extend Rt & Lt	20' Rt & 15' Lt
7.49	24" RCP	Extend Rt & Lt	40' Rt & 40' Lt	24" RCP	Extend Rt & Lt	40' Rt & 40' Lt
7.56	18" RCP	Protect In Place	None	18" RCP	Protect In Place	None
7.78	18" CSP	Extend Lt	30' New 24" CSP Lt	18" CSP	Extend Lt	30' New 24" CSP Lt
7.88	54" RCP	Extend Rt & Lt	40' Rt & 15' Lt	54" RCP	Extend Rt & Lt	40' Rt & 15' Lt
8.26	8'x6' RCB	Protect In Place	None	8'x6' RCB	Protect In Place	None
8.64	18" RCP	Abandon Entire	Abandon 90'	18" RCP	Abandon Entire	Abandon 90'
8.74	Dbl 8'x5' RCB	Protect In Place	None	Dbl 8'x5' RCB	Protect In Place	None
8.79	18" RCP	Protect In Place	None	18" RCP	Protect In Place	None
8.91	30" RCP	Extend Lt	10' Lt	30" RCP	Extend Lt	10' Lt
9.05	18" RCP	Extend Lt	20' New 24" RCP Lt	18" RCP	Extend Lt	20' New 24" RCP Lt
9.12	24" RCP	Protect In Place	None	24" RCP	Protect In Place	None
9.19	48" RCP	Protect In Place	None	48" RCP	Protect In Place	None
9.19	48" RCP	Protect In Place	None	48" RCP	Protect In Place	None
9.21	18" RCP	Extend Rt	70' New 24" RCP	18" RCP	Extend Rt	70' New 24" RCP
9.38	18" RCP	Extend Rt	35' New 24" RCP Rt	18" RCP	Extend Rt	35' New 24" RCP Rt
9.55	24" RCP	Protect In Place	None	24" RCP	Protect In Place	None
9.60	30" RCP	Protect In Place	None	30" RCP	Protect In Place	None
9.73	36" RCP	Extend Lt	10' Lt	36" RCP	Extend Lt	10' Lt
10.00	Trpl 5'x3' RCB	Protect In Place	None	Trpl 5'x3' RCB	Protect In Place	None
10.08	18" RCP	Extend Lt	18' New 24" RCP Lt	18" RCP	Extend Lt	18' New 24" RCP Lt
10.14	18" RCP	Protect In Place	None	18" RCP	Protect In Place	None
10.18	***48" RCP***	***Extend Rt & Lt***	***4' Rt & 12' Lt***	***48" RCP***	***Extend Rt & Lt***	***15' Rt & 25' Lt***
10.47	***18" RCP***	***Extend Rt***	***24' New 24" RCP Rt***	***18" RCP***	***Extend Rt***	***40' New 24" RCP Rt***
10.52	***18" RCP***	***Protect In Place***	***None***	***18" RCP***	***Extend Rt***	***10' New 24" RCP Rt***
10.59	***Trpl 4'x2' RCB***	***Extend Rt***	***10' Rt***	***3-4'X2' RCB***	***Extend Rt***	***40' Rt***
10.70	***Trpl 12'x9' RCB***	***Extend Rt***	***12' Rt***	***3-12'X9' RCB***	***Extend Rt***	***65' Rt***

Table 2.5 Drainage Structures Work Under Alternatives 1 and 2

Post Mile	Alternative 1 Drainage Structure Impacts			Alternative 2 Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification	Existing Drainage Structure	Impact	Modification
10.72	***18" RCP***	***Extend Rt***	***30' Rt***	***18" RCP***	***Extend Rt***	***40' Rt***
10.82	***18" RCP***	***Protect In Place***	***None***	***18" RCP***	***Extend Rt***	***65' New 24" RCP Rt***
10.86	18" RCP	Protect In Place	None	18" RCP	Protect In Place	None
10.94	***18" RCP***	***Protect In Place***	***None***	***18" RCP***	***Extend Rt***	***25' New 24" RCP Rt***

Source: *Project Report* (September 2011).
Note: ***Bold italics*** indicate drainage structures where the work required under Alternative 2 would differ from the work required under Alternative 1.
[1] These cross culverts will be extended as part of the SR-91 Eastbound Lane Addition Project on the south side of SR-91 and the United States Army Corps of Engineers' Santa Ana River Reach 9 Phase 2B Project on the north side of SR-91.

CMP = corrugated metal pipe
CSP = corrugated steel pipe
Dbl = double
Lt = left
N/A = not applicable
R = realigned
RCB = reinforced concrete box
RCP = reinforced concrete pipe
Rt = right
SR-91 = State Route 91
Trpl = triple

In addition, temporary BMPs will be implemented during construction of Alternatives 1 and 2. Permanent BMPs for long-term operations of Alternatives 1 and 2 would include biofiltration swales, infiltration basins, detention basins, and/or media filters (also referred to as Austin Sand Filters).

The increased impervious surface areas and disturbed soil areas under Alternatives 1 and 2 are summarized in Table 2.6. Alternative 2 results in a larger increase in new impervious surfaces than Alternative 1 because it has a larger footprint which results in a larger total disturbed soil area. The quantities of treatment BMPs estimated for Alternatives 1 and 2 are listed in Table 2.7. Alternative 2 requires more BMPs and greater costs for BMPs than Alternative 1 because it results in a larger area of disturbed soil and increased new impervious surfaces.

Table 2.6 Storm Water Effect Areas for Alternatives 1 and 2

	Alternative 1		Alternative 2[1]	
	New Impervious Surface Area (acres)	Disturbed Soil Area (acres)	New Impervious Surface Area (acres)	Disturbed Soil Area (acres)
Total	**117**	**351**	**173**	**503**

Source: *Project Report* (September 2011).
[1] Including Alternative 2f.

Table 2.7 Estimated Quantities of Treatment Best Management Practices for Alternatives 1 and 2

	Alternative 1				Alternative 2			
	Biofiltration Swales/ Strips (Each)	Infiltration Devices (Each)	Detention Devices (Each)	Austin Sand Filters (Each)	Biofiltration Swales/ Strips (Each)	Infiltration Devices (Each)	Detention Devices (Each)	Austin Sand Filters (Each)
Total	**18**	**13**	**16**	**16**	**25**	**19**	**22**	**22**

Source: *Project Report* (September 2011).
Note: The design variations would not impact the implementation or number of the best management practices listed in the table above.

Refer to Table 3.11.2 in Section 3.11, Geology/Soils/Seismic/Topography, for the estimated cut and fill amounts under Alternatives 1 and 2.

Existing runoff from SR-91 and I-15 in the project study area is currently untreated. The BMPs under Alternatives 1 and 2 would be implemented to target pollutants of concern in runoff from the additional freeway facilities. As noted, drainage from the new freeway facilities would be treated by biofiltration swales, infiltration basins,

detention basins, and/or media filters under Alternatives 1 and 2. All of the runoff from the new net impervious surface areas under Alternatives 1 and 2 would be treated; in addition, those BMPs would treat some part of the current untreated runoff from the existing SR-91 and I-15 facilities. The amount of runoff from the existing facilities that would be treated by the project BMPs would be determined during the final design of those BMPs.

The preliminary estimated costs for the temporary (construction) and permanent BMPs for Alternatives 1 and 2 are listed in Table 2.8. The costs for temporary BMPs for Alternative 2 would be slightly higher than for Alternative 1 because the ground disturbance for construction of Alternative 2 would be slightly greater than for Alternative 1.

Table 2.8 Cost Estimates for Temporary and Permanent Best Management Practices for Alternatives 1 and 2

	Alternative 1		Alternative 2	
	Temporary BMPs	Permanent BMPs	Temporary BMPs	Permanent BMPs
Total	**$4,390,000**	**$5,775,000**	**$5,716,000**	**$10,148,250**

Source: *Project Report* (September 2011).
BMPs = best management practices

The costs for permanent BMPs are estimated based on the increased impervious area. The large difference in estimated costs for permanent BMPs between Alternatives 1 and 2 reflects the additional lane widening (impervious area) in each direction with Alternative 2 along most of the project limits.

Prior to and during construction of the Initial Phases and Ultimate Projects for the SR-91 CIP Build Alternatives, the design/build contractor will be required to comply with the provisions of the following:

- National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to project construction activities.
- General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003, NPDES No. CAG998001, as they relate to discharge of non-storm-water dewatering wastes for the project.

- Procedures outlined in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (July 2010 or subsequent issuance) for implementing Design Pollution Prevention and Treatment BMPs for the project.
- NPDES Permit, Statewide Storm Water Permit, and Waste Discharge Requirements for the State of California, Department of Transportation (Order No. 99-06-DWQ**,** NPDES No. CAS000003)
- NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region (Order No. R8-2010-0033, NPDES No. CAS618033); and for the County of Orange, Orange County Flood Control District, and the incorporated cities of Orange County within the Santa Ana Region (Order No. R8-2009-0030), as applicable.

Retaining Walls

Retaining walls are required to retain fill or cut slopes along the alignment of Alternatives 1 and 2. The approximate wall locations and average heights of the retaining walls on SR-91 and I-15 are listed in Tables 2.9 and 2.10 for Alternatives 1 and 2, respectively. The Alternative 2 retaining walls are generally a little longer and higher than under Alternative 1 due to the additional 12 ft of outside widening in each direction with Alternative 2. Shorter retaining walls will be constructed in Alternative 2 where the additional widening intersects slopes that are not encountered in Alternative 1. In many locations, however, the retaining walls are similar for Alternatives 1 and 2 where the additional widening occurs over level ground and, therefore, has little impact on the height or length of the retaining wall.

One particular wall where there is a noticeable difference is Wall No. 599, located west of the SR-91/Green River Road westbound on-ramp. As shown in ***bold italics*** in Tables 2.9 and 2.10, under Alternative 1, Wall No. 599 will measure 1,894 ft long and 28 ft high, but under Alternative 2 the wall will measure 2,376 ft long and 40 ft high. In this location, the centerline of SR-91 will be shifted so that all of the widening would occur on the north side of SR-91 to minimize impacts to the large slopes on the south side of SR-91 through the canyon. This equates to an additional 24 ft of widening on the north side of SR-91 to accommodate the additional lane in each direction under Alternative 2, which requires a higher and longer retaining wall.

Table 2.9 Alternative 1 Average Retaining Wall Heights on SR-91 and I-15

Wall Name	Location	Wall Type	Begin PM	End PM	Average Length (ft)	Average Height (ft)
Eastbound SR-91						
482	Mainline	Tieback	O17.12	O17.26	750	5
502	Mainline	1	O17.46	O17.69	1250	3
536	Mainline	1	O18.11	O18.15	200	2
538	Mainline	Tieback	O18.15	O18.19	200	6
24	Mainline	Tieback	0.55	0.65	50	5
28	Mainline & Green River off-ramp	Tieback	0.53	0.69	850	20
38	Green River off-ramp	Tieback	0.74	0.97	1200	20
166	Mainline & Auto Center off-ramp	1	3.22	3.70	2550	4
192	Auto Center on-ramp	1	3.73	4.01	1500	10
198	Maple off-ramp LT between Mainline	1	3.84	3.98	700	14
200	Maple off ramp RT between Auto Center on-ramp	1	3.84	3.97	650	11
212	Auto Center on-ramp/Maple off-ramp & Mainline	1	4.09	4.12	138	6
216 (Var1)	Maple St. off-ramp	1	4.07	4.16	500	12
222 (Var1)	Maple on-ramp & Mainline	1	4.19	4.80	3200	2
216 (Var2)	Maple off-ramp	1	4.07	4.15	450	12
228 (Var2)	Maple on-ramp & Mainline	1	4.29	4.80	2700	2
228	Mainline	1	4.80	4.83	200	5
273 (Var 1)	Lincoln off-ramp	1	5.14	5.22	450	4
279 (Var 1)	Lincoln off-ramp	1	5.24	5.38	745	9
278 (Var 2)	Mainline/Lincoln off-ramp	1	5.22	5.40	956	5
285 (Var 2)	Mainline	Tieback	5.37	5.40	125	11
287.1 (Var 1)	Lincoln on-ramp	1	5.40	5.47	376	18
295 (Var 1)	Lincoln on-ramp	1	5.56	5.69	690	13
299 (Var 2)	Lincoln on-ramp	1	5.62	5.72	488	13
303	Mainline	1	5.73	6.01	1459	22
321	Mainline & Main St off-ramp	1	6.05	6.29	1263	20
334.1	Mainline	1	6.28	6.35	332	13
334.2	Main St off-ramp	1	6.29	6.34	252	5
338.1	Mainline	1	6.38	6.55	907	15
342	HOT Connectors	MSE	6.44	6.58	705	
343	Main St on-ramp & braid on-ramp	1	6.46	6.70	1234	16
351	Mainline	1	6.60	6.67	343	6
355	Mainline	1	6.69	6.72	127	6
356.1	SR-91 CD road to I-15	1	6.71	6.90	1023	20
356.2	Main St braid on-ramp	1	6.72	6.77	247	19
357	Mainline	1	6.74	6.79	254	6
361	Main St braid on-ramp	1	6.80	6.92	612	8
381	EB SR-91 to SB I-15 conn	1	7.20	7.28	425	6
383	Mainline	1	7.24	7.30	283	6
394	I-15/SR-91 Sep	Tieback	7.43	7.48	266	6
424	Mainline	1	8.01	8.06	300	10
441	Mainline	1	8.32	8.38	300	6
448	Mainline	1	8.45	8.62	900	10
457	Mainline	1	8.62	9.13	2700	8
487	McKinley St loop on-ramp	1	9.19	9.37	929	5
494	McKinley St on-ramp	1	9.32	9.35	150	8
496	McKinley St on-ramp	1	9.36	9.39	150	7
498	McKinley St on-ramp	1	9.40	9.51	600	15
504	Mainline & McKinley St on-ramp	1	9.51	9.63	600	4
510	Mainline	1	9.63	9.68	261	4
513	Mainline	1	9.68	9.75	399	6
517	Mainline	1	9.75	9.93	925	6
527	Mainline	1	9.93	10.22	1550	5
553	Pierce St off-ramp	1	10.43	10.56	699	5

Table 2.9 Alternative 1 Average Retaining Wall Heights on SR-91 and I-15

Wall Name	Location	Wall Type	Begin PM	End PM	Average Length (ft)	Average Height (ft)
Westbound SR-91						
463	Mainline	1	O16.71	O17.76	5550	6
537	Mainline	1	O18.16	O18.90	3910	8
1	Mainline	1	0.00	0.50	2643	10
599	***Mainline & Green River on-ramp***	***MSE***	***0.44***	***0.79***	***1894***	***28***
37	Green River on-ramp	1	0.79	0.96	850	8
33	Between Mainline & Green River on-ramp	1	0.72	0.94	1125	3
61	Mainline & Green River off-ramp	1	1.24	1.90	3500	15
101	Mainline	1	1.98	2.04	350	4
105	Mainline	1	2.08	2.18	500	3
115	Mainline and 71 W-N Connector	Tieback	2.23	2.76	2800	4
141	Mainline	1	2.76	2.88	600	2
153	Mainline & Auto Center on-ramp	1	2.94	3.62	3550	2
193 (Var 1)	Auto Center off-ramp & Maple on-ramp	1	3.74	4.27	2800	8
197 (Var 1)	Between Mainline & Maple WB on loop	1	3.82	4.32	2600	2
223 (Var 1)	Maple off-ramp & Mainline	1	4.30	4.78	2550	4
193 (Var 2)	Auto Center off-ramp	1	3.74	4.26	2750	8
199 (Var 2)	Maple on-ramp LT between Auto Center on-ramp	1	3.85	3.95	500	9
201 (Var 2)	Maple on-ramp RT between Mainline	1	3.85	3.95	500	7
223 (Var 2)	Maple off-ramp & Mainline	1	4.31	4.78	2500	4
223	Mainline	1	4.80	5.36	3000	10
284	Mainline	1	5.35	5.41	315	6
287.2	Lincoln Ave off-ramp	1	5.40	5.69	1500	17
304	Mainline & Main St on-ramp	1	5.72	6.02	1616	23
325	Main St on-ramp	1	6.12	6.31	992	22
333	Mainline	1	6.26	6.34	398	19
338.2	Mainline	1	6.38	6.52	783	21
339	Main St off-ramp	1	6.39	6.59	1058	22
342	HOT Connectors	MSE	6.44	6.58	705	7
353	Mainline	1	6.66	6.90	1262	28
375	NB I-15 to WB SR-91 conn	1	7.05	7.16	591	8
385	SB I-15 to WB SR-91 conn	1	7.24	7.26	95	4
393	I-15/SR-91 Sep	Tieback	7.42	7.47	279	6
406	WB SR-91 to NB I-15 conn	1	7.59	7.73	760	9
421	Mainline	1	7.94	7.98	200	6
425	Mainline	1	8.03	8.09	350	6
433	Mainline	1	8.16	8.22	350	6
444	Mainline	1	8.37	8.62	1326	9
458	Mainline	1	8.65	8.74	467	7
473	Mainline	1	8.92	9.07	789	5
488	McKinley St loop off-ramp	1	9.20	9.32	619	13
511	Mainline	1	9.66	9.78	649	7
520	Mainline	1	9.81	9.87	300	9
Northbound I-15						
2149	HOT Connectors	MSE	40.71	40.82	586	8
Southbound I-15						
2149	HOT Connectors	MSE	40.71	40.82	586	8

Source: *Project Report* (September 2011).

CD = collector-distributor
conn = connector
EB = eastbound
ft = feet
HOT = high-occupancy toll road
I-15 = Interstate 15
LT = left turn
MSE = Mechanically Stabilized Earth
NB = northbound
PM = Post Mile
O = Orange County
RT = right turn
SB = southbound
Sep = Separation
SR-91 = State Route 91
St = Street
Var = design variation
WB = westbound
W-N = west to north

Table 2.10 Alternative 2 Average Retaining Wall Heights on SR-91 and I-15

Wall Name	Location	Wall Type	Begin PM	End PM	Average Length (ft)	Average Height (ft)
Eastbound SR-91						
482	Mainline	Tieback	O17.08	O17.30	1150	12
502	Mainline	1	O17.47	O17.75	1500	9
536	Mainline	1	O18.07	O18.11	200	2
538	Mainline	Tieback	O18.11	O18.15	200	2
22	Mainline	1	0.42	0.46	250	10
28	Mainline and Green River off-ramp	Tieback	0.60	0.78	900	20
48	Green River off-ramp & Mainline	Tieback	0.81	1.04	1200	20
66	Mainline & SR-71 NE Conn	1	1.32	1.45	650	18
148	Mainline	1	2.89	3.02	700	2
162	Mainline & Auto Center off-ramp	1	3.17	3.70	2800	7
192 (Var 1/3)	Auto Center on-ramp & Mainline	1	3.73	3.98	1300	6
TBA	Serfas Club Dr. UC	Tieback	3.68	3.75	400	11
TBA	Maple St. OC	Tieback	4.13	4.14	98	12.4
198 (Var 1-4)	Maple off-ramp LT between Mainline	1	3.83	3.97	700	9
200 (Var 1-4)	Maple off-ramp RT between Auto Center on-ramp	1	3.83	3.97	700	6
216 (Var 1/2)	Maple off-ramp at intersection	1	4.18	4.28	550	14
224 (Var 1)	Mainline & Maple St. on-ramp	1	4.20	4.80	3150	4
192 (Var 2)	Auto Center on-ramp & Mainline		3.73	4.01	1500	6
224 (Var 2)	Mainline & Maple St. on-ramp	1	4.20	4.80	3150	4
235 (Var 2)	Smith Drop Ramp	1	4.43	4.56	700	22
251 (Var 2)	West side of Smith OC	1	4.68	4.70	100	6
253 (Var 2)	East side of Smith OC	1	4.70	4.72	100	6
216 (Var 3)	Maple off-ramp at intersection	1	4.18	4.27	450	9
220 (Var 3)	Mainline	1	4.26	4.34	438	7
228 (Var 3)	Maple on-ramp & Mainline	1	4.29	4.80	2700	2
192 (Var 4)	Auto Center on-ramp & Mainline	1	3.73	4.02	1550	9
216 (Var 4)	Maple Off Ramp at intersection	1	4.18	4.13	-312	19
222 (Var 4)	Mainline	1	4.27	4.35	438	9
228 (Var 4)	Maple on-ramp & Mainline	1	4.29	4.80	2700	4
235 (Var 4)	Smith Drop Ramp	1	4.43	4.56	700	22
251 (Var 4)	West side of Smith OC	1	4.71	4.72	50	6
253 (Var 4)	East side of Smith OC	1	4.73	4.74	50	6
228	Mainline	1	4.80	4.83	200	5
273 (Var 1/2)	Lincoln off-ramp	1	5.14	5.22	450	4
279 (Var 1/2)	Lincoln off-ramp	1	5.24	5.38	745	9
278 (Var 3/4)	Mainline/Lincoln off-ramp	1	5.22	5.40	956	5
285 (Var 3/4)	Mainline	Tieback	5.37	5.40	125	11
287.1 (Var 1/2)	Lincoln on-ramp	1	5.40	5.47	376	18
295 (Var 1/2)	Lincoln on-ramp	1	5.56	5.69	690	13
299 (Var 3/4)	Lincoln on-ramp	1	5.62	5.72	488	13
303	Mainline	1	5.73	6.01	1459	22
321	Mainline & Main St off-ramp	1	6.05	6.29	1263	20
334.1	Mainline	1	6.28	6.35	332	13
334.2	Main St off-ramp	1	6.29	6.34	252	5
338.1	Mainline	1	6.38	6.55	907	15
342	HOT Connectors	MSE	6.44	6.58	705	7
343	Main St on-ramp & braid on-ramp	1	6.46	6.70	1234	16
351	Mainline	1	6.60	6.67	343	6
355	Mainline	1	6.69	6.72	127	6
356.1	SR-91 CD road to I-15	1	6.71	6.90	1023	20
356.2	Main St braid on-ramp	1	6.72	6.77	247	19
357	Mainline	1	6.74	6.79	254	6
361	Main St braid on-ramp	1	6.80	6.92	612	8
381	EB SR-91 to SB I-15 conn	1	7.20	7.28	425	6
383	Mainline	1	7.24	7.30	283	6
394	I-15/SR-91 Sep	Tieback	7.43	7.48	266	6

Table 2.10 Alternative 2 Average Retaining Wall Heights on SR-91 and I-15

Wall Name	Location	Wall Type	Begin PM	End PM	Average Length (ft)	Average Height (ft)
424	Mainline	1	8.01	8.06	300	10
441	Mainline	1	8.32	8.38	300	6
448	Mainline	1	8.45	8.62	900	10
457	Mainline	1	8.62	9.13	2700	8
487	McKinley St loop on-ramp	1	9.19	9.37	929	5
494	McKinley St on-ramp	1	9.32	9.35	150	8
496	McKinley St on-ramp	1	9.36	9.39	150	7
498	McKinley St on-ramp	1	9.40	9.51	600	15
504	Mainline & McKinley St on-ramp	1	9.51	9.63	600	4
510	Mainline	1	9.63	9.68	261	4
513	Mainline	1	9.68	9.75	399	6
517	Mainline	1	9.75	9.93	925	6
527	Mainline	1	9.93	10.22	1550	5
553	Pierce St off-ramp	1	10.43	10.56	699	5
562	Pierce St off-ramp	1	10.62	10.77	799	4
Westbound SR-91						
471	Mainline	1	O16.71	O17.80	5755	9
537	Mainline	1	O18.11	O18.90	4171	19
1	Mainline	1	0.00	0.53	2798	12
599	***Mainline & Green River on-ramp***	***MSE***	***0.44***	***0.89***	***2376***	***40***
37	Green River on-ramp	1	0.89	0.97	422	3
3	Green River and Corps Bankment	1	0.03	0.14	581	4
33	Between Mainline & Green River on-ramp	1	0.72	0.95	1214	8
59	Green River off-ramp & Mainline	1	1.24	1.90	3485	20
115	Mainline and 71 W-N Connector	Tieback	2.23	2.75	2746	10
141	Mainline	1	2.75	2.88	686	4
153	Mainline & Auto Center on-ramp	1	2.94	3.59	3432	7
193 (Var 1)	Auto Center off-ramp & Maple on-ramp	1	3.74	4.28	2850	9
TBA	Serfas Club Dr. UC	Tieback	3.68	3.75	400	11
TBA	Maple St. OC	Tieback	4.12	4.14	115	12.4
197 (Var 1)	Maple Loop on-ramp between mainline	1	3.70	4.20	2650	2
223 (Var 1)	Maple off-ramp & Mainline	1	4.19	4.80	3200	6
193 (Var 2)	Auto Center off-ramp & Maple on-ramp	1	3.74	4.28	2850	9
197 (Var 2)	Maple Loop on-ramp between Mainline	1	3.82	4.32	2650	2
223 (Var 2)	Maple off-ramp & Mainline	1	4.19	4.80	3200	7
235 (Var 2)	Smith Drop Ramp	1	4.43	4.56	700	22
TBA	Smith Ave OC	Tieback	4.70	4.73	124	9.7
251 (Var 2)	West side of Smith OC	1	4.71	4.72	50	6
253 (Var 2)	East side of Smith OC	1	4.73	4.74	50	6
193 (Var 3)	Auto Center off-ramp	1	3.74	4.29	2900	10
199 (Var 3)	Maple off-ramp RT between Mainline	1	3.85	4.01	850	14
201 (Var 3)	Maple off-ramp LT between Auto Center off-ramp	1	3.87	3.95	400	19
223 (Var 3)	Maple off-ramp Mainline	1	4.19	4.80	3200	3
193 (Var 4)	Auto Center off-ramp	1	3.74	4.26	2750	10
199 (Var 4)	Maple off-ramp RT between Mainline	1	3.86	3.95	450	18
201 (Var 4)	Maple off-ramp LT between Auto Center off-ramp	1	3.86	3.95	450	18
223 (Var 4)	Maple off-ramp & Mainline	1	4.31	4.91	3200	6
235 (Var 4)	Smith Drop Ramp	1	4.43	4.56	700	22
251 (Var 4)	West side of Smith OC	1	4.71	4.72	50	6
253 (Var 4)	East side of Smith OC	1	4.73	4.74	50	6
223	Mainline	1	4.80	5.36	3000	10
284	Mainline	1	5.35	5.41	315	6
287.2	Lincoln Ave off-ramp	1	5.40	5.69	1500	17
304	Mainline & Main St on-ramp	1	5.72	6.02	1616	23
325	Main St on-ramp	1	6.12	6.31	992	22

Table 2.10 Alternative 2 Average Retaining Wall Heights on SR-91 and I-15

Wall Name	Location	Wall Type	Begin PM	End PM	Average Length (ft)	Average Height (ft)
333	Mainline	1	6.26	6.34	398	19
338.2	Mainline	1	6.38	6.52	783	21
339	Main St off-ramp	1	6.39	6.59	1058	22
342	HOT Connectors	MSE	6.44	6.58	705	7
353	Mainline	1	6.66	6.90	1262	28
375	NB I-15 to WB SR-91 conn	1	7.05	7.16	591	8
385	SB I-15 to WB SR-91 conn	1	7.24	7.26	95	4
393	I-15/SR-91 Sep	Tieback	7.42	7.47	279	6
406	WB SR-91 to NB I-15 conn	1	7.59	7.73	760	9
421	Mainline	1	7.94	7.98	200	6
425	Mainline	1	8.03	8.09	350	6
433	Mainline	1	8.16	8.22	350	6
444	Mainline	1	8.37	8.62	1326	9
458	Mainline	1	8.65	8.74	467	7
473	Mainline	1	8.92	9.07	789	5
488	McKinley St loop off-ramp	1	9.20	9.32	619	13
511	Mainline	1	9.66	9.78	649	7
520	Mainline	1	9.81	9.87	300	9
Northbound I-15						
2149	HOT Connectors	MSE	40.71	40.82	586	8
2212	HOT Connectors	MSE	41.91	42.00	475	8
Southbound I-15						
2149	HOT Connectors	MSE	40.71	40.82	586	8
2212	HOT Connectors	MSE	41.91	42.00	475	8

Source: *Project Report* (September 2011).

CD = collector-distributor
conn = connector
Dr. = Drive
EB = eastbound
ft = feet
HOT = high-occupancy toll road
I-15 = Interstate 15
LT = left turn
MSE = Mechanically Stabilized Earth
NB = northbound
NE = northeast
O = Orange County
OC = overcrossing
PM = Post Mile
RT = right turn
SB = southbound
Sep = Separation
SR-91 = State Route 91
St = Street
TBA = to be added
UC = undercrossing
Var = design variation
WB = westbound
W-N = west to north

Permanent Features: Noise Barriers

There are existing noise barriers on the north side of the SR-91 mainline in the vicinity of the SR-91/SR-241/Gypsum Canyon Road interchange. Those walls would remain under Alternatives 1 and 2 although some would be reconstructed. Locations for new or replacement noise barriers on SR-91 and I-15 under the Alternatives 1 and 2 Initial Phases and Ultimate Projects are summarized later in Tables 3.13.27 through 3.13.30, and shown later on Figure 3.15-1 in Section 3.15, Noise, and on the detailed project features plans in Appendix L.

Utilities

There are several known utility facilities within the project limits. The following utility companies have facilities within the project limits on SR-91 that will be impacted by Alternatives 1 and 2:

- Southern California Edison Company (SCE)
- Southern California Gas Company (SCG)
- AT&T/PacBell (AT&T)
- City of Corona water, sewer, and communications
- Comcast Cable
- Sprint
- Time Warner Cable
- Questar

Some existing utility facilities would require only encasement or protection in place during construction of Alternatives 1 and 2. However, the relocation of some existing utility facilities would be necessary to accommodate construction of Alternatives 1 and 2. Appendix J, Utility Relocations, summarizes the anticipated utility relocations for Alternatives 1 and 2. Several of these have been identified as "high/low risk" under the Department "Policy on High and Low Risk Underground Facilities Within Highway Rights of Way," as defined in Chapter 13 of the Caltrans *Right-of-Way Manual*. All the utility relocation work needed to construct the improvements under Alternatives 1 and 2 is considered to be part of the project. No utility relocations are anticipated on the project segment of I-15.

Refer to the following tables provided later in Section 3.5, Utilities/Emergency Services, which describe the effects of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 on utilities in detail, including those utilities considered high risk:

- Table 3.5.4: Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2
- Table 3.5.5: Additional Utility Relocations Under Alternative 2

Landscaping and Irrigation Systems

The Department District 8 Landscape Architecture Branch developed the *215/91 Landscape Corridor Master Plan* (Department Master Plan, September 5, 2006) that includes the Riverside County segment of SR-91 within the project limits. That Department Master Plan provides guidance on plant material selection and hardscape elements that consider water use, ease and safety of maintenance, nonnative plant exclusion, corridor continuity, local cultural integration, and other context-sensitive factors.

Most of the existing highway planting and landscaping along SR-91 in the project limits would be removed under Alternatives 1 and 2. Replacement planting, landscaping, and hardscape elements that are consistent with the Department Master Plan would be provided on SR-91 under Alternatives 1 and 2 and would be planted prior to the end of construction. The contract for planting/landscaping would be separate from the prime construction contract.

Replacement planting will be funded with the project construction and will include no less than three years of plant establishment. For each phase of construction, the needed replacement planting will be under construction within two years of acceptance of the highway contract that damaged or removed the existing planting. Refer to Measures V-1 to V-3 in Section 3.7, Visual/Aesthetics, for the detailed language of measures incorporated in Alternatives 1 and 2 to address landscaping commitments.

The improvements on I-15 under Alternatives 1 and 2 would be constructed in the median. There is currently no landscaping or irrigation in the existing median on I-15 within the project limits.

Ramp Metering

The existing ramp metering at ramps on SR-91 and I-15 would be retained under Alternatives 1 and 2. In addition, ramp metering would be provided on all the local on-ramps on SR-91 in the project limits that do not currently have ramp metering. Where feasible, HOV bypass lanes would be constructed on ramps that are modified. Table 2.11 provides a summary of the ramp metering for the SR-91 CIP system interchanges.

Connectors between SR-91 and I-15 (existing and planned) are not planned to be metered; however, the I-15 northbound on-ramp to the eastbound SR-91 connector and the new westbound collector-distributor road where I-15 traffic joins SR-91 would be metered. The existing meters on the southbound SR-71 to eastbound SR-91 connector and the southbound SR-71 to westbound SR-91 connector would be maintained, and storage length would be increased with this project. No new metering will be used for other connectors at the SR-71 and SR-91 interchange.

Table 2.11 Summary of the SR-91 CIP System Interchange Ramp Metering

Name of System Interchange	Connector Name	Existing Ramp Already Metered	Proposed Ramp to be Metered
SR-241	241N-91E	No	Yes
SR-71	71S-91W	Yes	Yes
SR-71	71S-91E	Yes	Yes
SR-71	91W-71N	No	No
SR-71	91E-71N	No	No
I-15	15S-91E loop	No	Yes
I-15	15S-91W and 15N-91W combined CD	No	Yes
I-15	91W-15N	No	No
I-15	91W-15S	No	No
I-15	15N-91E	No	Yes
I-15	91E-15S and 91E-15N combined CD	No	No
I-15	15N-91W and 91E-15S Tolled Express	N/A new connector	No
I-15	15S-91W and 91E-15N Tolled Express	N/A new connector	No

Source: SR-91 System Interchange Ramp Metering Overview for Ultimate Project (2011).
CD = collector-distributor
E = eastbound
I-15 = Interstate 15
N = northbound
N/A = not applicable
S = southbound
SR-71 = State Route 71
SR-241 = State Route 241
W = westbound

California Highway Patrol Enforcement Activities

California Highway Patrol (CHP) enforcement areas will be provided at new ramp meter installations and along the mainline. The locations of the CHP enforcement areas on mainline SR-91 are shown in Table 2.12 for Alternatives 1 and 2. As shown, Alternatives 1 and 2 would each provide four CHP enforcement areas.

Table 2.12 California Highway Patrol Median Refuge Locations for Alternatives 1 and 2

Co-Rte-PM	SR-91 Eastbound	SR-91 Westbound	Existing or New	Occurs in Alternative 1	Occurs in Alternative 2
Ora-91-17.0	X	X	Existing	Yes	Yes
Ora-91-17.7	X	X	New	No	Yes
Ora-91-18.0	X	X	Existing	Yes	No
Riv-91-3.2	X	X	New	Yes	Yes
Riv-91-9.7	X	X	Existing	Yes	Yes

Source: *Project Report* (September 2011).
Co = County
Ora = Orange County
PM = Post Mile
Riv = Riverside County
Rte = Route
SR-91 = State Route 91

Non-Motorized and Pedestrian Features

Existing local road interchanges with SR-91 would be modified as a result of the Build Alternatives. Construction of improvements at the local road connections would implement current Americans with Disabilities Act (ADA) standards for curb ramp and sidewalks as feasible. These types of modifications are planned at the Auto Center Drive, Maple Street, Lincoln Avenue, and Main Street interchanges in the City of Corona.

Under the Build Alternatives, on-street bike lanes would be provided at Maple Street, Lincoln Avenue, and Main Street. One segment of the Santa Ana River Trail/Bike Lane within the right-of-way for SR-91 (at Green River Road) would be relocated to the north as part of the Initial Phases of Alternatives 1 and 2. Specifically, a 200 ft long segment of the existing Trail/Bike Lane that is approximately 1,200 ft east of the Green River Golf Club access road at Green River Road would be relocated as part of the construction of the Initial Phases of Alternatives 1 and 2. The Trail/Bike Lane would be relocated parallel to the Corps maintenance road between Coal Canyon and Green River Road as a Class II bike lane. This has been approved by the City of Corona and the Corps.

Graffiti Control

Public structures are often the target of graffiti. The permanent structures under Alternatives 1 and 2, including bridges, overcrossings, structural supports, retaining and sound walls, and traffic control devices, may be attractive to taggers. Alternatives 1 and 2 will include treatments on many of those structures that help deter graffiti. Depending on the agency/local jurisdiction responsible for those structures, the treatments will include anti-graffiti coatings, wall texturing and aesthetic surface treatments, and/or landscaping/plantings (e.g., ivy, vines).

Modifications to Corps Facilities

Alternatives 1 and 2 may permanently or temporarily modify portions of the Corps-constructed flood control facilities or Corps-owned properties listed below. The modifications described here are for Alternative 2, including Alternative 2f; the modifications required under Alternative 1 would be similar to but less extensive than those described below. These modifications would require approval by the Corps through a Section 408 permit. The modifications to Corps facilities and properties described below have always been part of the preliminary design of Alternatives 1 and 2 and were included in the project footprints of Alternatives 1 and 2 that were evaluated in the Draft EIR/EIS for the SR-91 CIP. The additional descriptive

information is provided below in the event the Corps would use all or part of this Final EIS for the approval of the Section 408 permits under NEPA.

Area 1: SR-91 CIP and Corps Reach 9 Phase 2B Project

In Corps Facility Area 1, located on the north side of SR-91 near the Green River Golf Course, the following features will be constructed for SR-91 CIP:

- Additional GP lane in each direction
- Additional express auxiliary lane in each direction
- Retaining walls and associated maintenance road
- Access roadway to Star Ranch
- Realignment of existing Green River Road that will end in a cul-de-sac
- Bicyclist parking lot

The following features of the Corps-constructed Reach 9 Phase 2B project may be affected by the SR-91 CIP project:

- **Maintenance Road and Fill Slope:** Between Post Miles 0.0 and 0.5, a retaining wall (with sound wall) and Star Ranch access road will be built adjacent to this feature.
- **Maintenance Road and Access to Green River Road:** To build the Star Ranch access road, the channel maintenance access road entrance from Green River Road will need to be relocated.
- **Maintenance Road and Fill Slope on Eastern End of Reach 9 Phase 2B Project:** A parking lot for bicyclists and other Trail/Bike Lane users will be built adjacent to this feature, including retaining walls and a bicycle access ramp.
- **Maintenance Road and Fill Slopes:** A TCE will be needed on the eastern end of the Reach 9 Phase 2B project for SR-91 CIP construction equipment access and staging for the retaining walls, the realignment of Green River Road, and the bicyclist parking lot.

Area 2: SR-91 CIP and Corps Reach 9 Phase 2A Project

In Corps Facility Area 2, located near Prado Road and the SR-91/SR-71 interchange, the following features will be constructed for the SR-91 CIP:

- Additional GP lane in each direction
- Two tolled express lanes in each direction
- One westbound express auxiliary lane

- Retaining walls
- Realignment of the Green River Road westbound off-ramp
- Extension of culverts

The features described above will be constructed in the Department and the Riverside County Flood Control District (RCFCD) joint use maintenance area. As part of the SR-91 CIP construction, the following features of the Corps Reach 9 Phase 2A project may be affected:

- **The Prado Road Entrance of the Channel Maintenance Access Road:** This segment of the road will be removed during construction of the Green River Road off-ramp structure and then rebuilt.
- **Embankment Slopes and Maintenance Access Road:** The SR-91 CIP will require construction of a retaining wall, which will result in some temporary effects to the channel access road and embankment slopes.

Area 3: SR-91 CIP, Corps Properties, and Corps Auxiliary Berm/Floodwall

In Corps Facility Area 3, located near the SR-91/SR-71 interchange and Prado Dam, the following features will be constructed for SR-91 CIP:

- An additional GP lane in each direction
- Two express lanes in each direction
- One three-plus express lane in each direction
- An auxiliary lane
- Retaining walls
- Drainage improvements
- Realignment and widening of the SR-71 southbound to SR-91 westbound ramp
- Widening of the SR-71 southbound to SR-91 eastbound ramp
- A maintenance access road and staging area
- Storm water treatment infiltration basins

The features described above will be constructed in an existing easement that the Department has with the Corps. As part of its construction, the SR-91 CIP will change the highway footprint within the existing easement in the following areas:

- **Department Easement on Corps Property Assessor's Parcel Number (APN) 101-140-006:** In the northwest quadrant of the SR-91/SR-71 interchange, the realignment of the SR-71 southbound to SR-91 westbound ramp will be moved to

the west and require some fill slopes. In addition, this area will require construction of a storm water treatment infiltration basin.

- **Department Easement on Corps Property APN 101-170-001:** The maintenance access and staging area will be placed in the northeast quadrant of the SR-91/ SR-71 interchange and require some fill slopes.
- **Department Easement on Corps Property APN 101-170-009:** In the southwest quadrant of the SR-91/SR-71 interchange, the widening of the SR-71 southbound to SR-91 eastbound ramp will need additional pavement and fill slopes to accommodate an additional lane. In addition, a storm water treatment infiltration basin will be built in this area.
- **Eastern End of the Department Easement on Corps Property APN 101-170-001:** The project will require a TCE for staging and access for widening the SR-91 and building a retaining wall that will extend beyond the existing easement. The SR-91 CIP may have temporary effects on the slopes of the Corps auxiliary berm/floodwall project.

Area 4: SR-91 CIP and Oak Street Channel (Corps-constructed and RCFCD-maintained Channel)

In Corps Facility Area 4, located near the Oak Street Channel in the City of Corona, the following features will be constructed for SR-91 CIP:

- An additional GP lane in each direction
- Two express lanes in each direction
- An auxiliary lane
- Modifications to the SR-91/Lincoln Avenue interchange
- Retaining walls
- Drainage improvements
- Relocation of an existing maintenance turnaround area
- Two storm water infiltration basins

As part of the construction, the SR-91 CIP may affect the following Corps-constructed facility:

- **Oak Street Channel:** Currently, this channel is an open concrete channel that runs north and south within the SR-91/Lincoln Avenue interchange. The reconfiguration of the SR-91/Lincoln Avenue interchange will require placing the open concrete channel into a boxed concrete channel north and south of SR-91. In addition, the boxed culvert will be extended to the north of the proposed

westbound SR-91/Lincoln Avenue off-ramp to accommodate the relocation of an existing maintenance turnaround area.

2.3.2.3 Design, Preconstruction, and Construction Activities and Features

Design and Construction Activities

As described later in Section 2.3.4.5, Design/Build Process, Alternatives 1 and 2 would be implemented in a best value design/build process. In this process, design and construction activities will occur concurrently. The design/build phases of Alternatives 1 and 2 will include the activities described in the following sections. Many of these activities will occur concurrently and may also occur intermittently throughout the design and construction period and throughout the construction areas. The activities described here were included in the analysis of the potential project impacts provided in this EIR/EIS.

- **Design and Pre-Construction Activities**
  - Preparation of final design
  - Preparation of modifications to the final design over time, as appropriate, based on updated knowledge about conditions in the field and other factors to result in an improved design and the most efficient construction process
  - Development of a project management plan
  - Development of a project baseline schedule
  - Coordination with the BNSF Railroad
  - Coordination with the City of Corona
  - Aerial mapping of the project limits
  - Development of a project aesthetics plan
  - Development of project transportation plan
  - Development and implementation of a project outreach program
  - Coordination with utility providers and appropriate potholing and other activities to locate and clearly mark the types and locations of all utility facilities in the project disturbance limits
  - Coordination with utility providers on protection in-place, relocation, and/or removal of utility facilities in the disturbance limits
  - Ongoing coordination with emergency services providers (police, fire, medical, and CHP) and local jurisdictions regarding detours and other traffic conditions during construction
  - Execution of detailed soils and geotechnical testing

- Execution of hazardous waste contamination testing, as needed
- Execution of detailed property surveys
- Conducting existing project site survey and photo documentation

- **Construction Activities**
  - Installation of fencing around construction and staging areas
  - Delineation of disturbance limits and any Environmentally Sensitive Areas (ESAs) or other areas to be avoided
  - Clearing, grading, and preparation of the field office location(s) and staging areas
  - The setup of field office(s) and staging areas for equipment, materials, waste materials, etc.
  - Moving construction equipment to the staging areas and around the construction areas
  - Importing construction materials to the staging areas and moving materials to where they are needed during construction of specific project components
  - Remediation of known hazardous waste contamination within the State right-of-way
  - Implementation of BMPs on an ongoing basis, consistent with the needs of each construction activity
  - Protection in-place, relocation, and removal of utility facilities in the project disturbance limits
  - Ongoing coordination with emergency services providers and local jurisdictions regarding detours and other traffic conditions and installation of appropriate signing, lane marking, and other information to direct traffic around and through the construction areas
  - Implementation of ramp and lane closures, as needed, throughout the construction period
  - Clearing of vegetation from construction areas
  - Construction of noise walls
  - Excavating and filling in the construction areas
  - Construction of bridges and overpasses
  - Construction of ramps
  - Construction of local access roads
  - Construction of water pollution control facilities
  - Construction of project aesthetics and landscaping
  - Construction of drainage facilities

- Construction of retaining walls
- Construction of travel lanes and shoulders
- Installation of directional lighting, traffic control systems, and signs
- Construction of improvements on local roads
- Construction of toll facilities

Construction Staging

Construction staging would be required for all ramp reconstruction, freeway widening, and profile adjustments under Alternatives 1 and 2. The existing number of mainline through lanes would be maintained during construction by restriping the existing lanes and shifting traffic within the corridor to maintain existing capacity. Complete closures of SR-91 and I-15 are not anticipated during construction of Alternatives 1 and 2.

A *Final Work Zone Mainline Analysis* (February 2010) for the SR-91 corridor was conducted to minimize congestion along the corridor during the construction of Alternatives 1 and 2. That analysis was used to compare and select optimal construction staging strategies. The work zone analysis examined ramp and connector closures in addition to two SR-91 mainline construction scenarios. With either mainline scenario, Stage 1 would construct outside improvements without impacting the mainline traffic lanes. Lane restrictions during Stage 2 would vary between the two scenarios.

The first mainline work zone scenario for SR-91 consisted of narrowing the existing mainline through lanes to 10.5 ft wide and maintaining a total of four GP lanes and one HOV lane in each direction. The second scenario consisted of converting the HOV lane to a GP lane and maintaining the three other GP lanes on weekends only. Both weekend and weekday peak periods were examined.

Congestion would occur with both scenarios and neither scenario demonstrated a clear advantage from a traffic impact perspective. Under the second scenario, the tradeoffs involve avoidance of weekday impacts with greatly increased construction duration and costs. The first scenario is favored because it results in shorter construction duration, lower construction costs, and earlier project completion.

Ramp and connector closures would be required on SR-91 during construction of Alternatives 1 and 2. Preliminary recommendations for the duration of, and detours for, ramp and connector closures on eastbound and westbound SR-91 are summarized in Table 2.13.

Table 2.13 Ramp and Connector Closures along SR-91

Interchange	Ramps (Off/On)	Closure ID	Time of Closure	Duration of Closure
SR-91 Eastbound				
SR-241 NB – SR-91 EB	On	X1	Weekends	3 weekends
SR-71 SB – SR-91 EB	On	X2	Weekends	2 weekends
Auto Center Drive	On	X3	Weekdays	6 months
2nd Street/Grand Boulevard	Off	X4	Permanent	--
Main Street	On	X5	Weekdays & Weekends	12 months
SR-91 EB – I-15 NB	Off	X6	Weekends	2 weekends
SR-91 EB – I-15 SB	Off	X7	Weekends	2 weekends
I-15 SB –SR-91 EB	On	X8	Weekends	2 weekends
McKinley Street	On (SB)	X9	Weekdays & Weekends	2 months
	On (NB)	X10	Weekdays & Weekends	2 months
Magnolia Avenue	Off	X11	Weekdays & Weekends	2 months
SR-91 EB – SR-71 NB	Off	X12	Weekends	2 weekends
SR-91 Westbound				
Gypsum Canyon Road	Off	Y1	Weekdays & Weekends	2 weeks
SR-91 WB – SR-241 SB	Off	Y2	Weekends	6 weekends
SR-71 SB – SR-91 WB	On	Y3	Weekends	1 weekend
SR-91 WB – SR-71 NB	Off	Y4	Weekends	4 weekends
Auto Center Drive	Off	Y5	Weekdays & Weekends	6 months
Maple Street	Off	Y6	Weekdays & Weekends	2 months
Grand Boulevard	On	Y7	Permanent	--
Main Street	Off	Y8	Weekdays & Weekends	12 months
I-15 SB – SR-91 WB	On	Y9	Weekends	1 weekend
SR-91 WB – I-15 SB	Off	Y10	Weekends	2 weekends
SR-91 WB – I-15 NB	Off	Y11	Evenings	5 nights
McKinley Street	Off (NB)	Y12	Weekdays & Weekends	2 months

Source: *Final Ramp Closure Study* (February 2010).
EB = eastbound
I-15 = Interstate 15
ID = identification number
NB = northbound
SB = southbound
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
WB = westbound

Construction Vehicle Access and Material Staging

Under Alternatives 1 and 2, construction vehicle access and staging of construction materials would occur within existing disturbed or developed areas inside the existing right-of-way or within the additional right-of-way for the project. Vehicle access and materials staging during construction of walls outside and adjacent to the State right-of-way would occur in approved designated areas. Both alternatives also require that material be imported to the project from outside the project limits. Identification of off-site material source sites would be the responsibility of the design/build contractor. Imported material would come from environmentally cleared sites and be transported to the project on environmentally cleared access/haul routes and public roads. Once within the project limits, all construction vehicle access, materials

staging and storage, and other construction activities would occur within the defined limits for Alternatives 1 and 2.

The TCEs and permanent right-of-way limits for the Build Alternatives and their design features, which include areas for construction vehicle access and material staging, are shown on the detailed figures provided in Appendix L.

Transportation Management Plan During Construction

A *Preliminary Transportation Management Plan* (TMP; May 2010) was prepared to address transportation management during construction of Alternatives 1 and 2. During final design, the *Final Transportation Management Plan* will be developed by the Project Engineer, based on the Preliminary TMP developed for the Project Report and the EIR/EIS. Key elements in the TMP include:

- Public Information/Public Awareness Campaign (PAC)
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies
- Other strategies

Temporary Construction Easements

TCEs would be necessary under Alternatives 1 and 2 for constructing walls along the right-of-way, for extending major drainage facilities and culverts, utility relocation/ modifications, and widening bridges. Land used as a TCE would be returned to its original or better condition prior to the return of that land to the original owner after completion of the construction activities requiring that TCE. No permanent project features will be constructed within the boundaries of the TCEs.

Construction Lighting

Alternatives 1 and 2 would require nighttime construction activities in some areas. If work is conducted at night, lighting would be directed away from land uses outside the freeway rights-of-way.

Conditions for Construction in the Grand Boulevard Historic District

The following conditions will be implemented prior to and during the project design/ build phase regarding the temporary removal and relocation of up to seven existing

acorn-style streetlights within the project disturbance limits in the Grand Boulevard Historic District:

- During final design, the RCTC Project Engineer will verify the locations and numbers of acorn-style streetlights within the project disturbance limits in the Grand Boulevard Historic District. The RCTC Project Engineer will require the design/build contractor to clearly indicate on the final plans any acorn-style streetlights in the project disturbance limits that are to be removed at the beginning of construction in those areas and to identify the locations where the removed streetlights would be reinstalled.
- The RCTC Resident Engineer will require the design/build contractor to remove and, as necessary, dismantle, the affected acorn-style streetlights and to place them in containers appropriate for storing those fixtures during the project construction period.
- The RCTC Resident Engineer will require the design/build contractor to store the containers holding the acorn-style streetlights in a secure location protected from public access and weather.
- The RCTC Project Engineer will require the design/build contractor to verify that the locations identified for the reinstallation of the affected streetlights are acceptable to the City of Corona and consistent with the City's requirements for the siting of streetlights.
- The RCTC Resident Engineer will require the design/build contractor to reinstall the acorn-style streetlights at the locations designated in the final plans when no further construction/disruption will occur at those locations, as follows:
- The streetlights will be reinstalled as close to their original locations as possible based on the project design and available space, in a manner consistent with the other acorn-style streetlights in the Grand Boulevard Historic District and with the City of Corona requirements for the siting of streetlights.
- If any of the acorn-style streetlights cannot be reinstalled at or near their original locations, they will be reinstalled elsewhere within the boundaries of the Grand Boulevard Historic District, focusing on locations where acorn-style lights have previously been removed as long as those locations are consistent with the historic spatial relationships of the Historic District and with the City of Corona requirements for the siting of streetlights.
- If the lights cannot be reinstalled as described above, the RCTC Project Engineer will consult with the City of Corona to identify alternative locations.

- The RCTC Resident Engineer will require the construction contractor to have an architectural historian monitoring on site during the removal, dismantling, and reinstallation of the acorn-style streetlights.

2.3.3 Unique Features of the Build Alternatives

2.3.3.1 Alternative 1: Add General-Purpose Lanes and Maintain HOV Lanes (GP + HOV Lanes)

Under Alternative 1, one GP lane would be constructed in each direction on SR-91 from the SR-91/SR-241 interchange in the City of Anaheim to Pierce Street in the City of Riverside. The existing HOV lanes on SR-91 between the Orange/Riverside County line and Pierce Street would be maintained under this alternative. In addition, one HOV lane would be constructed on I-15 in each direction from Ontario Avenue in the City of Corona to an I-15/SR-91 HOV lane direct connector. The direct connector would provide HOV lane direct access from northbound I-15 to westbound SR-91 and from eastbound SR-91 to southbound I-15. The direct connector would allow vehicles in the HOV lanes to directly move from freeway to freeway, eliminating the need for HOVs to transition through traffic in the GP lanes.

The existing 3 mi long Orange County segment of the SR-91 tolled express lanes, which currently operates as a tolled express lane facility, would continue to serve this function under Alternative 1.

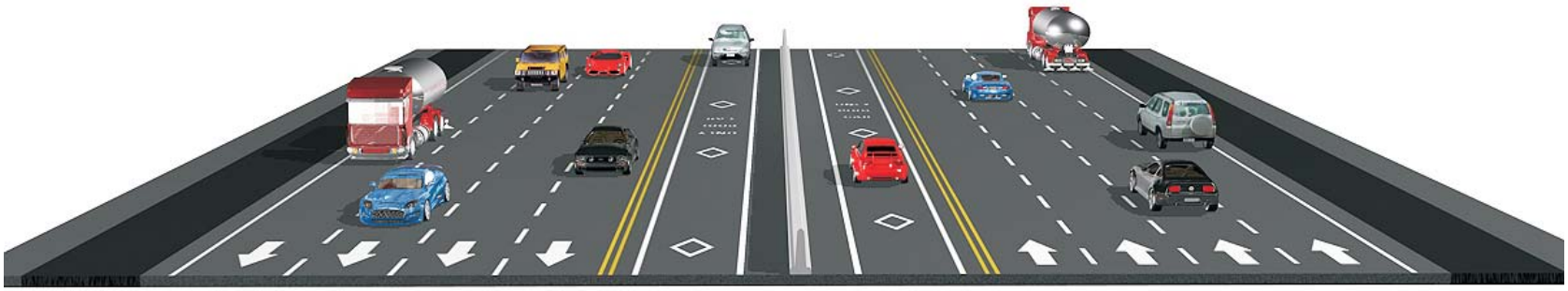
Alternative 1 is included as an alternative for the project because it is a transportation project that was planned as part of the 2002 Measure A, one-half-cent sales tax revenue to construct one GP lane in each direction on SR-91, as described in the RCTC Measure A 10-Year Delivery Plan.

The following sections describe the project components and features of Alternative 1 in more detail. Typical cross sections for Alternative 1 for SR-91 and I-15 are shown on Figures 2-2 and 2-3, respectively. Maps detailing the project components and features of Alternative 1 are provided in Appendix L.

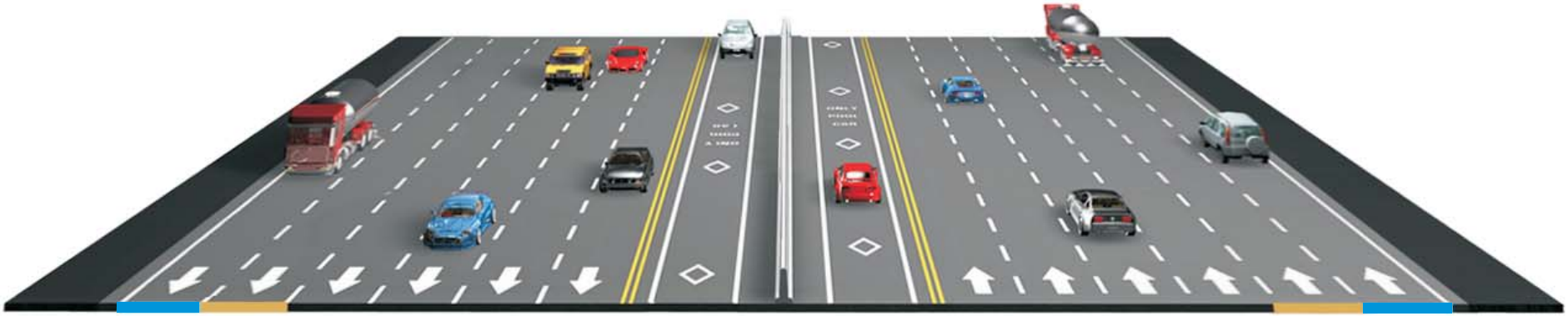
Permanent Improvements at SR-241 Under Alternative 1

Under Alternative 1, in the eastbound direction, the outside lane of the northbound SR-241 to the eastbound SR-91 connector would continue as a new GP lane on SR-91 rather than terminating at SR-91 as it currently does, as shown on Figure 2-4. This new GP lane would extend east on eastbound SR-91 to Pierce Street. In the westbound direction, a new GP lane would terminate just west of the Gypsum Canyon Road westbound off-ramp by dropping the outside lane on the mainline.

This page intentionally left blank



Existing Typical Cross Section



Typical Cross Section for Alternative 1

FIGURE 2-2

LEGEND:

NEW GENERAL PURPOSE LANE

NEW AUXILIARY LANE

State Route 91 Corridor Improvement Project

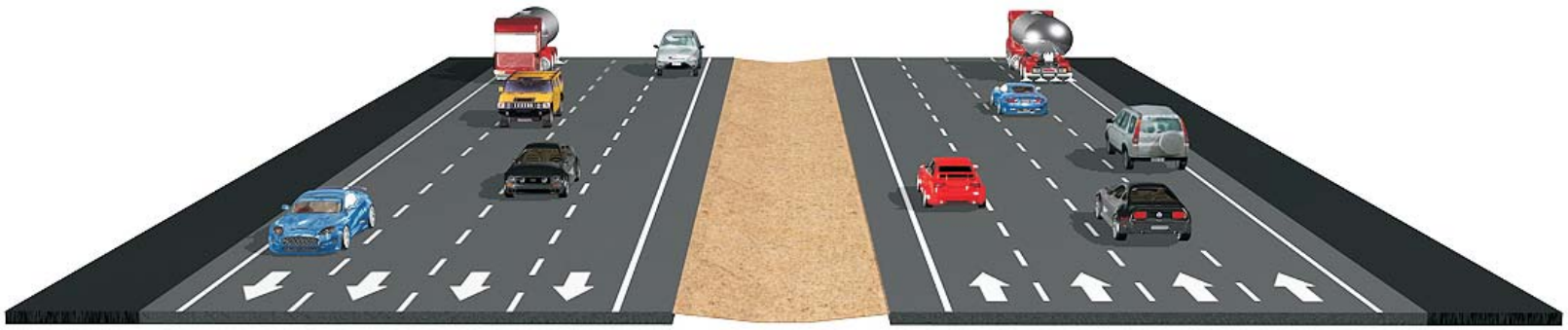
Typical Cross Section for Alternative 1 on SR-91

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

NOT TO SCALE

I:\PAZ0701\G\Fig 2-2 Typ Sect Alt SR-91 2a_v2.cdr (7/25/11)

This page intentionally left blank



Existing Typical Cross Section

Typical Cross Section for Alternative 1

FIGURE 2-3

LEGEND:
NEW HOV LANE

State Route 91 Corridor Improvement Project

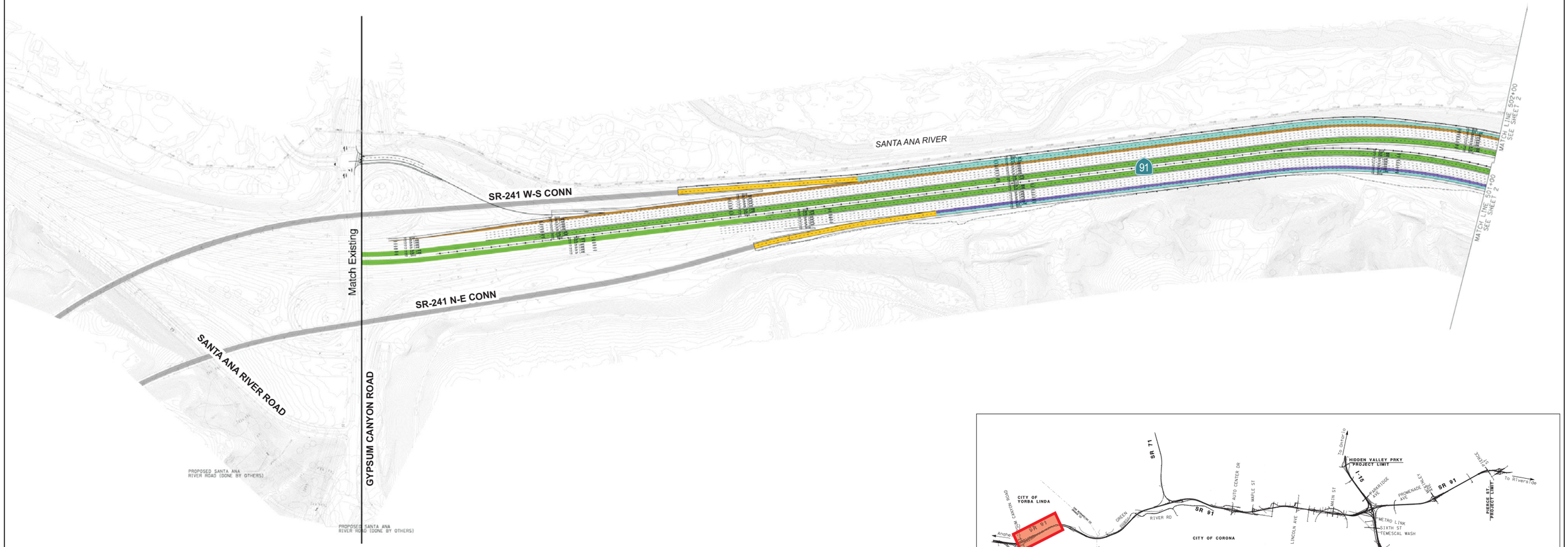
Typical Cross Section for Alternative 1 on I-15

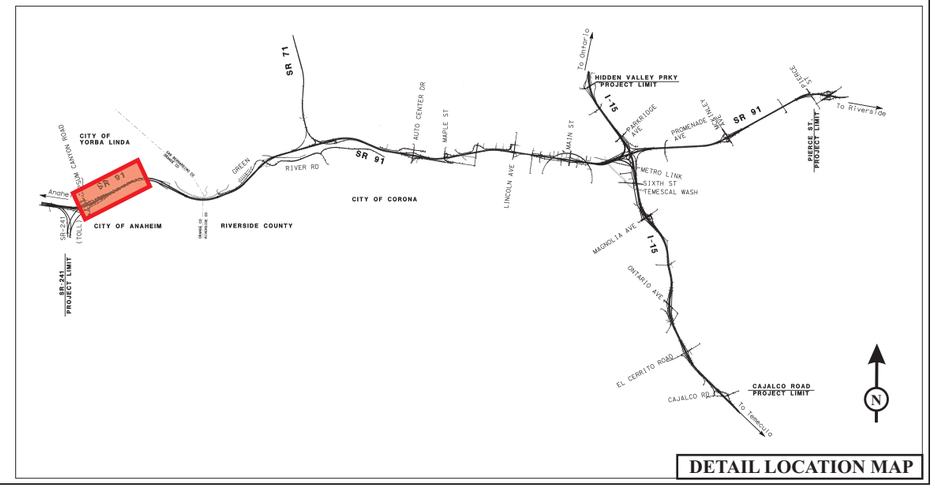
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

NOT TO SCALE

I:\PAZ0701\G\Fig 2-3Typ Sect Alt 1-I-15.cdr (7/25/11)

This page intentionally left blank





DETAIL LOCATION MAP

LEGEND

- EXISTING EXPRESS LANE
- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS
- OTHER PLANNED PROJECTS (EB LANE ADDITION)
- EXISTING

NOTE : REFER ALSO TO APPENDIX L, PROJECT FEATURES, WHICH PROVIDES DETAILED PRELIMINARY DESIGN PLANS ON AN AERIAL PHOTOGRAPH BASE FOR THE TWO BUILD ALTERNATIVES AND THEIR DESIGN VARIATIONS.

N

NO SCALE

FIGURE 2-4

State Route 91 Corridor Improvement Project

Project Features in the State Route 241 Interchange Area

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\Rt 241.cdr (7/25/11)

This page intentionally left blank

Permanent Improvements at the Orange/Riverside County Line Under Alternative 1

Existing SR-91 narrows in the vicinity of the Orange/Riverside County line in the area bounded by hills to the south and the Santa Ana River to the north. Under Alternative 1, the SR-91 centerline would be shifted north at this location with all the widening occurring on the north side of SR-91. The feasibility of this configuration depends on the Corps Reach 9 Phase 2B project to realign the Santa Ana River low flow channel to the north, which is currently under construction and would accommodate the widening of SR-91 under Alternative 1. This Corps project is described in more detail and shown on a figure in Section 2.3.9, Related Projects and Other Projects in the Vicinity of the SR-91 CIP.

Widening SR-91 to the north in this area is preferred because widening into the hillside on the south side of SR-91 would require extensive excavation and/or retaining walls. In addition, widening to the north allows Alternative 1 to use improvements associated with the recently completed SR-91 Eastbound Lane Addition Project. That project is described in detail later in Section 2.3.9.1, Approved or In-process Projects.

Permanent Improvements at Green River Road Under Alternative 1

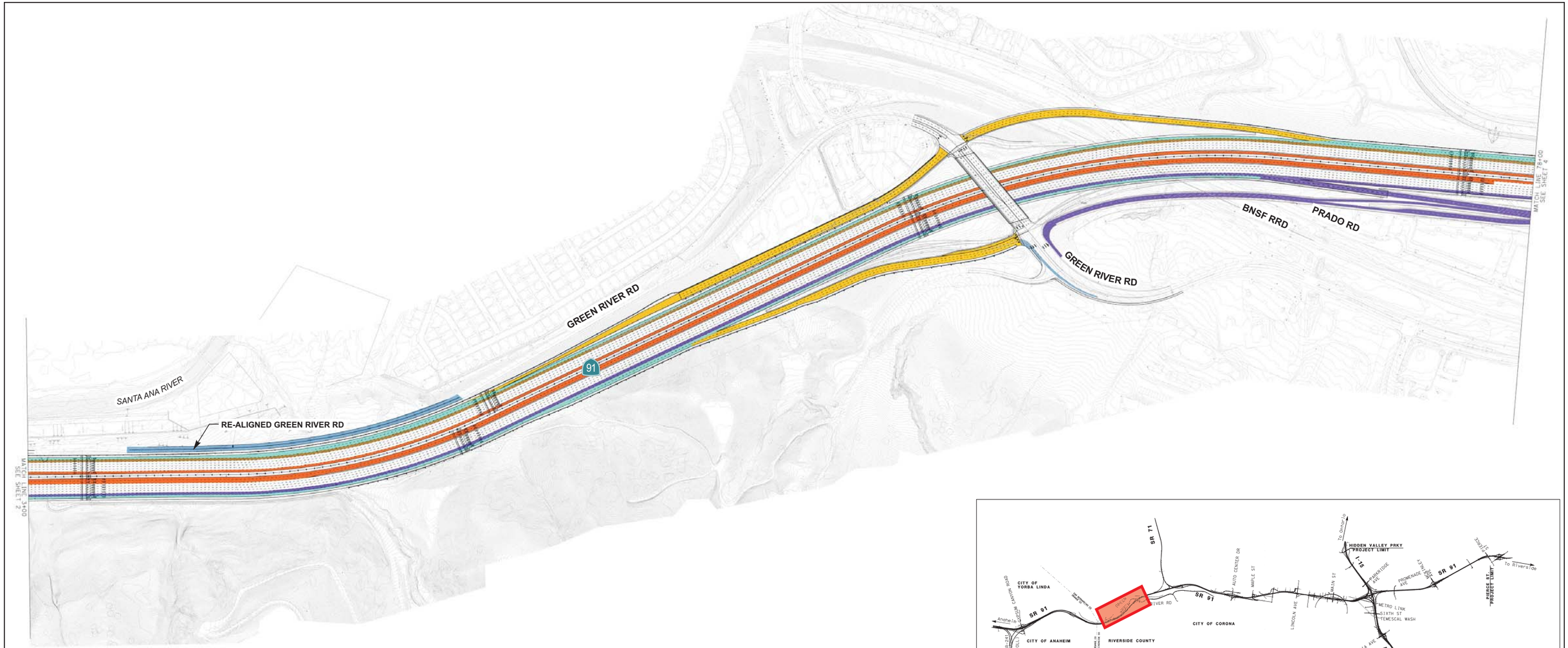
Under Alternative 1, the existing ramps at the Green River Road interchange would be modified to accommodate the widening on SR-91. In addition, the westbound off-ramp would be realigned with a new railroad overhead structure, as shown on Figure 2-5. The longer ramp provided at this location under Alternative 1 would improve the geometry of the ramp and increase its storage capacity.

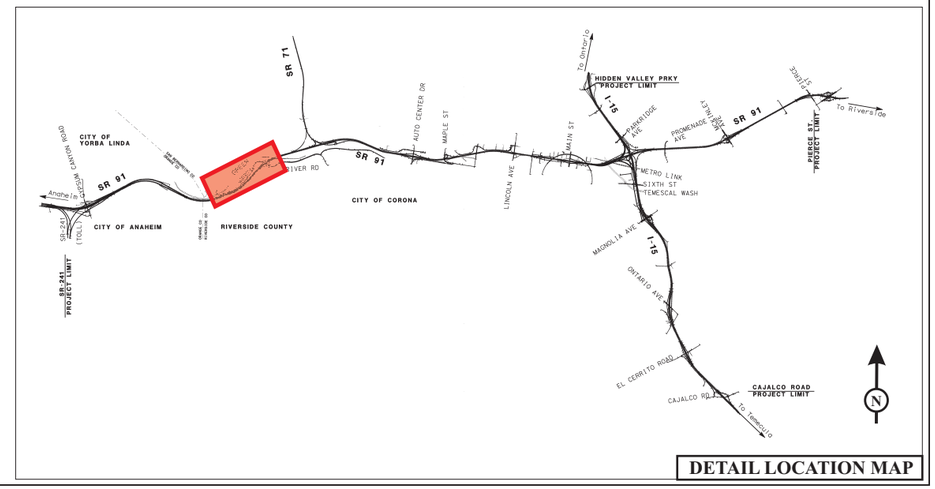
Permanent Improvements at SR-71 Under Alternative 1

Under Alternative 1, the inner westbound auxiliary lane that exits at SR-241 would begin at the SR-71/SR-91 interchange, which is an extension of the south-to-west connector ramp. Alternative 1 would realign the southbound SR-71 to the westbound SR-91 connector and widen part of the southbound SR-71 to eastbound SR-91 connector.

As discussed in detail later in Section 2.3.9, another project proposed in the SR-71/ SR-91 interchange would affect the design of the project at this location. Those planned improvements include reconfiguring the existing east-to-north loop ramp to a direct flyover connector. Alternative 1 is designed to be compatible with the

This page intentionally left blank





LEGEND

- EXISTING HOV LANE
- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS
- LOCAL ROAD IMPROVEMENTS
- OTHER PLANNED PROJECTS (EB LANE ADDITION)

NOTE : REFER ALSO TO APPENDIX L, PROJECT FEATURES, WHICH PROVIDES DETAILED PRELIMINARY DESIGN PLANS ON AN AERIAL PHOTOGRAPH BASE FOR THE TWO BUILD ALTERNATIVES AND THEIR DESIGN VARIATIONS.

NO SCALE

FIGURE 2-5

State Route 91 Corridor Improvement Project

Project Features at Green River Road

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\Green River Rd.cdr (7/25/11)

This page intentionally left blank

improvements proposed as part of that SR-71/SR-91 interchange improvement project.

Permanent Improvements at Auto Center Drive/Maple Street Under Alternative 1

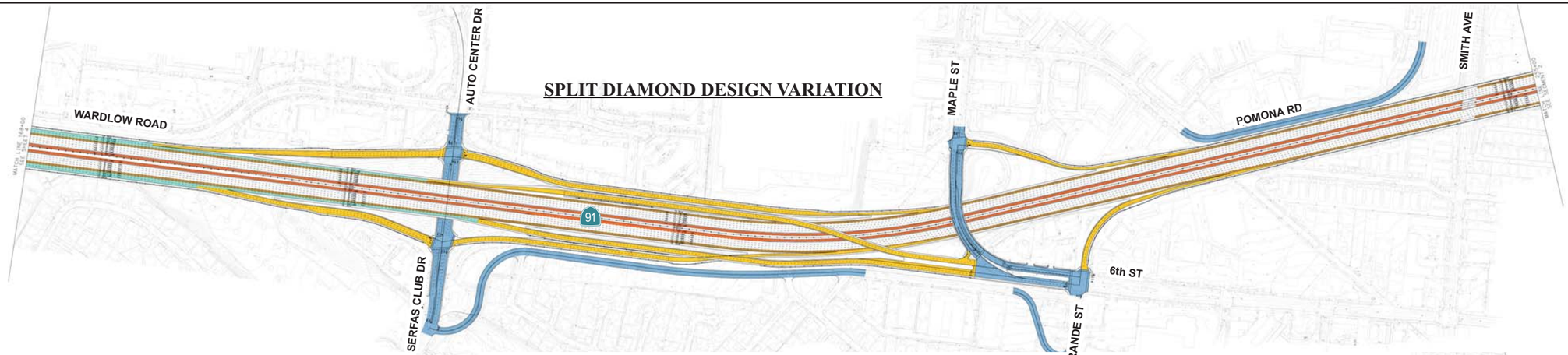
Two design variations are under consideration between Auto Center Drive (which is Serfas Club Drive south of SR-91) and Maple Street (which is Sixth Street south of SR-91) under Alternative 1. Both design variations would maintain the existing diamond interchange configuration on the west side of Auto Center Drive (eastbound off-ramp and westbound on-ramp), adjusting the ramps as necessary to accommodate the SR-91 mainline widening in each direction. In the southeast quadrant of the interchange, the eastbound on-ramp from Auto Center Drive would be grade-separated (braided) under the eastbound off-ramp to Maple Street. The existing Frontage Road on the south side of SR-91 that connects Auto Center Drive to Maple Street would be realigned and shifted farther south to accommodate the additional freeway lanes and the braided ramps. These two design variations and the braided ramp configuration represent different approaches for addressing the closely spaced ramps at Auto Center Drive and Maple Street. These two streets are currently about 0.6 mi apart at their intersections with SR-91.

The two design variations at this interchange, as shown on Figure 2-6, would affect the configuration of the westbound Auto Center Drive off-ramp and differ markedly at the Maple Street interchange as follows:

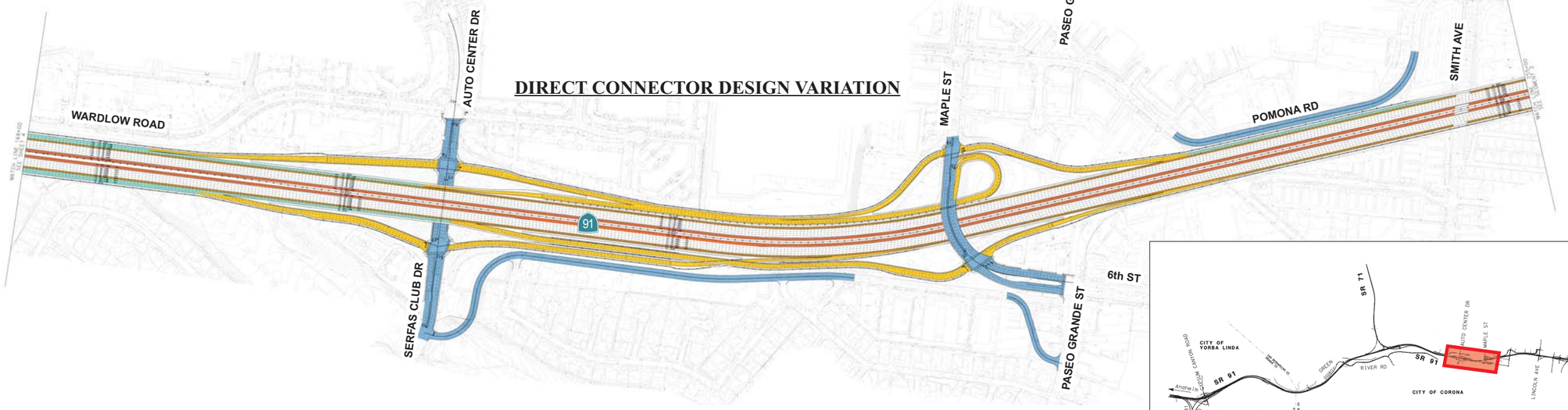
- **Split Diamond Design Variation:** For the Split Diamond design variation, direct westbound access to Auto Center Drive would be replaced with access provided by a new westbound one-way frontage road that would connect from Maple Street opposite the westbound off-ramp intersection. Auto Center Drive traffic would be directed to exit SR-91 at the Maple Street westbound off-ramp, using the new frontage road to access Auto Center Drive. The existing westbound loop on-ramp from Maple Street would be mostly unchanged under this design variation except that it would join the new frontage road prior to merging with the mainline SR-91 travel lanes, as shown on Figure 2-6.
- **Direct Connector Design Variation:** For the Direct Connector design variation, the westbound on-ramp from Maple Street would be a western extension of Sixth Street, south of SR-91, with a flyover separation structure that would lead to a merge with the SR-91 mainline travel lanes. Direct westbound access would be maintained to Auto Center Drive, but the realigned ramp would begin just after

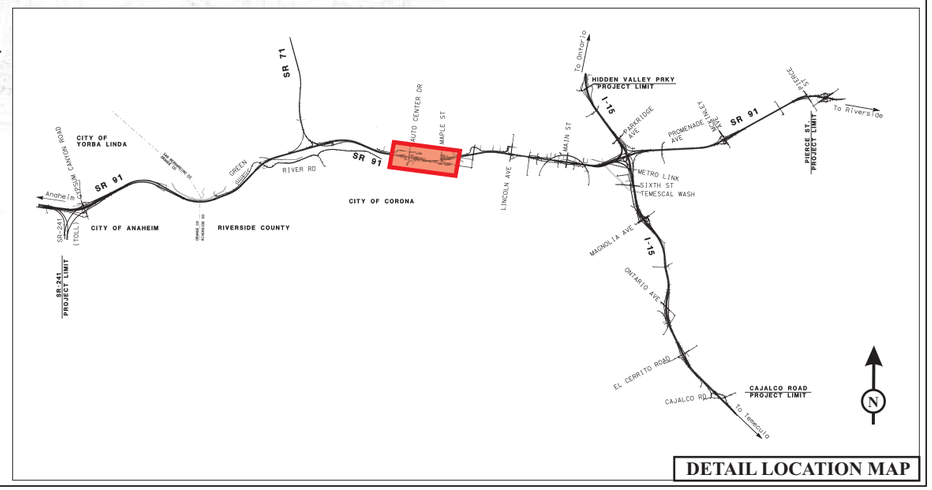
This page intentionally left blank

SPLIT DIAMOND DESIGN VARIATION



DIRECT CONNECTOR DESIGN VARIATION





DETAIL LOCATION MAP

FIGURE 2-6

LEGEND

- EXISTING HOV LANE
- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS
- LOCAL ROAD IMPROVEMENTS

NOTE : REFER ALSO TO APPENDIX L, PROJECT FEATURES, WHICH PROVIDES DETAILED PRELIMINARY DESIGN PLANS ON AN AERIAL PHOTOGRAPH BASE FOR THE TWO BUILD ALTERNATIVES AND THEIR DESIGN VARIATIONS.

N

NO SCALE

State Route 91 Corridor Improvement Project

Project Features at Auto Center Drive/Maple Street

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\Auto Center Dr.cdr (7/25/11)

This page intentionally left blank

Table 2.14 Alternative 1 Design Variation Combinations

Alternative	Auto Center Drive/Maple Street Interchange	Lincoln Avenue Interchange
1a	Split Diamond design variation	Tight Diamond design variation
1b	Split Diamond design variation	Hook Ramp design variation
1c	Direct Connector design variation	Tight Diamond design variation
1d	Direct Connector design variation	Hook Ramp design variation

Source: *Project Report* (September 2011).

the Maple Street overcrossing to accommodate the new westbound on-ramp from Maple Street. The existing eastbound diamond on-ramp from Maple Street would be replaced in this design variation by a hook on-ramp that would meet Sixth Street opposite Paseo Grande Road, as shown on Figure 2-6.

The two design variations at Auto Center Drive/Maple Street and the two design variations at Lincoln Avenue (described below) would result in four combinations of design variations in Alternative 1, as shown in Table 2.14.

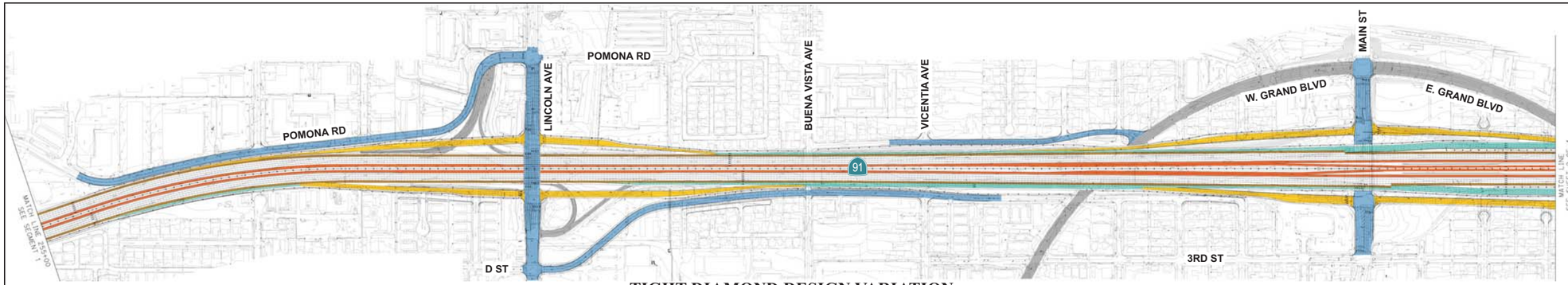
Permanent Improvements at Lincoln Avenue/Grand Boulevard Under Alternative 1

The two design variations at Lincoln Avenue under Alternative 1 would substantially modify the existing configuration of this interchange as shown on Figure 2-7. In both design variations, the westbound ramps would be changed to a tight diamond configuration, which would eliminate the design constraints of the existing hook ramps. The existing north side frontage road in the northwest quadrant would be moved outward to accommodate the GP lane addition on SR-91 and the ramp modifications. The westbound ramps would be the same in each design variation.

The existing westbound on-ramp and eastbound off-ramp to and from Grand Boulevard would create an operational deficiency on mainline SR-91 due to their close spacing to the Lincoln Avenue ramps. This spacing does not meet the current Department interchange spacing, per the Department's Design Information Bulletin (DIB) 9, Number 77 – Interchange Spacing (January 31, 1995). To improve this operational deficiency, the Grand Boulevard ramps would be removed and replaced with improved local access to the Lincoln Avenue interchange ramps.

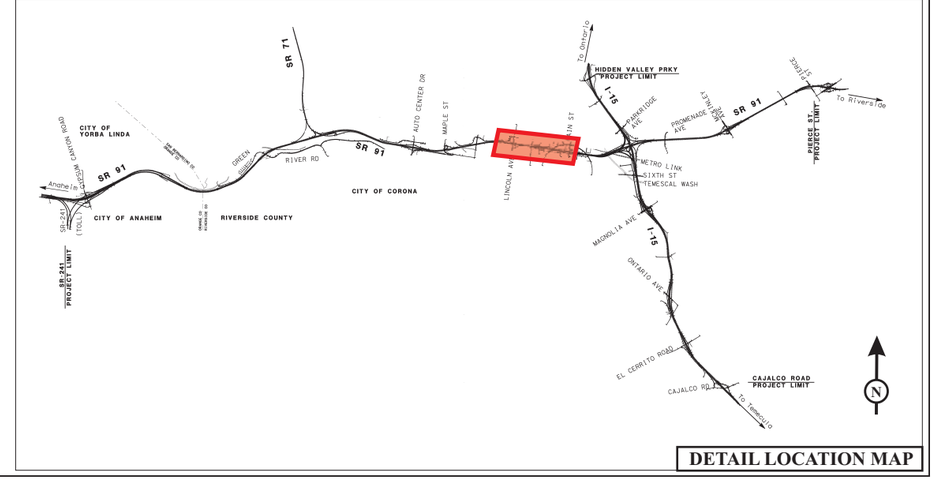
On the north side of SR-91, a new frontage road will extend from West Grand Boulevard to join with the existing west frontage road west of Lincoln Avenue.

This page intentionally left blank



TIGHT DIAMOND DESIGN VARIATION

HOOK RAMPS DESIGN VARIATION



DETAIL LOCATION MAP

FIGURE 2-7

LEGEND

- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS
- LOCAL ROAD IMPROVEMENTS
- EXISTING

NOTE : REFER ALSO TO APPENDIX L, PROJECT FEATURES, WHICH PROVIDES DETAILED PRELIMINARY DESIGN PLANS ON AN AERIAL PHOTOGRAPH BASE FOR THE TWO BUILD ALTERNATIVES AND THEIR DESIGN VARIATIONS.

NO SCALE

State Route 91 Corridor Improvement Project

Project Features at Lincoln Avenue/Grand Boulevard

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\Lincoln-Grand.cdr (7/25/11)

This page intentionally left blank

On the south side of SR-91, a new frontage road will extend from Lincoln Avenue opposite "D" Street and join with Second Street at Buena Vista Avenue, which would continue to West Grand Boulevard.

The two design variations at Lincoln Avenue/Grand Boulevard under Alternative 1, shown on Figure 2-7, are:

- **Tight Diamond Design Variation:** The Tight Diamond design variation would convert the eastbound Lincoln Avenue ramps to a tight diamond configuration, similar to the design of the westbound ramps as shown on Figure 2-7.
- **Hook Ramps Design Variation:** For this design variation, the eastbound ramps would be similar to the existing configuration, but would be changed to a hook ramp pattern that would connect to the new frontage road rather than connecting directly to Lincoln Avenue, as shown on Figure 2-7.

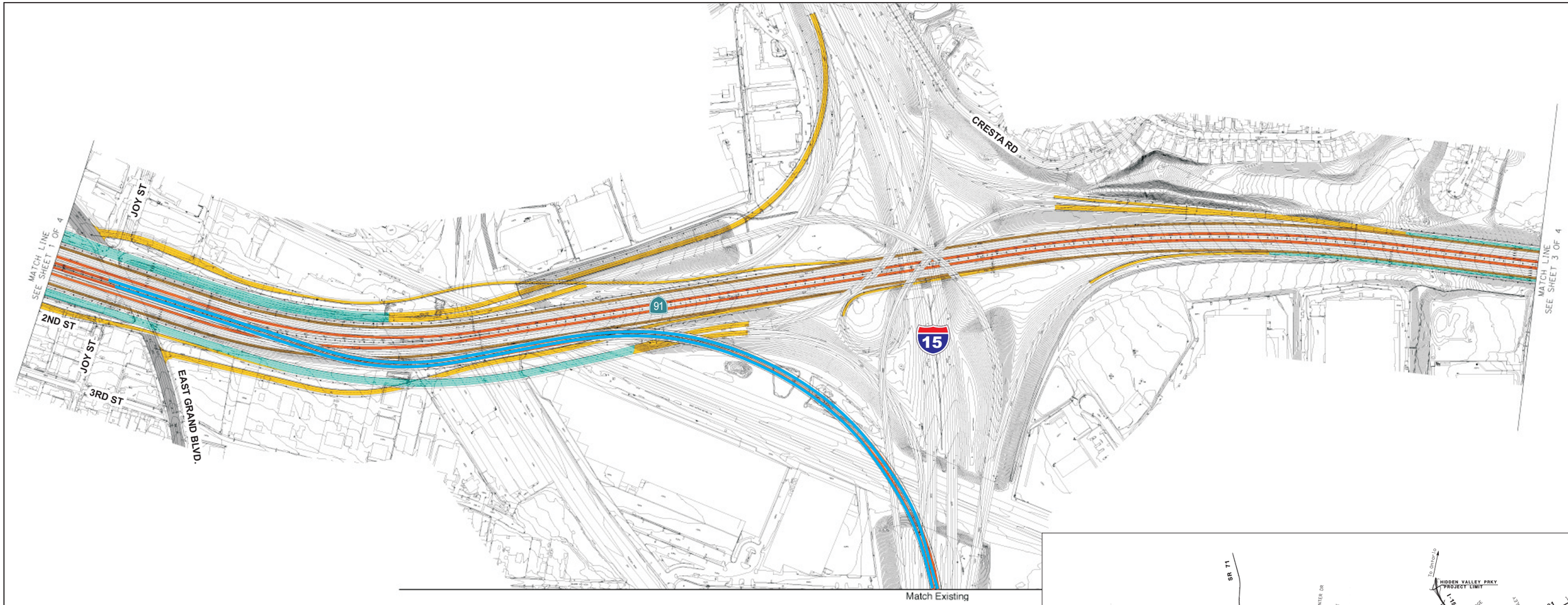
Permanent Improvements at Main Street/I-15 Under Alternative 1

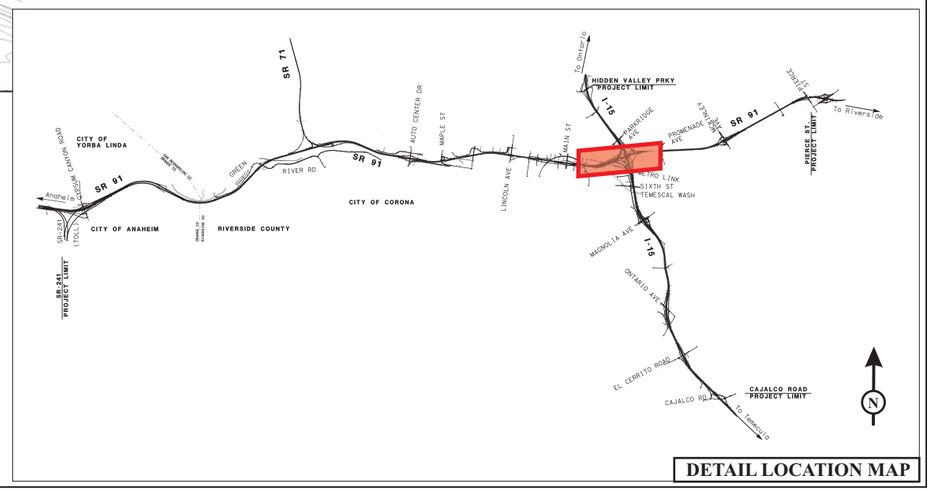
As shown on Figure 2-8, the existing diamond interchange configuration on the west side of Main Street would be maintained (eastbound off-ramp and westbound on-ramp) under Alternative 1, adjusting the ramps as necessary to accommodate the SR-91 mainline widening in each direction. Diamond interchange ramps will also be constructed on the east side of Main Street. The Main Street eastbound on-ramp and westbound off-ramp to and from the I-15 connectors would be combined within a collector-distributor road that would be barrier-separated from SR-91 to eliminate the weaving conflicts that currently exist between this local interchange and the system interchange. The Main Street eastbound on-ramp traffic to SR-91 would split from I-15 traffic and braid under the I-15 collector-distributor road before merging onto eastbound SR-91. The Main Street westbound off-ramp traffic from SR-91 would exit into the collector-distributor road and merge with traffic from the I-15 connectors before exiting to Main Street.

Permanent Improvements on SR-91 McKinley Street/Pierce Street under Alternative 1

Under Alternative 1, the ramps at the McKinley Street interchange would be altered to accommodate the SR-91 mainline widening, which would require only minimal changes in the configuration of this interchange. As shown on Figure 2-9, the outer eastbound GP lane on SR-91 would continue through the McKinley Street interchange and terminate farther east at the succeeding Pierce Street eastbound off-ramp. The westbound GP lane on SR-91 would originate at the Pierce Street on-ramp.

This page intentionally left blank





DETAIL LOCATION MAP

FIGURE 2-8

LEGEND

- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS
- SR–91/I–15 CONNECTOR
- EXISTING

NOTE : REFER ALSO TO APPENDIX L, PROJECT FEATURES, WHICH PROVIDES DETAILED PRELIMINARY DESIGN PLANS ON AN AERIAL PHOTOGRAPH BASE FOR THE TWO BUILD ALTERNATIVES AND THEIR DESIGN VARIATIONS.

N

NO SCALE

State Route 91 Corridor Improvement Project

Project Features at Main Street

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\Main St.cdr (7/25/11)

This page intentionally left blank

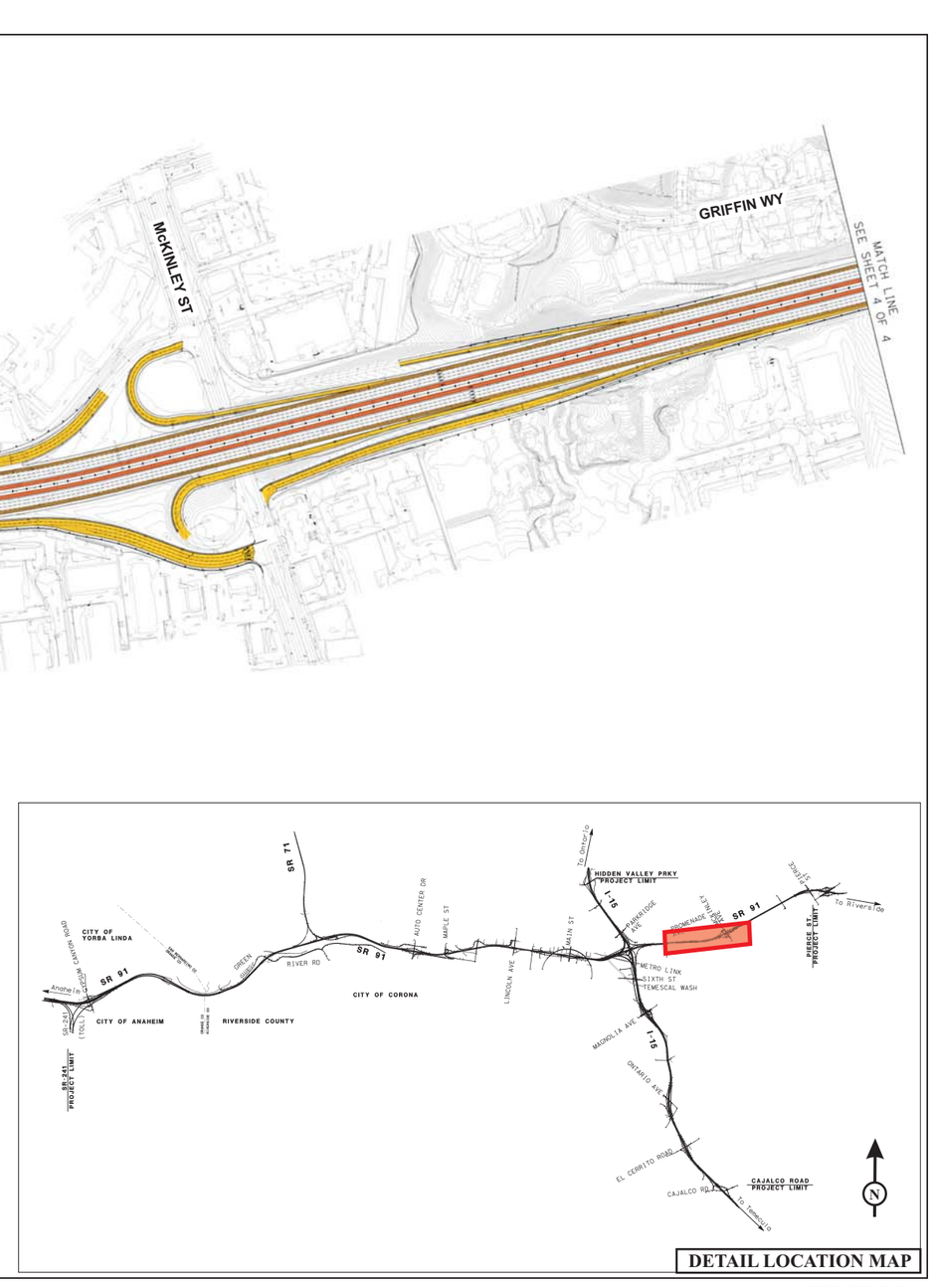


FIGURE 2-9

LEGEND

- EXISTING HOV LANE
- GENERAL PURPOSE LANE
- AUXILIARY LANE
- RAMP/CONNECTOR IMPROVEMENTS

N

NO SCALE

State Route 91 Corridor Improvement Project

Project Features at McKinley/Pierce Street

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Project Features\Alt 1\McKinley St.cdr (7/25/11)

This page intentionally left blank

Permanent I-15 Improvements Under Alternative 1

Under Alternative 1, one median HOV lane would be constructed in each direction on I-15 from the new SR-91 direct connector north to Ontario Avenue. The existing K-rail would be replaced, and the full median would be paved to accommodate the new HOV lanes. Figure 2-3, provided earlier, shows a typical cross section on I-15 under Alternative 1.

Advance Signage Under Alternative 1

The purpose of advance signage is to inform drivers that they are approaching a new facility such as an HOV lane, tolled express lanes, or a construction zone. The advanced signage limits under Alternative 1 at the south end of I-15 within the project limits would be between El Cerrito Road and Cajalco Road.

Based on proposed Section 2E-52 in the proposed 2009 *Manual on Uniform Traffic Control Devices* (MUTCD) by the FHWA, signs must be located 1 mi in advance of any exit or entry point and preferably 2 mi in advance of those points, as conditions might dictate, such as along major expressways.

Project Costs

Alternative 1 will cost between approximately $990 million and $1 billion, depending on the design variation. The road, structure, right-of-way, and total costs for Alternative 1 for each design variation are provided in Table 2.15. Alternative 1 will be funded primarily from Measure A funds.

Table 2.15 Alternative 1 Summary of Costs

Alternative	Roadway	Structure	Right-of-Way	Total
1a	$413,400,000	$369,400,000	$215,700,000	$998,500,000
1b	$412,800,000	$367,800,000	$209,700,000	$990,300,000
1c	$405,400,000	$387,900,000	$208,500,000	$1,001,800,000
1d	$404,800,000	$386,400,000	$202,400,000	$993,600,000

Source: *Project Report* (September 2011).

2.3.3.2 Alternative 2: Add General-Purpose Lanes and Extend Tolled Express Lanes

Background on the Existing State Route 91 Tolled Express Lanes in Orange County

The existing SR-91 tolled express lanes in Orange County were implemented for congestion relief on SR-91 when no public funds were available to address the critical transportation problem in the SR-91 corridor. This concept was unique because the

private sector would take the risk and the State would receive congestion relief at no cost to the taxpayers.

The SR-91 toll facility project was authorized as tolled express lanes by the State of California legislature in 1989. Built for $135 million, the tolled express lanes opened in 1995. The California Private Transportation Company (CPTC) was the original owner of the SR-91 tolled express lanes. An agreement between CPTC and the Department included a noncompete provision that created a 1.5 mi protection zone along each side of SR-91. This zone prohibited improvements along the corridor and created mobility problems as the region and corresponding transportation demands grew.

The passage of AB 1010 in 2002 permitted OCTA to purchase the Express Lane Franchise in Orange County from the CPTC in January 2003. AB 1010 also eliminated the noncompete provision of the franchise agreement, which allowed capacity improvements in this corridor to be planned, funded, and implemented. SB 1316 in 2008 allows the RCTC to toll express lanes on SR-91 under the OCTA franchise agreement.

On July 14, 2003, OCTA adopted a toll policy for the 91 Express Lanes based on the concept of congestion management pricing. The policy is designed to optimize 91 Express Lanes traffic flow at free-flow speeds. To accomplish this OCTA monitors hourly traffic volumes. Tolls are adjusted when traffic volumes consistently reach a trigger point where traffic flow can become unstable. These are known as “super peak” hours. Given the capacity constraints during these hours, pricing is used to manage demand. Once an hourly toll is adjusted, it is frozen for six months. Other (non-super peak) toll prices are adjusted annually by inflation. Toll prices currently range from $1.35 in the non-peak hours to $10.05 in the eastbound SR-91 “super peak” hour from 3:00 to 4:00 p.m. on Fridays.[1] The OCTA 91 Express Lanes toll policy[2] includes the following specific objectives:

- Provide a safe, reliable, predictable commute for 91 Express Lanes customers
- Optimize vehicle throughput at free flow speeds
- Pay debt service and maintain debt service coverage
- Increase average vehicle occupancy

[1] http://www.91expresslanes.com/schedules.asp.
[2] http://www.91expresslanes.com/policies.asp.

- Balance capacity and demand to serve customers who pay tolls as well as carpoolers with three or more persons who are offered discounted tolls
- Generate sufficient revenue to sustain the financial viability of the 91 Express Lanes
- Ensure all bond covenants are met
- Repay OCTA's internal borrowing and provide net revenues for SR-91 corridor improvements

On May 19, 2003, OCTA adopted the "Three Ride Free" policy. This innovative policy encourages carpooling by allowing a group of three or more commuters per vehicle to travel the 91 Express Lanes for free during most hours, except when traveling Eastbound, Monday through Friday between the hours of 4:00 p.m. and 6:00 p.m. At these times, carpools of three or more can still save money by earning a 50 percent discount on the posted toll.

The OCTA purchase of the 91 Express Lanes allowed revenues in excess of those needed for operations, maintenance, and debt payments to be used for improvements along the SR-91 corridor, including $6.6 million in revenues contributed by OCTA for the SR-91 Eastbound Lane Addition Project. As noted in the 91 Express Lanes 2009 Annual Report, since OCTA took ownership of the 91 Express Lanes in 2003, they continue to be financially stable. Through the difficult economic conditions in fiscal year 2008–2009, OCTA maintained a stable financial situation for the toll facility. In fiscal year 2008–2009, as in every past year, the 91 Express Lanes continued to meet its financial obligations while providing its customers with travel time savings.

RCTC 91 Express Lanes Toll Policy

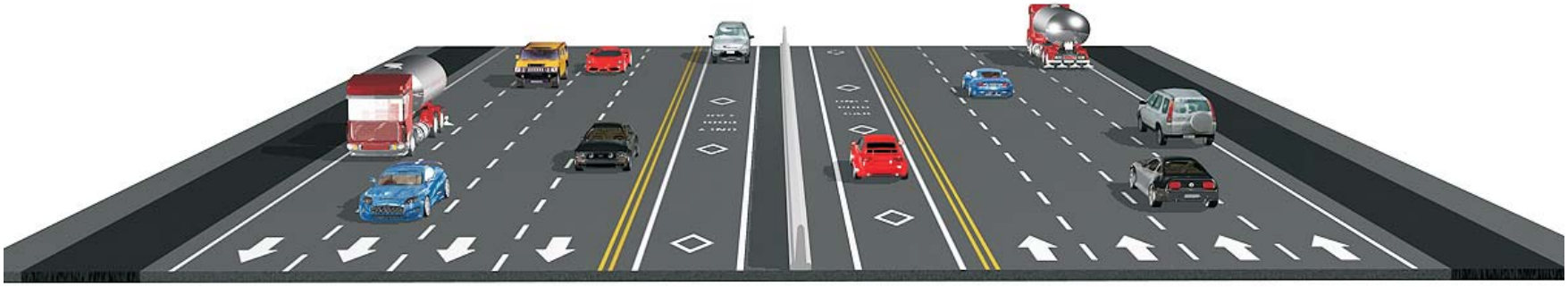
On June 7, 2012, the RCTC formally adopted the "RCTC 91 Express Lanes Toll Policy." The goals and specific policy statements listed above for the OCTA 91 Express Lanes toll policy were adopted by RCTC for the RCTC 91 Express Lanes. As stated in the RCTC staff report dated June 7, 2012, "OCTA and the Commission sharing the same toll policy goals supports coordinated regional operation of the lanes and a seamless customer experience." In addition to the posted tolls, the RCTC 91 Express Lane toll policy allows carpoolers with three or more persons (HOV3+), zero emission vehicles (ZEVs), motorcycles, disabled plates and disabled veterans to ride free during most hours. The exception is Monday through Friday 4:00 p.m. to 6:00 p.m. in the eastbound direction when they pay 50 percent of the posted toll.

Description of Alternative 2

Under Alternative 2, one GP lane would be constructed in each direction on SR-91 from the SR-91/SR-241 interchange in the City of Anaheim to Pierce Street in the City of Riverside. The existing tolled express lanes in Orange County would be extended east from the Orange/Riverside County line to I-15 in the City of Corona. The existing HOV lanes would be converted to tolled express lanes, and one additional tolled express lane would be added in each direction on SR-91 from the Orange/Riverside County Line to I-15, resulting in two tolled express lanes in each direction. Under Alternative 2, a single eastbound SR-91 tolled express lane would extend past I-15 to McKinley Street and convert to an HOV lane at Pierce Street. Westbound at Pierce Street, the existing HOV lane would be converted into a tolled express lane east of McKinley Street and join a second tolled express lane at the I-15 interchange. The new eastbound GP lane would join a newly constructed collector-distributor road providing access to the eastbound Pierce Street and Magnolia Avenue exit ramps. In the westbound direction, the existing HOV lane would be converted to a GP lane west of Pierce Street, and a new tolled express lane would be added in the median near McKinley Street, joining a second tolled express lane just west of I-15. Figure 2-10 shows a typical cross section on SR-91 under Alternative 2.

Under Alternative 2, a tolled express lane in each direction would be constructed on I-15. Single-lane tolled express lane direct connectors between I-15 and SR-91 would provide access from northbound I-15 to westbound SR-91 and from eastbound SR-91 to southbound I-15 extending as a single tolled express lane in each direction on I-15 to Cajalco Road. Additionally, single-lane tolled express lane direct connectors will be constructed from eastbound SR-91 to northbound I-15 and from southbound I-15 to westbound SR-91, extending as a single-lane tolled express lane in each direction north on I-15 to the Hidden Valley Parkway interchange. The direct connectors would allow express lane drivers to travel from the tolled express lanes on one corridor into the tolled express lanes on another corridor without having to transition through the GP lanes. Figure 2-11 shows a typical section on I-15 under Alternative 2.

The goal of tolled express lanes is to provide for long-lasting, reliable, free-flow travel for eligible users in an otherwise congested corridor. Tolled express lanes can be used by single- and multiple-occupancy vehicles for a fee, and users would be required to carry an active FasTrak transponder/account. The tolled express lanes would be available to HOVs with three or more people, motorcycles, zero-emission vehicles, and vehicles driven by handicapped persons with registered license plates, including disabled veterans, at either no toll or a reduced toll provided those vehicles



Existing Typical Cross Section

Proposed Typical Cross Section

FIGURE 2-10

LEGEND

- NEW GENERAL PURPOSE LANE
- CONVERTED TOLLED EXPRESS LANE
- NEW TOLLED EXPRESS LANE
- NEW AUXILIARY LANE

State Route 91 Corridor Improvement Project

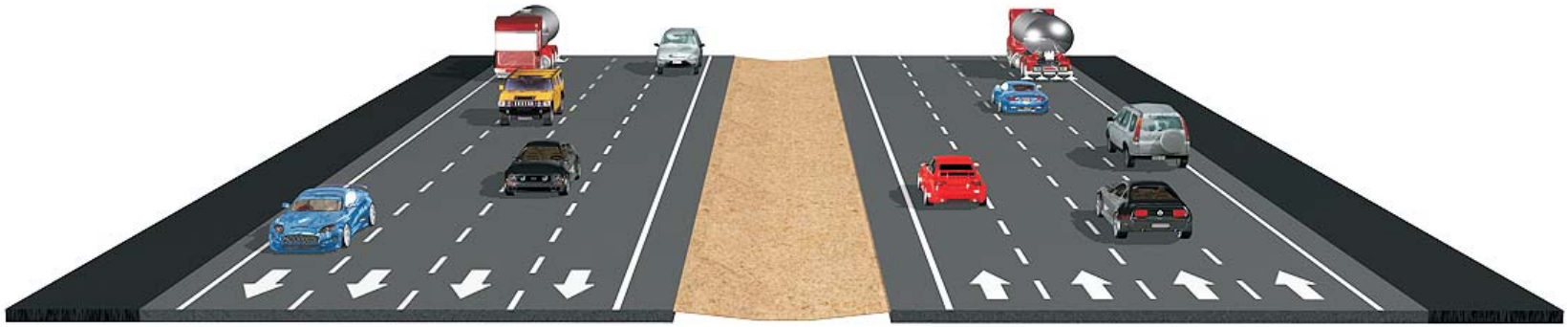
Typical Cross Section for Alternative 2 (LPA) on SR-91

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

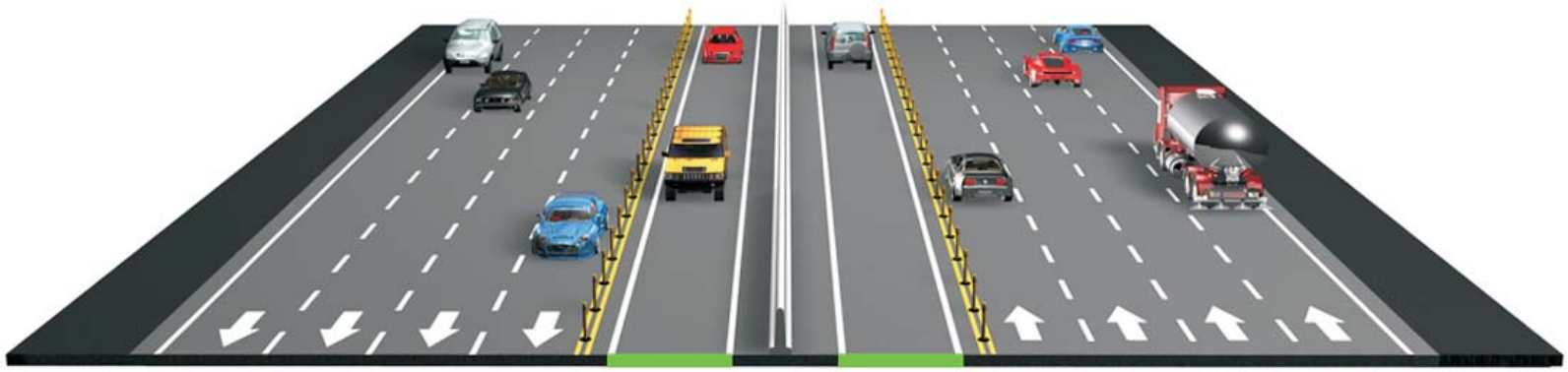
NOT TO SCALE

I:\PAZ0701\G\Fig 2-10 Typ Sect Alt SR-91 2b_v2.cdr (4/8/11)

This page intentionally left blank



Existing Typical Cross Section



Typical Cross Section for the Project

FIGURE 2-11

LEGEND

NEW TOLLED EXPRESS LANE

State Route 91 Corridor Improvement Project

Typical Cross Section for Alternative 2 on I-15

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

NOT TO SCALE

I:\PAZ0701\G\Fig 2-11 Typ Sect Alt 2b_v2.cdr (7/25/11)

This page intentionally left blank

are equipped with active FasTrak toll transponders and accounts. As an example, the existing 91 Express Lanes in Orange County offer half-priced tolls to these vehicle classifications during certain peak hours with no toll during all other periods. In accordance with RCTC's adopted RCTC 91 Express Lane toll policy, existing and planned express bus services operating in the SR-91 corridor that provide connections between Orange and Riverside Counties will be able to use the tolled express lanes at either no toll or reduced tolls, depending on the day of the week. The advantage compared to two-or-more-person carpool lanes is the reliability of free-flow conditions and the ability to pass in a two-lane facility. Motorcycles, emergency, and other exempted vehicles meeting State requirements would be exempted from express lane tolls. Trucks, recreational, and other large vehicles as currently defined by the State with regards to HOV lanes would continue to be prohibited.

Alternative 2 is included as an alternative for the project because it would be funded in part by the Measure A sales tax revenue and by toll revenue bonds. The toll revenues generated under Alternative 2 would be used as the funding source for the construction and operation of the tolled express lanes under Alternative 2.

The following sections describe the project components and features of Alternative 2 in more detail. In addition, maps detailing the Alternative 2 project components and features are provided in Appendix L.

Permanent Improvements under Alternative 2

The mainline improvements to SR-91 for Alternative 2, including improvements to the interchanges, are generally similar to the improvements described earlier for Alternative 1. Refer to that earlier discussion and the figures provided in that section for the detailed description of those improvements.

In addition to the design variations at Auto Center Drive/Maple Street and Lincoln Avenue described earlier under Alternative 1 which would also apply to Alternative 2, Alternative 2 includes two design variations at Smith Avenue:

- **No Drop Ramp Design Variation:** Under this design variation, no additional access to the tolled express lanes would be provided on SR-91 between the Orange/Riverside County line and I-15.
- **Drop Ramp Design Variation:** Under this design variation, the existing Smith Avenue overcrossing would be reconstructed with drop ramps to provide an eastbound tolled express lane exit to Smith Avenue and a westbound entrance from Smith Avenue to the tolled express lanes.

The three design variations under Alternative 2 would result in eight combinations of design variations, as summarized in Table 2.16.

Table 2.16 Alternative 2 Design Variation Combinations

Alt.	Auto Center Drive/Maple Street Interchange	Smith Avenue	Lincoln Avenue Interchange
2a	Split Diamond design variation	No Drop Ramp design variation	Tight Diamond design variation
2b	Split Diamond design variation	No Drop Ramp design variation	Hook Ramp design variation
2c	Split Diamond design variation	Drop Ramp design variation	Tight Diamond design variation
2d	Split Diamond design variation	Drop Ramp design variation	Hook Ramp design variation
2e	Direct Connector design variation	No Drop Ramp design variation	Tight Diamond design variation
2f	Direct Connector design variation	No Drop Ramp design variation	Hook Ramp design variation
2g	Direct Connector design variation	Drop Ramp design variation	Tight Diamond design variation
2h	Direct Connector design variation	Drop Ramp design variation	Hook Ramp design variation

Source: *Project Report* (September 2011).
Alt. = Alternative

The primary difference in the improvements on SR-91 between Alternatives 1 and 2 is that Alternative 2 adds one 12 ft wide additional travel lane in each direction as part of the tolled express lanes. That additional lane would be accommodated in all the interchange improvements on SR-91 and their design variations as discussed earlier under Alternative 1.

The basic concept for the tolled express lanes under Alternative 2 is to provide an access point at the Orange/Riverside County line and then extend the two tolled express lanes in each direction to I-15. In addition, a Mid-City Access location would be constructed at Smith Avenue in the City of Corona. That access point would allow City of Corona residents to access the tolled express lanes, to and from the west, at a midpoint between access points to the east and west. The tolled express lanes would continue with one lane in each direction through the I-15 interchange on SR-91. As a result, a driver traveling east in the tolled express lanes would have three choices at the termination of the tolled express lanes: (1) continue on SR-91 in a single tolled express lane for approximately 1 mi through the interchange and then either enter an HOV lane or continue in the GP lanes; (2) travel south on I-15 to a single tolled express lane in the median, which would be converted to GP lanes approximately 4 mi south of that merge; or (3) travel north on I-15 to a single tolled express lane in the median, which would be converted to the GP lanes approximately 0.5 mi north of that merge. For westbound traffic on SR-91, entrances to the tolled express lanes would be provided in the median of SR-91 or from the northbound and southbound I-15 direct connectors. Access to the tolled express lanes would be provided at the Orange/

Riverside County line by way of a median auxiliary lane that extends from an egress lane to an ingress lane in each direction.

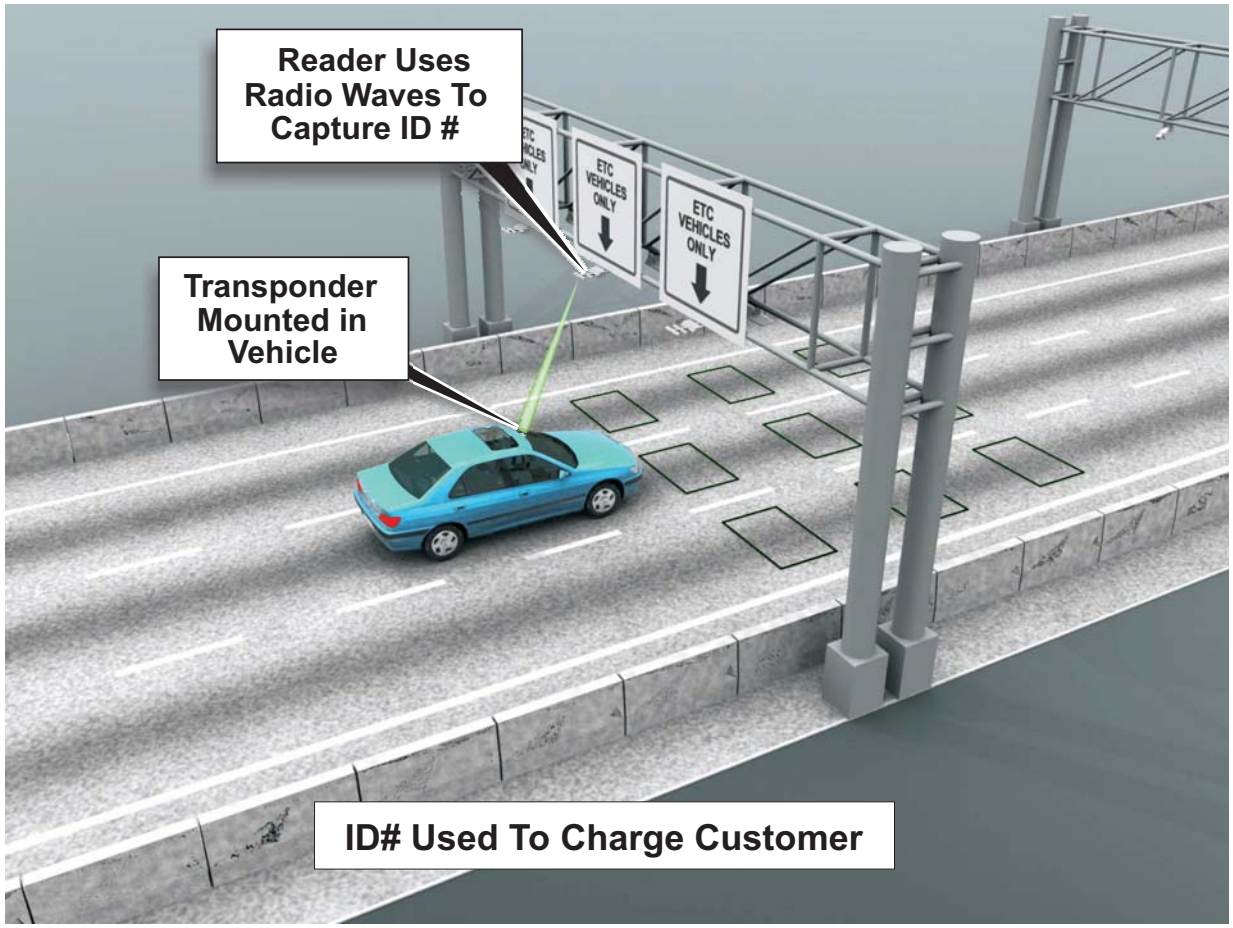
SR-91 Toll System Under Alternative 2

The tolled express lanes under Alternative 2 would be operated as an electronic toll collection (ETC) system. There would be no opportunity to pay tolls with cash on this facility. All tolled express lane users would be required to have an account with a tolling agency. The tolling agencies issue a California Standard (Title 21 compliant) transponder or toll tag to each customer. The transponders would be mounted on the windshields of the registered vehicles. It is anticipated that many Riverside County tolled express lane users would be existing account holders with the OCTA. The existing OCTA account holders, as well as other toll agency customers in California with transponders, would be able to use the extended tolled express lanes with their existing transponders with no further administrative action on their part. As shown on Figure 2-12, tolls would be collected electronically by equipment that would read the transponders at highway speeds. The transition from the OCTA tolled express lanes to the Riverside County tolled express lanes under Alternative 2 would be as seamless as possible for users.

In accordance with the RCTC 91 Express Lane toll policy adopted by RCTC on June 7, 2012, the operating rules, toll structure, and violation enforcement process for the Riverside County tolled express lanes would be the same as those that are currently in effect in Orange County. The toll rate will be set by time of day based on traffic demand observed over the previous 3-month period. This variable pricing approach adjusts toll rates based on the number of vehicles on the road to maintain free-flow conditions and maximize total throughput.

On the Orange County tolled express lanes, toll rates average $2.93 per trip and currently vary from a minimum of $1.35 to a maximum of $10.05 for 1 hour during the Friday afternoon peak period. The toll rate on the SR-91 CIP tolled express lanes will be set by the time of day and day of week based on hourly traffic demand observed over the previous 3-month period. This is the method that gets the toll rates on the existing SR-91 tolled express lanes operated by OCTA. This method involves comparing actual traffic demand against a preset maximum threshold and adjusting the pricing accordingly, thereby maintaining reasonable travel times throughout the day on the tolled express lanes. The SR-91 CIP tolling system would have the ability to operate under dynamic pricing in the future where the actual travel time in the

This page intentionally left blank



ETC: Electronic Toll Collection

FIGURE 2-12

State Route 91 Corridor Improvement Project

Toll Transponder Operation under Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Toll Op.cdr (7/25/11)

This page intentionally left blank

SR-91 tolled express lanes or the travel time differential between the SR-91 GP lanes and the SR-91 tolled express lanes would be measured in real time between the entry and exit points. The price to travel in the tolled express lanes would be adjusted, usually in 15-minute intervals, as required to maintain traffic flow. The special vehicle classifications that are eligible would still receive reduced tolls.

Tolls would be collected along the route at specific points or toll debiting stations. These debiting stations would consist of an overhead antenna that reads the transponder, causing a charge to the customer's account in the amount of the toll applicable for the day of the week and time of day the trip is made. At this same point, a camera would record images of the license plate for violation enforcement purposes. Signs would advise motorists of the location of the upcoming tolled express lane entry; motorists would be forewarned that the facility they would be entering is a toll facility that would require a toll transponder. The amount of the current toll would also be displayed before the motorists enter the tolled express lane facility. A more detailed description of the tolling system can be found in the *Toll System Description Report* (July 2010).

The toll antenna and cameras at the debiting stations would be connected by a fiber optic cable backbone communications network to the existing SR-91 Toll Operations Center (TOC) and Customer Service Center (CSC). The TOC would serve as the 24/7 operating and maintenance information center for the tolled express lanes. The CSC would provide account services to the facility's customers and violation verification and processing. The CSC would be the central facility where customer accounts would be established and managed, toll transponders issued and tested, and violation processing would occur. The existing OCTA SR-91 TOC and CSC joint facility, as shown on Figure 2.13, would be used for the SR-91 CIP tolled express lanes under Alternative 2, and no new buildings would be required.

Advance Signage for Alternative 2

The purpose of advance signage is to inform drivers that they are approaching tolled express lanes, an HOV lane, or a construction zone. The advance signage limits on SR-91 under Alternative 2 would extend from Weir Canyon Road to SR-241 at the west end of the study area and from Tyler Street and Pierce Street at the east end of the study area. Advance signage limits at the south end of I-15 would be between Weirick Road and Cajalco Road. The advance signage limits at the north end of I-15 would be between Third Street and Hidden Valley Parkway in the City of Norco.

This page intentionally left blank

FIGURE 2.13

State Route 91 Corridor Improvement Project
Existing SR-91 Express Lanes TOC and CSC
12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: PB Americans, Inc. (2011)

I:\PAZ0701\G\Visual\Exist SR-91 Express TOC CSC.cdr (4/6/11)

This page intentionally left blank

Project Costs

Alternative 2 would cost between $1.3 billion and $1.4 billion, depending on the design variation. The roadway, structure, right-of-way, and total costs for Alternative 2 for each design variation are provided in Table 2.17.

Table 2.17 Alternative 2 Summary of Costs

Alternative	Roadway	Structure	Right-of-Way	Total
2a	$557,800,000	$541,600,000	$253,200,000	$1,352,600,000
2b	$559,900,000	$540,000,000	$245,100,000	$1,345,000,000
2c	$567,600,000	$569,200,000	$272,600,000	$1,409,400,000
2d	$569,800,000	$567,600,000	$270,200,000	$1,407,600,000
2e	$555,300,000	$561,100,000	$238,300,000	$1,354,700,000
2f	$551,900,000	$559,600,000	$269,000,000	$1,380,500,000
2g	$567,200,000	$588,800,000	$270,200,000	$1,426,200,000
2h	$569,400,000	$587,200,000	$267,800,000	$1,424,400,000

Source: *Project Report* (September 2011).

2.3.4 Phasing Plans for the Build Alternatives

2.3.4.1 Overview of the Phasing Plans

A phasing plan identifies project components that would be designed and implemented in phases as the entire project constructed is over time. For a transportation project such as the project, the phasing can be based on a number of factors (e.g., available funding, constructability, availability of right-of-way, traffic demand, and/or coordination with regional and local land use planning).

The phasing plans for the Build Alternatives were developed largely based on the funding anticipated to be available after completion of the environmental process and identification of the Preferred Alternative. The phasing plans were developed to provide for meaningful transportation improvements that would provide timely benefits to travelers on SR-91 and/or I-15.

2.3.4.2 Need for the Phasing Plans

The project is partially funded in the Measure A 10-Year Delivery Plan (RCTC 2009). Measure A is a one-half-cent sales tax in Riverside County that is dedicated to transportation improvements in the County. As described in the Measure A 10-Year Delivery Plan, Alternative 1 and the GP lanes in Alternative 2 are to be funded primarily with Measure A funds. The tolled express lanes in Alternative 2 are anticipated to be funded from bonds issued against future toll revenues generated from the SR-91 tolled express lanes. A summary of anticipated funding sources for the Initial Phases of Alternatives 1 and 2 is shown in Table 2.18.

Table 2.18 Anticipated Funding Sources

Potential Funding Source	Alternative 1	Alternative 2
RCTC Contribution (Measure A)	$830,586,000	$734,944,000
Federal TIFIA Loan	0	$444,117,000
STIP Funds	$2,000,000	$2,000,000
Toll Revenue Bonds (CIBs/CABs)	0	$163,768,000
Total	**$832,586,000**	**$1,344,829,000**

Source: Riverside County Transportation Commission (2011).
CABs = Capital Appreciation Bonds
CIBs = Current Interest Bonds
RCTC = Riverside County Transportation Commission
STIP = State Transportation Improvement Program
TIFIA = Transportation Infrastructure Finance and Innovation Act

As shown in Table 2.17, the Ultimate Project of the Preferred Alternative (Alternative 2f) is estimated to cost $1.38 billion and is scheduled for completion by 2035. The Ultimate Project is expected to be funded through a combination of federal, state, and local (Measure A) funds.

With the downturn in the local, regional, and State economies, sales tax revenues have decreased substantially since 2007. As a result, forecast levels of available Measure A sales tax revenues are not currently projected to be generated at the rate originally estimated in the Measure A 10-Year Delivery Plan. To accommodate these reduced revenues, and to provide transportation improvements as early as possible on SR-91 and I-15, RCTC developed a phasing plan for the two Build Alternatives to maximize the use of available funds.

The need for a phasing plan for the two Build Alternatives is based on the following:

- The reduction in sales tax revenues during the recent economic downturn has reduced the amount of funding available for transportation projects such as the project. As a result, waiting until the time when funds for the entire project become available could result in substantial delays in the delivery of any improvements in the SR-91 and I-15 corridors and the benefits of those improvements to the traveling public.
- The RCTC desires to provide benefits to the traveling public on the project segments of SR-91 and I-15 as soon as possible. This would be accomplished by phasing the implementation of the improvements in Alternatives 1 and 2. This would provide benefits in phases as funding becomes available rather than delaying all benefits until the entire project can be funded and implemented in one phase.

2.3.4.3 Phasing Plan for Alternative 1

The following background assumptions were made regarding the phasing plan for Alternative 1:

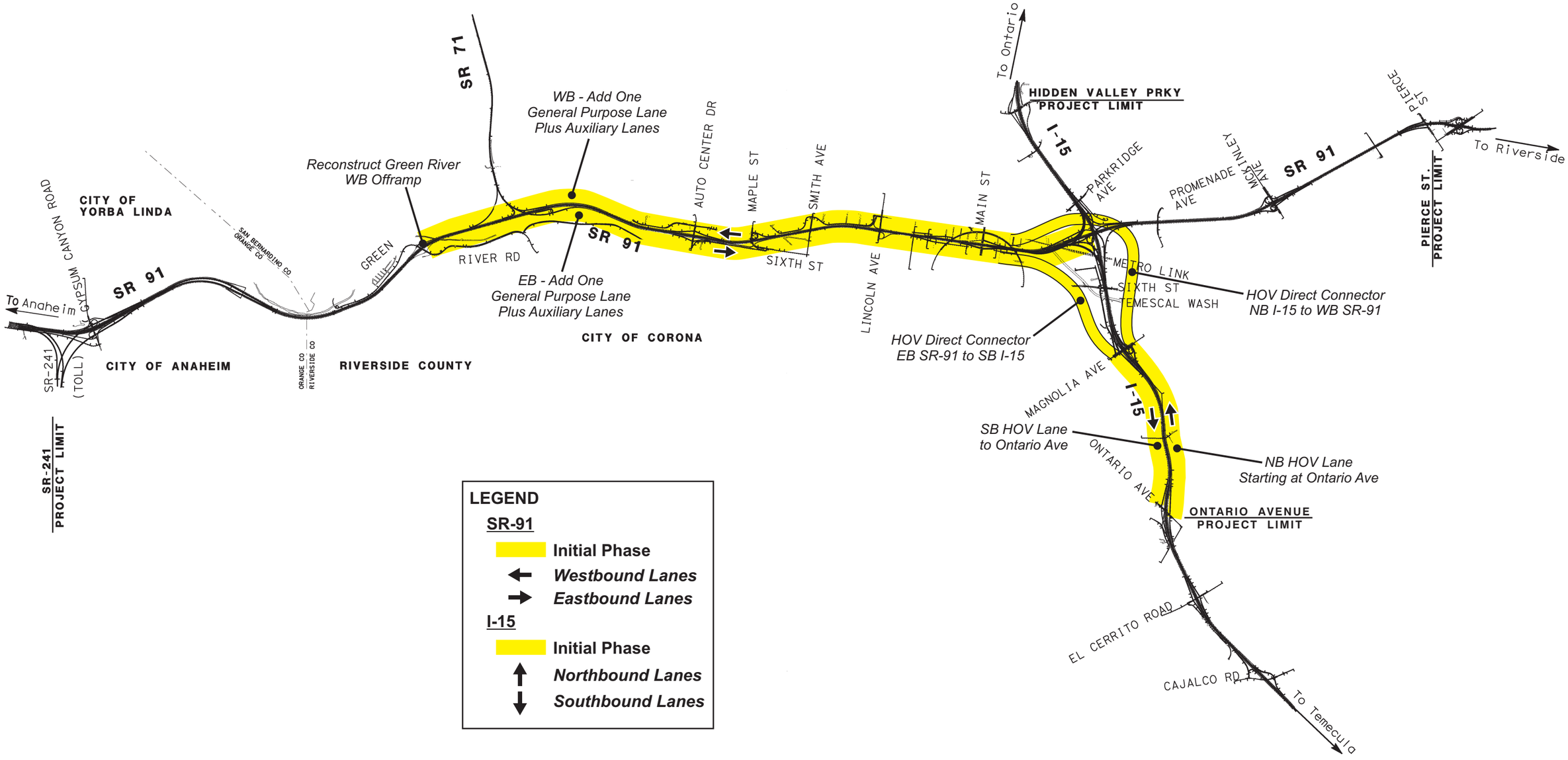
- All the project components and features in Alternative 1 would be constructed no later than 2035.
- The project features and components implemented in each phase of Alternative 1 would provide independent utility and would have logical termini.
- The phasing plan would apply to Alternative 1 with any of the four design variations (a, b, c, d) possible under Alternative 1.

Implementation of Alternative 1 will be in two phases over a 20-year period beginning with an Initial Phase that would be completed by 2017 and culminating with completion of the Ultimate Project (second phase) by 2035. Improvements that would be provided in the Initial Phase and Ultimate Project under Alternative 1 are shown on Figures 2-14 and 2-15, respectively. The improvements that would be provided in the Initial Phase and the Ultimate Project are described in Tables 2.19 and 2.20, respectively.

The Initial Phase of Alternative 1 would include improvements on SR-91 from approximately Green River Road to the I-15 interchange (a distance of about 6 mi) and single-lane direct connectors to and from I-15 south, extending from SR-91 to the Ontario Avenue interchange (a distance of about 3 mi). The Initial Phase of Alternative 1 would generally implement shorter segments of the Alternative 1 improvements on SR-91 and I-15, with a construction duration estimated at 4 years.

The Ultimate Project under for Alternative 1 would be constructed as an independent construction contract and is estimated to have a construction duration of 1 to 2 years. As shown on Table 2.19, the Ultimate Project under Alternative 1 would include the improvements on SR-91 from SR-241 to Green River Road (one GP lane in each direction) and the improvements on SR-91 from I-15 to Pierce Street (one GP lane in each direction). In locations where the Initial Phase improvements overlap with the Ultimate Project, such as bridges or retaining walls, the Initial Phase would construct those elements in their ultimate locations, to the extent feasible. Minimal additional costs associated with phasing are anticipated as efforts would be made to minimize future rework and throw-away costs.

This page intentionally left blank



Note: Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

NOT TO SCALE

FIGURE 2-14

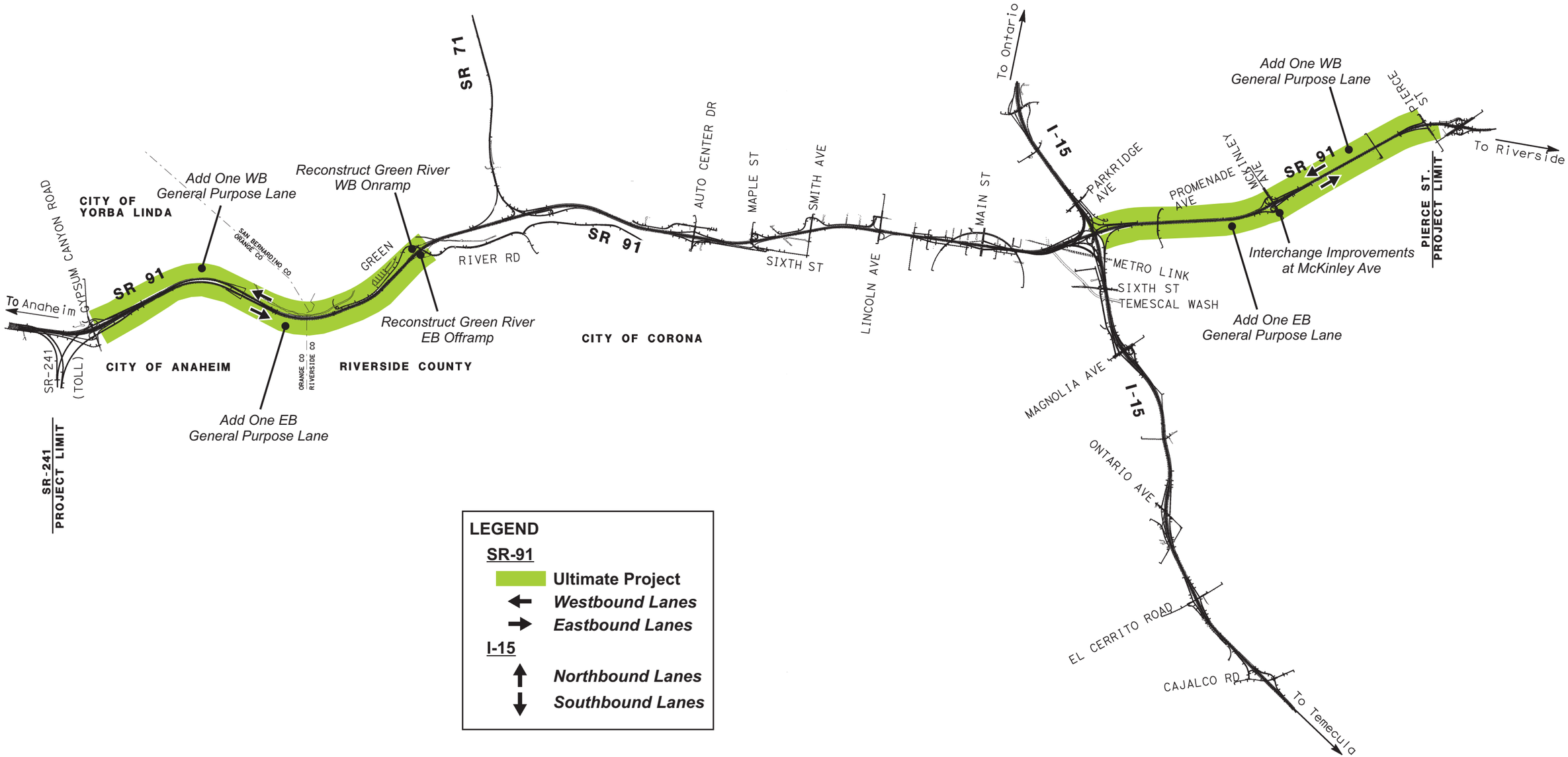
SR-91 Corridor Improvement Project

Initial Phase of Alternative 1

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 2-14-Initial Phasing-Alt 1.cdr (2/16/12)

This page intentionally left blank



Note: Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

NOT TO SCALE

FIGURE 2-15

SR-91 Corridor Improvement Project

Alternative 1 Ultimate Project

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 2-15-Ultimate Phasing-Alt 1.cdr (2/16/12)

This page intentionally left blank

Table 2.19 Project Improvements in the Initial Phase under Alternative 1

State Route 91 – Initial Phase of Alternative 1	
Eastbound SR-91 (from west to east)	**Westbound SR-91 (from east to west)**
No work is proposed from SR-241 to Green River Road in the eastbound direction in the Initial Phase.	The westbound Green River Road off-ramp would be reconstructed to accommodate the Alternative 1 Ultimate Project.
	From Green River Road to the Orange/Riverside County line, Green River Road would be realigned to its location in the Alternative 1 Ultimate Project.
From the Green River Road eastbound on-ramp to the SR-71 east-north loop connector, an auxiliary lane would be added by restriping. An optional second lane would be added at the entrance to the loop connector.	From the SR-71 south-west connector to the Green River Road off-ramp, an auxiliary lane would be added.
From SR-71 to I-15, the existing HOV lane would remain, and a fifth general-purpose lane would be added with interchange improvements at Serfas Club Drive/Auto Center Drive, Maple Street, Lincoln Avenue, and Main Street.	From I-15 to SR-71 on SR-91, the existing HOV lane would remain, and a fifth general-purpose lane would be added with interchange improvements at Main Street, Lincoln Avenue, Maple Street, and Serfas Club Drive/Auto Center Drive.
The I-15 connectors would diverge from SR-91 and merge with the eastbound Main Street on-ramp within a collector-distributor road.	The I-15 connectors would merge with the westbound Main Street off-ramp within a collector-distributor road before merging with SR-91.
There would be no improvements from I-15 to Pierce Street on SR-91 in the Initial Phase.	There would be no improvements from Pierce Street to I-15 on SR-91 In the Initial Phase.
I-15 – Initial Phase of Alternative 1	
A single-lane direct HOV connector would be provided from eastbound SR-91 to southbound I-15 that would continue as a single-lane HOV lane in the median of I-15, terminating near the Ontario Avenue interchange.	
A single-lane HOV lane would be constructed in the median of I-15 that would begin near the Ontario Avenue interchange and would continue northbound as a single-lane direct HOV connector to westbound SR-91.	

Source: Project Report (September 2011).
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Table 2.20 Project Improvements in the Ultimate Project under Alternative 1

State Route 91 – Ultimate Project for Alternative 1	
Eastbound SR-91 (from west to east)	**Westbound SR-91 (from east to west)**
One general purpose lane would be provided between SR-241 and SR-71. Between SR-241 and Coal Canyon, widening on the eastbound SR-91 is proposed to accommodate the additional lane. Between Coal Canyon and Green River Road the centerline of SR-91 is proposed to be shifted northward, and widening of westbound SR-91 is proposed to accommodate the additional eastbound lane.	One general purpose lane would be provided between SR-71 and SR-241. Between Coal Canyon and SR-241, widening on the westbound SR-91 is proposed to accommodate the additional lane.
	Between Green River Road and Coal Canyon, widening of westbound SR-91 is proposed to accommodate the additional lane.
The Green River eastbound off and on ramps would be widened and realigned to accommodate the Alternative 1 Ultimate Project.	The Green River Road westbound on ramp would be widened and realigned to accommodate the Alternative 1 Ultimate Project.
Eastbound SR-91 (from west to east)	**Westbound SR-91 (from east to west)**
Between Green River Road and SR-71 restriping the eastbound SR-91 is proposed to accommodate the additional general purpose lane	Between the SR-71 south-west connector to Green River Road, the additional general purpose lane would be added by restriping. An auxiliary lane would also be added in advance of the Green River Road off-ramp by restriping.
From I-15 to Pierce Street a fourth general purpose lane would be added by widening the eastbound SR-91 between I-15 and Pierce Street off ramp.	From Pierce Street to I-15 a fourth general purpose lane would be added by widening the westbound SR-91 between Pierce St westbound on ramp and I-15.
The McKinley Street eastbound ramps would be modified to accommodate the widening of SR-91 and additional lanes would be added to the ramps to accommodate future traffic demand.	The McKinley Street westbound ramps would be modified to accommodate the widening of SR-91 and additional lanes would be added to the ramps to accommodate future traffic demand.
I-15 – Ultimate Project for Alternative 1	
There would be no Improvements along northbound I-15 in the Ultimate Project.	
There would be no Improvements along southbound I-15 in the Ultimate Project.	

Source: Project Report (September 2011).
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

2.3.4.4 Phasing Plan for Alternative 2

Overview

The following background assumptions were made regarding the phasing plan for Alternative 2:

- All the project components and features in Alternative 2 would be constructed no later than 2035.
- The project features and components implemented in each phase of Alternative 2 would provide independent utility and would have logical termini.

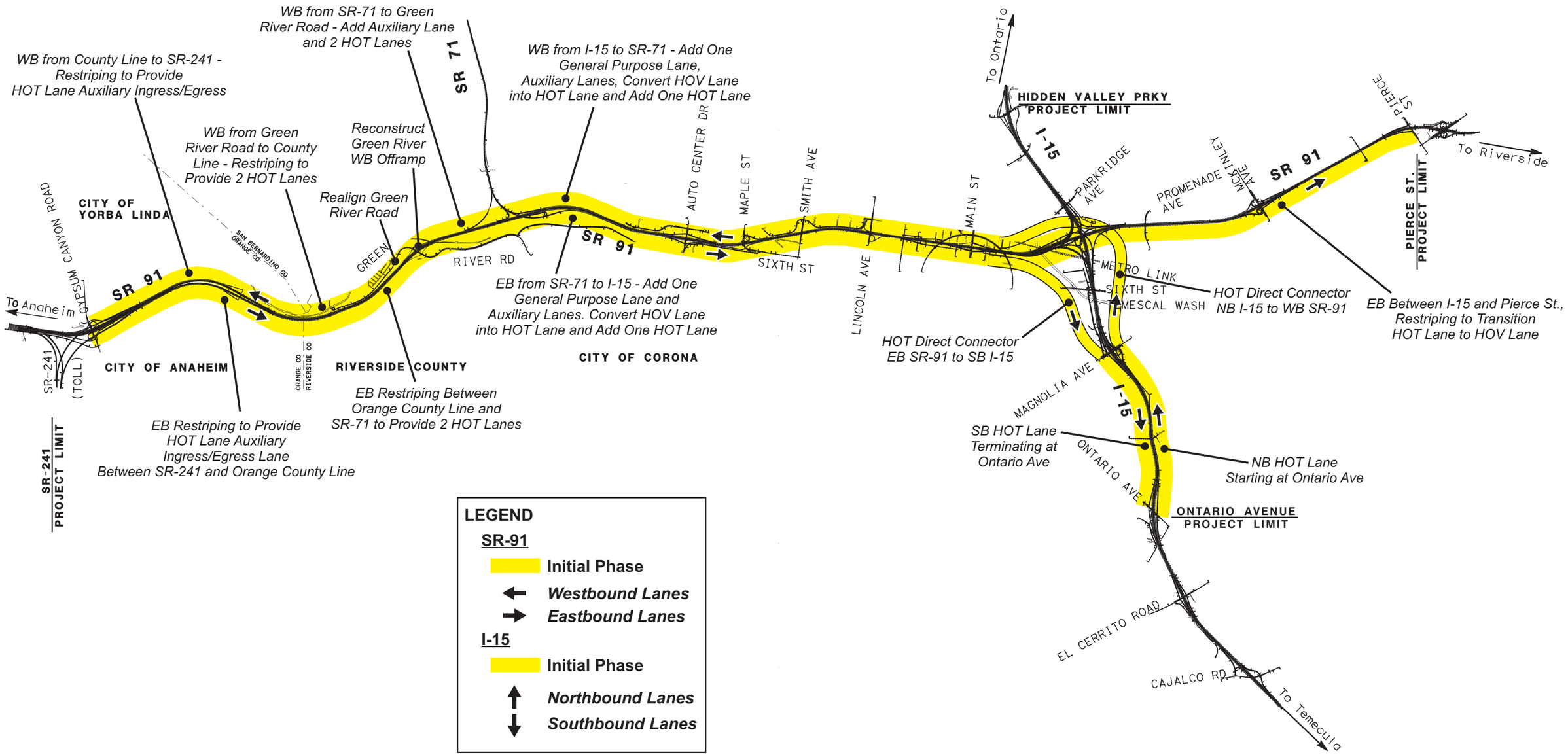
Implementation of Alternative 2 will be in two phases, beginning with an Initial Phase that would be completed by 2017 and culminating with completion of the Ultimate Project (second phase) by 2035. The Initial Phase and Ultimate Project under Alternative 2 are shown on Figures 2-16 and 2-17, respectively. The improvements that would be provided in the Initial Phase and the Ultimate Project are described in Tables 2.21 and 2.22, respectively.

The following section describes the improvements in the Initial Phase of Alternative 2 in detail. The phasing plan for Alternative 2 would not change regardless of the design variation. However, the details that follow are for Alternative 2 with design variation f. As discussed later in Section 2.3.7.4, Alternative 2f has been identified as the Preferred Alternative for the SR-91 CIP. The detailed description provided below is provided only for the Initial Phase of Alternative 2f because this is the only phase currently programmed for construction funding in the 2011 FTIP (Amendment 24).

Initial Phase for Alternative 2

The Initial Phase of Alternative 2 is the minimum project that could provide early benefits to the traveling public with logical termini and independent utility. As shown on Figure 2-16, the Initial Phase of Alternative 2 includes improvements on SR-91 from approximately the Orange/Riverside County line (where the existing Express Lanes terminate) to the I-15 interchange (a distance of approximately 8 mi) and single-lane direct connectors to and from I-15 south, extending from SR-91 to the Ontario Avenue interchange (a distance of approximately 3 mi). The Initial Phase of Alternative 2 would generally implement shorter segments of Alternative 2.

This page intentionally left blank



Note: The Initial Phase only needs striping and does not require any road widening for the segments west of SR-71 on SR-91 eastbound, west of Green River Road on SR-91 westbound, and east of I-15 on SR-91 eastbound.

Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

NOT TO SCALE

FIGURE 2-16

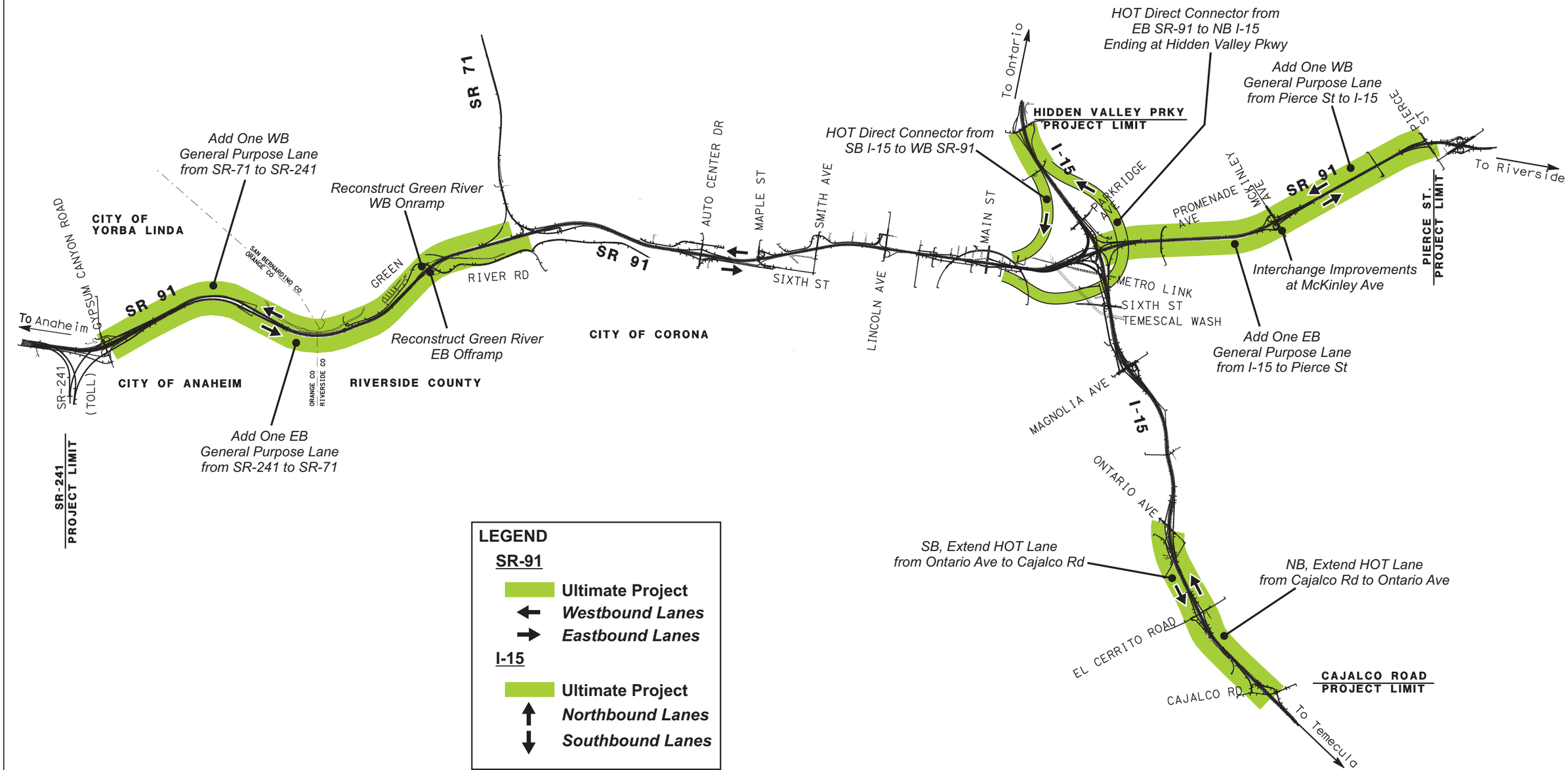
SR-91 Corridor Improvement Project

Initial Phase of Alternative 2

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing\Fig 2-16-Initial Phasing-Alt 2.cdr (2/16/12)

This page intentionally left blank



Note: The Initial Phase only needs striping and does not require any road widening for the segments west of SR-71 on SR-91 eastbound, west of Green River Road on SR-91 westbound, and east of I-15 on SR-91 eastbound.

Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

NOT TO SCALE

FIGURE 2-17

SR-91 Corridor Improvement Project

Alternative 2 Ultimate Project

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 2-17-Ultimate Phasing-Alt 2.cdr (2/16/12)

This page intentionally left blank

Table 2.21 Project Improvements in the Initial Phase under Alternative 2f

State Route 91 – Initial Phase of Alternative 2f	
Eastbound SR-91 (from west to east)	**Westbound SR-91 (from east to west)**
From SR-241 to Green River Road, an auxiliary lane would be provided between the egress (exit) and ingress (entrance) points for the tolled express lanes at the Orange/Riverside County line. This would be achieved by restriping the existing pavement.	The westbound Green River Road on-ramp would be reconstructed to accommodate the Alternative 2 Initial Phase.
	From Green River Road to the Orange/Riverside County line, Green River Road would be realigned to its location in the Alternative 2 Ultimate Project.
	The westbound Green River Road off-ramp would be reconstructed to accommodate the Alternative 2 Ultimate Project.
	From Green River Road to SR-241, an auxiliary lane would be provided between the egress (exit) and ingress (entrance) points for the tolled express lanes at the Orange/Riverside County line, which would be achieved by a combination of widening and restriping the existing pavement.
From the Orange/Riverside County line to SR-71, the two existing HOV lanes would be converted to two tolled express lanes.	From SR-71 to the Riverside/Orange County line, the existing HOV lane would be converted to a tolled express lane, and a second tolled express lane would be added.
From the Green River Road eastbound on-ramp to the SR-71 east-north loop connector, an auxiliary lane would be added by restriping. An optional second lane would be added at the entrance to the loop connector.	From the SR-71 south-west connector to the Green River Road off-ramp, an auxiliary lane would be added.
From SR-71 to I-15, the existing HOV lane would be converted to a tolled express lane, a second tolled express lane would be added, and a fifth general-purpose lane would be added with interchange improvements at Serfas Club Drive/Auto Center Drive, Maple Street, Lincoln Avenue, and Main Street.	From I-15 to SR-71 on SR-91, the existing HOV lane would be converted to a tolled express lane, a second tolled express lane would be added, and a fifth general-purpose lane would be added with interchange improvements at Main Street, Lincoln Avenue, Maple Street, and Serfas Club Drive/Auto Center Drive.
The I-15 connectors would diverge from SR-91 and merge with the eastbound Main Street on-ramp within a collector-distributor road.	The I-15 connectors would merge with the westbound Main Street off-ramp within a collector-distributor road before merging with SR-91.
From I-15 to Pierce Street on SR-91, a single tolled express lane would transition to a fourth general-purpose lane, and an HOV lane would be added by restriping the existing pavement.	There would be no improvements from Pierce Street to I-15 on SR-91.
I-15 – Initial Phase of Alternative 2f	
A single-lane tolled express lane connector would be provided from eastbound SR-91 to southbound I-15 that would continue as a single-lane tolled express lane in the median of I-15, terminating near the Ontario Avenue interchange.	
A single-lane tolled express lane would be constructed in the median of I-15 that would begin near the Ontario Avenue interchange and would continue northbound as a single-lane express lane connector to westbound SR-91.	

Source: Project Report (September 2011).
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Table 2.22 Project Improvements in the Ultimate Project under Alternative 2f

State Route 91 – Ultimate Project for Alternative 2f	
Eastbound SR-91 (from west to east)	**Westbound SR-91 (from east to west)**
A sixth general purpose lane would be provided between SR-241 and SR-71. Between SR-241 and Coal Canyon, widening on the eastbound SR-91 is proposed to accommodate the additional lane. Between Coal Canyon and Green River Road the centerline of SR-91 is proposed to be shifted northward, and widening of westbound SR-91 is proposed to accommodate the additional eastbound lane.	A sixth general purpose lane would be provided between SR-71 and SR-241. Between Coal Canyon and SR-241, widening on the westbound SR-91 is proposed to accommodate the additional lane.
	Between Green River Road and Coal Canyon, widening of westbound SR-91 is proposed to accommodate the additional lane.
The Green River Road eastbound off and on ramps would be widened and realigned to accommodate the Alternative 2 Ultimate Project.	The Green River Road westbound on ramp would be widened and realigned to accommodate the Alternative 2 Ultimate Project.
Between Green River Road and SR-71 restriping the eastbound SR-91 is proposed to accommodate the additional general purpose lane.	Between the SR-71 south-west connector to Green River Road, the additional general purpose lane would be added by restriping. An auxiliary lane would also be added in advance of the Green River Road off-ramp by restriping.
From I-15 to Pierce Street, a fourth general purpose lane would be added by widening the eastbound SR-91 between I-15 and Pierce Street off ramp. The eastbound tolled express lane would be extended from I-15 to McKinley Street interchange by restriping the inside general purpose lane.	From Pierce Street to I-15 a fourth general purpose lane would be added by widening the westbound SR-91 between Pierce St westbound on ramp and I-15. The westbound HOV lane would be converted to a tolled express lane within these limits.
The McKinley Street eastbound ramps would be modified to accommodate the widening of SR-91 and additional lanes would be added to the ramps.	The McKinley Street westbound ramps would be modified to accommodate the widening of SR-91 and additional lanes would be added to the ramps.
A new collector-distributor road would be constructed combining the Pierce Street and Magnolia Avenue eastbound off ramps into one exit point from SR-91 which is also the termination point of the fourth general purpose lane addition.	
I-15 – Ultimate Project for Alternative 2f	
A single-lane tolled express lane would be constructed in the median in both the northbound and southbound directions extending from Ontario Avenue interchange to Cajalco Road interchange.	
A single-lane tolled express lane connector would be provided from eastbound SR-91 to northbound I-15 that would extend in the median of I-15 to Hidden Valley Road interchange.	
A single-lane tolled express lane would be constructed in the median of I-15 that would begin at Hidden Valley Road interchange and would continue southbound as a single-lane express lane connector to westbound SR-91.	

Source: *Project Report* (September 2011).
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

The project components on SR-91 and I-15 provided in the Initial Phase of Alternative 2 are described in detail in Table 2.21. Typical cross sections on SR-91 and I-15 for the Initial Phase of Alternative 2 are described in Table 2.22. Typical cross sections for the No Build Alternative and Alternative 2 are also described in Table 2.23 for comparison purposes.

Nonstandard Mandatory and Advisory Design Features

The categories of nonstandard mandatory and advisory design features in the Initial Phase of Alternative 2f are listed in Table 2.24.

Permanent Features

Bridges

The Initial Phase of Alternative 2f would require bridge work involving 24 structures as shown in Table 2.25. The bridge work would be a combination of modifications to existing structures, replacement of existing structures, and construction of new bridges. Some of the existing bridges that would be widened would also be seismically retrofitted.

Interchanges

The existing local road interchanges on SR-91 at Green River Road, Auto Center Drive, Maple Street, Lincoln Avenue, West Grand Boulevard, and Main Street would be modified to accommodate the mainline improvements on SR-91 under the Initial Phase of Alternative 2f. The existing system interchanges with SR-91 at SR-71 and I-15 would also be modified to accommodate the improvements on SR-91 under the Initial Phase of Alternative 2f.

Major Drainage and Culvert Facilities

Over 30 major cross-drainage structures and numerous inlets and contributory structures would be affected by the Initial Phase of Alternative 2f. The affected drainage/culvert structures and how they would be modified under the Initial Phase of Alternative 2f are summarized in Table 2.26.

Water Quality/Erosion Control

Erosion control would be required for the Initial Phase of Alternative 2f to assure storm water quality compliance and minimize long-term facility maintenance requirements. For slopes steeper than 4:1 (vertical to horizontal), an erosion control plan would be developed under the supervision of the Department District Landscape Architect that indicates how steeper slopes would be stabilized. For slopes steeper than 2:1, the erosion control plan would include a Geotechnical Report that addresses

Table 2.23 Typical Mainline Cross Sections for the Initial Phase of Alternative 2f

Freeway Segments	No Build Alternative	Initial Phase of Alternative 2f	Alternative 2f
Typical Cross Sections on SR-91			
SR-241 to the Orange/Riverside County line	• 2 tolled express lanes • 5 general-purpose lanes	• 2 tolled express lanes • 5 general-purpose lanes • **1 tolled express auxiliary lane**	• 2 tolled express lanes • **6 general-purpose lanes** • 1 tolled express auxiliary lane
Orange/Riverside County line to SR-71	• 2 HOV lanes • 5 general-purpose lanes	• **2 tolled express lanes** • 5 general-purpose lanes • **1 tolled express auxiliary lane**	• 2 tolled express lanes • **6 general-purpose lanes** • 1 tolled express auxiliary lane
SR-71 to I-15	• 1 HOV lane • 4 general-purpose lanes	• **2 tolled express lanes** • **5 general-purpose lanes** • **1 auxiliary lane**	• 2 tolled express lanes • 5 general-purpose lanes • 1 auxiliary lane
I-15 to Pierce Street	• 1 HOV lane • 3 general-purpose lanes	• 1 HOV lane • 3 general-purpose lanes	• **1 tolled express lane** • **4 general-purpose lanes**
Typical Cross Sections on I-15			
Cajalco Road to Ontario Avenue	• 3 general-purpose lanes	• 3 general-purpose lanes	• **1 tolled express lane** • 3 general-purpose lanes
Ontario Avenue to SR-91	• 4 general-purpose lanes	• **1 tolled express lane** • 4 general-purpose lanes	• 1 tolled express lane • 4 general-purpose lanes
SR-91 Interchange to Hidden Valley Parkway	• 4 general-purpose lanes	• 4 general-purpose lanes	• **1 tolled express lane** • 4 general-purpose lanes

Source: *Project Report* (September 2011).
Note: **Bold** indicates a change in the cross section when compared to the cross sections in the column to the immediate left.
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

Table 2.24 Nonstandard Mandatory and Advisory Design Features

Design Features		
• Clear Width to Bridge Rails	• HOV Guidelines	• Single Lane Branch Connectors
• Compound/Reverse Curves	• HOV Preferred Lane (On-Ramp)	• Single Lane Ramps
• Corner Sight Distance	• Interchange Spacing	• Standards for Curvature
• Decision Sight Distance	• Lane Drop	• Stopping Sight Distance
• Design Speed Standards	• Mainline Reduction at Interchange	• Superelevation Rate/ Transition/Runoff
• Distance Between Successive On-Ramps	• Median Width	• Traveled Way Width
• Diversion Angle	• Outer Separation	• Two Lane Exit Ramps
• Grade of Local Road at Ramp Connection	• Ramp Gore Geometry	• Vertical Curve Length
• Horizontal Clearance to Wall	• Shoulder Width	
• Horizontal Curve Radius	• Side Slope	

Source: *Project Report* (September 2011).

Table 2.25 Structures Work Under the Initial Phase of Alternative 2f

PM	Bridge Name	Bridge No.	New	Replace	Widen	Retrofit
Riv-91- R0.07	County Line Creek	56-0366			X	
Riv-91-TBA	Green River WB Off-Ramp OH	TBA	X			
Riv-91-R1.14	West Prado OH	56-0634 L			X	
Riv-91-R2.08	Rte 91/71 Sep	56-0587			X	
Riv-91-R2.08	E91-N71 Conn Sep	56-0635			X	X
Riv-91-R2.84	Prado OH	56-0637 L/R			X	
Riv-91-R3.71	Serfas Club Drive UC	56-0368 L/R			X	X
Riv-91-TBA	Westbound Maple On-ramp	TBA	X[1]			
Riv-91-TBA	Eastbound Maple Off-ramp	TBA	X			
Riv-91-4.16	Maple Street OC	56-0344		X		
Riv-91-5.38	Lincoln Avenue OC	56-0362			X	
Riv-91-5.70	Buena Vista Avenue UC	56-0373 L/R			X	
Riv-91-5.99	West Grand Boulevard UC	56-0445 L/R			X	X
Riv-91-6.34	Main Street UC	56-0448 L/R		X		
Riv-91-TBA	Main Street EB On-Ramp BOH	TBA	X			
Riv-91-6.65	East Grand Boulevard UC	56-0364 L/R			X	X
Riv-91-TBA	EB On-ramp E Grand Blvd UC	TBA	X			
Riv-91-6.93	Temescal Wash BOH	56-0446 L/R			X	X
Riv-91-TBA	E91-N15/S15 Connector BOH	TBA	X			
Riv-91-TBA	N15/S15-W91 Connector BOH	TBA	X			
Riv-91-TBA	91-15 Express Viaduct	TBA	X			
Riv-91-TBA	S-W Express Viaduct	TBA	X			
Riv-15-38.69	Ontario Avenue UC	56-0498 L R			X	X
Riv-15-39.40	Old Temescal Rd UC	56-0644 L/R			X	X

Source: *Project Report* (2012).

[1] Selected variations

BOH = bridge and overhead
Conn Sep = Connector Separation
EB = eastbound
L/R = left/right
OC = overcrossing
OH = overhead
Ora = Orange County
R = realigned
RCB = reinforced concrete box
Riv = Riverside County
SW = southwest
TBA = to be assigned
UC = undercrossing
WB = westbound

Table 2.26 Drainage Structures Work Under the Initial Phase of Alternative 2f

Post Mile	Initial Phase of Alternative 2f Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification
SR-91 – Orange County			
R16.4	Trpl 12'x10' RCB	None	None
R16.61	60" RCP	None	None
R17.00	60" RCP	Extend Rt	2" Rt
R17.09	60" CMP	None	None
R17.38	5'x5' RCB	None	None
R17.43	5'x5' RCB	None	None
R17.70	3'x3' RCB	None	None
R17.94	Dbl 10'x8' RCB	None	None
R18.16	36" RCP	None	See Note 1
R18.25	36" RCP	Extend Rt	27' Rt
R18.37	36" RCP	None	See Note 1
R18.55	48" RCP	None	See Note 1
R18.66	48" RCP	None	See Note 1
R18.72	60" RCP	None	See Note 1
R18.82	30" RCP	None	See Note 1
R18.89	54" RCP	None	See Note 1
SR-91 – Riverside County			
R0.07	Tunnel	None	See Note 1
R0.12	54" RCP	None	See Note 1
R0.21	36" CMP	None	See Note 1
R0.35	12'x12' RCB	None	See Note 1
R0.47	36" CMP	Extend Rt	32' Rt
R0.59	36" CMP	Extend Rt	27' Rt
R0.78	36" CMP	Extend Rt	70' Rt
R0.91	24" CMP	Portion Abundon	Remove 13'
R1.13	24" CMP	Protect In Place	None
R1.22	54" CMP	Protect In Place	None
R1.38	72" CMP	Protect In Place	None
R1.52	72" CMP	Protect In Place	None
R1.73	12'x9' RCB	Protect In Place	None
R2.55	24" CMP	Protect In Place	None
R3.13	24" CMP	Extend Rt	33' Rt
R3.26	24" CMP	Protect In Place	None
R3.41	24" CMP	Protect In Place	None
R3.47	8'x8' RCB	Extend Rt	87' Rt
R3.98	42" RCP	Extend Rt & Lt	17' Rt & 100' Lt
4.24	42" RCP	Extend Rt	10' Rt
4.39	30" RCP	Extend Rt & Lt	49' Rt & 30' Lt
4.44	24" RCP	Extend Rt & Lt	38' Rt & 27' Lt
4.51	4'x3' RCB	Extend Rt	44' Rt
4.65	Dbl 4'x3' RCB	Extend Rt	39' Rt
4.71	24" RCP	Extend Rt & Lt	17' Rt & 21' Lt
4.74	24" RCP	Extend Rt & Lt	24' Rt & 8' Lt
4.91	24" RCP	Extend Rt	25' Rt
5.05	2-30" RCP	Extend Rt	36' Rt
5.20	24" RCP	Extend Rt & Lt	50' Rt & 50' Lt
5.39	30" RCP	Abandon Portion Rt	Abandon 150' Rt
5.43	12'x7.5' RCB	Extend Rt & Lt	110' Rt & 100' Lt
5.45	17'x14' RCB	Extend Lt	50' Lt
5.50	24" RCP	Extend Lt	20' Lt
5.58	24" RCP	Extend Rt & Lt	70' Rt & 60' Lt
5.71	54" RCP	Protect In Place	None
5.72	18" RCP	Extend Rt & Lt	78' Rt & 75' Lt
5.84	30" RCP	Abandon Portion Rt	60' New 30" RCP Rt
5.85	30" RCP	Abandon Portion Rt	55' New 30" RCP Rt
6.00	36" RCP	Protect In Place	None
6.02	18" RCP	Abandon Entire	Abandon 270'

Table 2.26 Drainage Structures Work Under the Initial Phase of Alternative 2f

Post Mile	Initial Phase of Alternative 2f Drainage Structure Impacts		
	Existing Drainage Structure	Impact	Modification
6.06	84” RCP	Protect In Place	None
6.08	36” RCP	Protect In Place	None
6.14	36” RCP	Extend Rt & Lt	5’ Rt & 226’ Lt
6.22	48” RCP	Extend Rt	30’ Rt
6.29	48” RCP	Extend Rt	25’ Rt
6.32	18” RCP	Extend Lt	50’ New 24” RCP Lt
6.35	48” RCP	Protect In Place	None
6.37	48” RCP	Protect In Place	None
6.38	18” RCP	Extend Lt	90’ Lt
6.43	48” RCP	Protect In Place	None
6.50	30” RCP	Extend Rt	125’ Rt
6.58	48” RCP	Extend Rt & Lt	110’ Rt & 190’ Lt
6.63	30” RCP	Extend Rt	70’ Rt
6.68	18” RCP	Protect In Place	None
6.82	18” RCP	Abandon Entire	Abandon 146’
6.92	18” RCP	Extend Lt	40’ New 24” RCP Lt
7.29	24" RCP	None	None
7.33	18" RCP	None	None
7.38	24” RCP	None	None
7.49	24” RCP	None	None
7.56	18” RCP	None	None
7.78	18” CSP	None	None
7.88	54” RCP	None	None
8.26	8’x6’ RCB	None	None
8.64	18” RCP	None	None
8.74	Dbl 8’x5’ RCB	None	None
8.79	18” RCP	None	None
8.91	30” RCP	None	None
9.05	18” RCP	None	None
9.12	24” RCP	None	None
9.19	48” RCP	None	None
9.19	48” RCP	None	None
9.21	18” RCP	None	None
9.38	18” RCP	None	None
9.55	24” RCP	None	None
9.60	30” RCP	None	None
9.73	36” RCP	None	None
10.00	Trpl 5’x3’ RCB	None	None
10.08	18” RCP	None	None
10.14	18” RCP	None	None
10.18	48" RCP	None	None
10.47	18" RCP	None	None
10.52	18" RCP	None	None
10.59	3-4'X2' RCB	None	None
10.70	3-12'X9' RCB	None	None
10.72	18" RCP	None	None
10.82	18" RCP	None	None
10.86	18" RCP	None	None
10.94	18" RCP	None	None

Source: *Project Report* (2012).

Note 1: These cross culverts are being extended as part of the SR-91 Eastbound Lane Addition Project on the south side of SR-91 and the United States Army Corps of Engineers’ Santa Ana River Reach 9 Phase 2B Project on the north side of SR-91.

CMP = corrugated metal pipe
CSP = corrugated steel pipe
Dbl = double
Lt = left
N/A = not applicable
R = realigned
RCB = reinforced concrete box
RCP = reinforced concrete pipe
Rt = right
SR-91 = State Route 91
Trpl = triple

the stability of slopes steeper than 2:1 and would have concurrence by the Department District Maintenance Storm Water Coordinator. In addition, temporary BMPs would be implemented during construction of the Initial Phase of Alternative 2f.

Permanent BMPs for long-term operations of the Initial Phase of Alternative 2f would include biofiltration swales, infiltration basins, detention basins, and/or media filters (also referred to as Austin sand filters).

The increased impervious surface areas and disturbed soil areas under the Initial Phase of Alternative 2f are summarized by segment in Table 2.27.

Table 2.27 Storm Water Effect Areas for the Initial Phase of Alternative 2f

Project Segment	Initial Phase of Alternative 2f	
	New Impervious Surface Area (acres)	Disturbed Soil Area (acres)
1	40	173
2	41	122
3	19	26
Total	**100**	**321**

Source: *Project Report* (2012).

The quantities of feasible treatment BMPs estimated for the three project segments for the Initial Phase of Alternative 2f are listed in Table 2.28.

Table 2.28 Estimated Quantities of Treatment Best Management Practices for the Initial Phase of Alternative 2f

Project Segment	Initial Phase of Alternative 2f			
	Biofiltration Swales/Strips (Each)	Infiltration Devices (Each)	Detention Devices (Each)	Media Sand Filters (Each)
1	7	5	5	5
2	4	6	7	10
3	1	1	1	1
Total	**12**	**12**	**13**	**16**

Source: *Project Report* (2012).

The preliminary estimated total costs for storm water BMPs including temporary (construction site) and permanent (treatment) BMPs for the Initial Phase of Alternative 2f are listed in Table 2.29.

Table 2.29 Storm Water Best Management Practices Cost Estimates for the Initial Phase of Alternative 2f

Description	Cost
Design Pollution Prevention BMPs	$447,011
Treatment BMPs	$6,381,375
Construction Site BMPs	$5,792,242
SWPPP	$10,000
Total Estimated Storm Water BMP Cost	$12,630,628

Source: *Project Report* (2012).

Prior to and during construction of the Initial Phase and Ultimate Project for Alternative 2f, the design/build contractor will be required to comply with the provisions of the following:

- NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to the project construction activities.
- General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003, NPDES No. CAG998001, as they relate to discharge of non-storm-water dewatering wastes for the project.
- Procedures outlined in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (July 2010 or subsequent issuance) for implementing Design Pollution Prevention and Treatment BMPs for the project.
- NPDES Permit, Statewide Storm Water Permit, and Waste Discharge Requirements for the State of California, Department of Transportation (Order No. 99-06-DWQ**,** NPDES No. CAS000003)
- NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region (Order No. R8-2010-0033, NPDES No. CAS618033); and for the County of Orange, Orange County Flood Control District and the incorporated cities of Orange County within the Santa Ana Region (Order No. R8-2009-0030), as applicable.

Retaining Walls

Several retaining walls are required to retain fill or cut slopes along the project segments of the Initial Phase of Alternative 2f. The approximate wall locations and average heights on SR-91 and I-15 for the Initial Phase of Alternative 2f are listed in Table 2.30.

Noise Barriers

There are existing noise barriers on the north side of the SR-91 mainline in the vicinity of the SR-91/SR-241/Gypsum Canyon Road interchange. Most of those walls would remain under the Initial Phase of Alternative 2f, but some of the existing barriers would be reconstructed. Preliminary locations for new or replacement noise barriers on SR-91 and I-15 under the Initial Phase of Alternative 2f are summarized in Table 2.31.

Utilities

There are several known utility facilities within the project limits. The following utility companies have facilities within the project limits on SR-91 that may be impacted by the Initial Phase of Alternative 2f:

- SCE
- SCG
- AT&T
- City of Corona water and sewer
- Comcast Cable
- Sprint
- Time Warner Cable
- Questar

Some existing utility facilities would only require encasement or protection in place during construction of the Initial Phase of Alternative 2f. However, the relocation of some existing utility facilities would be necessary to accommodate the construction of the Initial Phase of Alternative 2f. Appendix J, Utility Relocations, summarizes the anticipated utility relocations for the Initial Phase of Alternative 2f. Several of these utility facilities have been identified as “high/low risk” under the Department “Policy on High and Low Risk Underground Facilities Within Highway Rights of Way,” as defined in Chapter 13 of the Caltrans *Right-of-Way Manual*. All the utility relocation work needed to construct the improvements under the Initial Phase of Alternative 2f is considered to be part of the project. The utility conflicts for the Initial Phase of

Table 2.30 Alternative 2f Initial Phase Average Retaining Wall Heights

RW No.	Location	Type	Beg PM	End PM	Length (ft)	Height (ft)
Westbound SR-91						
21	Green River Road and Corps Embankment	1	0.50	0.52	100	4
23	Mainline & Green River on-ramp	MSE	0.50	0.88	2000	13
43	Green River on-ramp	1	0.88	0.90	100	3
43	Green River on-ramp	Tieback	0.90	0.94	200	8
61	Mainline & Green River off-ramp	1	1.24	1.90	3500	20
113	Mainline and 71 W-N Connector	Tieback	2.23	2.75	2750	10
141	Mainline	1	2.75	2.89	700	4
153	Mainline & Auto Center on-ramp	1	2.94	3.59	3432	7
TBA	Serfas Club Dr UC	Tieback	3.68	3.75	400	11
TBA	Maple St OC	Tieback	4.12	4.14	115	12.4
TBA	Smith Ave OC	Tieback	4.70	4.73	124	9.7
193	Auto Center off-ramp	1	3.74	4.29	2900	10
199	Maple off-ramp RT between Mainline	1	3.85	4.01	850	14
201	Maple off-ramp LT between Auto Center off-ramp	1	3.87	3.95	400	19
223	Maple off-ramp Mainline	1	4.19	4.80	3200	3
227	Mainline	1	4.796	5.364	3000	10
284	Lincoln Ave off and on Ramp	1	5.21	5.50	1515	14
287.2	Lincoln Ave off-ramp	1	5.402	5.686	1910	17
304	Mainline & Main St on-ramp	1	5.717	6.023	1616	23
325	Main St on-ramp	1	6.124	6.312	992	22
333	Mainline	1	6.264	6.339	398	19
338.2	Mainline	1	6.376	6.524	783	21
339	Main St off-ramp	1	6.386	6.587	1058	22
342	HOT Connectors	MSE	6.444	6.577	705	7
353	Mainline	1	6.660	6.899	1262	28
374	NB I-15 to WB SR-91 conn	1	7.051	7.163	591	8
384	SB I-15 to WB SR-91 conn	1	7.239	7.257	95	4
Southbound I-15						
2149	HOT Connectors	MSE	40.708	40.819	586	8
Eastbound SR-91						
110	Mainline	1	2.15	2.21	300	4
148	Mainline (goes past Riv1 line)	1	2.89	3.02	700	4
162	Mainline & Auto Ctr. off-ramp	1	3.17	3.70	2800	7
192	Autocenter on-ramp & Mainline	1	3.73	3.98	1300	6
198	Maple Off Ramp LT between Mainline	1	3.83	3.97	700	9
200	Maple Off Ramp RT between Auto Center on-ramp	1	3.83	3.97	700	6
TBA	Serfas Club Dr UC	Tieback	3.68	3.75	400	11
TBA	Maple St OC	Tieback	4.13	4.14	98	12.4
216	Maple Off Ramp at intersection	1	4.18	4.27	450	9
220	Mainline	1	4.26	4.34	438	7
228	Maple on-ramp & Mainline	1	4.29	4.80	2700	2
228	Mainline	1	4.796	4.834	200	5
278	Mainline/Lincoln Off-ramp	1	5.222	5.403	831	5
285	Mainline	Tieback	5.375	5.398	125	11
299	Lincoln on-ramp	1	5.625	5.717	488	13
303	Mainline	1	5.730	6.006	1459	22
321	Mainline & Main St off-ramp	1	6.053	6.292	1263	20
334.1	Mainline	1	6.284	6.347	332	13
334.2	Main St off-ramp	1	6.292	6.340	252	5
338.1	Mainline	1	6.376	6.548	907	15
342	HOT Connectors	MSE	6.444	6.577	705	7
343	Main St on-ramp & braid on-ramp	1	6.462	6.696	1234	16
351	Mainline	1	6.605	6.670	343	6
355	Mainline	1	6.694	6.718	127	6
356.1	SR-91 CD road to I-15	1	6.709	6.902	1023	20
356.2	Main St braid on-ramp	1	6.719	6.766	247	19

Table 2.30 Alternative 2f Initial Phase Average Retaining Wall Heights

RW No.	Location	Type	Beg PM	End PM	Length (ft)	Height (ft)
357	Mainline	1	6.737	6.785	254	6
361	Main St braid on-ramp	1	6.803	6.919	612	8
381	EB SR-91 to SB I-15 conn	1	7.197	7.277	425	6
383	Mainline	1	7.242	7.296	283	6
Northbound I-15						
2149	HOT Connectors	MSE	40.708	40.819	586	8

Source: *Project Report* (2012).

71 W-N = 71 West to North
CD = collector-distributor
Corps = United States Army Corps of Engineers
EB = eastbound
ft = foot/feet
HOT = high-occupancy toll
I-15 = Interstate 15
LT = Left Turn
MSE = Mechanically Stabilized Earth
NB = northbound
OC = Overcrossing
PM = Post Mile
RT = Right Turn
RW = Retaining Wall
SB = southbound
SR-91 = State Route 91
TBA = To Be Assigned
UC = Undercrossing
WB = westbound

Table 2.31 Initial Phase for Alternative 2f Recommended Noise Barrier Locations on SR-91 and I-15

Noise Barrier No.	Location – From	Location – To	Beg PM	End PM	Length (ft)	Height (ft)
Eastbound SR-91						
K-1	0.46 mi W Auto Ctr Dr	0.09 mi W Auto Ctr Dr	3.25	3.62	1925	14
M-2	0.01 mi E Auto Ctr Dr	0.02 mi W Maple St	3.72	4.14	2185	14
M-1	0.09 mi W Auto Ctr Dr	0.25 mi E Auto Ctr Dr	3.62	3.96	1835	14
O-1	0.31 mi E Maple St	0.02 mi W Smith Ave	3.95	4.71	1315	14
Westbound SR-91						
E-1	0.15 mi E Coal Cyn Rd	0.95 mi W Green River Rd	*18.42	0.00	4115	14
E-1	0.95 mi W Green River Rd	0.06 mi W Green River Rd	0.00	0.89	4250	14
Eastbound SR-91						
O-2	0.004 mi E Smith Ave	0.01 mi W Lincoln Ave	4.73	5.38	3400	14
Q-1	0.01 mi W Buena V. Ave	0.11 mi W Main St.	5.67	6.23	3190	14
W-1	0.05 mi E Main St.	0.01 mi E E. Grand Blvd	6.39	6.44	1855	12
Westbound SR-91						
P-1	0.15 mi E Lincoln Ave	0.08 mi W Main St.	5.53	6.28	3960	12
V-1	0.10 mi E Main St.	0.23 mi E Main St.	6.44	6.57	700	8
T-1	0.17 mi W Main St	0.15 mi E Main St	6.17	6.50	1675	10
D1-B	0.35 mi W Buchanan St	0.02 mi W Buchanan St	9.95	10.11	950	12
Southbound I-15						
K1-A	0.04 mi N Parkridge Ave	0.02 mi S Corona Ave	41.86	42.43	3000	14

Source: *Project Report* (2012).

* Post Mile entry is in Orange County, all others are Riverside County.

E = east
ft = feet
I-15 = Interstate 15
mi = mile/miles
N = north
PM = Post Mile
S = south
SR-91 = State Route 91
W = west

Alternative 2f are similar to the total required for both the Initial Phase and Ultimate Project Alternative 2f, but result in approximately $5 million less in utility conflicts.

Refer to the following tables provided later in Section 3.5, Utilities/Emergency Services, which describe the effects of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 on utilities in detail, including those utilities considered high risk:

- Table 3.5.4: Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2
- Table 3.5.5: Additional Utility Relocations Under Alternative 2

Landscaping and Irrigation Systems

The Department District 8 Landscape Architecture Branch developed the *215/91 Landscape Corridor Master Plan* (Master Plan; September 5, 2006) that includes the Riverside County segment of SR-91 within the project limits. That Master Plan provides guidance on plant material selection and hardscape elements that consider water use, ease and safety of maintenance, nonnative plant exclusion, corridor continuity, local cultural integration, and other context-sensitive factors.

Most of the existing highway planting and landscaping along SR-91 in the project limits would be removed under the Initial Phase of Alternative 2f. Replacement planting/landscaping and hardscape elements, consistent with the Master Plan, would be provided on SR-91 under the Initial Phase of Alternative 2f. The contract for planting/landscaping would be separate from the prime construction contract. Landscaping would commence before the end of construction of the Initial Phase and would be coordinated with the landscaping for the Ultimate Project.

The improvements on I-15 under the Initial Phase of Alternative 2f would be constructed in the median. There is currently no landscaping or irrigation in the existing median on I-15 within the project limits.

Ramp Metering

Ramp metering would be provided on all the local on-ramps on SR-91 in the project limits, if not present already. HOV bypass lanes would be constructed on ramps that are modified where feasible.

The connectors between SR-91 and I-15 (existing or new) would not be metered, with one exception. The new westbound collector-distributor road where I-15 traffic joins

SR-91 would be metered. The existing meter on the southbound SR-71 to eastbound SR-91 connector would be maintained. There would be no new metering for other connectors at the SR-71 and SR-91 interchange.

California Highway Patrol Enforcement Activities

CHP enforcement areas would be provided at new ramp meter installations and along the SR-91 mainline for the Initial Phase of Alternative 2f as shown in Table 2.32.

Table 2.32 California Highway Patrol Median Refuge Locations for the Initial Phase of Alternative 2f

Co-Rte-PM	SR-91 Eastbound	SR-91 Westbound	Existing or New
Ora-91-17.0	X	X	Existing
Ora-91-17.7	X		New
Ora-91-18.0		X	New
Riv-91-1.64		X	New
Riv-91-2.40		X	New
Riv-91-2.78	X		New
Riv-91-9.7	X	X	Remove

Source: *Project Report* (2012).
CHP = California Highway Patrol
CO = County
Ora = Orange County
PM = Post Mile
Riv = Riverside County
Rte = Route
SR-91 = State Route 91
X = CHP median refuge provided at this location

Non-Motorized and Pedestrian Features

Existing local road interchanges with SR-91 would be modified as a result of the Initial Phase of Alternative 2f. Construction of improvements at the local road connections would implement current ADA standards for curb ramp and sidewalks. These types of modifications are planned at the Auto Center Drive, Maple Street, Lincoln Avenue, and Main Street interchanges in the City of Corona.

The Initial Phase of Alternative 2f accommodates the existing Santa Ana River Trail/ Bike Lane and bicycle facilities on local streets. Bike lanes would be provided at Maple Street, Lincoln Avenue, and Main Street. The existing equestrian trails in Santa Ana Canyon would not be affected by the Initial Phase of Alternative 2f.

Permanent Right-of-Way Acquisition

The Initial Phase of Alternative 2 would require the permanent acquisition of additional right-of-way. Those acquisitions would include new right-of-way acquired in fee and permanent subsurface and aerial easements. The Initial Phase of

Alternative 2 would also require the temporary use of land during construction for TCEs. The extent of acquisition and TCEs varies for the Initial Phase of Alternative 2 among its design variations. The numbers of full and partial acquisitions for the Initial Phase of Alternative 2 are summarized by segment in Table 2.33.

Table 2.33 Right-of-Way Requirements for the Initial Phase of Alternative 2 – Segments 1, 2, and 3

Part of Freeway	Number of Partial Acquisitions	Number of Full Acquisitions
Segment 1[1]		
Orange County	9	0
Riverside County – County Line	17	0
Auto Center Drive/Maple Street – Variation 1	55	26
Auto Center Drive/Maple Street – Variation 1 with Smith Avenue – Variation 2	73	29[1]
Auto Center Drive/Maple Street – Variation 2	66	18
Auto Center Drive/Maple Street – Variation 2 with Smith Avenue – Variation 2	78[1]	26
Total	**104**	**29**
Segment 2		
West – Variation 1	47	25
West – Variation 2	48	26[1]
West – Variation 3	50	21
West – Variation 4	50[1]	23
Interchange	45[1]	39
Total	**95**	**65**
Segment 3		
South of SR-91	39	0
Total	**39**	**0**

Source: *Project Report* (September 2011).
[1] These totals represent the worst case (the greatest number of full and partial acquisitions) at the locations where there are design variations.
SR-91 = State Route 91

Temporary Project Features

Construction Staging

Construction staging would be required for all ramp reconstruction, freeway widening, and profile adjustments under the Initial Phase of Alternative 2f. The existing number of mainline through lanes would be maintained during construction by restriping the existing lanes and by shifting traffic within the corridor to maintain the existing capacity during construction. Complete closures of SR-91 and I-15 are not anticipated to be required during the construction of the Initial Phase of Alternative 2f.

A *Final Work Zone Mainline Analysis* (February 2010) for the SR-91 corridor was conducted to identify ways to minimize congestion along the corridor during the construction of the Initial Phase of Alternative 2f. That analysis was used to compare and select optimal construction staging strategies. The work zone analysis examined

ramp and connector closures in addition to two SR-91 mainline construction scenarios. With either mainline scenario, Stage 1 would construct outside improvements without impacting the mainline traffic lanes. Lane restrictions during Stage 2 would vary between the two scenarios evaluated.

The first mainline work zone scenario for SR-91 would consist of narrowing the existing mainline through lanes to 10.5 ft wide and maintaining a total of four GP lanes and one HOV lane in each direction. The second scenario would consist of converting the HOV lane to a GP lane and maintaining the three other GP lanes on weekends only. Both weekend and weekday peak periods were examined.

Congestion would occur with both scenarios, and neither scenario demonstrated a clear advantage from a traffic impact perspective. Under the second scenario, the tradeoffs involve avoidance of weekday impacts with greatly increased construction duration and costs. The first scenario is favored because it results in shorter construction duration with lower construction costs and earlier project completion.

Ramp and connector closures would also be required on SR-91 during the construction of the Initial Phase of Alternative 2. Preliminary recommendations for the duration of, and detours for, those ramp and connector closures on eastbound and westbound SR-91 are summarized in Table 2.34.

Construction Vehicle Access and Material Staging

Under the Initial Phase of Alternative 2f, construction vehicle access and staging of construction materials would occur within existing disturbed or developed areas inside the existing right-of-way or the additional right-of-way acquired for the Initial Phase. Vehicle access and materials staging during construction of walls outside of and immediately adjacent to the State right-of-way would occur in approved designated areas. All construction vehicle access, materials staging and storage, and other construction activities would occur within the defined disturbance limits for the Initial Phase of Alternative 2f.

The TCEs and permanent right-of-way limits for the Initial Phase of Alternative 2f and its design features, which include areas for construction vehicle access and material staging, are shown on the detailed figures provided in Appendix L, Project Features.

Table 2.34 Preliminary Proposed Ramp and Connector Closures along SR-91 for the Initial Phase of Alternative 2f

Interchange	Ramps (Off/On)	Closure ID	Time of Closure	Duration
SR-91 Eastbound				
SR-71 SB – SR-91 EB	On	X2	Weekends	2 weekends
Auto Center Drive	On	X3	Weekdays	6 months
Second Street/Grand Boulevard	Off	X4	Permanent	--
Main Street	On	X5	Weekdays & Weekends	12 months
SR-91 EB – I-15 NB	Off	X6	Weekends	2 weekends
SR-91 EB – I-15 SB	Off	X7	Weekends	2 weekends
SR-91 EB – SR-71 NB	Off	X12	Weekends	2 weekends
SR-91 Westbound				
SR-71 SB – SR-91 WB	On	Y3	Weekends	1 weekend
SR-91 WB – SR-71 NB	Off	Y4	Weekends	4 weekends
Auto Center Drive	Off	Y5	Weekdays & Weekends	6 months
Maple Street	Off	Y6	Weekdays & Weekends	2 months
Grand Boulevard	On	Y7	Permanent	--
Main Street	Off	Y8	Weekdays & Weekends	12 months
I-15 SB – SR-91 WB	On	Y9	Weekends	1 weekend

Source: *Final Ramp Closure Study* (February 2010).
EB = eastbound NB = northbound SR-71 = State Route 71
I-15 = Interstate 15 SB = southbound SR-91 = State Route 91
ID = identification SR-241 = State Route 241 WB = westbound

Transportation Management Plan During Construction

A Preliminary TMP (May 2010) was prepared to address transportation management during construction of the Initial Phase of Alternative 2f. Key elements in the TMP are:

- Public information/PAC
- Motorist information strategies
- Incident management
- Construction strategies
- Demand management
- Alternate route strategies
- Other strategies

Temporary Construction Easements

TCEs would be necessary under the Initial Phase of Alternative 2f for constructing walls along the State or other public rights-of-way, for extending major drainage facilities and culverts, utility relocation/modifications, and widening bridges. Land used as a TCE would be returned to its original or better condition prior to the return of that land to the original owners after the completion of the construction activities requiring that TCE. No permanent project features will be constructed within the boundaries of the TCEs.

Construction Lighting

The Initial Phase of Alternative 2f would require nighttime construction activities in some areas. If work is conducted at night, lighting would be directed away from land uses outside the freeway rights-of-way.

Project Costs

The Initial Phase of Alternative 2f would cost $1.047 billion. The roadway, structure, right-of-way, and total costs for all of the design variations in the Initial Phase of Alternative 2 are provided in Table 2.35.

Table 2.35 Initial Phase of Alternative 2 Summary of Costs

Alternative	Roadway	Structure	Right-of-Way	Total
2a	$372,800,000	$419,100,000	$227,600,000	$1,019,500,000
2b	$372,400,000	$417,600,000	$219,400,000	$1,009,400,000
2c	$386,400,000	$447,400,000	$247,000,000	$1,080,800,000
2d	$386,000,000	$445,800,000	$244,600,000	$1,076,400,000
2e	$371,100,000	$439,300,000	$212,700,000	$1,023,100,000
2f	$361,600,000	$437,800,000	$248,000,000	$1,047,400,000
2g	$384,400,000	$467,000,000	$244,500,000	$1,095,900,000
2h	$383,900,000	$465,400,000	$242,200,000	$1,091,500,000

Source: *Project Report* (September 2011).

Ultimate Project for Alternative 2

The Ultimate Project under Alternative 2f would be constructed as an independent construction contract, with the Ultimate Project estimated to have a construction duration of 1 to 2 years. The Ultimate Project under Alternative 2f would include the improvements on SR-91 from SR-241 to SR-71, which would include the construction of one GP lane in each direction; the improvements on SR-91 from I-15 to Pierce Street, which would include one GP lane in each direction; the improvements on I-15 from Ontario Avenue to Cajalco Road, which would include extending the express lane access point to Cajalco Road; and improvements on I-15 between SR-91 and Hidden Valley Parkway, which would include direct connectors between SR-91 eastbound to I-15 northbound and I-15 southbound to SR-91 westbound. In locations where the Initial Phase improvements overlap with improvements in the Ultimate Project, such as bridges or retaining walls, the Initial Phase would construct those improvements in their ultimate locations, to the extent feasible. Minimal additional costs associated with phasing are anticipated as efforts would be made to minimize future rework and throw-away costs.

2.3.4.5 Design/Build Process

Alternatives 1 and 2 will be implemented in a best value design/build process. Under a typical traditional design-bid-construction process, a project is designed, construction contractors bid on that designed project, and the selected contractor constructs the designed project. This process requires separate contracts between the owner and the designer and then between the owner and the construction contractor. Under this approach, changes to the project design in response to changes in the field or opportunities to improve the design require a lengthy design review and approval process followed by work orders that define and approve the specific changes for implementation by the contractor. This results in a longer time period because the construction cannot begin until the design is fully completed and approved.

Under a best value design/build process, the owner contracts with a single entity (the design/build contractor) that would be responsible for designing and building the project. A primary advantage of this process is that design and construction activities can occur concurrently, which can substantially reduce the time between completion of the environmental process for a project and the beginning of operations for the first project improvements. In summary, the best value contract selection and procurement process generally provides for flexibility not offered by traditional competitive bidding. Design/build results in a single-source responsibility, decreases adversarial communications among the parties working on the project, results in faster project completion, provides greater ability to consider the past performance records of bidders, and typically reduces administrative costs. The primary benefit of a best value design-build process for the SR-91 CIP for the traveling public is that the best value contracting will result in the availability of the improvements to the public approximately 3 years sooner than under the traditional design-bid-construction process.

The design/build process includes several activities under the umbrella title “design/ build:”

- **Final Design:** This includes all activities related to the final design of the project components and features, including: preparing the design; coordinating with parties such as utility providers regarding that design; incorporating the avoidance, minimization, and mitigation measures and other project conditions into the project specifications; conducting additional hazardous material testing; and preparing the detailed project specifications for the construction contractor.

- **Preconstruction:** This includes activities related to preparing for the project construction, including: property acquisition; development of traffic management plans, safety, and other required plans; hazardous materials and waste remediation; any required preconstruction geotechnical or other site surveys or reviews; and other activities that are initiated during and after final design when the design for specific project features and components become available.
- **Construction:** This includes all activities related to the construction of the project components and features based on the final design, including: setting up staging areas; materials/equipment deliveries; removal of waste materials; demolition; clearing; grading; excavation; pile driving construction of structures and the road surfaces; installation of BMPs, lighting, signing, and landscaping; and site cleanup.
- **Post-construction:** This includes activities conducted after construction of the project facilities is complete, including returning areas used as TCEs to their pre-project conditions, and installing and completing installation of all landscaping.

The project avoidance, minimization, and mitigation measures provided in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and Mitigation Measures, and in Appendix E, Environmental Commitments Record, indicate whether the individual measures apply throughout the design/build process or for specific activities conducted as part of the design/build process.

2.3.5 Transportation Systems Management and Traffic Demand Management

The project does not include Transportation Systems Management (TSM), Traffic Demand Management (TDM), or multi-modal alternatives because the features of these measures (e.g., carpool, bus, and commuter rail) are provided by several local agencies, including RCTC and OCTA. However, TSM, TDM, and multi-modal components were considered, and elements of these measures are incorporated into the Build Alternatives as discussed below.

2.3.5.1 Transportation Systems Management

TSM consists of strategies to maximize the efficiency of the existing transportation facilities by providing options such as ridesharing, parking, and traffic signal optimization. TSM options to improve traffic flow typically increase the number of vehicle trips a facility can carry without increasing the number of through lanes. Such strategies include replacing existing stop signs with traffic signals to improve existing peak-hour traffic flow and reduce queuing of vehicles. TSM also encourages public

and private transit, ridesharing programs, and bicycle and pedestrian improvements as elements of a unified urban transportation system.

Although TSM measures would not solely satisfy the purpose and need of the project, TSM measures have been incorporated into the Build Alternatives as described under each of the Build Alternatives and summarized below:

- Ramp metering
- Auxiliary lanes
- Collector-distributor roads
- Frontage roads
- Turning lanes
- Traffic signal coordination
- Bicycle and pedestrian improvements

2.3.5.2 Traffic Demand Management

TDM focuses on regional strategies to reduce the number of vehicle trips and vehicle miles traveled, and to increase vehicle occupancy. TDM facilitates higher vehicle occupancy or reduces traffic congestion by expanding the traveler's transportation choices in terms of travel method, travel time, travel route, travel costs, and the quality and convenience of the travel experience. Typical TDM activities reduce the amount of single-occupancy vehicle trips by providing funds to regional agencies that are actively promoting ridesharing, maintaining rideshare databases, and providing limited rideshare services to employers and individuals. Promoting mass transit and facilitating non-motorized alternative means of transportation are two such examples, but TDM strategies may also include reducing the need for travel altogether through initiatives such as telecommuting. In some cases, TDM may involve changing work schedules, resulting in a greater travel flexibility that produces a more even pattern of transportation network use and mutes the effect of morning and evening rush hours.

Alternative 1 would maintain the existing HOV lanes on SR-91 between the Orange/ Riverside County line and Pierce Street. The continued operation of the HOV lanes under Alternative 1 would continue to act as an incentive for ridesharing which is a key TDM measure.

Alternative 2 would extend the existing tolled express lanes on SR-91 from the County line to I-15 in the City of Corona. Those tolled express lanes extension would operate with the same policy as the existing SR-91 tolled express lanes in Orange

County and provide a free or discounted rate to carpools with three or more occupants and buses. This ridesharing incentive is a TDM measure that would be implemented with Alternative 2, if selected, and is expected to further increase the occupancy rate on the SR-91 and reduce traffic demand.

2.3.5.3 Major Investment Study Build Alternatives

The *Riverside County-Orange County Major Investment Study Final Project Report: Locally Preferred Strategy Report* (OCTA, January 2006) considered a wide range of transportation options to address the need for improved mobility between Orange and Riverside Counties. Specifically, the MIS Policy Committee identified and approved four separate bands of broad east-west corridors between Riverside and Orange Counties as part of the LPS to address the demand for east-west travel between Riverside and Orange Counties. The SR-91 CIP is one of those bands of improvements (Corridor C). In addition to improvements to SR-91, three new corridors to meet the need for east-west travel between Riverside and Orange Counties were identified in the MIS as Corridors A, B, and D, which are described below. As noted in the MIS, Corridors A, B, and D would be needed in addition to the SR-91 CIP to address the forecasted demand for east-west travel between the two counties:

- **Corridor A:** Corridor A was defined as a corridor parallel to and north of SR-91 that would provide additional capacity in an elevated viaduct within the existing SR-91 corridor. Because Corridor A would have limited access/egress (i.e., at only I-15, SR-71, and SR-241), it would not address substantial amounts of the demand in this corridor. In addition, as noted above, the MIS identified the need for both the project and Corridor A, so Corridor A alone would not be consistent with the MIS and would not meet the defined purpose of the project.
- **Corridor B:** Corridor B was defined as a full-length tunnel or partial surface road/tunnel alignment from Cajalco Road at I-15 in Riverside County west across the Santa Ana Mountains to the SR-241/SR-133 interchange in central Orange County. Corridor B would be substantially south of the SR-91 corridor and, as noted in the MIS, is considered to be a needed improvement in addition to the project to address east-west demand. In addition, a corridor across the Santa Ana Mountains could traverse the Cleveland National Forest (CNF), the NNL land on the Irvine Ranch, and Limestone Canyon Regional Park, potentially resulting in substantial permanent and/or temporary use impacts of Section 4(f) properties. It might also impact Section 6(f) properties.

- **Corridor D:** Corridor D was defined as a corridor extending along existing SR-74 between Orange and Riverside Counties. Corridor D would be substantially south of the SR-91 corridor and, as noted in the MIS, is considered a needed improvement in addition to the project to address east-west demand. In addition, a corridor along SR-74 could traverse CNF and Ronald W. Caspers Wilderness Park, potentially resulting in permanent and/or temporary use impacts of Section 4(f) and Section 6(f) properties.

The MIS Build Alternatives listed above were eliminated from consideration for the SR-91 CIP because they would not meet most of the project objectives, and Corridors B, C and D could result in substantial use effects on Section 4(f) and Section 6(f) properties.

2.3.6 No Build Alternative

Several existing approved and in-process projects in the SR-91 and I-15 corridors are included in the background condition in the No Build Alternative and the Build Alternatives. Those projects, described later in Section 2.3.9, are:

- SR-91 Eastbound Lane Addition Project Between SR-241 and SR-71
- Santa Ana Mainstem Project – Santa Ana River Reach 9 Phases 2A and 2B
- Santa Ana River Interceptor Pipeline Reaches III and IV
- SR-71/SR-91 Interchange Improvement Project
- I-15 Corridor Improvement Project
- SR-241/SR-91 Direct Connectors

The background condition for the No Build and Build Alternatives does not include the Corridor A, B, and D improvements.

The No Build Alternative would generally maintain the current configurations of SR-91 and I-15 in the project study area, including the approved/planned projects described above. Under this alternative, there would be no additional GP lanes and no change in the existing configuration of tolled express or HOV lanes on SR-91. None of the improvements proposed in Build Alternatives 1 and 2 would be provided under the No Build Alternative. Although smaller localized projects could be considered, approved, and implemented on their own merits under the No Build Alternative, this alternative does not include any major corridor improvements on the project segments of SR-91 and I-15 beyond those described above as background improvements under the No Build and Build Alternatives.

The No Build Alternative is shown in detail on aerial photographs in Appendix L.

The No Build Alternative would not improve the vehicle, person, and goods movement travel times on SR-91 and I-15 and would not more effectively serve existing and future travel demand between and within Riverside and Orange Counties consistent with the RCTC Measure A 10-Year Delivery Plan. Under the No Build Alternative, no improvements would be provided on SR-91, I-15, and intersecting local roads to more effectively serve existing and forecast intraregional travel demand and reduce diversion of regional traffic from the freeways into the surrounding communities. As a result, the No Build Alternative would not benefit travelers in these corridors and would not contribute to improved air quality in the long term.

The SR-91 Implementation Plan would not be implemented under the No Build Alternative.

The No Build Alternative provides a benchmark by which the public and decision-makers can compare the magnitude of the effects of the Build Alternatives.

2.3.7 Comparison of the No Build and Build Alternatives

Table 2.36 provides a comparison of the key features and potential environmental effects of the No Build Alternative and Alternatives 1 and 2.

2.3.7.1 Identification of the Preferred Alternative

This section discusses the process to identify a Preferred Alternative for the SR-91 CIP. As documented in this section, the identification of a Preferred Alternative was the result of an ongoing, interdisciplinary process that was carried out by the PDT to identify the purpose and need for the project, develop the range of alternatives, evaluate the alternatives, and present the results of the alternatives' evaluation to the public in the Draft EIR/EIS, which was circulated for public review in May 2011. As described later in this section, the PDT identified Alternative 2f as the Preferred Alternative on September 20, 2011.

Table 2.36 Comparison of the Alternatives

Project Feature or Environmental Effect	No Build Alternative	Alternative 1	Alternative 2
Project Features[1]			
Structures (new, replace, widen, retrofit)	None	Up to 27	Up to 34
Drainage Structures (modified)	None	52	57
Water Quality and Erosion Control BMPs	None	18 biofiltration swales/strips 13 infiltration devices 16 detention devices 16 Austin sand filters	25 biofiltration swales/strips 19 infiltration devices 22 detention devices 22 Austin sand filters
Costs for BMPs	None	Temporary: $4,390,000 Permanent: $5,775,000	Temporary: $5,716,000 Permanent: $10,148,250
CHP Enforcement Areas	3 existing westbound SR-91 3 existing eastbound SR-91	3 existing westbound plus 1 new westbound 3 existing eastbound plus 1 new eastbound	2 existing westbound plus 2 new westbound 2 existing eastbound plus 2 new eastbound
Total Project Costs (right-of-way, design, road and structures construction)	None	$990 million to $1.0 billion, depending on the design variation.	$1,345 to $1,426 billion, depending on the design variation.
HOV/Tolled Express Lanes	Existing tolled express lanes in Orange County to the Orange/Riverside County line. Existing HOV lanes on SR-91 from the Orange/Riverside County line to Pierce Street	Existing tolled express lanes in Orange County to the Orange/Riverside County line. Existing HOV lanes on SR-91 from the Orange/Riverside County line to Pierce Street. New HOV lane on northbound I-15 from Ontario Avenue to a direct connector to westbound SR-91 at the I-15/SR-91 interchange New HOV lane on southbound I-15 from a direct connector from eastbound SR-91 at the I-15/SR-91 interchange to Ontario Avenue	Extension of existing tolled express lanes to the SR-91/I-15 interchange Conversion of the existing HOV lanes to tolled express lanes from the Orange/Riverside County line to Pierce Street. One additional tolled express lane in each direction on SR-91 to I-15. New tolled express lane on I-15 from Cajalco Road to direct connectors from northbound I-15 to westbound SR-91 and from eastbound SR-91 to southbound I-15 New tolled express lanes on I-15 from Hidden Valley Parkway to direct connectors from southbound I-15 to westbound SR-91 and from eastbound SR-91 to northbound I-15.

Table 2.36 Comparison of the Alternatives

Project Feature or Environmental Effect	No Build Alternative	Alternative 1	Alternative 2
Acquisition and Removal of Homes	No impact	Purchase and removal of 93 to 117 homes, depending on the design variation.	Purchase and removal of 114 to 161 homes, depending on the design variation.
Number of Residents Displaced	No impact	252 to 410 residents displaced, depending on the design variation.	399 to 564 residents displaced, depending on the design variation.
Acquisition and Removal of Businesses	No impact	Purchase and removal of 110 to 189 businesses, depending on the design variation.	Purchase and removal of 88 to 275 businesses, depending on the design variations.
Number of Employees Displaced	No impacts	A range of between 114 to 527 employees, depending on the design variation and the employee displacement factors.	A range of between 133 and 576 employees, depending on the design variation and the employee displacement factors.
Environmental Effects[1]			
Farmlands	No impact	Conversion of 1.8 ac of Farmland of Local Importance and 15.2 ac of Grazing Land to non-agricultural uses	Conversion of 4.1 ac of Farmland of Local Importance and 16.6 ac of Grazing Land to non-agricultural uses
Utilities: Relocation of the SCE Substation	No relocation required.	No relocation required	Relocation required
Biology: Natural Communities	No impact	Permanent impacts to: 27.24 ac of coastal sage scrub 0.48 ac of riparian/riverine habitat 0.01 ac oak woodland Temporary impacts to: 7.59 ac of coastal sage scrub 1.60 ac of riparian/riverine habitat 0.51 ac of oak woodland habitat Wildlife corridors during construction	Permanent impacts to: 35.45 ac of coastal sage scrub 0.47 ac of riparian/riverine habitat 0.02 ac oak woodland Temporary impacts to: 8.04 ac of coastal sage scrub 1.29 ac of riparian/riverine habitat 0.50 ac of oak woodland habitat Wildlife corridors during construction
Biological Resources: Wetlands and Other Waters of the U.S.	No impact	Depending on the design variation, permanent impacts as follows: • Corps jurisdictional waters: 1.80 to 2.31 ac • CDFG jurisdictional areas: 2.84 to 3.54 ac • RWQCB jurisdictional areas: 1.80 to 2.31 ac	Depending on the design variation, permanent impacts as follows: • Corps jurisdictional waters: 0.42 to 2.49 ac • CDFG jurisdictional areas: 1.31 to 4.41 ac • RWQCB jurisdictional areas: 0.42 to 2.49 ac Alternative 2f permanent impacts: • Corps jurisdictional waters: 0.42 ac • CDFG jurisdictional areas: 1.31 ac • RWQCB jurisdictional areas: 0.42 ac

Table 2.36 Comparison of the Alternatives

Project Feature or Environmental Effect	No Build Alternative	Alternative 1	Alternative 2
		Depending on the design variation, temporary impacts as follows: • Corps jurisdictional waters: 1.66 ac • CDFG jurisdictional areas: 2.43 to 2.45 ac • RWQCB jurisdictional areas: 1.66 ac	Depending on the design variation, temporary impacts as follows: • Corps jurisdictional waters: 1.72 to 1.98 ac • CDFG jurisdictional areas: 2.01 to 3.85 ac • RWQCB jurisdictional areas: 1.72 to 1.98 ac Alternative 2f temporary impacts: • Corps jurisdictional waters: 1.98 ac • CDFG jurisdictional areas: 2.01 ac • RWQCB jurisdictional areas: 1.98 ac

Source: Riverside County Transportation Commission (2011).

[1] The project features and environmental parameters and impacts listed in this table focus on those features and impacts which differ between Alternatives 1 and 2.

ac = acre, acres
BMPs = best management practices
CDFG = California Department of Fish and Game
CHP = California Highway Patrol
Corps = United States Army Corps of Engineers
HOV = high occupancy vehicle
I-15 = Interstate 15
RWQCB = Regional Water Quality Control Board
SCE = Southern California Edison
SR-91 = State Route 91

2.3.7.2 Identification of the Locally Preferred Alternative

RCTC identified Alternative 2 as the LPA on July 14, 2010. A project sponsor such as the RCTC may choose to designate an LPA if it decides that one of the project alternatives best satisfies the stated purpose and need for that project. Based on the studies conducted to date for the project, RCTC identified Alternative 2 as the LPA.

Compared to Alternative 1, Alternative 2 provides improved travel times and speeds and better reduces congestion. Refer to Section 3.6, Traffic and Transportation/ Pedestrian and Bicycle Facilities, for a detailed discussion of the traffic benefits of Alternative 2.

By designating Alternative 2 as an LPA, prior to the circulation of the Draft EIR/EIS for public review, RCTC provided disclosure of its preference among the alternatives to the general public as well as to other agencies that may have an interest in the project. RCTC's basis for identifying Alternative 2 as the LPA was that, in addition to improving travel times and reducing congestion more than Alternative 1, Alternative 2 also provides increased flexibility in project funding which, if the project is ultimately approved, would enable project benefits to be realized sooner than would be possible under Alternative 1. Funding for Alternative 1 is envisioned to be primarily from Measure A and augmented by federal, State, and local fund sources that can be applied to the project. Alternative 2 adds toll revenue bonds and the use of a federal TIFIA loan as potential major additional funding sources. While Alternative 2 has a higher construction cost than Alternative 1, financial modeling demonstrates that the additional costs can be more than offset by the projected toll revenues.

2.3.7.3 Development of the PDT Recommendation

On September 20, 2011, the PDT evaluated the two Build Alternatives and the No Build Alternative to develop a recommendation to the Department and RCTC for the Preferred Alternative. The approach of the PDT for developing that recommendation was conducted in two steps:

- **Step 1:** This first step considered the ability of the two Build Alternatives and the No Build Alternative to meet five specific criteria that had been established for evaluating the alternatives and identifying the Preferred Alternative. If the result of this step was the identification of a Build Alternative as the Preferred Alternative, then Step 2 would be conducted. The five specific criteria were:

1. Best meets the project purpose
2. Provides the best travel time savings
3. Considers substantially differentiating environmental impacts
4. Public comments/preferences
5. Consistent with system planning

- **Step 2:** This step considered the design variations for the selected Build Alternative and evaluated them on four criteria to determine which of the design variations should be included in the Preferred Alternative. These four criteria were:

  1. Minimizes community/right-of-way impacts
  2. Provides for best traffic operations
  3. Considers substantially differentiating environmental impacts
  4. Considers public and agency comments

The PDT's use of this process to develop its recommendation for the Preferred Alternative is described in the following sections.

Step 1: Identify an Alternative from the No Build Alternative, Alternative 1, and Alternative 2

The PDT evaluated the ability of the No Build Alternative and the two Build Alternatives to meet the following criteria:

- **Best Meets the Project Purpose:** Table 2.37 lists the defined purpose for the SR-91 CIP and describes the ability of the alternatives to satisfy this criterion. As shown, the No Build Alternative does not meet the defined project purpose while Alternatives 1 and 2 do meet the defined project purpose.
- **Provides the Best Travel Time Savings:** Table 1.10, provided earlier in Chapter 1, Project, summarizes the travel times that would occur under the No Build and Build Alternatives in 2015 and 2035. As shown in that table, travel times under the No Build Alternative would increase substantially by 2015 and by 2035. Under Alternative 1, travel times would increase at much lower rates than under the No Build Alternative, but at higher rates than under Alternative 2, when comparing the HOV lanes to the tolled express lanes. As a result, Alternative 2 best meets this criterion, Alternative 1 partially meets this criterion, and the No Build Alternative does not meet this criterion.
- **Considers Substantially Differentiating Environmental Impacts:** Table 2.38 summarizes the impacts of the No Build Alternative and the Build Alternatives for those environmental topics where there is a difference in impacts among the

Table 2.37 Ability of the Alternatives to Meet the Project Purpose

Defined Project Purpose	Does the Alternative Meet this Purpose?		
	No Build Alternative	Alternative 1	Alternative 2
Improve the vehicle, person, and goods movement within the SR-91 corridor to more effectively serve existing and future travel demand between and within Riverside and Orange Counties.	**No.** The No Build Alternative does not satisfy this criterion because it does not improve traffic operations in the SR-91 Corridor. Refer to Table 1.10, which indicates that travel times will increase and travel speeds will decrease under the No Build Alternative compared to both existing conditions and with-project conditions.	**Yes.** Alternative 1 satisfies this criterion because it improves traffic operations in the SR-91 Corridor. Refer to Table 1.10, which indicates that travel times will increase much less than and travel speeds will decrease less than under the No Build Alternative.	**Yes.** Alternative 2 satisfies this criterion because it improves traffic operations in the SR-91 Corridor. Refer to Table 1.10, which indicates that travel times will increase much less than and travel speeds will decrease less than under the No Build Alternative.
Provide improvements along the SR-91 and I-15 transportation corridors as well as to related local roads, and to reduce diversion of regional traffic from the freeways into the surrounding communities.	**No.** The No Build Alternative does not satisfy this criterion because it does not provide any improvements on SR-91 or local roads that would reduce diversion of regional traffic off the freeways.	**Yes.** The added capacity and improved operations provided in Alternative 1 are expected to reduce diversion of regional traffic from the freeways into the surrounding communities.	**Yes.** The added capacity and improved operations provided in Alternative 2 are expected to reduce diversion of regional traffic from the freeways into the surrounding communities.

Sources: Riverside County Transportation Commission (2011).
I-15 = Interstate 15
SR-91 = State Route 91

Table 2.38 Summary of Impacts by SR-91 CIP Build Alternative and Design Variation

Potential Impact	No Build Alternative	Alternative 1 (with design variations a, b, c, d)	Alternative 2 (with design variations a, b, c, d)	Alternative 2 (with design variations e, f, g, h)
Total Costs (Final Design, Right-of-Way, and Construction)	No costs	1a: $ 998,500,000 1b: $ 990,300,000 1c: $ 1,001,800,000 1d: $ 993,600,000	2a: $ 1,352,600,000 2b: $ 1,345,000,000 2c: $ 1,409,400,000 2d: $ 1,407,600,000	2e: $ 1,354,700,000 2f: $ 1,380,500,000 2g: $ 1,426,200,000 2h: $ 1,424,400,000
Number of Single Family Homes Purchased and Removed	None	1a: 21 1b: 21 1c: 21 1d: 21	2a: 23 2b: 24 2c: 23 2d: 24	2e: 23 2f: 18 2g: 23 2h: 24
Number of Multiple Family Homes Purchased and Removed	None	1a: 96 1b: 72 1c: 96 1d: 72	2a: 114 2b: 90 2c: 138 2d: 127	2e: 114 2f: 127 2g: 138 2h: 127
Total Number of Homes Purchased and Removed	None	1a: 117 1b: 93 1c: 117 1d: 93	2a: 137 2b: 114 2c: 161 2d: 151	2e: 137 2f: 145 2g: 161 2h: 151
Total Number of Residents Displaced	None	1a: 410 1b: 326 1c: 336 1d: 252	2a: 480 2b: 399 2c: 564 2d: 529	2e: 480 2f: 507 2g: 564 2h: 529
Number of Businesses Purchased and Removed	None	1a: 188 1b: 189 1c: 110 1d: 111	2a: 270 2b: 271 2c: 274 2d: 275	2e: 221 2f: 88 2g: 271 2h: 272
Number of Employees Displaced (range depending on the employee displacement factors)	None	1a: 133-438 1b: 114-527 1c: 133-410 1d: 114-500	2a: 133-464 2b: 133-554 2c: 133-404 2d: 133-553	2e: 133-450 2f: 169-576 2g: 133-400 2h: 133-548
Number of Storage Units Removed	None	1a: 122 1b: 122 1c: 50 1d: 50	2a: 199 2b: 199 2c: 199 2d: 199	2e: 157 2f: 154 2g: 199 2h: 199
Permanent Use of Land Designated in General Plans for Uses Other than Transportation (in acres)	None	1a: 56.8 1b: 65.7 1c: 61.7 1d: 64.9	2a: 80.7 2b: 80.7 2c: 94.6 2d: 94.5	2e: 78.0 2f: 118.2 2g: 92.7 2h: 92.7

Table 2.38 Summary of Impacts by SR-91 CIP Build Alternative and Design Variation

Potential Impact	No Build Alternative	Alternative 1 (with design variations a, b, c, d)	Alternative 2 (with design variations a, b, c, d)	Alternative 2 (with design variations e, f, g, h)
Permanent Subsurface Easements at Parks (in acres)	None	CHSP: 1.65 New OC Park (NNL): 0.4 Total: 1.69	CHSP: 1.88 New OC Park (NNL): 2.2 Total: 4.08	
Permanent Conversion of Farmland to Nonagricultural Uses (in acres)	None	Farmland of Local Importance: 1.8 Grazing Land: 15.2 Total: 17.0	Farmland of Local Importance: 4.1 Grazing Land: 16.6 Total: 20.7	
Temporary Use of Farmland for TCEs (in acres)	None	Grazing Land: 3.4	Farmland of Local Importance: 0.1 Grazing Land: 3.5 Total: 3.6	
Estimated Property Tax Revenue Losses (City of Corona)	None	1a: $279,889 1b: $221,893 1c: $246,687 1d: $188,691	2a: $359,713 2b: $335,415 2c: $399,372 2d: $375,074	2e:$298,514 2f: $298,825 2g: $303,595 2h: $352,740
Estimated Sales Tax Revenues Losses as a Result of Business Displacements (City of Corona)	None	1a: $487,327 1b: $494,825 1c: $442,343 1d: $449,840	2a: $569,798 2b: $577,295 2c: $599,787 2d: $607,285	2e: $517,317 2f: $659,766 2g: $577,295 2h: $584,793
Estimated Total Direct and Indirect Temporary/Construction Jobs	None	1a: 21,762 1b: 22,736 1c: 22,053 1d: 21,995	2a: 30,563 2b: 30,577 2c: 31,603 2d: 31,619	2e: 31,036 2f: 31,053 2g: 32,137 2h: 32,154
Relocation of the SCE Substation	None	Would not require relocation	2a: would not require relocation 2b: would not require relocation 2c: would require relocation 2d: would require relocation	2e: would not require relocation 2f: would not require relocation 2g: would require relocation 2h: would require relocation
Increase in Impervious Surface Areas (in acres)	None	117	173 Alternative 2f = 173	
Total Soil Area Disturbed During Construction (in acres)	None	351	503 Alternative 2f = 503	
Total Amount of Excavated (Cut) Material (in cubic yards)	None	1a: 748,038 1b: 761,723 1c: 708,420 1d: 722,105	2a: 744,256 2b: 758,325 2c: 779,038 2d: 793,107	2e: 725,719 2f: 739,788 2g: 756,497 2h: 770,566

Table 2.38 Summary of Impacts by SR-91 CIP Build Alternative and Design Variation

Potential Impact	No Build Alternative	Alternative 1 (with design variations a, b, c, d)	Alternative 2 (with design variations a, b, c, d)	Alternative 2 (with design variations e, f, g, h)
Total Additional Imported Material (in cubic yards)	None	1a: 307,534 1b: 275,467 1c: 343,004 1d: 310,937	2a: 699,151 2b: 657,122 2c: 699,335 2d: 666,306	2e: 677,139 2f: 644,110 2g: 738,946 2h: 705,917
Total Amount of Embankment (fill) Material (in cubic yards)	None	1a: 1,055,572 1b: 1,037,190 1c: 1,051,424 1d: 1,033,042	2a: 1,434,407 2b: 1,415,447 2c: 1,478,373 2d: 1,459,413	2e:1,402,858 2f: 1,383,898 2g:1,495,443 2h: 1,476,483
Permanent Impacts to Coastal Sage Scrub (in acres)	None	27.24	35.45	
Permanent Impacts to Riparian/Riverine Habitat (in acres)	None	0.48	0.47	
Permanent Impacts to Oak Woodland Habitat (in acres)	None	0.01	0.02	
Temporary Impacts to Coastal Sage Scrub (in acres)	None	7.59	8.04	
Temporary Impacts to Riparian/Riverine Habitat (in acres)	None	1.60	9.29	
Temporary Impacts to Oak Woodland Habitat (in acres)	None	0.51	0.50	
Permanent Impacts to Corps Jurisdictional Waters (in acres)	None	1a: 2.31 1b: 2.30 1c: 2.31 1d: 1.80	2a: 2.44 2b: 2.43 2c: 2.49 2d: 2.49	2e: 2.44 2f: 0.42 2g: 2.49 2h: 2.49
Permanent Impacts to CDFG Jurisdictional Areas (in acres)	None	1a: 3.44 1b: 3.54 1c: 3.44 1d: 2.84	2a: 4.01 2b: 4.12 2c: 4.31 2d: 4.41	2e: 4.07 2f: 1.31 2g: 4.31 2h: 4.41
Permanent Impacts to RWQCB Jurisdictional Areas (in acres)	None	1a: 2.31 1b: 2.30 1c: 2.31 1d: 1.80	2a: 2.44 2b: 2.43 2c: 2.49 2d: 2.49	2e: 2.44 2f: 0.42 2g: 2.49 2h: 2.49
Temporary Impacts to Corps Jurisdictional Waters (in acres)	None	1a: 1.66 1b: 1.66 1c: 1.66 1d: 1.65	2a: 1.72 2b: 1.74 2c: 1.76 2d: 1.78	2e: 1.79 2f: 1.98 2g: 1.83 2h: 1.85

Table 2.38 Summary of Impacts by SR-91 CIP Build Alternative and Design Variation

Potential Impact	No Build Alternative	Alternative 1 (with design variations a, b, c, d)	Alternative 2 (with design variations a, b, c, d)	Alternative 2 (with design variations e, f, g, h)
Temporary Impacts to CDFG Jurisdictional Areas (in acres)	None	1a: 2.44 1b: 2.43 1c: 2.45 1d: 2.43	2a: 2.92 2b: 3.05 2c: 3.19 2d: 3.32	2e: 3.45 2f: 2.01 2g: 3.72 2h: 3.85
Temporary Impacts to RWQCB Jurisdictional Areas (in acres)	None	1.66	2a: 1.72 2b: 1.74 2c: 1.76 2d: 1.78	2e: 1.79 2f: 1.98 2g: 1.83 2h: 1.85
Permanent Direct Impacts to CAGN Habitat (in acres)	None	6.56	6.32	
Temporary Direct Impacts to CAGN Habitat (in acres)	None	1.08	2.09	
Permanent Indirect Impacts to LBV Habitat (in acres)	None	0.94	0.94	
Temporary Indirect Impacts to LBV Habitat (in acres)	None	0.0	0.0	

Source: Modified from the SR-91 CIP *Draft EIR/EIS* (May 2011).
CAGN = California gnatcatcher
CDFG = California Department of Fish and Game
CHSP = Chino Hills State Park
Corps = United States Army Corps of Engineers
LBV = least Bell's vireo
New OC Park (NNL) = New Orange County Park (National Natural Landmark)
RWQCB = Regional Water Quality Control Board
SCE = Southern California Edison
TCEs = temporary construction easements

alternatives. As shown, the No Build Alternative does not result in impacts for all the parameters shown. The Build Alternatives both result in effects in each category, but there is generally not a substantial difference between the Build Alternatives in the impacts in most of those categories although Alternative 2 does have a greater footprint and disturbed area.

- **Considers Public and Agency Comments:** For the agencies and members of the general public who provided an opinion or preference regarding the SR-91 Build Alternatives or other alternatives during the public review period for the Draft EIR/EIS, there was no strong preference for or against a specific alternative. The numbers of commenters and the alternatives they supported or opposed based on all the comments from the agencies and the public (including comment cards received at the public hearing) and the transcripts from the public hearing were:
  - Opposes Alternative 1: 1 commenter
  - Opposes Alternatives 1b, 1d: 2 commenters
  - Supports Alternative 1: 1 commenter
  - Supports Alternatives 2a, 2c, 2e, 2g: 2 commenters
  - Opposes Alternatives 2b, 2d, 2f, 2h: 4 commenters
  - Opposes Alternative 2g: 1 commenter
  - Supports Alternative 2: 2 commenters
  - Opposes Alternative 2: 1 commenter
  - Supports the Project: 2 commenters
  - Opposes Tolls and Toll Lanes: 10 commenters
  - Opposes Increased Tolls: 1 commenter
  - Wants Reduced Tolls: 1 commenter
  - Wants Alternatives on SR-91 and Elsewhere: 17 commenters
- **Consistent with System Planning:** As described earlier in Chapter 1, the MIS proposed improvements in the SR-91 corridor within a maximum feasible cross section. In general, the cross section in Alternative 2 is wider than in Alternative 1 and, as a result, meets this criterion better than Alternative 1.

In summary, although the No Build Alternative does not result in the environmental impacts of Alternatives 1 and 2 and it was identified as a preference in a few public comments on the Draft EIR/EIS, it does not meet the project purpose, provide travel time savings, nor provide consistency with system planning. Alternatives 1 and 2 are considered equivalent under the above criteria for meeting project purpose, and public comment. Alternative 1 is superior to Alternative 2 for the environmental impacts criteria; however, Alternative 2 is superior to Alternative 1 in providing better travel

time savings and better consistency with system planning. Therefore, Alternative 2 meets the above criteria better than either Alternative 1 or the No Build Alternative.

2.3.7.4 PDT Recommendation for SR-91 CIP Alternative

Based on the evaluation of the No Build and Build Alternatives against the criteria described above, the PDT recommended Alternative 2 as the Preferred Alternative for the SR-91 CIP. RCTC, the Department, the City of Corona, OCTA, and the TCA (all members of the PDT), concurred with this recommendation. As a result, Alternative 2 is the Preferred Alternative for the SR-91 CIP.

Step 2: Identify Design Variations at Three Interchanges

The PDT next considered the identification of the design variations at three interchanges to include in Alternative 2, the Preferred Alternative, based on four criteria:

- Minimizes community/right-of-way impacts
- Provides for best traffic operations
- Considers substantially differentiating environmental impacts
- Considers public and agency comments

As discussed earlier, the Build Alternatives and their design variations result in effects in all the impact categories listed in Table 2.38 although there is generally not a substantial difference between the Build Alternatives and their design variations in the impacts in most of those categories. Alternative 2 with its design variations does have a larger footprint and disturbs a larger area so its impacts related to the footprint and disturbed area would be greater than under Alternative 1 with its design variations. As a result, Alternative 1 with its design variations is superior to Alternative 2 with its design variations for the environmental impact criteria for the design variations at the three interchanges described below.

The evaluation of the design variations considered for inclusion in the Preferred Alternative, based on community/right-of-way impacts, traffic operations, and public and agency comments, is described in the following sections:

- **Auto Center Drive/Maple Street (Design Variations f and b):** The two design variations at this location were compared. That comparison indicated design variation f (direct connectors to each interchange) costs $2.2 million more than design variation b (split diamond ramps/collector road), would result in 7 fewer full parcel acquisitions, 12 more partial parcel acquisitions, $17 million less in

right-of-way costs, and would result in slight differences in traffic volumes (some increases and some decreases) at the intersections within this interchange complex when compared to design variation b.

Based on these factors, the City of Corona indicated a strong preference for design variation f at this interchange. The PDT, including the Department, RCTC, City of Corona, OCTA and TCA, concurred with the identification of design variation f for inclusion in the Preferred Alternative, Alternative 2.

- **Smith Avenue/Mid-City Access (Design Variations f and h):** The two design variations at this location were compared. That comparison indicated design variation f (No Smith Avenue access) costs $77 million less than design variation h (Smith Avenue access), would result in 10 fewer full parcel acquisitions, 10 fewer partial parcel acquisitions, and reduced right-of-way costs. There is no appreciable difference in overall traffic operations of SR-91 for these two design variations. However, design variation h would provide additional direct local access to the tolled express lanes not provided in design variation f. Design variation h would have the potential to deteriorate operating conditions in the tolled express lanes.

  The PDT, including the Department, RCTC, City of Corona, OCTA, and TCA, concurred with the identification of design variation f for inclusion in the Preferred Alternative, Alternative 2.

- **Lincoln Avenue Interchange (Design Variation f and e):** The two design variations at this location were compared. That comparison indicated design variation f (Lincoln Avenue hook ramps) costs $7.5 million less than design variation e (tight diamond), would result in 4 fewer full parcel acquisitions, 3 more partial parcel acquisitions, reduced right-of-way costs, and would result in better traffic operations when compared to design variation e because it provides greater intersection spacing.

  The PDT, including the Department, RCTC, City of Corona, OCTA, and TCA, concurred with the identification of design variation f for inclusion in the Preferred Alternative, Alternative 2.

2.3.7.5 Preferred Alternative

The PDT unanimously agreed with the recommendation of the identification of Alternative 2f as the Preferred Alternative for the SR-91 CIP. The Initial Phase of

Alternative 2f is the only phase of the SR-91 CIP that is programmed for construction funding in the 2011 FTIP (Amendment 24). A detailed description of the Initial Phase of Alternative 2f was provided earlier in Section 2.3.4.4.

2.3.7.6 Actions Under CEQA and NEPA

As noted above, after the public circulation period for the Draft EIR/EIS, all comments were considered and the Department identified Alternative 2f as the Preferred Alternative. The Department will make its final determination of the project's effect on the environment. In accordance with CEQA, the Department will certify that the project complies with CEQA, will prepare findings for all significant adverse impacts identified, will prepare a Statement of Overriding Considerations (SOC) for impacts that would not be mitigated below a level of significance, and will certify that the findings and SOC were considered prior to project approval. The Department will file an NOD with the SCH that indicates the project would have significant impacts, mitigation measures were included as conditions of project approval, findings were made, and an SOC was adopted.

With respect to NEPA, the Department, as assigned by FHWA, will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a ROD in accordance with NEPA. At this time, a ROD would be approved only for the Initial Phase of Alternative 2f because that is the phase programmed in the 2011 FTIP (Amendment 24). A separate ROD will be prepared for the Ultimate Project in the future once the Ultimate Project is programmed in a future FTIP. At the time the Ultimate Project is programmed, the Department will assess whether the project scope has changed, existing conditions in the study area have changed, and/or there is potential for substantial new adverse impacts not evaluated in the original Final EIR/EIS. That assessment may result in a determination that additional environmental documentation (such as an Environmental Reevaluation under NEPA and an Addendum to the Final EIR under CEQA if there are no substantial changes in the project scope, the existing environment and the project impacts) and/or updated technical studies are needed prior to implementation of the Ultimate Project.

2.3.7.7 Refinements to the Preferred Alternative

Green River Parking Lot

Construction of the Corps' Santa Ana River Reach 9 Phase 2B project started December 2009. The Corps revised the scope of the project during construction specifically to extend the embankment 800 ft east of its existing limits. The SR-91

CIP includes an approximately 30-space parking lot at this location at the end of the proposed Green River Road re-alignment and cul-de-sac, as shown on Sheet 10 in Appendix L. That parking area is intended to be used by bicyclists and other users of the Santa Ana River Trail/Bike Lane. An entrance to the Santa Ana River Trail/Bike Lane from the parking lot would enter from the south side of the parking lot onto the maintenance access road on top of the embankment. Based on the modification to the embankment, the Corps' Santa Ana River Reach 9 Phase 2B project was in conflict with the proposed parking lot configuration in this area. The embankment modification would not affect the design of the Green River Road realignment, the Green River Golf Club access road, or the Star Ranch access road. As a result of coordination with the Corps, the parking lot was reconfigured to avoid conflict with the extension of the embankment. The entrance to the Santa Ana River Trail/Bike Lane from the parking lot will now enter from the north side onto the extended maintenance access road as modified by the Corps as part of the Santa Ana River Reach 9 Phase 2B project. Retaining walls will be constructed to retain the parking lot to avoid encroaching into the maintenance access road.

High-Occupancy Vehicle Identification Express Lane Refinements

The SR-91 CIP assumed technology would be available by 2017 to identify HOVs traveling in the tolled express lanes. However, it was determined that the needed technology would not be available by 2017 and that a dedicated HOV lane would be required to identify HOVs before they enter the tolled express lanes. The HOV lane would be in the vicinity of the SR-91/SR-71 interchange. An additional lane would be constructed adjacent to the tolled express lanes both westbound and eastbound for a distance of approximately 2,000 ft. The HOV lanes would each require gantries with vehicle detection systems to identify the HOV and transmit that information to the toll operations center. Additional widening will be required along SR-91, and realignment of the proposed connector ramps along with an increase in retaining wall heights will be required. All the improvements associated with these HOV lanes will be entirely within existing State freeway right-of-way. CHP enforcement areas will be provided in the median in each direction after the toll gantry to enforce violations. This refinement would not result in any changes to the environmental impact analyses or the avoidance, minimization, and mitigation measures discussed in this EIR/EIS.

Cul-de-Sac Modifications

West Second Street will be eliminated from South Victoria Avenue to East Grand Avenue as a result of the SR-91 widening and configuration of the eastbound collector-distributor road. South Victoria Avenue, South Howard Avenue, and South

Joy Street would terminate at cul-de-sacs outside the State freeway right-of-way based on the removal of West Second Street. The existing Main Street ramps will be realigned to the north as part of the SR-91 widening and configuration of the westbound collector-distributor road. The North Victoria Avenue and North Belle Avenue cul-de-sacs will be relocated to the State freeway right-of-way based on the realignment of the Main Street ramps. These cul-de-sac configurations were refined to accommodate a fire truck vehicle per City of Corona standards.

Westbound Green River Road On-Ramp Enforcement Area

A CHP enforcement area is proposed per Department standards at the westbound Green River Road on-ramp. The original CHP enforcement area would be located at the limit line of the ramp meter on the north side of the ramp. That proposed CHP enforcement area would have impacted an existing drive-thru at the Carl's Junior restaurant, which would need to be relocated. The CHP enforcement area will be shifted to avoid the relocation of the Carl's Junior drive-thru area.

Westbound Green River Road Off-Ramp Enforcement Area

The design of the westbound off-ramp to Green River Road was refined to further reduce the direct impacts of the SR-91 CIP on CHSP. This design modification reduced the direct impacts to CHSP from 0.89 ac to 0.48 ac. No other impacts or changes resulted from this design refinement.

2.3.8 Alternatives Considered but Eliminated from Further Discussion Prior to the Draft Environmental Document

2.3.8.1 HOV/Tolled Express Lanes in Parallel Alternative

Implementation of both HOV and tolled express lanes, in parallel, was considered under two cross-section configurations. The first would construct one HOV lane and one tolled express lane in each direction. A single tolled express lane and HOV lane would not provide passing opportunities. This would reduce the operational efficiency of both lanes and make both facilities less attractive. Without passing opportunities, free flow of the tolled express lane could not be assured. Free flow is considered critical to maintaining the time-saving incentive for users paying the express lane toll.

The other configuration would provide one HOV lane and two tolled express lanes in each direction. This option would maintain the HOV lane and provide for passing opportunities within the tolled express lanes. However, the third additional lane would result in a total cross-section exceeding that which is considered the maximum

feasible, based on costs and impacts to businesses and residences within the City of Corona.

Because of the loss of efficiency with separate HOV and tolled express lanes and because comparable functionality can be achieved through the tolled express lane pricing structure in Alternative 2, HOV/Tolled Express Lanes in Parallel Alternative was not carried forward for detailed evaluation in this EIR/EIS.

2.3.8.2 Additional HOV Lanes Alternative

Consideration was given to implementing two HOV lanes in each direction rather than two tolled express lanes. This option could be constructed within the maximum feasible cross section, but the cost would exceed the cost of Alternative 1 and would approach the cost of Alternative 2. Because the known available funding for the project is not sufficient to cover the additional cost that would be incurred for an additional HOV lanes alternative, this alternative is at a severe fiscal disadvantage compared to a tolled express lanes alternative. In addition, the tolled express lanes alternative can provide functionality comparable to multiple HOV lanes but with a change in vehicle occupancy requirements from two or more to three or more persons. Finally, the availability of tolls to assist in financing the tolled express lanes alternative is a major advantage for funding the improvements in that alternative, which does not occur with a multiple HOV lanes alternative.

Because of higher costs and less available funding, and because comparable functionality can be achieved through the tolled express lanes in Alternative 2, the Additional HOV Lanes Alternative was not carried forward for detailed evaluation in this EIR/EIS.

2.3.8.3 Alternatives Considered in the Value Analysis Study

Other alternatives were considered for the project during several planning studies, including the *Project Study Report* and the MIS. In addition, in compliance with federal requirements for projects costing more than $25 million, a Value Analysis (VA) Study was conducted from June 16 to June 27, 2008 (*Value Analysis Study Report*, October 2008). Twenty-three alternatives investigated in the VA Study were rejected for a variety of reasons. Descriptions of those alternatives and the reasons they were not carried forward for detailed evaluation in this EIR/EIS are summarized in Table 2.39.

2.3.8.4 Mid-City At-Grade Access to Tolled Express Lanes

An alternative to provide at-grade Mid-City Access for westbound ingress and eastbound egress accessible from the Lincoln Avenue ramps was considered. Based on the traffic analyses, the weaving movements associated with this alternative would introduce additional friction through an added access point to the tolled express lane that would negatively impact traffic operations in the general purpose lanes and the tolled express lanes. That negative impact to traffic operations conflicts with the fundamental objective of the project to increase capacity and throughput on SR-91 within the project limits. Therefore, this Alternative was eliminated from further consideration in the EIR/EIS.

2.3.8.5 Multi-Modal Components

The existing public transit services between Riverside and Orange Counties are bus and commuter rail. MetroLink commuter rail services between Riverside and Orange Counties operate on railroad tracks owned by the BNSF Railroad. MetroLink commuter rail service in the SR-91 MIS corridor is nearing capacity on existing equipment, and the corridor lacks sufficient express bus service. MetroLink currently operates 16 trips daily on the IEOC Line between downtown Riverside, Laguna Niguel/Mission Viejo, and Oceanside. It operates nine trips daily on the 91-Line between Riverside and Los Angeles via Corona, Fullerton, and Norwalk. Depending on demand, in 2011, the RCTC plans to increase commuter rail services to Riverside County by two additional trips on the IEOC Line and three additional trips on the 91-Line. With this enhanced service, there will be at least one train every 30 minutes in the peak direction (westbound during the a.m. peak hour and eastbound during the p.m. peak hour). Further service improvements to MetroLink are envisioned in the SCRRA *Strategic Assessment* (MetroLink, January 19, 2007). It is anticipated there will be at least 40 daily trips each on the IEOC Line and 91-Line by 2030.

Alternative 2 would extend the existing tolled express lanes from the County line to I-15 in the City of Corona. The tolled express lanes would be available to buses and HOVs with three or more persons at either no toll charge or a reduced charge.[1]

[1] RCTC's toll pricing policy for the SR-91 CIP will be the same as the OCTA SR-91 Express Lanes. The toll pricing policy for the SR-91 CIP was adopted by the RCTC Board at its June 7, 2012 meeting where the public was provided an opportunity for comment.

Table 2.39 Summary of Rejected Value Analysis Study Alternatives

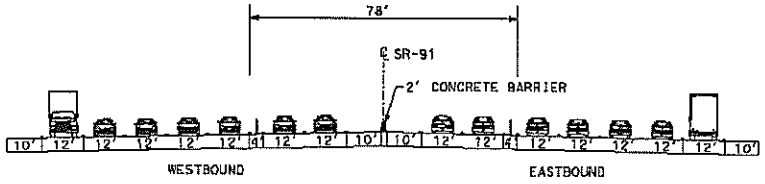
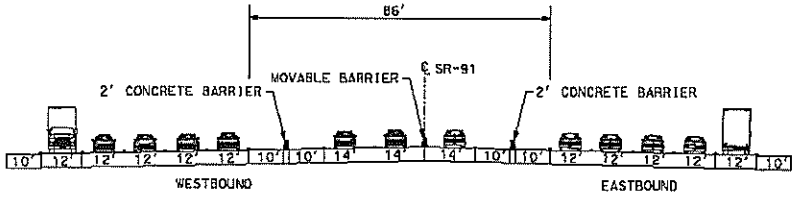
Value Analysis Study Alternative and Description	Reasons Alternatives Were Not Carried Forward for Detailed Evaluation in the EIR/EIS
1.1 and 1.2: Reversible Managed Lanes – The VA Study proposed consideration of a reversible managed lane facility using a movable barrier to adjust the number of lanes in each direction to add more capacity for the peak directional flow. Cross-sections for the Alternative 2 Express Lanes and Reversible Managed Lanes Concept are shown below.  **ALTERNATIVE 2 EXPRESS LANES**  **REVERSIBLE MANAGED LANES CONCEPT**	Reversible lanes can be an effective means of achieving high lane utilization if there is a major temporal division in the prevailing traffic pattern, such as a high a.m. in-bound peak hour and a high out-bound p.m. peak hour. Such a solution has been in place in San Diego County along the I-15 corridor for several years. SR-91 has historically exhibited operating characteristics similar to the I-15 corridor in that SR-91 has historically exhibited high westbound traffic volumes in the a.m. peak hour and high eastbound volumes in the p.m. peak hour. Although a directional split is forecast on SR-91 through 2035, the forecasted demand for the tolled express lanes in the off-peak direction exceeds the capacity for a single lane, which indicates the need for two full-time tolled express lanes in each direction. Other implications associated with reversible lanes include the need for additional concrete barriers on either side of the facility, necessitating additional shoulder width and widening. Assessment of a standard 2:1 reversible facility revealed that it required an 86 ft wide cross-section, which would exceed the 78 ft required for two full-time reversible lanes in each direction. Additional long-term operational costs and complications related to using a moveable barrier for a reversible facility also make this approach undesirable on SR-91. The long term operational costs include the continuous costs of moving 15 miles of barrier twice daily, 7 days a week. The additional costs for maintaining and operating a movable barrier system are prohibitively expensive. The *Value Analysis Study* (October 2008) estimated this alternative would add over $200 million to the project. As a result, an alternative with this ongoing daily operations cost was not recommended in the *Value Analysis Study*. As a result, reversible lanes were not carried forward for detailed evaluation in this EIR/EIS.
1.3: Construct Measure A HOV Widening with Corridor A – The VA Study proposed constructing the SR-91 CIP in conjunction with the Corridor A alignment proposed in the Riverside County/Orange County MIS.	Although this option affords some economy of scale and provides overall cost savings, funding is currently only available for the SR-91 CIP and not the Corridor A alignment. This alternative cannot be implemented without incurring major delay in implementation of the SR-91 CIP. If this alternative is pursued, it would result in several years delay in implementing the MIS LPS including the SR-91 CIP. This alternative is not consistent with the MIS or the MIS LPS. The LPS identified the SR-91 CIP project as the maximum and feasible widening to SR-91. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
1.4: Additional Tolled Express Lanes – The VA Study proposed providing three tolled express lanes in each direction on SR-91 instead of the two lanes proposed in the SR-91 CIP.	The alternative was not carried forward because it was not consistent with the recommendations of the Riverside County/Orange County MIS. Based on the MIS (2006) approved by OCTA and RCTC, the strategic alternatives to be advanced included maximum widening of the SR-91 includes adding one or two lanes in each direction. This alternative would also be constrained by the locations of the Santa Ana River to the north and substantial topograph and the Mindemun Landslide to the south. This alternative did not meet that strategy. No source was identified for the

Table 2.39 Summary of Rejected Value Analysis Study Alternatives

Value Analysis Study Alternative and Description	Reasons Alternatives Were Not Carried Forward for Detailed Evaluation in the EIR/EIS
	additional funding this alternative would require and it would have created adverse effects, especially in the City of Corona, beyond those associated with the maximum feasible cross section as identified in the Riverside County/Orange County MIS. Therefore, this alternative was not carried forward for detailed analysis in this EIR/EIS.
2.0: Southbound SR-71 to Westbound SR-91 Connector – Both Build Alternatives propose to improve the existing southbound SR-71 to westbound SR-91 connector to achieve a 25 mph design speed. The VA Study proposed a major realignment of the connector to achieve a 40 to 50 mph design speed.	The analysis determined that the higher speed connection would have substantial adverse environmental, budget, and schedule impacts. This alignment would reduce available merging and weaving distances so that access to westbound lanes could not be provided at the Orange County line. Also, the higher design speed of the upgrade would not be realizable during peak hours due to mainline congestion on westbound SR-91. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
3.1: Reverse Wishbone Structure at SR-241 – The VA Study proposed a reverse wishbone structure to provide improved access to the tolled express lanes in the vicinity of the SR-241 interchange.	The OCTA is pursuing a separate project to construct direct connectors between the tolled express lanes and the SR-241 toll road. With that project proceeding, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
3.2: SR-241 to SR-91 Direct Connector – The OCTA is collaborating with the TCA to propose a direct connector between SR-241 and the SR-91 tolled express lanes.	Because current scheduling calls for this project to be completed after the SR-91 CIP, the VA Study proposed incorporation of the components for the SR-91 CIP. The effort is not in the scope of work for the SR-91 CIP, and expansion of the scope to include this work would delay the SR-91 CIP by at least 6 months. Any cost savings that could be realized by combining the projects would be negated by increases in construction costs and user delay costs occasioned by that delay. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
4.0: Provide Standard Lane Drop for Westbound SR-91 West of SR-241 – The proposed lane drop does not meet Department standards and would require approval of a design exception.	The proposal for a standard lane drop would require a design exception, and the added cost would reduce the overall project value. The estimated additional cost of this alternative is $11.7 million per the VA Study (October 2008). For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
5.1: Reconfigure Auto Center Drive Interchange – The VA Study proposed reconfiguring the Auto Center Drive interchange and extension of Sixth Street, which currently transitions into Maple Street, west to Auto Center Drive as a south frontage road.	This enhancement would eliminate SR-91 access at Maple Street, require replacement of the Maple Street overcrossing, and substantially increase right-of-way acquisition south of SR-91. While it could afford some improvement in local circulation, the operational improvement on mainline SR-91 would be minimal. It was concluded that the additional cost of this option would not be commensurate with the project's need and purpose, and elimination of Maple Street access would not be acceptable. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
8.0: Detention Basin at Northbound SR-71 Loop – This VA Study alternative would convey storm water from the narrowest pinch point of SR-91 east to a detention basin in the loop of the eastbound SR-91 to northbound SR-71 connector.	The Project Development Team concluded that while this proposal represents one means of dealing with storm water at the western end of the project, more cost effective means are available. A comprehensive SWDR is in preparation for the PA&ED phase, and a more detailed report will be prepared during PS&E. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.

Table 2.39 Summary of Rejected Value Analysis Study Alternatives

Value Analysis Study Alternative and Description	Reasons Alternatives Were Not Carried Forward for Detailed Evaluation in the EIR/EIS
9.0: Star Ranch Access Road – Star Ranch is a property south of SR-91 between the Orange County line and Green River Road. Access to that property is currently provided via a vehicular undercrossing just east of the County line, which provides a connection to Green River Road on the north side of SR-91. This alternative proposes an access on a new alignment, entirely south of SR-91, beginning at Green River Road.	Further analysis determined that the alternative access would not be less costly than modification of the existing road, and it would create problems in providing proper access control at the Green River Road interchange. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
10.0: Construct Park-and-Ride at Green River Road – This alternative proposed construction of a park-and-ride facility at the Green River Road interchange.	Park-and-ride facilities are not within the project scope, although the subject is considered in depth in the VA Study. The need for additional park-and-ride facilities within the project study limits was identified as part of the MIS LPS and is being considered as a separate project along with several other projects that were identified in the MIS LPS. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
13.1 and 13.2: Construct Westbound Hook Ramps at Lincoln Avenue Interchange – Existing westbound hook ramps connect to Pomona Drive west of Lincoln Avenue. The alternative would move those hook ramps to east of Lincoln Avenue.	The alternative would displace an auto dealership or large parts of a mobile home park. Either right-of-way impact is disproportionate to any economy or improvement that is afforded by this modification. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
14.1: Reconfigure Main Street Eastbound Ramp Braid – The alternative proposed a revised configuration for braided ramps providing access from Main Street to eastbound SR-91 and to I-15.	It was determined that initial cost savings attributed to the alternative would be negated by the cost of additional widening required on Main Street. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
15.1: Below-Grade Ramp Braid for Westbound SR-91 Off-Ramp to Main Street – The alternative would construct a braided ramp to allow westbound SR-91 traffic to exit at Main Street without merging through entering I-15 traffic.	No tunnel alignment could be found that would provide adequate sight distance through the multiple location constraints. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
15.3: Construct Westbound SR-91 to Main Street Off-Ramp via Connection to I-15 Connector – This alternative would allow westbound SR-91 traffic to exit at Main Street without merging through I-15 traffic. Instead, traffic would enter the connector toward northbound or southbound I-15 but exit to Main Street.	The alternative would not meet driver expectations. Drivers do not anticipate using a freeway-to-freeway connector to access a local roadway. FHWA does not allow access points along an Interstate connector. A preferred solution will be pursued by Alternative 15.2. The *Value Analysis Study* estimated this alternative would add $36 million to the project. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
16.0: Widen South I-15 Direct Connectors to Two Lanes – Single-lane connectors are proposed.	The additional cost of the connector widening is prohibitive, and no benefit would accrue from it. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
17.0: Construct SR-91/I-15 Direct Connectors from Steel – Structures are proposed as prestressed, precast or cast-in-place concrete.	Increased maintenance costs for steel structures would result in higher life-cycle costs compared to concrete as proposed. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
18.0: Construct Park-and-Ride Facility at Main Street Interchange – This alternative proposes construction of a park-and-ride facility in the southeast quadrant of the Main Street interchange.	Park-and-ride facilities are not within the project scope, although the subject is considered in the VA Study. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.

Table 2.39 Summary of Rejected Value Analysis Study Alternatives

Value Analysis Study Alternative and Description	Reasons Alternatives Were Not Carried Forward for Detailed Evaluation in the EIR/EIS
20.2: Construct Standard Lane Drop East of Magnolia Avenue	The alternative does not provide a substantial freeway operational benefit to warrant the extension of the project limits east of Pierce Street. This alternative was considered in the previous planning phase of the project and was rejected by the Department. For this reason, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
20.3: Construct Eastbound Hook Off-Ramp at Magnolia Avenue	This alternative would eliminate the eastbound exit at Pierce Street and provide the exit ramp at Magnolia Avenue for access to Pierce Street. This alternative does not meet driver expectations of exiting at one location to provide access to a different location, and a preferable solution is afforded by Alternative 20.1. This alternative results in a minimal savings of $1 million. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.
20.5: Construct Single-Lane Exit at Pierce Street and Magnolia Avenue and Hook Ramp to Westbound Magnolia Avenue	This alternative would provide an exit at Pierce Street for southbound Pierce Street traffic and an exit at Magnolia Avenue for Pierce Street northbound traffic. This alternative does not meet driver expectations of exiting at one location for access to an arterial street, and a preferable solution is afforded by Alternative 20.1. For these reasons, this alternative was not carried forward for detailed evaluation in this EIR/EIS.

Source: *Value Analysis Study Report* (October 2008).
CIP = Corridor Improvement Project
Department = California Department of Transportation
EIR/EIS = Environmental Impact Report/Environmental Impact Statement
ft = foot/feet
HOV = high-occupancy vehicle
I-15 = Interstate 15
MIS = Major Investment Study
mph = miles per hour
OCTA = Orange County Transportation Authority
PA&ED = Project Approval and Environmental Document
PS&E = Plans, Specifications and Estimates
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
SWDR = Storm Water Data Report
TCA = Transportation Corridor Agencies
VA = Value Analysis

As a result, extension of the tolled express lanes would reduce the travel time for the existing Express Bus service using those lanes between the two counties and facilitate the planned expansion of the existing Express Bus service in this corridor. In addition to the project, four separate transit projects are either planned or under study along the SR-91 corridor, as shown in Table 2.40.

A multi-modal improvement to construct reversible managed lanes on SR-91 was considered during the value analysis study for the project. It was considered to provide lower performance and greater cost when compared to the Alternative 2 tolled express lanes. Further reasons for rejecting this concept are provided in Table 2.39 and Section 2.3.8.3, Alternatives Considered in the Value Analysis Study.

The Build Alternatives are compatible with multi-modal projects that will be implemented as funding becomes available and/or project planning efforts conclude to allow the multi-modal projects to be implemented. These multi-modal projects are separate and independent projects from the Build Alternatives. They are compatible with and are not precluded by the Build Alternatives.

Table 2.40 Transit Projects

Plans and/or Projects	Project Descriptions, Proposed Improvements, and Anticipated Completion Dates
MetroLink Short-term Expansion Plan	• Increases the number of daily trains from 23 to 31 along the IEOC and 91 lines. • This project is anticipated to be completed by 2016.
Express Bus Improvements – Orange County to Riverside County	• The Riverside County to Hutton Centre/South Coast Metro route began service in fall 2006. • Four additional routes are planned for implementation by FY 2015/2016. • This project will contribute to congestion relief on SR-91.
MetroLink Service and Station Improvements	• This long-term expansion plan will build on MetroLink's Short-term Expansion Plan (which will be implemented by 2016) by increasing the number of daily trains from 31 to 42 along the IEOC and 91 lines. • Capital improvements necessary for this expansion include a third track, parking improvements and new crossovers at critical locations, new storage tracks in San Bernardino, and the purchase of new engines and coaches. • This project is anticipated to be completed by 2020. • This project will contribute to congestion relief on SR-91.
Anaheim to Ontario International Airport High-Speed Rail	• Conceptual engineering studies are currently in preparation. Potential alignments are being considered along SR-91 within Santa Ana Canyon and on SR-57. • The project completion date and estimated cost of the project will be determined as the environmental phase progresses. • This project will contribute to congestion relief on SR-91 by providing additional capacity throughout the corridor.

Source: *Project Report* (September 2011).
FY = Fiscal Year
IEOC = Inland Empire-Orange County
SR-57 = State Route 57
SR-91 = State Route 91

2.3.9 Related Projects and Other Projects in the Vicinity of the SR-91 CIP

2.3.9.1 Approved or In-Process Projects

Several projects that have been approved or are in process could affect the design of the Build Alternatives. Those projects and how they relate to the project are described in this section. The general locations and extents of the projects are shown on Figure 2-18 and in more detail on the No Build Alternative figures in Appendix L. Extensive coordination regarding design issues associated with these projects and the project has been, and continues to be, conducted by RCTC, the Department, and the project consultants. These projects are described briefly in the following sections.

SR-91 Eastbound Lane Addition Project Between SR-241 and SR-71

Department Districts 8 and 12, in conjunction with OCTA and RCTC, recently completed construction of an additional GP lane and widened all lanes and shoulders to standard widths on eastbound SR-91 between SR-241 in eastern Orange County and SR-71 in western Riverside County. This project provides relief at the SR-91/ SR-241 interchange chokepoint where an existing GP lane ended, facilitates the movement of traffic to the SR-71/SR-91 interchange, and enhances safety. The project was approved on December 28, 2007. Construction began in fall 2009 and was completed in early 2011. The conceptual designs for the Build Alternatives accommodate the Eastbound Lane Addition Project improvements.

Santa Ana River Mainstem Project – Santa Ana River Reach 9 Phases 2A and 2B

The Reach 9 Phase 2A project in the Lower Santa Ana River just below the Prado Dam is planned to begin construction in late 2011. The Reach 9 Phase 2B project in the Lower Santa Ana River located adjacent to the Green River Road Golf Course began construction in December 2009 and is anticipated to be completed by summer 2012. The features of these projects include grouted stone bank protection and sheet pile designed to protect SR-91 from damage that would be caused by a full release of stored water from Prado Dam. The project was originally analyzed in the *Prado Basin and Vicinity, Including Reach 9 and Stabilization of the Bluff Toe at Norco Bluffs Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR)* (Corps, November 2001).

LEGEND

- SR-91 Between SR-55 and SR-241
- I-15 Corridor Improvement Project
- SR-91 Eastbound Lane Addition Project Between SR-241 and SR-71
- Santa Ana River Interceptor Pipeline Reaches 3 and 4
- Santa Ana River Reach 9 Phase 2B
- Santa Ana River Reach 9 Phase 2A
- SR-241/SR-91 Direct Connectors
- SR-91/SR-71 Interchange Improvement Project
- County Boundary
- City Boundary
- Parks

N

0 0.5 1
Miles

SOURCE: Bing (2008); Thomas Bros. (2008); PB (2009)

I:\PAZ0701\GIS\Basemap\ProjectsNearby.mxd (1/16/2012)

FIGURE 2-18

SR-91 Corridor Improvement Project

Approved and In-Process Projects in the SR-91 CIP Area

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

The project design consists of the stabilization of the channel through the bank protection discussed above and, in the case of Phase 2B, the realignment of the Santa Ana River north of its existing alignment to limit erosion and scour potential. Phase 2B was environmentally approved in September 2009. Phase 2A was environmentally approved in 2011, with construction beginning in early 2012 and completion in late 2014.

The design of this project will accommodate right-of-way for the Build Alternatives as well as several other projects including the Santa Ana River Interceptor (SARI) pipeline (discussed in detail below), and the relocation of part of the existing Santa Ana River Trail/Bike Lane.

Santa Ana River Interceptor Pipeline Reaches III and IV

The Santa Ana Watershed Project Authority (SAWPA) was formed in 1972 to plan and construct the SARI pipeline network with the goal of protecting and improving groundwater and surface water quality of the Santa Ana River Watershed. The SAWPA is a joint powers agency with five member agencies: Eastern Municipal Water District, Western Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, and San Bernardino Valley Municipal Water District. The SARI pipeline conveys primarily highly saline, nondomestic wastewater from industrial dischargers and municipal desalter facilities in Riverside and San Bernardino Counties to the Orange County Sanitation District's wastewater treatment plant. The soil cover over a segment of the SARI pipeline downstream of Prado Dam, which was once buried at a depth of approximately 20 ft, has been eroding, and the pipeline has recently been completely exposed in several locations. These exposures were caused by flows less than 10,000 cubic feet per second (cfs). Costly emergency actions have been conducted to protect the line.

Current releases and additional impact from future increased releases are anticipated to further expose and damage the SARI, resulting in system failure, risks to public health, and costly clean-up and repair. The Corps Prado Basin SEIS/EIR identified that the scour effect resulting from increased releases from the raised spillway elevation of Prado Dam would ultimately expose and undermine the existing SARI.

As shown on Figure 2-18, the SARI project begins immediately downstream of Prado Dam and extends further downstream to Weir Canyon Road. The project parallels an approximately 7 mi long segment of the Santa Ana River (calculated in river miles). The SARI pipeline project (Reaches III and IV in particular) is within Reach 9 of the

Santa Ana River in the project study area. This section of the SARI pipeline will be relocated at the same time the Corps realigns the Santa Ana River Channel (Reach 9 Phase 2B) through this section. Like the Corps' Santa Ana River Realignment Project, the SARI pipeline project has been planned to accommodate the design of the Build Alternatives.

The project was approved in late 2009. Construction began in late 2009 with the realigned SARI pipeline anticipated to be operational by mid-2013.

2.3.9.2 Future Projects

SR-71/SR-91 Interchange Improvement Project

RCTC completed the Project Approval and Environmental Document (PA&ED) process to improve the connection between SR-91 and SR-71 in and near the City of Corona in June 2011. The SR-71/SR-91 interchange is a substantial source of traffic congestion in the area. This project proposes to reduce congestion, enhance safety for motorists, support the movement of goods, and improve mobility and connections between the two freeways and among Riverside, Orange, and San Bernardino Counties.

This project proposes replacing the existing single-lane connection between eastbound SR-91 and northbound SR-71 with a new two-lane, direct flyover ramp, and building a new separate eastbound road just south of and parallel to SR-91 to provide improved access between the Green River Road interchange and the SR-71/SR-91 interchange. The project limits on SR-71 begin at the SR-71/SR-91 interchange and end approximately 1.5 mi north of SR-91. This project would be implemented after the Initial Phase of the SR-91 CIP and is anticipated to be completed in 2018.

I-15 Corridor Improvement Project

As part of other congestion relief projects in Riverside County, RCTC is planning improvements to I-15 northward from just north of the I-15/I-215 separation in the City of Murrieta to the San Bernardino County line. The I-15 Corridor Improvement Project extends approximately 44 mi along I-15. Two build alternatives are under consideration: an HOV lane and a mixed-flow lane alternative, and a tolled express lane and mixed-flow lane alternative. This project would be implemented after the Initial Phase of the SR-91 CIP and is anticipated to be completed in 2019.

SR-241/SR-91 Direct Connectors

To maximize the efficiency of transitions between SR-241 and the existing SR-91 tolled express lanes in Orange County, direct connectors are conceptually planned at this interchange, as shown on Figure 2-16. These improvements would be implemented by the TCA and OCTA. This would allow SR-241 toll road users to transition directly onto the SR-91 tolled express lanes and vice versa. Construction of this project is anticipated to be completed after the completion of the Initial Phase of the SR-91 CIP.

Future SR-91 Implementation Plan Improvements

As discussed in Chapter 1, Project, improvements are planned for SR-91 in the short term (including the recently completed SR-91 Eastbound Lane Addition project described above), medium term (by 2015), and into the future (by 2022). These improvements include a number of smaller projects and two large projects. The large projects, which were considered in the MIS, are: Corridor A (a parallel facility to the SR-91) and Corridor B (Post 2030, another separate intercounty transportation facility). Corridors A and B are projects requiring major financial commitments and, while they are included in the time frame for the 30-year horizon, they may or may not occur within that horizon depending on the ability to fund them. Table 3.25.1 in Section 3.25, Cumulative Impacts, provides descriptions of these future SR-91 projects.

2.3.10 Permits and Approvals Needed

Table 2.41 identifies the permits and/or approvals that are or may be required prior to or during construction and/or operation of Alternatives 1 and 2.

Table 2.41 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
Federal Agencies		
FHWA	Approval for Modified Access Report to the Interstate System	A "Letter of Acceptability" approving the modified access was received from FHWA in a letter to the Department dated May 11, 2011.Final approval will occur in August 2012 after approval of the ROD.
	Section 6005 of SAFETEA-LU for satisfying Air Quality Conformity Requirements	Approval was received from FHWA on June 6, 2012.
	Major Project Operational Independence and Non-Concurrent Construction Determination	Concept request was submitted January 20, 2012, and final approval is expected by June 2012.
	Cost Estimate Review	Approval was received on March 23, 2012.
	Draft Project Management Plan	Submitted on May 16, 2012.
	Plan of Finance (in lieu of Initial Financial Plan)	Submittal is expected by July 2012.
	Final Project Management Plan	Approval is expected by October 2012.
	Close of Finance/Financial Plan Annual Update	The first annual update would be submitted in May 2013.
USFWS	Section 7 Consultation for Threatened and Endangered Species Review and Comment on 404 Permit	The BO was approved on November 30, 2011, by USFWS (refer to Appendix N).
Corps	Section 404 Individual Permit for filling or dredging waters of the United States.	The application for this permit was submitted in July 2011.
	Section 408 Permit for modifications to Corps' facilities in three locations and a modified easement at a fourth location.	An initial application for this permit was submitted in December 2011.
National Park Service	Approval of the use of land from CHSP if that land is protected under Section 6(f).	Because the 0.48 ac of land in CHSP that will be used by the project is not currently protected by Section 6(f), no NPS approval is required at this time. If that land becomes protected under Section 6(f) prior to the use of 0.48 ac in CHSP for the SR-91 CIP, the requirements for protection under Section 6(f) will be analyzed and addressed with State Parks and the California Department of Parks and Recreation, Office of Grants and Local Services.

Table 2.41 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
State Agencies		
CDFG	1602 Agreement for Streambed Alteration	The application for this agreement was submitted in February 2011.
California State Parks	Concurrence regarding the determination of the project effects on CHSP.	State Parks provided written concurrence with the de minimis determination for project effects on CHSP in a letter dated March 26, 2012; a copy of that letter is provided in Appendix B.
	Right-of-Entry/Encroachment Permit	An approved Right-of-Entry/Encroachment Permit will be required prior to any construction encroaching into land within the boundary of CHSP.
	Approval of a permanent aerial easement in CHSP	Prior to construction of the Green River Road westbound off-ramp.
California Transportation Commission (CTC)	Approval of STIP funding	After the Department approves the Final EIR and files the Notice of Determination.
SWRCB	Section 402 NPDES (Construction Activity)	The notification for coverage under Order No. 2009-0009-DWQ, NPDES No. CAS000002 will be submitted prior to construction.
	Section 402 NPDES Permit (Department NPDES Permit)	Coverage under Order No. 99-06-DWQ, NPDES No. CAS000003 will be addressed with submittal of the NOI under NPDES No. CAS000002, which will be submitted prior to construction.
Santa Ana RWQCB	Section 402 NPDES (Groundwater Dewatering)	The notification for coverage under Order No. R8-2009-0003, NPDES No. CAG998001, will be submitted prior to construction.
	Section 401 Water Quality Certification	The application for this agreement was submitted in February 2011.
Regional and Local Agencies		
Western Riverside County RCA and the RCTC	JPARP	A Preliminary Determination of Biologically Equivalent or Superior Preservation is provided in Appendix O of the *Natural Environment Study* (2010)
Cities of Anaheim, Corona, Riverside, and Norco, and Counties of Riverside and Orange	Freeway Agreements	Freeway agreements reflecting the project will be finalized after completion of the Final EIR/EIS.
Cities of Anaheim, Corona, and Riverside, and Counties of Orange and Riverside	Encroachment permits for any encroachments into public right-of-way owned by these jurisdictions.	Prior to any encroachment
Cities of Anaheim, Corona, and Riverside, and Counties of Orange and Riverside	Approval of the TMP and any detour plans using local streets	Prior to construction
Orange County Flood Control District and Riverside County Flood Control District	Coordination for, and approval of, any project-related changes to the existing flood control facilities	During final design

Table 2.41 Permits and Approvals Needed

Agency	Permit/Approval	Status/When Required
County of Orange	Approval of a permanent subsurface easement in the New OC Park (NNL)	Prior to construction of the Ultimate Project
Railroads		
BNSF Railroad Company	Memorandum of Understanding and a Construction and Maintenance Agreement with the railroad	Prior to any construction within or above railroad right-of-way
California Public Utilities Commission	Approval of the project, based on review of the Construction and Maintenance Agreement	Prior to any construction within or above railroad right-of-way
Utilities		
SCG SCE City of Corona AT&T/Pacific Bell Comcast Cable Sprint Time Warner Cable Questar/Four Corner Pipeline Company Level 3 Communications Temescal Valley Regional Interceptor City of Riverside Santa Ana Watershed Project Authority Western Riverside Regional Wastewater	Approvals to relocate, protect in place, or remove utility facilities	Prior to any construction activities that would affect utility facilities

BNSF = Burlington Northern Santa Fe
BO = Biological Opinion
CDFG = California Department of Fish and Game
CHSP = Chino Hills State Park
Corps = United States Army Corps of Engineers
Department = California Department of Transportation
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
FHWA = Federal Highway Administration
JPARP = Joint Project Acquisition/Review Process
NOD = Notice of Determination
NOI = Notice of Intent
NPDES = National Pollutant Discharge Elimination System
RCA = Regional Conservation Authority
RCTC = Riverside County Transportation Commission
ROD = Record of Decision
RWQCB = Regional Water Quality Control Board
SCE = Southern California Edison
SCG = Southern California Gas Company
SWRCB = State Water Resources Control Board
TMP = Transportation Management Plan
USFWS = United States Fish and Wildlife Service

Chapter 3 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis conducted for the project, the following environmental topics were considered but no adverse project impacts were identified. As a result, no further discussion regarding these issues is provided:

- **Coastal Zone:** The project segments of SR-91 and I-15 are not in or in the immediate vicinity of a designated Coastal Zone. As a result, the Coastal Zone Management Act of 1972 (CZMA), the primary federal law enacted to preserve and protect coastal resources, is not applicable to the proposed project.
- **National Wild and Scenic Rivers:** The project segments of SR-91 and I-15 do not cross and are not in the vicinity of any designated National Wild and Scenic Rivers. As a result, the project is not subject to the requirements of the National Wild and Scenic Rivers Act (16 USC 1271) and the California Wild and Scenic Rivers Act (PRC Section 5093.50 et seq.).

As discussed in Chapter 2, Project Alternatives, the SR-91 CIP Build Alternatives are proposed to be constructed in two phases each: the Initial Phase and the Ultimate Project. As a result, environmental impacts would occur in both the Initial Phases and Ultimate Projects for Alternatives 1 and 2. As shown earlier in Chapter 2, construction would occur on different segments of SR-91 and I-15 for the Initial Phases and Ultimate Projects for Alternatives 1 and 2. As a result, the environmental impacts of Alternatives 1 and 2 could occur (a) only in the Initial Phases, (b) only in the Ultimate Projects, or (c) in both the Initial Phases and Ultimate Projects, depending on the locations of resources and the areas affected by the project construction. The project improvements and the locations of project construction activities in the Initial Phases and Ultimate Projects for Alternatives 1 and 2 are described below.

Figures 3-1 and 3-2 show the segments on SR-91 and I-15 where construction would occur in the Initial Phase and Ultimate Project for Alternative 1, respectively. Table 3.1 lists the improvements in the Initial Phase and Ultimate Project of Alternative 1, respectively.

Table 3.1 Construction Activities in the Initial Phase and Ultimate Project for Alternative 1

Initial Phase (Figure 3-1)	Ultimate Project (Figure 3-2)
• Construction of additional lanes on SR-91 between Green River Road and I-15	• Construction of additional lanes on SR-91 between Green River Road and I-15
• Reconstruction of the Green River Road westbound off-ramp	• Reconstruction of the Green River Road westbound off-ramp
• Construction of the eastbound SR-91 to southbound I-15 HOV direct connector and an HOV lane from that connector south to Ontario Avenue	• Construction of the eastbound SR-91 to southbound I-15 HOV direct connector and an HOV lane from that connector south to Ontario Avenue
• Construction of an HOV lane north from Ontario Avenue and the northbound I-15 to westbound SR-91 HOV direct connector	• Construction of an HOV lane north from Ontario Avenue and the northbound I-15 to westbound SR-91 HOV direct connector

Source: Riverside County Transportation Commission (2012).
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-91 = State Route 91

As a result, when impacts of Alternative 1 are noted in this EIR/EIS as occurring in the Initial Phase, they would occur in the areas shown on Figure 3-1. If the impacts are for the Ultimate Project, they would occur in the areas shown on Figure 3-2. As shown by comparing the areas of construction on Figures 3-1 and 3-2, the only area where construction may occur during both the Initial Phase and Ultimate Project for Alternative 1 is the area around the SR-91/I-15 interchange.

Figures 3-3 and 3-4 show the segments on SR-91 and I-15 where construction would occur in the Initial Phase and Ultimate Project for Alternative 2, respectively. As shown on Figure 3-3, construction activities for the improvements in the Initial Phase of Alternative 2 would occur on all project segments of SR-91 and I-15. Table 3.2 lists the improvements in the Initial Phase and Ultimate Project of Alternative 2, respectively.

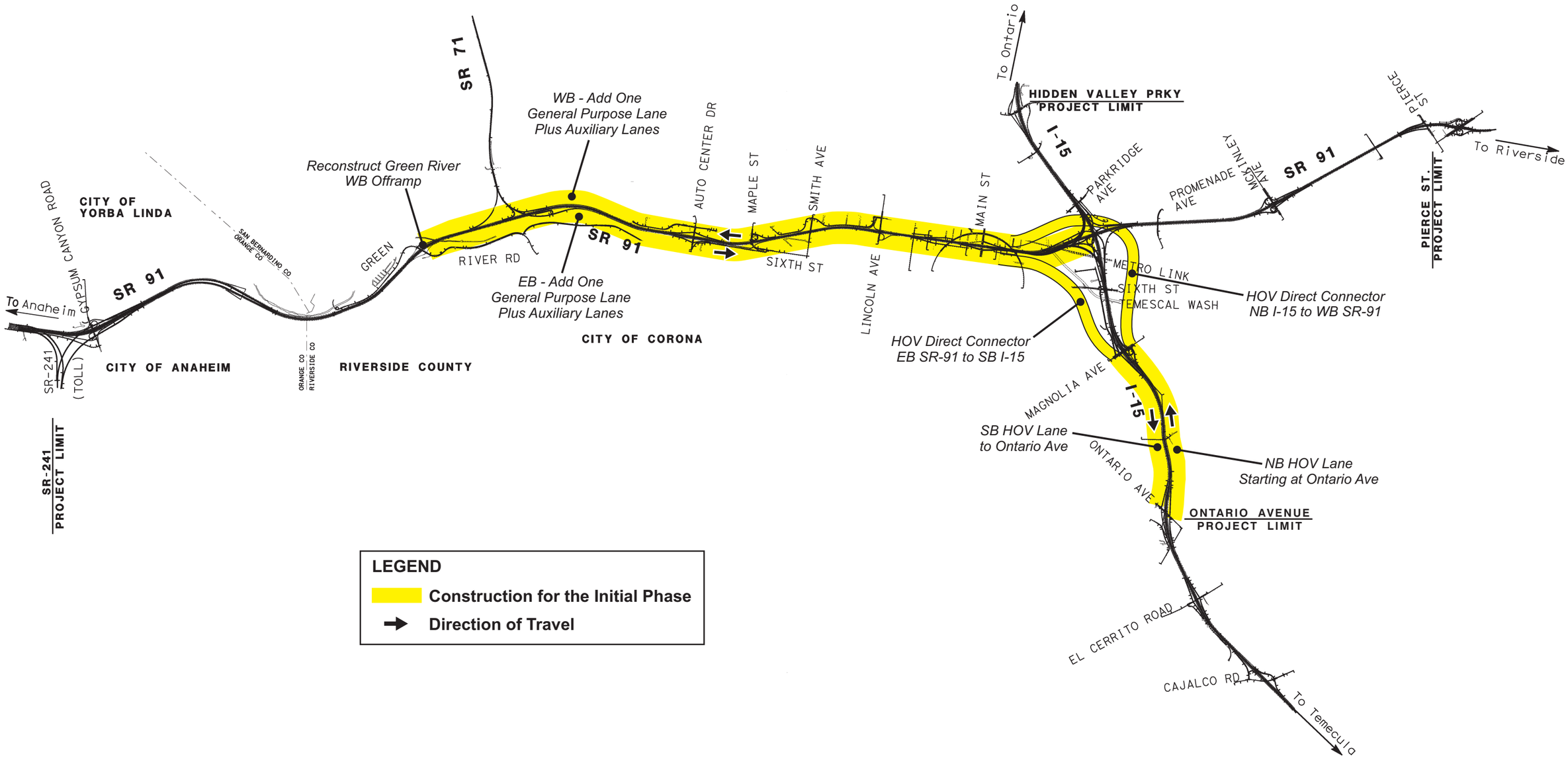


FIGURE 3-1

Note: Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

NOT TO SCALE

SR-91 Corridor Improvement Project

Construction for the Initial Phase of Alternative 1

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 3-1-Construction-Initial Phase-Alt 1.cdr (2/17/12)

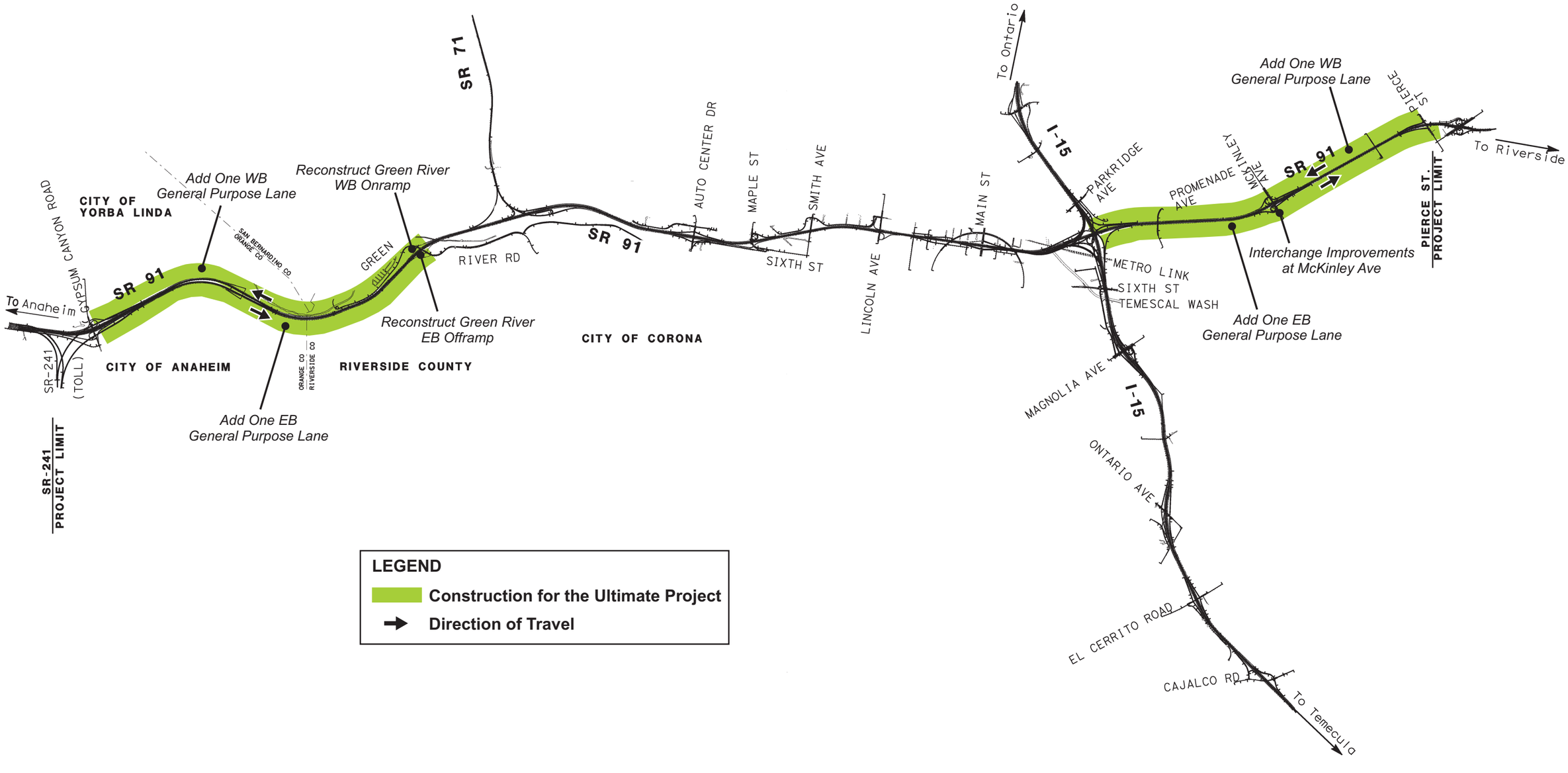


FIGURE 3-2

Note: Refer also to Appendix L, Project Features, which provides detailed preliminary design plans on an aerial photograph base for the two Build Alternatives and their design variations.

N

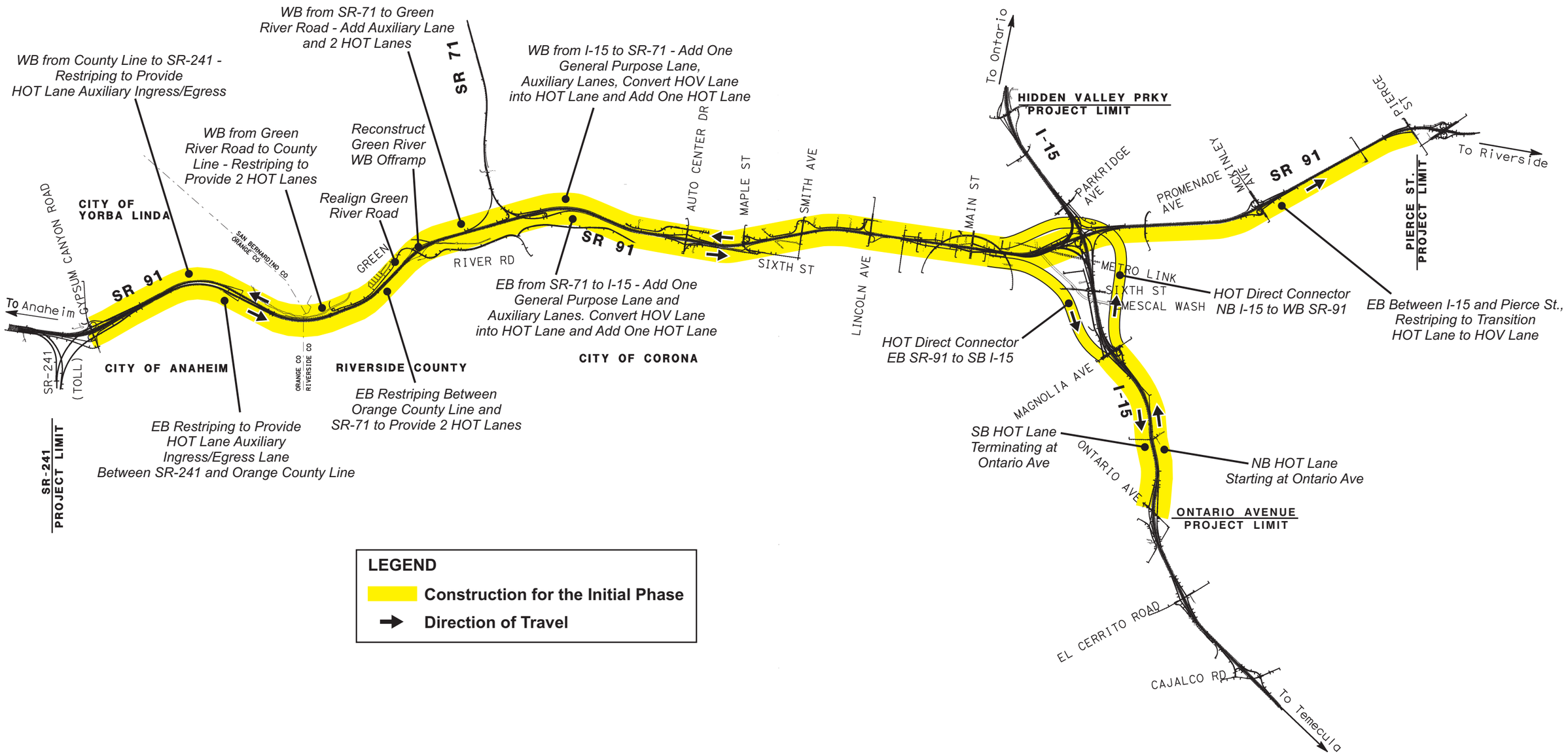
NOT TO SCALE

SR-91 Corridor Improvement Project

Construction for the Alternative 1 Ultimate Project

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 3-2-Construction-Ultimate Phase-Alt 1.cdr (2/16/12)



Note: The Initial Phase only needs striping and does not require any road widening for the segments west of SR-71 on SR-91 eastbound, west of Green River Road on SR-91 westbound, and east of I-15 on SR-91 eastbound.

N

NOT TO SCALE

FIGURE 3-3

SR-91 Corridor Improvement Project

Construction for the Initial Phase of Alternative 2

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing\Fig 3-3-Construction-Initial Phase-Alt 2.cdr (2/17/12)

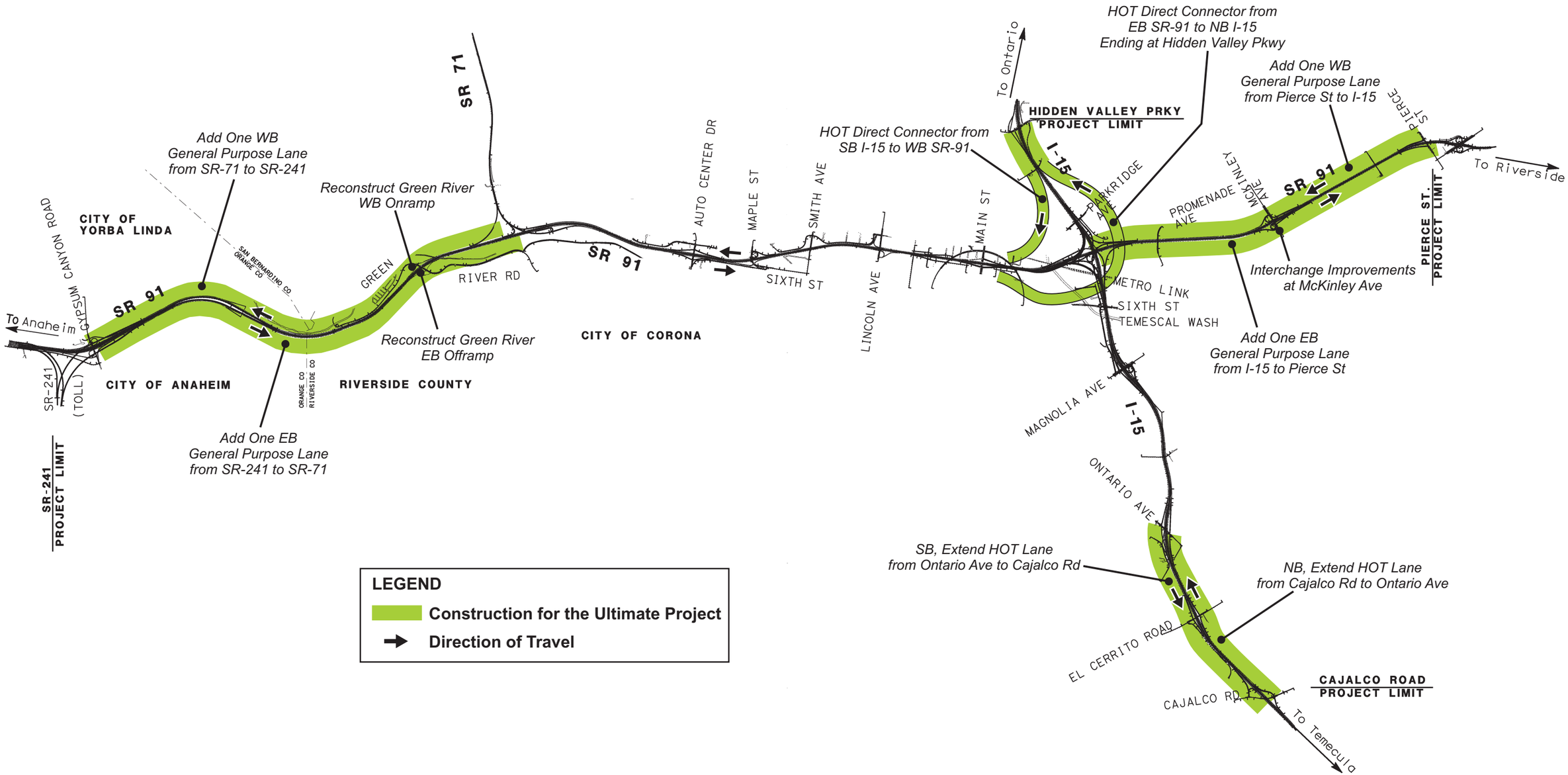


FIGURE 3-4

Note: The Initial Phase only needs striping and does not require any road widening for the segments west of SR-71 on SR-91 eastbound, west of Green River Road on SR-91 westbound, and east of I-15 on SR-91 eastbound.

N

NOT TO SCALE

SR-91 Corridor Improvement Project

Construction for the Alternative 2 Ultimate Project

12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Phasing \Fig 3-4-Construction-Ultimate Phase-Alt 2.cdr (2/17/12)

Table 3.2 Construction Activities in the Initial Phase and Ultimate Project for Alternative 2

Initial Phase (Figure 3-3)	Ultimate Project (Figure 3-4)
Construction: • Additional lanes on SR-91 between SR-91 Green River Road and I-15 • Realignment of a segment of Green River Road • Reconstruction of the Green River Road westbound off-ramp • A direct HOT connector from eastbound SR-91 to southbound I-15 and an HOT lane southbound on I-15 to Ontario Avenue • An HOT lane from Ontario Avenue north to the direct HOT connectors from northbound I-15 to westbound SR-91 **Restriping of Existing Pavement on Segments of SR-91:** • Eastbound and westbound SR-91 between SR-241 and Green River Road to provide HOT lane auxiliary ingress and egress at the SR-91/SR-241 interchange • Eastbound SR-91 between the Orange County line and SR-71, and on westbound SR-91 from Green River Road to the Orange County line to provide two HOT lanes in each direction • On eastbound SR-91 between I-15 and Pierce Street for the change from the HOT lane to the HOV lane.	**Construction:** • Additional lanes on SR-91 between SR-241 and SR-71 • Additional lanes on SR-91 from I-15 to Pierce Street • HOT lanes on I-15 between Ontario Avenue and Cajalco Road • Direct HOT connectors from eastbound SR-91 to northbound I-15 and from southbound I-15 to westbound SR-91.

Source: Riverside County Transportation Commission (2012).
HOT = high-occupancy toll
HOV = high-occupancy vehicle
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241

As shown by comparing the areas of construction on Figures 3-3 and 3-4, the areas where construction would occur during both the Initial Phase and Ultimate Project for Alternative 2 are:

- **SR-91 between SR-241 and SR-71:** There would be no physical disturbance and very limited impacts in this area during the restriping of the existing pavement for the Initial Phase. The majority of construction-related effects would occur on this segment during construction of the improvements in the Ultimate Project.
- **SR-91 between I-15 and Pierce Street:** There would be no physical disturbance and very limited impacts in this area during the restriping of the existing

pavement for the Initial Phase. The majority of construction-related effects would occur on this segment during construction of the improvements in the Ultimate Project.

- **SR-91/I-15 interchange:** There would be project-related construction in and around this interchange in both the Initial Phase and Ultimate Project for Alternative 2. As a result, there would be project-related construction impacts in this area in both the Initial Phase and Ultimate Project for Alternative 2.

As a result, when impacts of Alternative 2 are noted in this EIR/EIS as occurring in the Initial Phase, they would occur in the areas shown on Figure 3-3. If the impacts are for the Ultimate Project, they would occur in the areas shown on Figure 3-4. As noted above, there are three areas where the areas of construction occur during both the Initial Phase and Ultimate Project for Alternative 2.

The analyses in Chapter 3 are based on the technical studies and other references listed in the following appendices to this EIR/EIS:

- **Appendix G, List of Technical Studies:** This appendix lists the technical studies prepared specifically for the SR-91 CIP. As noted in Appendix G, the cited technical studies are available for review at the RCTC office.
- **Appendix H, References:** This appendix lists references such as general plans and census information to describe existing conditions and for the analyses of the project effects.

HUMAN ENVIRONMENT

3.1 Land Use

The analysis of the potential for the project to result in impacts related to land use is described in this section. The technical study used for this analysis was the *Final Community Impact Assessment* (CIA) (December 2011). The study area for existing and General Plan land uses, which could be potentially directly affected by the project, was defined as a band extending approximately 1,000 ft from each side of the existing SR-91 and I-15 centerlines. A much larger area was also considered in this analysis to evaluate a broader area potentially affected by the project. The study area extends through seven land use jurisdictions (five cities and two counties). The general study area consists of urbanized, mixed-use, residential, agricultural, industrial/commercial, and open space uses. The study area is forecast to continue to grow rapidly over the next 20 years, with a projected annual growth rate of 3.4 percent compared to the 1.25 percent average during the same period in southern California. On average, the study area is about 50 percent built out, but that percentage varies depending on individual cities and unincorporated areas. Section 3.2, Growth, provides a detailed discussion of forecasted growth in the study area cities and counties.

The discussions in this section related to land use are provided in the following three subsections:

- 3.1.1, Existing and Future Land Uses
- 3.1.2, Consistency with Federal, State, Regional, and Local Plans
- 3.1.3, Parks and Recreational Facilities

3.1.1 Existing and Future Land Uses

3.1.1.1 Affected Environment

The project segments of SR-91 and I-15 and their design variations cross incorporated cities and unincorporated communities. This analysis evaluates existing land uses that would be converted to transportation uses by the Build Alternatives. The analysis is based on the most current available geographic information system (GIS) data from the applicable local jurisdictions (Riverside and Orange County, and the Cities of Anaheim, Yorba Linda, Corona, Riverside, and Norco); therefore, the GIS data may not reflect very recent changes in existing land uses.

Existing Land Uses

The land use study area and the existing land uses in the study area are shown on Figure 3.1-1. A summary of existing land uses in the study area is provided in Table 3.1.1. The western part of the study area includes land in CHSP, as shown on Figure 3.1-2 (Sheet 1 of 3). There is one trail in the part of CHSP in the vicinity of Green River Road in the project study area.

Proposed Land Uses

The assessment of impacts to General Plan-designated land uses was based on mapping prepared for the SR-91 study area using a compilation of General Plan Land Use Elements, local zoning information, and master development plans for the jurisdictions in the project study area. The areas of temporary disturbance and permanent right-of-way acquisition for Alternatives 1 and 2 and their design variations were overlaid through GIS mapping onto the compiled land use maps and aerial photographs, and impacts were assessed. The total areas of permanent right-of-way acquisition for each Build Alternative were compiled. In addition, a general consistency analysis based on General Plan land use designations was conducted. Figure 3.1-2 shows greater detail of the project study area and the General Plan land use designations in that study area.

For detailed information on agricultural land uses, refer to Section 3.3, Farmlands and Timberlands.

Development Trends

Approved and planned transportation projects in northeastern Orange County and western Riverside County are listed in Table 3.25.1 and are shown on Figure 3.25-1. Approved and planned land use and nontransportation infrastructure projects are shown in Table 3.25-2 and on Figure 3.25-1. The potential environmental impacts of those projects, if known, are also summarized in Tables 3.25.1 and 3.25.2.

3.1.1.2 Environmental Consequences

Summary of Impacts

The Initial Phases and Ultimate Projects of Alternatives 1 and 2 and their design variations would result in the permanent incorporation of lands designated in the local general plans into the SR-91 and I-15 transportation facilities. The majority of the land that will be affected is already designated Transportation in those general plans. Specifically, depending on the design variation, Alternative 1 will result in the permanent use of between 61.8 acres (ac) and 65.7 ac of land designated Commercial,

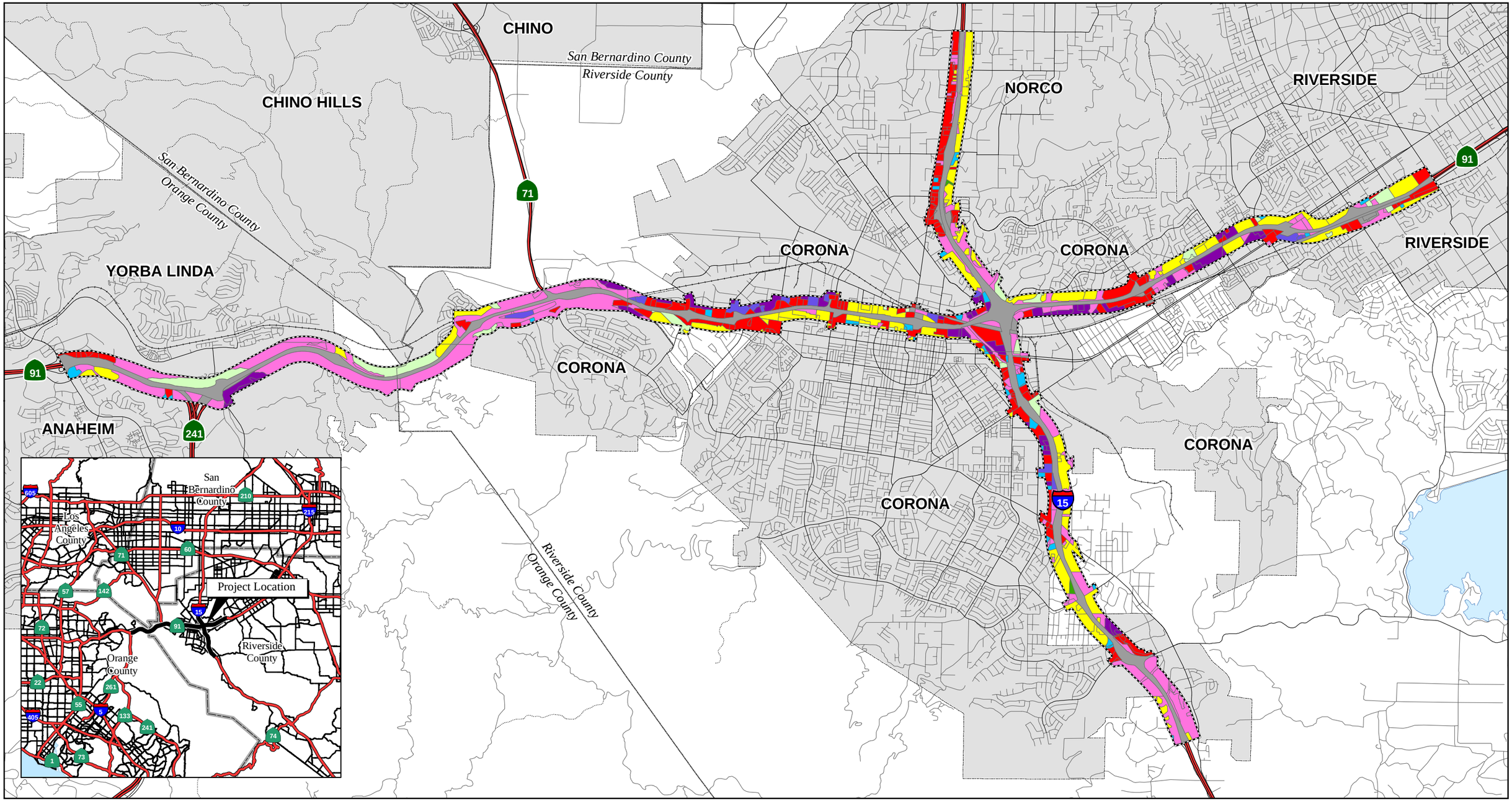


FIGURE 3.1-1

LEGEND

- Study Area Boundary

Existing Land Uses

- Agriculture
- Commercial
- Industrial
- Institutional
- Mixed Commercial and Industrial
- Open Space & Recreation
- Other (Vacant Land/Under Construction)
- Residential
- Transportation

N

0 3000 6000
FEET

SOURCE: ESRI (2006), TBM (2008), PB (2008)

I:\PAZ0701\GIS\CIA\SCAG_LandUse_EIR.mxd (9/1/2010)

SR-91 Corridor Improvement Project

Existing Land Uses

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

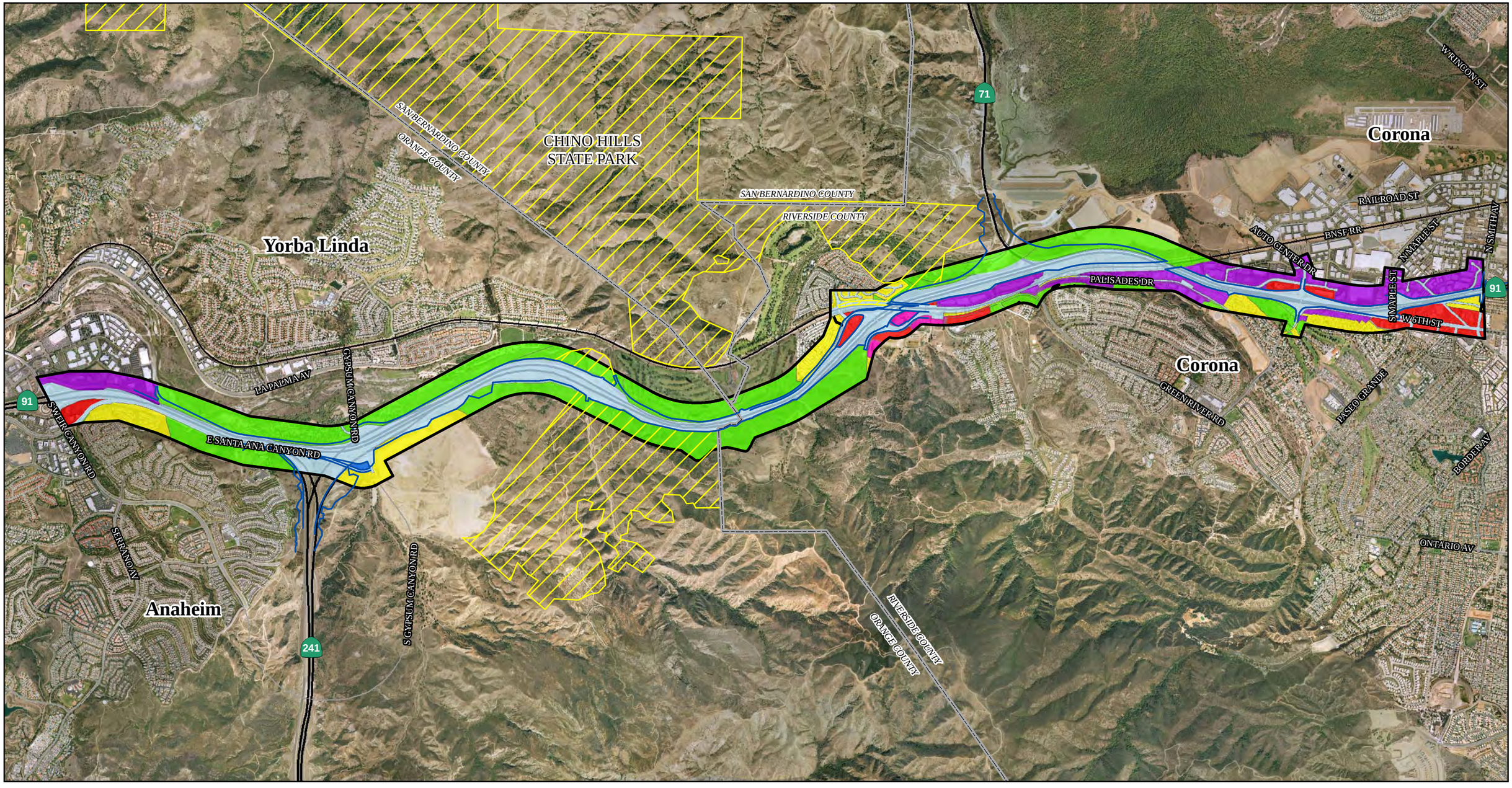
Table 3.1.1 Existing Land Uses

Jurisdiction	Existing Land Uses
Orange County	Orange County covers 798 sq mi., including 42 mi of coastline along the Pacific Ocean. In the study area, the only unincorporated section of Orange County is north of SR-91 and adjacent to the County line, as shown on Figure 3.1-2 (Sheet 1 of 3). This area is designated in the County of Orange General Plan as Open Space/Recreation, which provides for limited land uses that do not require substantial urban infrastructure. This designation indicates the current and near-term uses of the land, most of which are zoned agricultural. It is not necessarily an indication of a long-term commitment of specific uses. Currently, this area is vacant and undeveloped.
Riverside County	Riverside County is the fourth largest county in the State, encompassing approximately 7,400 sq mi and extending west from the Colorado River to within 14 mi of the Pacific Ocean, a distance of approximately 200 mi. The western half of Riverside County is bounded by the Santa Ana Mountains and Cleveland National Forest (CNF) on the west and the San Jacinto Mountains and the San Bernardino National Forest on the east. The western part of the County contains the greatest concentration of population and has experienced the greatest growth pressures in recent decades. The majority of this population is concentrated in the incorporated cities of Corona and Riverside. The majority of the study area land uses in unincorporated Riverside County is located along I-15, south of the Cajalco Road entrance and exit ramps. This area consists of rural residential uses west of I-15 and new single-family residential developments on the east side of I-15. There is a shopping center on the north side of Cajalco Road, east of I-15. There are scattered residential uses and equestrian properties farther east of I-15. According to the Riverside County General Plan, the most common General Plan designations in this area are Residential, Commercial, and Industrial, as shown on Figure 3.1-2 (Sheet 3 of 3).
City of Anaheim	Land in the City of Anaheim is located in the west part of the SR-91 CIP study area. The City of Anaheim General Plan Land Use Element indicates that the land uses in and adjacent to the study area are designated Commercial, Residential, and Open Space/Recreation, as shown on Figure 3.1-2 (Sheet 1 of 3). The commercial area is in the westernmost part of the study area, adjacent to South Weir Canyon Road. There are attached and detached single-family residences in hillside areas and with small lot sizes in clustered developments. The open space area is on the east side of the residential area and west of State Route 241 (SR-241). The Open Space/Recreation designation in the City's General Plan is for areas intended to remain in natural open space, utility easements that provide recreational access, landscaped freeway remnant parcels, and land areas surrounding major water features.
City of Yorba Linda	A very small part of the land use study area along SR-91, consisting of an approximately 1.8 mi long area of the western project segment and on the north side of SR-91, is in the City of Yorba Linda. The City's General Plan land use designations in this area are Open Space/Recreation and Industrial, as shown on Figure 3.1-2 (Sheet 1 of 3).
City of Corona	A large part of the study area is in the City of Corona. This includes areas along SR-91 from the western city limits to the eastern city limits (to approximately Buchanan Street, approximately 10.5 mi), north on I-15 to the city limits at Hidden Valley Parkway (east side of I-15), and south on I-15 to the city limits (approximately 7 mi). The designated land uses along SR-91 in Corona include Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation as shown on Figure 3.1-2 (Sheets 1 and 2 of 3). Along I-15, the land use designations are predominantly Residential, Mixed-Use, Industrial, Commercial, and Open Space/Recreation, as shown on Figure 3.1-2 (Sheet 3 of 3).
City of Riverside	The part of the City of Riverside in the project study area starts at the city limits at approximately Buchanan Street and continues east to Pierce Street (the project's eastern terminus, approximately 0.5 mi). The General Plan land use designations in the study area include Residential, Mixed-Use, Commercial, and Open Space/Recreation, as shown on Figure 3.1-2 (Sheet 2 of 3).
City of Norco	The part of the City of Norco in the SR-91 CIP study area includes land adjacent to I-15 from the City of Corona boundary at Hidden Valley Parkway on the south to Fifth Street on the north (approximately 2.5 mi). The City's General Plan land use designations in the City of Norco part of the study area include Commercial, Industrial, and Residential, as shown on Figure 3.1-2 (Sheet 3 of 3).

Source: *Community Impact Assessment* (2010).

CIA = Community Impact Assessment
CIP = Corridor Improvement Project
CNF = Cleveland National Forest
I-15 = Interstate 15
mi = miles
sq mi = square miles
SR-241 = State Route 241
SR-91 = State Route 91

This page intentionally left blank



LEGEND

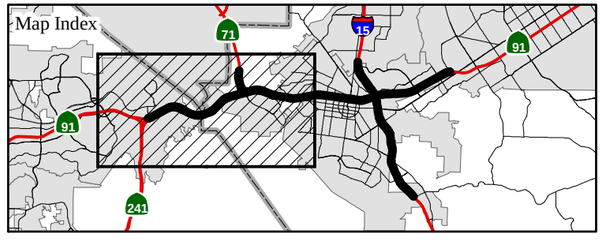
- Study Area Boundary
- Chino Hills State Park
- Existing Right of Way

General Plan Land Use Designations

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation

N

0 1500 3000
FEET



SOURCE: AirPhotoUSA (04/2007); City of Anaheim (2008); City of Corona (2004); City of Yorba Linda (2004).

I:\PAZ0701\GIS\CIA\LandUse_Seg1_EIR.mxd (12/2/2010)

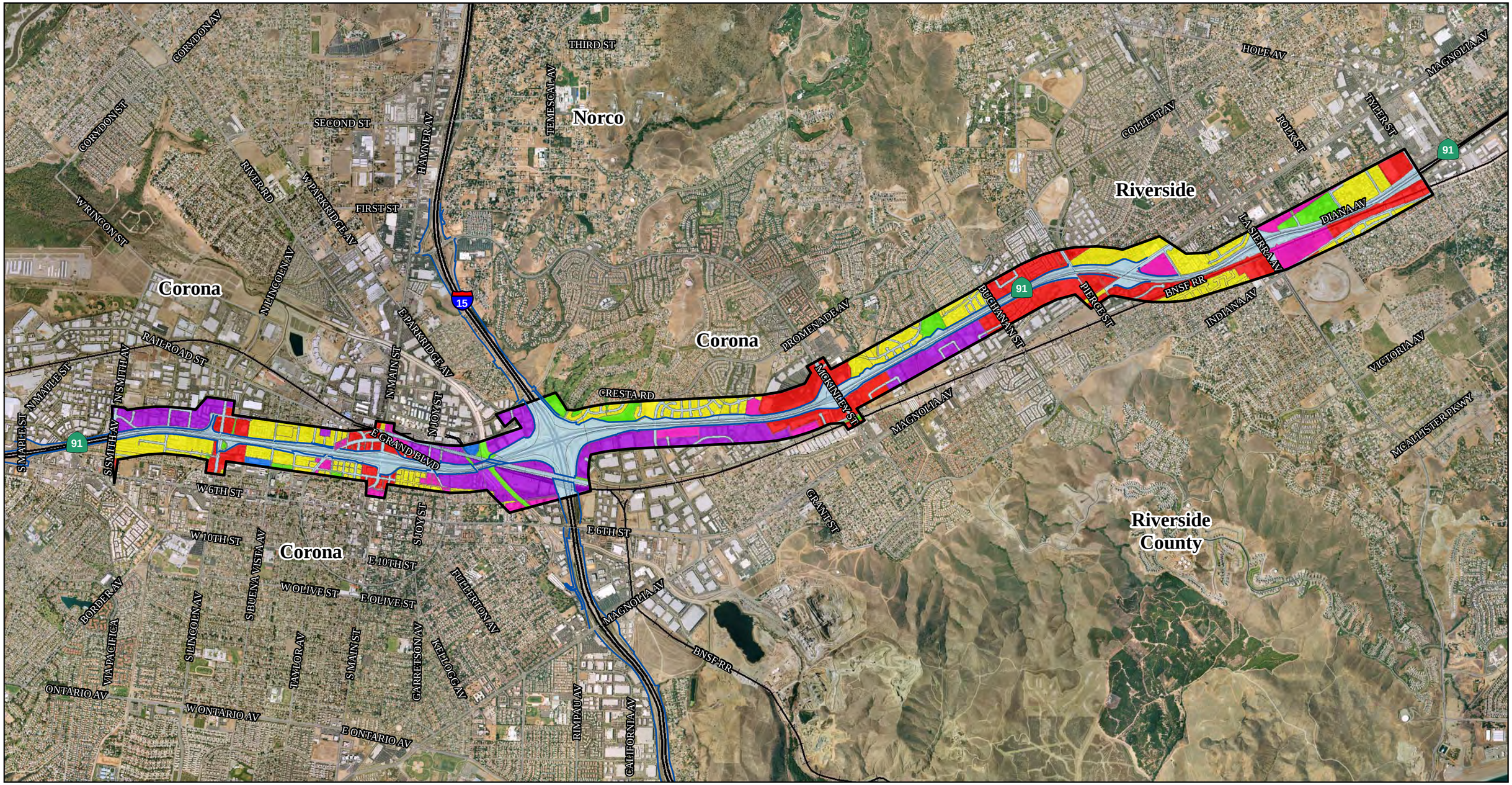
FIGURE 3.1-2
Sheet 1 of 3

SR-91 Corridor Improvement Project

General Plan Land Use Designations

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

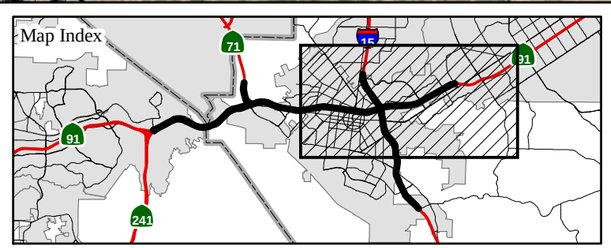
- Study Area Boundary
- Existing Right-of-Way

General Plan Land Use Designations

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space
- Public Facilities
- Residential
- Transportation

N

0 1500 3000
FEET



SOURCE: AirPhotoUSA (04/2007); City of Anaheim (2008); City of Corona (2004); City of Yorba Linda (2004).

I:\PAZ0701\GIS\CIA\LandUse_Seg2_EIR.mxd (12/2/2010)

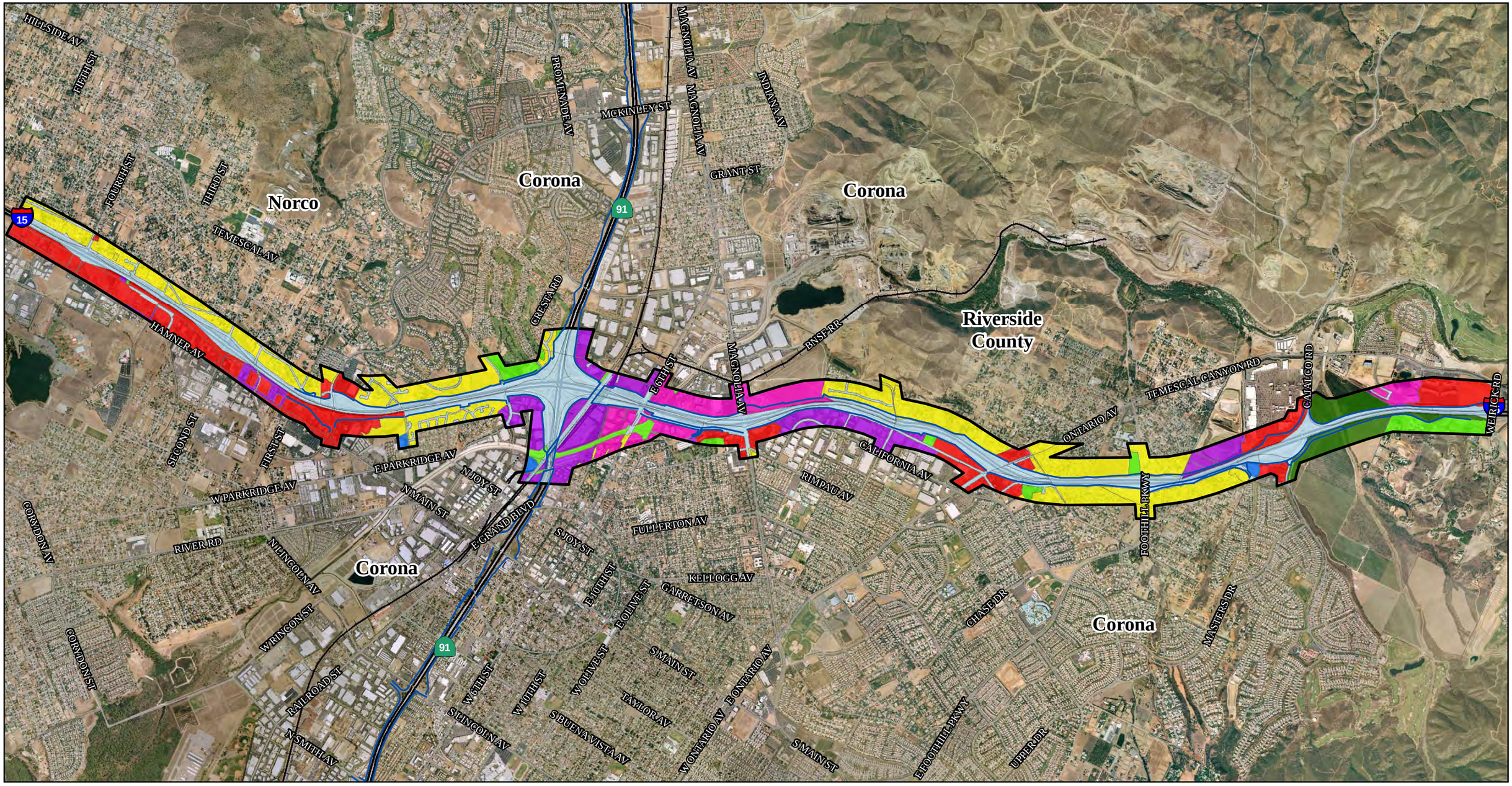
FIGURE 3.1-2
Sheet 2 of 3

SR-91 Corridor Improvement Project

General Plan Land Use Designations

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



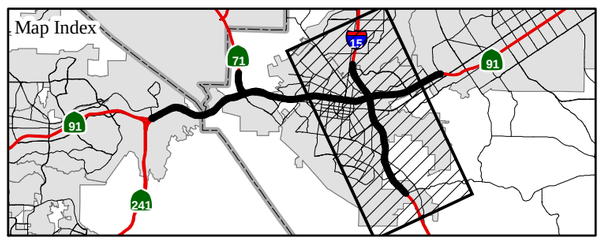
LEGEND

- Study Area Boundary
- Existing Right-of-Way

General Plan Land Use Designations

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space
- Public Facilities
- Residential
- Transportation

0 1500 3000
FEET



SOURCE: AirPhotoUSA (04/2007); City of Corona (2004); City of Yorba Linda (2004).

I:\PAZ0701\GIS\CIA\LandUse_Seg3_EIR.mxd (12/2/2010)

FIGURE 3.1-2
Sheet 3 of 3

SR-91 Corridor Improvement Project

General Plan Land Use Designations

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Industrial, Mixed-Use, Open Space/Recreation, and Public Facilities and between 150.2 ac and 154.9 ac of land designated Transportation. Depending on the design variation, Alternative 2 will result in the permanent use of between 78.0 ac and 94.6 ac of land designated Commercial, Industrial, Mixed-Use, Open Space/Recreation, and Public Facilities and between 226.1 ac and 251.6 ac of land designated Transportation. As a result, Alternatives 1 and 2 would require the local jurisdictions to amend their General Plan Land Use Elements to reflect the incorporation of nontransportation-designated land into the SR-91 and I-15 facilities.

The construction of the Initial Phases and Ultimate Projects of Alternatives 1 and 2 and their design variations would result in temporary adverse impacts to existing land uses, including business and neighborhood disruptions, disruptions of local travel patterns and access to individual properties; increased congestion, noise, vibration, and dust; and use of property for temporary construction easements (TCEs).

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase of Alternative 2f would result in the permanent use of 64.0 ac of land designated as Commercial, Industrial, Open Space/Recreation, Public Facilities, and Residential, and 125.4 ac of land designated as Transportation.

The Alternative 2f Ultimate Project would result in the permanent use of a total of 78 ac of land designated Commercial, Industrial, Mixed-Use, Open Space/Recreation, Public Facilities, and Residential, and 226.1 ac of land designated as Transportation. The totals for the Ultimate Project include the acreage impacted by the Initial Phase described above. As a result, Alternative 2f would also require the local jurisdictions to amend their General Plan Land Use Elements to reflect the incorporation of non-transportation-designated land into the SR-91 and I-15 facilities.

The construction of the Alternative 2f Initial Phase and Ultimate Project would result in temporary adverse impacts to existing land uses, including business and neighborhood disruptions; disruptions of local travel patterns and access to individual properties; increased congestion, noise, vibration, and dust; and use of property for TCEs, as discussed for Alternatives1 and 2.

Permanent Land Use Impacts

Alternatives 1 and 2

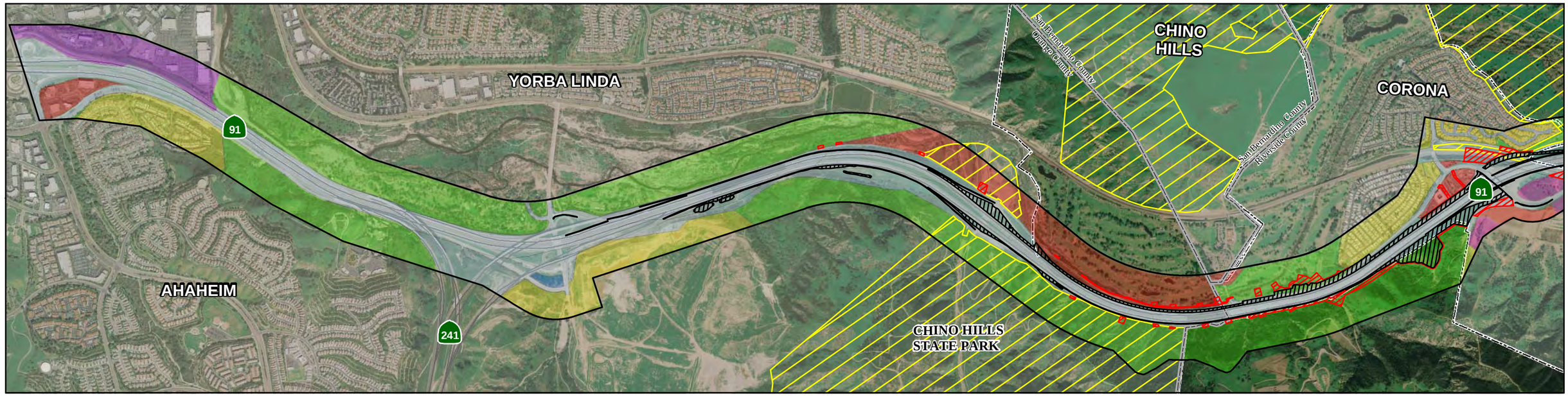
Alternatives 1 and 2 would result in permanent impacts to General Plan land uses as a result of the acquisition of right-of-way and the incorporation of that property into the

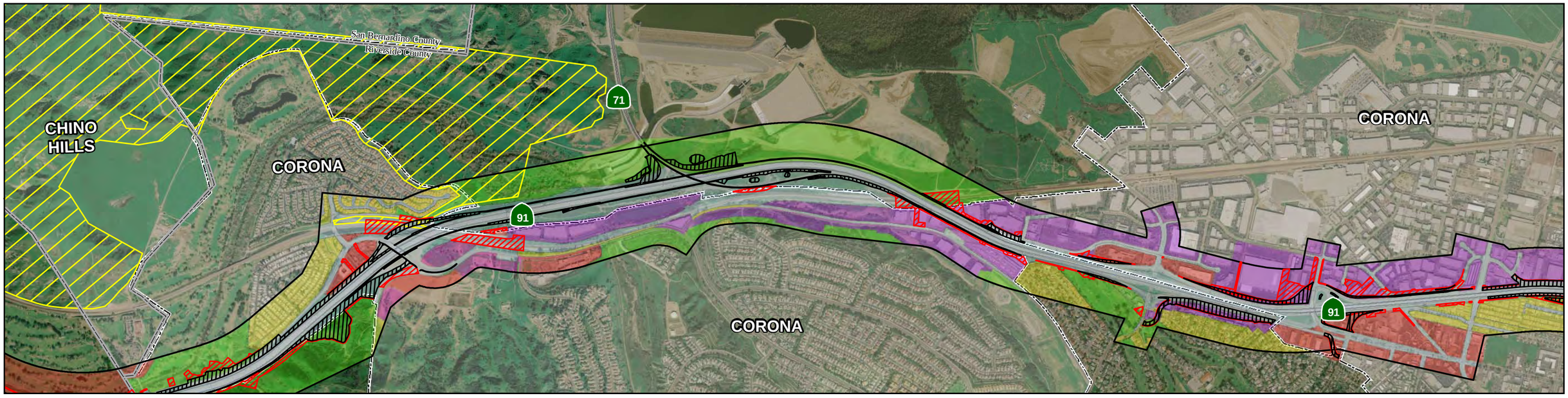
transportation facilities. The impacted General Plan land uses are shown on Figure 3.1-3 (Sheets 1 through 3) and Figure 3.1-4 (Sheets 1 through 3) for Alternatives 1 and 2, respectively. Table 3.1.2 summarizes the impacts of the project on General Plan land use designations by alternative and design variation.

As shown in Table 3.1.2, Alternatives 1 and 2 and their design variations would impact designated Residential, Commercial, Industrial, Transportation, Open Space/ Recreation, Mixed-Use, and Public Facilities General Plan land uses. In summary, the Alternative 1 Ultimate Project and its design variations would use a total of between 212.0 ac and 220.6 ac of land, and the Alternative 2 Ultimate Project and its design variations would use between 304.1 ac and 345.2 ac of land, as shown in Table 3.1.2.

As discussed earlier on page 3-1, impacts will occur at different locations along the alignments of SR-91 and I-15 during the Initial Phases and Ultimate Projects for Alternatives 1 and 2. As shown earlier on Figures 3-1 and 3-2, there is only very limited overlap of the Initial Phase and Ultimate Project construction for Alternative 1 at the SR-91/I-15 interchange. As a result, land use impacts related to the conversion of land to the transportation designation would occur only once along those alignments. At the SR-91/I-15, any land acquired for the Initial Phase would not be impacted again by the Ultimate Project. In the Ultimate Project in Alternative 1, some additional land at that interchange would be impacted compared to the Initial Phase of Alternative 1.

As shown on Figures 3-3 and 3-4, there is overlap of the Initial Phase and Ultimate Project construction for Alternative 2 at three locations: on SR-91 between SR-241 and SR-71, on SR-91 between I-15 and Pierce Street, and at the SR-91/I-15 interchange. Because the project improvements on those two segments of SR-91 require only restriping of the existing pavement for the Initial Phase, there would be no changes in land use designations associated with the Initial Phase of Alternative 2. There would be additional land use designation changes at the SR-91/I-15 interchange for the Alternative 2 Ultimate Project; however, as noted above, land previously affected by the Initial Phase would not be impacted again by the Ultimate Project.





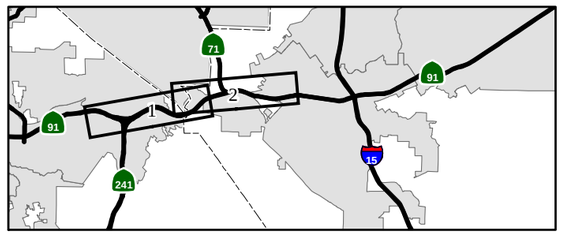
LEGEND

- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation
- Chino Hills State Park

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\CIA\GP_LU_Alt1_Impacts_Seg1_EIR.mxd (9/23/2010)

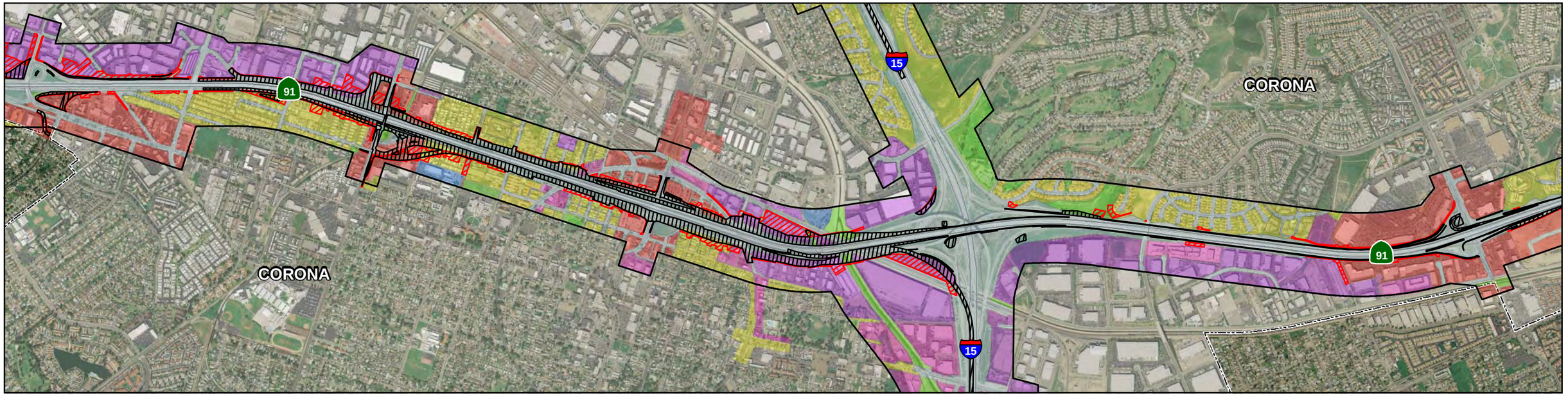
FIGURE 3.1-3
Sheet 1 of 3

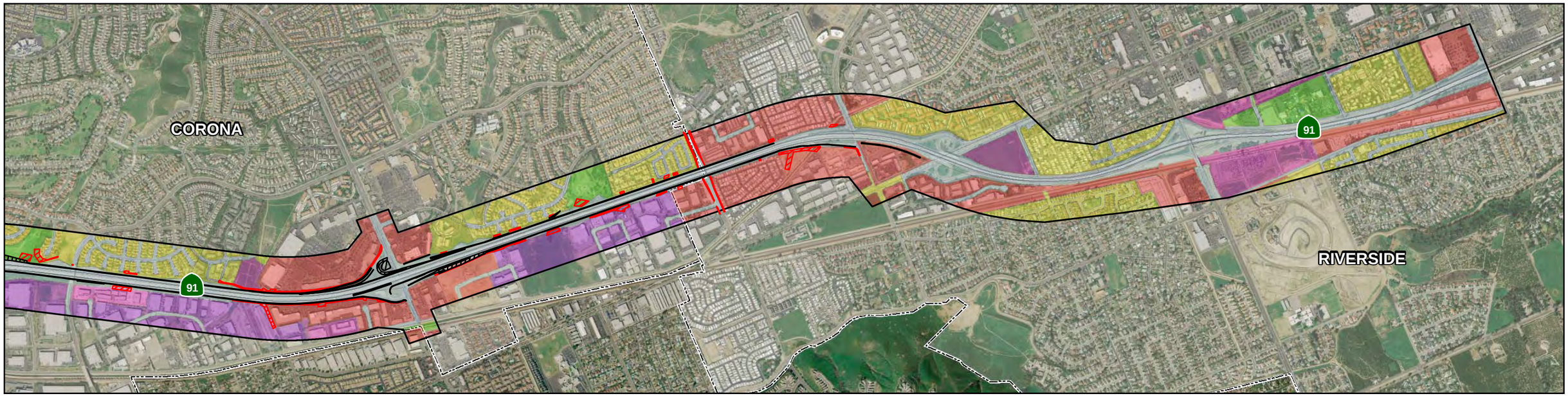
SR-91 Corridor Improvement Project

Alternative 1 Project General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

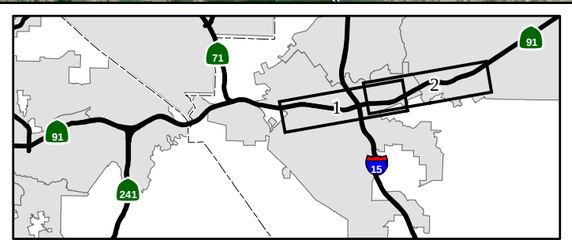
- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation

N

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\CIA\GP_LU_Alt1_Impacts_Seg2_EIR.mxd (9/23/2010)

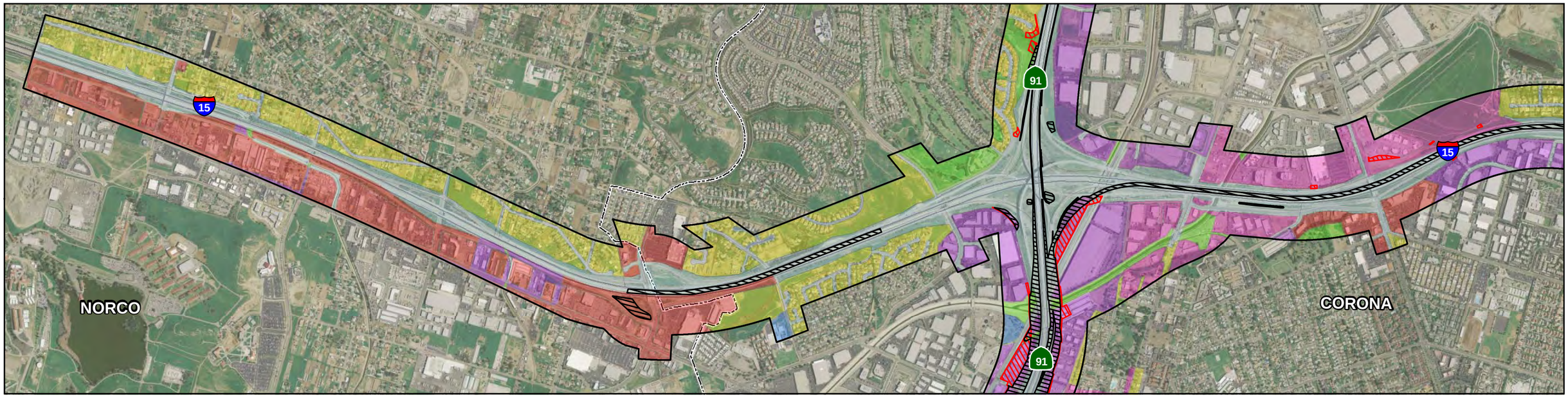
FIGURE 3.1-3
Sheet 2 of 3

SR-91 Corridor Improvement Project

Alternative 1 Project General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



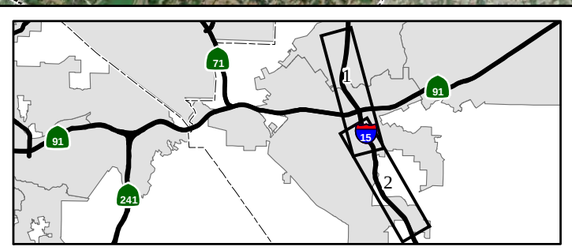
LEGEND

- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\CIA\GP_LU_Alt1_Impacts_Seg3_EIR.mxd (9/23/2010)

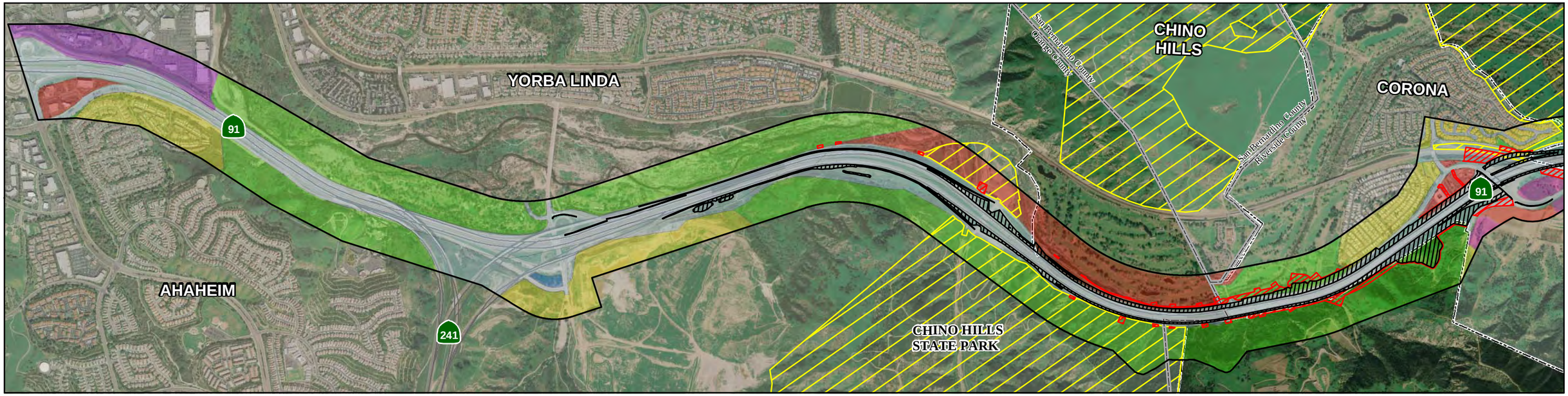
FIGURE 3.1-3
Sheet 3 of 3

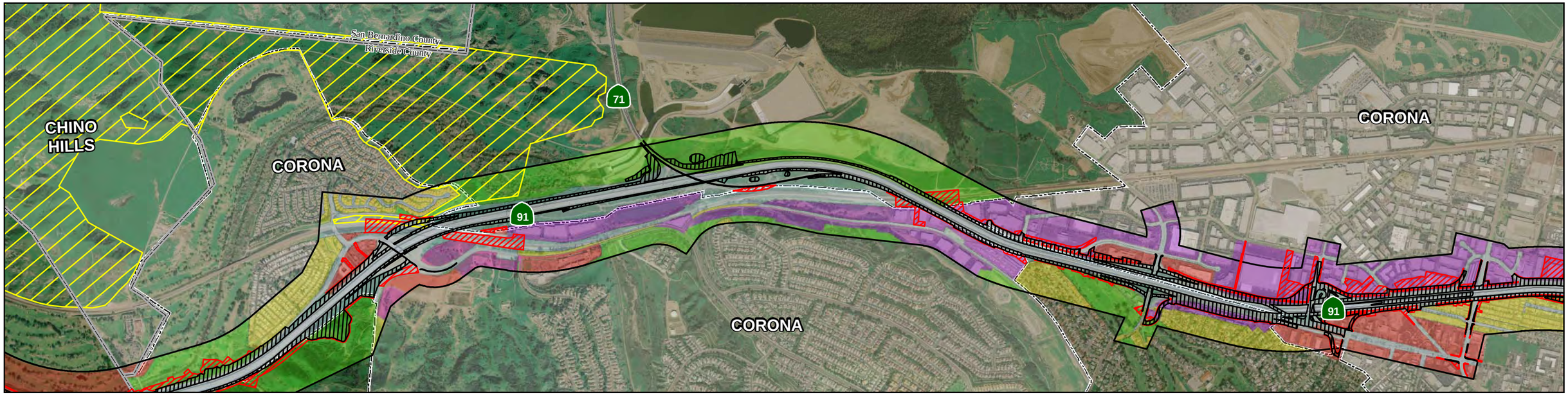
SR-91 Corridor Improvement Project

Alternative 1 Project General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

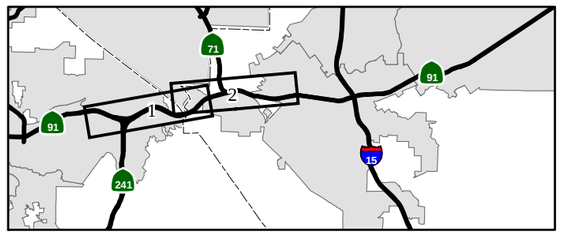
- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation
- Chino Hills State Park

N

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\FEIR_EIS\GP_LU_Alt2_Impacts_Seg1_EIR.mxd (7/21/2011)

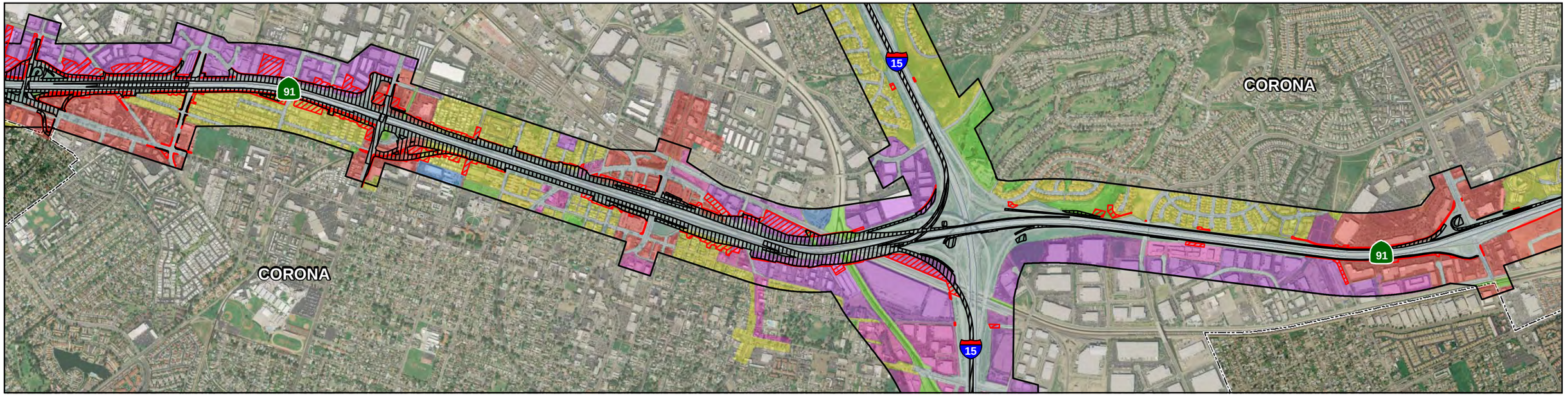
FIGURE 3.1-4
Sheet 1 of 3

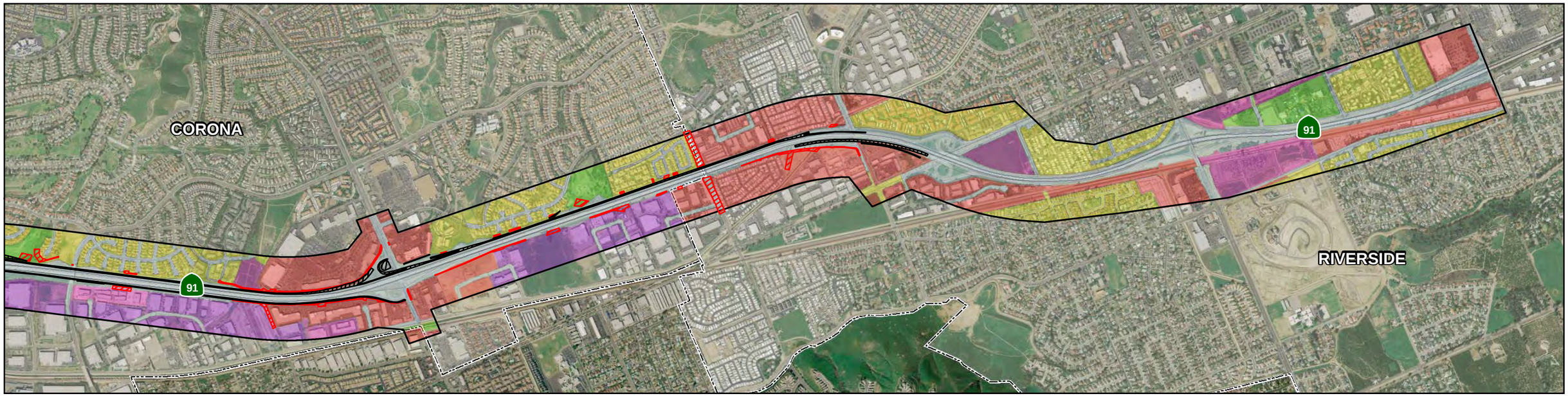
SR-91 Corridor Improvement Project

Alternative 2 Project
General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

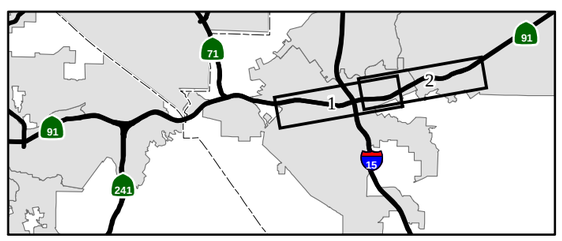
- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation

N

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\FEIR_EIS\GP_LU_Alt2_Impacts_Seg2_EIR.mxd (7/21/2011)

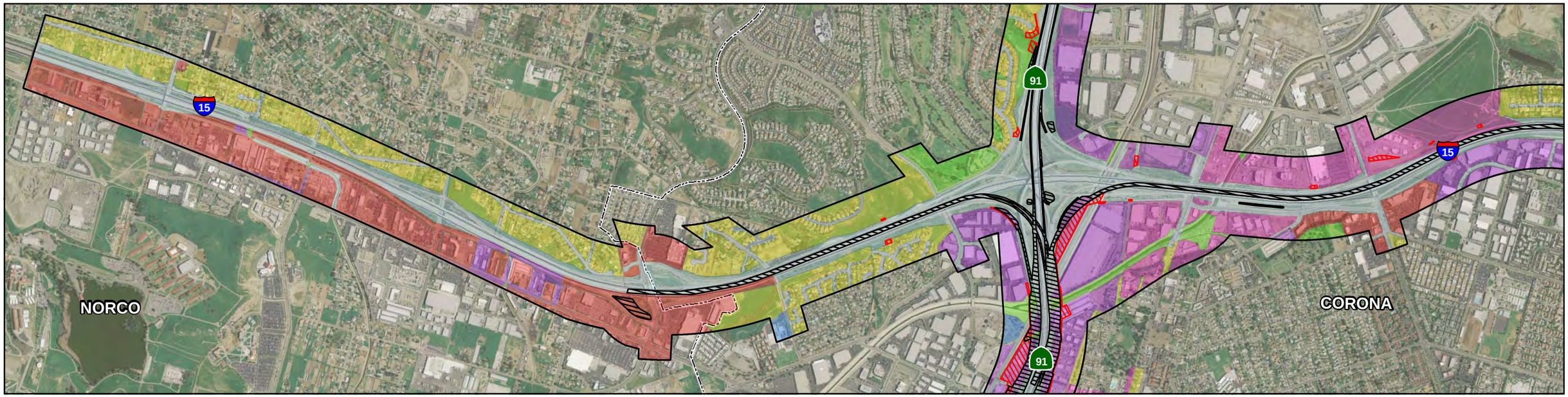
FIGURE 3.1-4
Sheet 2 of 3

SR-91 Corridor Improvement Project

Alternative 2 Project
General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



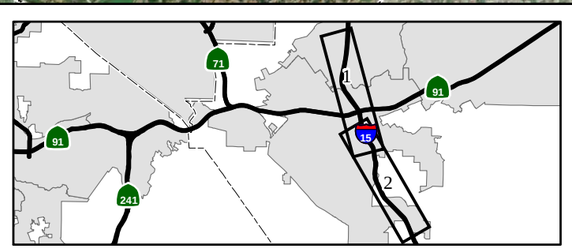
LEGEND

- Permanent Impacts
- Temporary Impacts

Land Uses

- Agriculture
- Commercial
- Industrial
- Mixed Use (Industrial/Commercial/Residential)
- Open Space/Recreation
- Public Facilities
- Residential
- Transportation

0 875 1,750 FEET



SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\FEIR_EIS\GP_LU_Alt2_Impacts_Seg3_EIR.mxd (7/21/2011)

FIGURE 3.1-4
Sheet 3 of 3

SR-91 Corridor Improvement Project

Alternative 2 Project
General Plan Land Use Impacts

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Table 3.1.2 General Plan Impacts by Build Alternative and Land Use Designations (acres)

Alternative	General Plan Land Use Designations								
	Commercial	Industrial	Mixed-Use	Open Space/ Recreation	Public Facilities	Residential	Subtotal Without Transportation	Transportation	Grand Total
Alternative 1 Ultimate Project									
1a	12.8	22.9	0.9	20.1	0.0	5.9	62.6	150.7	**213.3**
1b	14.9	22.9	1.0	20.0	0.0	6.9	65.7	154.9	**220.6**
1c	13.4	21.5	0.9	20.1	0.0	5.9	61.8	150.2	**212.0**
1d	15.5	21.5	1.0	20.0	0.0	6.9	64.9	153.6	**218.5**
Alternative 2 Ultimate Project									
2a	17.7	29.1	0.7	24.3	0.1	8.8	80.7	228.7	**309.4**
2b	19.1	29.3	0.7	24.2	0.1	7.3	80.7	228.2	**308.9**
2c	21.3	33.6	0.7	24.6	0.1	14.3	94.6	250.6	**345.2**
2d	22.7	33.9	0.7	24.5	0.1	12.7	94.6	250.0	**344.5**
2e	16.6	27.4	0.7	24.3	0.1	8.9	78.0	226.6	**304.6**
2f	18.0	27.7	0.7	24.2	0.1	7.3	78.0	226.1	**304.1**
2g	21.5	31.4	0.7	24.6	0.1	14.3	92.6	251.6	**344.2**
2h	23.0	31.7	0.7	24.5	0.1	12.8	92.8	251.4	**344.2**
Initial Phase of Alternative 2									
Alt 2 Initial Phase	12.1	27.5	0.0	14.3	0.1	10.0	64.0	125.4	**189.4**

Source: Right-of-Way Data Sheets (May 2010).
Note 1: Alternatives 1 and 2 will not impact General Plan-designated agricultural areas. However, Alternatives 1 and 2 will affect Natural Resource Conservation Service-designated Farmlands of Local Importance and Grazing Land. Refer to Section 3.3, Farmlands/Timberlands, for a discussion of those effects.
Note 2: The impacts for the Alternative 1 and 2 Ultimate Projects include the acreage impacted under the Initial Phases of those Alternatives.

Temporary Land Use Impacts

Alternatives 1 and 2

The Initial Phases and Ultimate Projects of Alternatives 1 and 2 would result in direct temporary construction-related effects to existing land uses, including business and neighborhood disruptions during construction. Temporary construction impacts may include disruption of local traffic patterns and access to homes and businesses, increased traffic congestion, and increased noise, vibration, and dust. Although some businesses could close or relocate during a prolonged construction period, this impact would be localized and would not likely result in long-term changes in land uses.

Temporary land use impacts also include properties being used as TCEs. At the completion of construction, any areas used for TCEs would be returned to their original conditions and original owners. No permanent project features will be constructed within the boundaries of the TCEs. As a result, the TCEs are not expected to be inconsistent with the existing General Plan designations for those parcels. Refer to Section 3.4, Community Impacts, for further discussion of temporary impacts related to business and neighborhood disruptions.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the project study area. Under the No Build Alternative, the project would not be constructed and no temporary or permanent land use impacts would occur.

3.1.2 Consistency with Federal, State, Regional, and Local Plans

3.1.2.1 Affected Environment

Southern California Association of Governments Regional Plans

SCAG is the Metropolitan Planning Organization (MPO) for the Orange, Los Angeles, San Bernardino, Riverside, Ventura, and Imperial Counties. SCAG is mandated by the federal government to develop regional plans for transportation, growth management, hazardous waste management, and air quality.

SCAG recognizes the project as a regionally significant project that directly relates to policies and strategies in the SCAG Regional Comprehensive Plan (RCP) and RTP.[1] During the scoping process (which introduced the project to agencies and the general public), SCAG responded to the NOP and provided policies from its *Regional*

[1] SCAG comment letter in response to the NOP for a Draft EIR for the proposed project (August 6, 2008).

Comprehensive Plan and Guide (RCPG), RTP, and *Compass Growth Vision* (CGV) that it believes are applicable to the project. Those policies and goals were provided for analyzing the project within the context of those regional transportation plans.

SCAG 2008 Regional Comprehensive Plan – Growth Management Chapter

The SCAG RCP, which was adopted in 2008, provides a vision of how southern California can balance resource conservation, economic vitality, and quality of life. It serves as a blueprint to approach growth and infrastructure challenges in an integrated and comprehensive way.

The Growth Management Chapter (GMC) supports the RCP with suggested guiding principles for development associated with complex issues related to growth and land use. It provides forecasts that established the socioeconomic parameters for the Regional Mobility and Air Quality chapters in the RCP. The most current adopted population, household, and employment forecasts from SCAG are provided in Table 3.1.3.

Table 3.1.3 Adopted Demographic Forecasts

Adopted Southern California Association of Governments Regionwide Forecasts						
	2010	**2015**	**2020**	**2025**	**2030**	**2035**
Population	19,418,344	20,345,830	21,468,948	22,395,121	23,255,377	24,057,286
Households	6,086,986	6,474,074	6,840,328	7,156,645	7,449,484	7,710,722
Employment	8,349,453	8,811,406	9,183,029	9,546,773	9,913,376	10,287,125
Adopted Orange County Council of Governments Subregion Forecasts						
Population	3,059,950	3,314,948	3,451,757	3,533,935	3,586,285	3,629,540
Households	980,964	1,039,201	1,071,810	1,088,375	1,102,370	1,110,659
Employment	1,615,936	1,755,167	1,837,771	1,897,352	1,933,058	1,960,633
Adopted Western Riverside County Council of Governments Subregion Forecasts						
Population	1,503,383	1,735,426	1,918,962	2,096,544	2,262,992	2,414,256
Households	466,531	546,047	609,219	671,933	727,622	780,743
Employment	484,985	588,523	691,260	797,626	901,163	1,005,923

Source: Southern California Association of Governments' response to Notice of Preparation letter, August 2008.

SCAG Compass Growth Vision

The SCAG CGV addresses future growth in the region. The goal of the CGV is to accommodate growth while maintaining quality of life for the people living in the region. The intent of the CGV is to support decisions regarding growth, transportation, land use, and economic development made to promote and sustain the region's mobility, livability, and prosperity for future generations. SCAG's goal is to implement the CGV in conjunction with local agencies to plan for growth throughout the region.

The following Regional Growth Principles from the CGV provide a framework for local and regional decision-making to support improving the quality of life for all residents in the SCAG region:

- **Principle 1:** Improve mobility for all residents.
- **Principle 2:** Foster livability in all communities.
- **Principle 3:** Enable prosperity for all people.
- **Principle 4:** Promote sustainability for future generations.

SCAG Regional Transportation Plan and Federal Transportation Improvement Program

The 2008 RTP, which is based on the adopted growth projections in Table 3.1.3, includes the following policies relevant to the SR-91 CIP:

- **RTP G1:** Maximize mobility and accessibility for all people and goods in the region.
- **RTP G2:** Ensure travel safety and reliability for all people and goods in the region.
- **RTP G3:** Preserve and ensure a sustainable regional transportation system.
- **RTP G4:** Maximize the productivity of our transportation system.
- **RTP G5:** Protect the environment, improve air quality, and promote energy efficiency.
- **RTP G6:** Encourage land use and growth patterns that complement our transportation investments.
- **RTP G7:** Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

SCAG adopted the 2012 RTP on April 4, 2012. The 2012 RTP includes the same policies described above from the 2008 RTP.

As described in Chapter 1.0, Purpose and Need, the SR-91 CIP is included in the 2012 RTP, with the Initial Phase (Phase 1 as described in the 2012 RTP) scheduled for completion by 2017 and the Ultimate Project (Phase 2 as described in the 2012 RTP) scheduled for completion by 2035. The SR-91 CIP Alternative 2 Initial Phase is also included in Amendment 24 to the 2011 FTIP. The listings of the project in the 2012 RTP and 2011 FTIP are provided in Appendix K, 2012 RTP and 2011 FTIP (Amendment 24) Project Listings. The FHWA/FTA approved the air quality

conformity determination for the 2012 RTP and 2011 FTIP (through Amendment 24) on June 4, 2012.

Habitat Conservation Plans

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) provides a comprehensive, habitat-based approach to the protection of covered species by focusing on conservation and management of lands essential for their long-term conservation. As a regional plan, the Western Riverside County MSHCP serves to provide mitigation for cumulative impacts to covered species and their habitats. Project consistency with the Western Riverside County MSHCP ensures that cumulative and indirect impacts to those species are effectively mitigated. The project is consistent with the Western Riverside County MSHCP.

Refer to Sections 3.17 (Natural Communities), 3.19 (Plant Species), and 3.20 (Animal Species) for detailed discussions of the consistency of the Build Alternatives with the Western Riverside County MSHCP.

Orange County Natural Communities Conservation Plan

There are lands designated in the Orange County Natural Communities Conservation Plan (NCCP) south of the project segment of SR-91 in Orange County. The nearest NCCP lands to the segment of SR-91 are approximately 6,000 ft south of SR-91 at Weir Canyon Road and approximately 2,000 ft south of SR-91 near the County line.

General Plans and Specific Plans

The General Plans of the Counties of Orange and Riverside and Cities of Anaheim, Yorba Linda, Corona, Norco, and Riverside were reviewed to understand the development trends, land use-related goals, and specific policies of those that could be affected by the SR-91 CIP. The General Plan Land Use designations for the study area are shown on Figure 3.1-2 (Sheets 1 through 3).

Two conclusions emerged from review of the General Plans. First, most of the jurisdictions acknowledge their strategic role in regional transportation development, especially in shaping their land use and economic development patterns and providing access to major regional freeway and rail corridors. Second, the General Plan policies relevant to the SR-91 CIP suggest that some local jurisdictions, such as the City of Norco, wish to preserve the rural character of their communities even as growth and land development in this area occurs. The following sections discuss the regional, local, and General Plan policies relevant to the SR-91 CIP.

Orange County General Plan

The Orange County General Plan (adopted 2005 with the Housing Element updated in 2008) provides direction for land use decisions in unincorporated parts of the County. The SR-91 CIP study area includes a small area of unincorporated land in Orange County at the Orange/Riverside County boundary. This area is designated in the Orange County General Plan as Open Space/Recreation, which provides for limited land uses that do not require a commitment of substantial urban infrastructure. Currently, this area is vacant and undeveloped.

Goals and objectives from the Orange County General Plan relevant to the SR-91 CIP are provided below.

Land Use Element

- **Objective 4:** Land Use Transportation Integration – to plan an integrated land and transportation system that accommodates travel demand.

Transportation Element

The ultimate goal of the Transportation Element of the Orange County General Plan is:

> "To develop an integrated transportation system consisting of a blend of transportation modes capable of meeting the need to move people and goods by private and public means with maximum efficiency, convenience, economy, safety, and comfort and a system that is consistent with other goals and values of the County and the region."

- **Goal 1:** Provide a transportation plan that supports land use policies in the County.
- **Goal 4:** Ensure that the circulation plan conforms to applicable environmental quality standards.

Under the *Scenic Highway Plan*, SR-91 from Weir Canyon to the Riverside County line is classified as viewscape corridor. A Type 1 viewscape corridor is characterized by a route that traverses a corridor within which unique or unusual scenic resources and aesthetic values are found. This designation is intended to minimize the impacts of the highway and land use development on the significant scenic resources along the route. This definition also includes safety roadside rests and vista points.

- **Goal 1:** Preserve and enhance unique or special aesthetic and visual resources through sensitive highway design and the regulation of development within the scenic corridor.
- **Policy 1.4:** Preserve established Scenic Highways to protect the existing scenic qualities of these corridors.

Growth Management Element Goals

- Reduce traffic congestion.
- Ensure that adequate transportation facilities, public facilities, equipment, and services are provided for existing and future residents.

Growth Management Element Implementation Programs

- **Measure M Countywide Growth Management Program:** The County shall take all actions possible to ensure that the implementation of this Element is consistent with the provisions of the Measure M Countywide Growth Management Program in order to bring about improved regional coordination in the areas of growth management, traffic improvement, and public service delivery.

Orange County Specific Plans

Table 3.1.4 briefly describes the Specific Plans in the study area for the SR-91 CIP. As shown in that table, there are no Specific Plans in unincorporated Orange County in the project study area.

Riverside County General Plan

Adopted in 2003, the Riverside County General Plan sets the direction for land use and development in unincorporated areas of Riverside County. The majority of the study area land uses in unincorporated Riverside County are along I-15, south of Cajalco Road. This area consists of rural residential uses west of I-15 and new single-family residential developments on the east side of I-15. According to the Riverside County General Plan, the land use designations in this area include Residential, Commercial, and Industrial. The Riverside County General Plan contains Area Plans that are intended to guide development in specific locations in the County.

The Temescal Canyon Area Plan (TCAP) encompasses the City of Corona and its Sphere of Influence (SOI) and is in the project study area.

Table 3.1.4 Summary of Specific Plans in the SR-91 CIP Study Area

Specific Plan (See Note 1)	Description
Specific Plans in the City of Anaheim	
Mountain Park Specific Plan – ID Number 28 (Sheet 2 of Figure 3.25-1) An Irvine Company project The construction date has not yet been determined.	This 3,179-acre (ac) Specific Plan is in the northeast part of the Hill and Canyon area (Gypsum Canyon) in the City of Anaheim, south of State Route 91 (SR-91) and west of Coal Canyon (the existing Cypress Canyon Specific Plan area). The amended Specific Plan provides for the development of up to 2,500 dwelling units (DUs), a City fire station, schools, community parks, public and private recreational facilities, trails, and open space. In addition, the project includes the construction of the State Route 241 (SR-241)/Weir Canyon Road interchange, and a bridge over SR-91 that would connect development areas east and west of SR-241. An Environmental Impact Report (EIR) was prepared for this project. The analysis determined that potentially significant adverse impacts of this project would include impacts to: landform changes (visual/aesthetics); geology and soils; biological resources (such as a mitigation plan for impacts to wetlands that includes a total of 14.1 ac of riparian mitigation for United States Army Corps of Engineers [Corps] and California Department of Fish and Game [CDFG] jurisdictional areas, a translocation program for the many-stemmed dudleya, and mitigation for the *Yuma myotis*, as well as the need for a biologist for monitoring and for construction activities to occur outside of the nesting season); traffic and circulation; air and noise quality; and cultural resources. The Final Environmental Impact Report (FEIR) was approved on August 24, 2005. Sources: www.anaheim.net/, accessed March 2009; and Mountain Specific Plan No. 90-4 Amendment No. 1, Mountain Park Specific Plan Amendment, FEIR No. 331 (August 2005), http://www.anaheim.net/citydepartments/planning/specific_plans/mountain_park/Appendix_G-1_Notice_of_Determination(EIR).pdf, accessed January 22, 2010.
Specific Plans in the City of Yorba Linda	
There are no Specific Plans in the City of Yorba Linda in the SR-91 CIP study area.	
Specific Plans on Unincorporated Orange County	
There are no Specific Plans in unincorporated Orange County in the SR-91 CIP study area.	
Specific Plans in the City of Corona	
North Main Street District – ID Number 32 (Sheet 3 of Figure 3.25-1) City of Corona and City of Corona Redevelopment Agency project The construction of the parking structure for the transit center has begun. The construction date for the additional development has yet to be determined.	This project consists of seven Planning Areas (PAs) in the City's adopted North Main Street District Specific Plan. The project site is just north of SR-91 and west of Interstate 15 (I-15). The Specific Plan area includes approximately 258 ac and generally consists of the north-south commercial corridor along North Main Street, extending north from Grand Boulevard to the Corona/Norco city limits. PAs 1, 2, and 3 are planned for the development of approximately 650 residential units and 124,200 sf of commercial space. PA 4, which is approximately 11 ac, is under consideration for a residential/retail mixed-use area. PA 5, which is approximately 11 ac, may be developed in approximately 240,000 sf of general commercial uses or 528 dwelling units and 191,664 sf of commercial uses. PA 6 would provide three parking structures with 2,174 parking spaces for the MetroLink train station, and approximately 7 ac for a mixed-use project containing 75 percent residential and 25 percent commercial uses. An EIR was prepared for this project. Potentially significant adverse impacts of this project include the reduction of visual access to the Corona Depot; increased regional air quality emissions for some receptors in the area; exterior noise levels would be exceeded; cumulative population growth would exceed the Southern California Association of Governments (SCAG) projections; funding for police services may potentially be impacted; transportation impacts at six intersections and one road segment; and impacts to Congestion Management Program (CMP) facilities, including SR-91 and I-15. Source: Draft Environmental Impact Report North Main Street District Specific Plan Amendment, www.discovercorona.org/documents/communitydev/, accessed March 2009.

Table 3.1.4 Summary of Specific Plans in the SR-91 CIP Study Area

Specific Plan (See Note 1)	Description
Dos Lagos Specific Plan (SP-99-03) – ID Number 33 (Sheet 6 of Figure 3.25-1) Located in the City of Corona Proposed by SE Development The construction of the project is ongoing.	Dos Lagos is a master-planned mixed-use development on a 534 ac site, immediately east of I-15 between the Cajalco and Weirick Road interchanges and bisected by Temescal Canyon Road, a north/south arterial. The project includes single-family homes, live and work lofts, and senior condominiums; an 18-hole championship golf course; resort hotels; shopping centers; movie theaters; and a 575,000 sf retail village adjacent to the two lakes that are the center of the project. A 65,000 sf office space would be constructed on the east side of Temescal Canyon Road near the golf course. A 575,000 sf office space would be constructed on 15 ac near the highway and next to the Lake District, and 135 ac of hillside open space and habitat would be preserved and restored as are the wetland areas on the golf course. The Dos Lagos Specific Plan was approved by the Corona City Council in June 2000 and amended in June 2002. No other information regarding environmental analyses, documentation or issues for this project was found in the research for the impact analysis for the SR-91 CIP. Sources: Dos Lagos Specific Plan, SE Corporation, 2000, amended June 2002, doslagos.net/news/pdf/Specific_Plan/ExecutiveSummary.pdf, accessed April 2009; and http://www.doslagos.net/, accessed January 22, 2010.
Eagle Valley (East) General Plan Amendment, Specific Plan – ID Number 34 (Sheet 4 of Figure 3.25-1) Eastern Sphere of Influence for the City of Corona, Riverside County Proposed by the City of Corona and Eagle Valley Developers, LLC Construction is expected to be in five phases. Phase 1 began in late 2008 and is anticipated to be completed by 2010, and Phase 5 (the last phase) is set to begin in 2017 and to be completed in 2023.	The project would develop an 801 ac site with a maximum of 4,600 DUs for single-family attached and detached units and multi-family attached units. A Town Center, includes 200,000 sf of commercial use, 100 live/work flats, and 224 senior units. A 3 ac Community Campus Center with a Day Care Center is also planned. Facilities for police, schools, and a 45,000 sf office/medical facility would be provided. A regional aquatic center, 40 ac for parks, 46 ac for greenbelt park areas, and 218 ac for open space are planned. An EIR was prepared for this project. The environmental evaluation for this project is in the initial phase and there was no specific information regarding environmental analyses, documentation, or issues available for this project at the time the research for the impact analysis for the SR-91 CIP was conducted. Source: www.ci.corona.ca.us/documents/communitydev/environment_impact_rpt.pdf, accessed April 2009.
Specific Plans in the City of Norco	
Gateway Specific Plan (SP) – ID Number 23 (Sheets 3 and 5 of Figure 3.25-1) Proposed by the City of Norco	The area designated as Gateway SP is west of I-15, between Hidden Valley Parkway, Hamner Avenue, and the southern city limits. The primary purpose of this SP is to facilitate private development projects, public infrastructure, and road improvement projects. The Gateway SP area encompasses approximately 345 ac and is currently developed with a self-storage facility, fast food restaurants, a gas station, and a boat sales business. No information regarding environmental analyses, documentation or issues for this project was found in the research for the impact analysis for the SR-91 CIP. Source: City of Norco General Plan, Land Use Element (City of Norco, June 6, 2001, page 21).

Table 3.1.4 Summary of Specific Plans in the SR-91 CIP Study Area

Specific Plan (See Note 1)	Description
Norco Auto Mall Specific Plan (SP) – ID Number 22 (Sheet 5 of Figure 3.25-1) Proposed by the City of Norco	The SP designation for this project in the study area is the Norco Auto Mall SP. This is an approximately 55 ac site intended for new car dealerships (both sales and service facilities) and auto-related existing commercial uses. There are several car dealerships located in this area. No information regarding environmental analyses, documentation or issues for this project was found in the research for the impact analysis for the SR-91 CIP. Source: City of Norco General Plan, Land Use Element (City of Norco, June 6, 2001, page 24).
Specific Plans in the City of Riverside	
Arlington Heights Sports Park Master Plan In the City of Riverside Proposed by the City of Riverside Construction on the project has begun and is expected to be completed in 18 months. This project is southeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a 35 ac sports complex bounded by Victoria Avenue on the north, Van Buren Boulevard on the west, Cleveland Avenue on the south, and Gibson Street on the east. Various recreational facilities at the complex include three lighted baseball fields, eight lighted soccer/football fields, two lighted basketball courts, a children's play area, picnic facilities, a multipurpose recreational trail, public restrooms, and lighted parking lots. A Master Plan and MND were prepared for this project. No other information regarding environmental analyses, documentation or issues for this project was found in the research for the impact analysis for the SR-91 CIP. Source: http://aquarius.riversideca.gov/clerkdb/docview.aspx?id=58399, accessed May 2009.
Specific Plans in Unincorporated Riverside County	
The Ranch at Eastvale Specific Plan No. 358, General Plan Amendment No. 827, Change of Zone No. 7345, and Agricultural Preserve Case No. 791 – ID Number 44 (Sheet 5 of Figure 3.25-1) In unincorporated Riverside County in the Eastvale Specific Plan Area Proposed by the County of Riverside Transportation and Land Management Agency and Master Development Corp. Construction is expected to begin in 2010.	The proposed project consists of 119.9 ac of the following land use applications: Specific Plan No. 358, which includes the land use plan, designation of planning areas, development standards, and design and landscaping guidelines associated with the development of The Ranch at Eastvale project site. The Ranch at Eastvale Specific Plan includes approximately 42.9 ac of light industrial uses, 47.7 ac of business park uses, 17.5 ac of commercial/retail uses, and 11.8 ac of major roads. Change of Zone No. 7345 proposes to change the site zoning from A-2-10 (Heavy Agriculture – 10 ac minimum lot size) to SP (Specific Plan), which would reflect the proposed project's land use designations and development standards. General Plan Amendment No. 827 proposes to establish the boundaries of Specific Plan No. 358 in the General Plan and to change the land use designations shown on the General Plan's Eastvale Area Plan Land Use Map from Community Development: Light Industrial (CD:LI) (0.25-0.60 Floor Area Ratio) and Community Development: Medium Density Residential (CD:MDR) (2-5 Dwelling Units per Acre) to Community Development: Commercial Retail (CD:CR) (0.20-0.35 Floor Area Ratio), Community Development: Business Park (CD:BP) (0.25-0.60 Floor Area Ratio), and Community Development: Light Industrial (CD:LI) (0.25-0.60 Floor Area Ratio) within the boundaries of The Ranch at Eastvale Specific Plan. The project is located east of Hellman Avenue and west of Cucamonga Creek, and the Riverside and San Bernardino County lines form the northern and western boundaries, respectively. An EIR was prepared for this project. A planning department report stated that EIR No. 498 mitigated most of the impacts as a result of either the design of the project or conditional measures. The impacts include cumulative and direct impacts to the conversion of agricultural land to urban uses, cumulative and indirect impacts to air quality due to the project's vehicular-related emissions to contribute to the region's inability to attain the ozone standard based on the South Coast Air Quality Management District (SCAQMD) established significance levels for mobile source emissions. Because of the project's incremental contribution to traffic noise, the project would have unavoidable cumulative noise impacts. Some roads have existing noise levels that already exceed the County's noise standards. The project would also contribute to cumulative transportation and traffic impacts to adjacent intersections and road segments that are currently operating at unacceptable levels.

Table 3.1.4 Summary of Specific Plans in the SR-91 CIP Study Area

Specific Plan (See Note 1)	Description
	On June 30, 2009, the Riverside County Planning Commission recommended: • Certification of EIR No. 498, based on the findings incorporated in the EIR and the conclusion that the project would not have a significant adverse effect on the environment • Approval of Specific Plan No. 358, subject to conditions of approval and based on the findings and conclusions incorporated in the staff report • Approval of General Plan Amendment No. 827, based on final adoption by the Riverside County Board of Supervisors • Approval of Change of Zone No. 7345, based on final adoption by the Riverside County Board of Supervisors Sources: www.scag.ca.gov/igr/pdf/Clearinghouse/2009/, accessed April 2009; www.rctlma.org/planning/content/hearings/pc/2009/pc041509_agenda/ sr_5.1.pdf, accessed May 2009; and http://www.clerkoftheboard.co.riverside.ca.us/proceeds/2009/p2009_06_30_files/16.01.pdf, accessed January 29, 2010.
Eastvale Specific Plan No. 300 In unincorporated Riverside County in the Jurupa Community Area Plan The project is nearly built out. This project is northwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project site is in northwest Riverside County, north of the City of Norco. The Specific Plan covers an approximately 687 ac site. The residential component would provide 2,769 DUs. The project would also provide 51.8 ac of public uses (i.e., an 8 ac elementary school site, 35.2 ac of public park area, and 8.6 ac of open space). As of May 2008, 2,529 units had been built, with the potential to build a maximum of 205–240 additional single-family residences. Source: www.rctlma.org/, accessed April 2009.
Lake Hills Estates Specific Plan No. 144 – ID Number 45 (Sheet 4 of Figure 3.25-1) In unincorporated Riverside County in the Lake Mathews/Woodcrest Area Plan The project is nearly built out.	The project site is in northern Riverside County, south of SR-91 and south of the City of Riverside. The Specific Plan proposed a total of 1,757 DUs. As of May 2008, 1,414 DUs had been built, with the potential to build a maximum of 250–343 additional residences. No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Victoria Grove Specific Plan No. 270 – ID Number 46 (Sheet 4 of Figure 3.25-1) In unincorporated Riverside County in the Lake Mathews/Woodcrest Area Plan The project is partially built out.	The project Specific Plan was approved in December 1992. As of May 2008, 1,050 DUs had been built, with the potential to build a maximum of 10–144 additional residences. No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.

Table 3.1.4 Summary of Specific Plans in the SR-91 CIP Study Area

Specific Plan (See Note 1)	Description
The Retreat Specific Plan No. 317 West of I-15, south of the City of Corona The project is partially built out. This project is southwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	Approximately 1,032 ac are being developed with 545 DUs, a golf course, parks, open space, and a trail. As of May 2008, 342 dwelling units had been built, with the potential to build a maximum of 174–203 additional residences. No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Mountain Springs Specific Plan No. 221 West of I-15, south of the City of Corona in the Temescal Canyon Plan Area The project is partially built out. This project is southwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	As of May 2008, 1,200 DUs had been built, with the potential to build a maximum of 124–371 additional dwelling units. No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Toscana Specific Plan No. 327, Final EIR No. 439 West of I-15, south of the City of Corona in the Temescal Canyon Plan Area Proposed by the County of Riverside and Sunny Sage LLC The project is partially built out. This project is southeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would develop 960 ac within the Temescal Canyon area of unincorporated Riverside County. Within 353.29 ac of land, approximately 1,443 residential units would be constructed, which would be an average residential density of approximately 3.21 DUs per acre. A 4.4 ac site would be developed into neighborhood retail commercial use or for an institutional use such as a library or child care center. A known archaeological site within the development would be preserved and left undisturbed. A park, recreation center, and three pocket parks would be part of the development. The recreation center would have a meeting room with kitchen, pool, tennis courts, basketball courts, and a tot lot. A major feature of the project is the inclusion of approximately 510 ac of open space, with 110 ac of the entire length of Temescal Wash within the development, which would be designated as open space-conservation. Construction in this area would be limited to the construction of two bridges crossing Temescal Wash. The conservation of 510 ac fulfills the reserve requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The on-site open space would preserve a corridor connecting Temescal Wash in the south to Lake Mathews/Estelle Mountain Reserve to the east, and protect a vital wildlife movement linkage for the region. The Final EIR determined that potential impacts could be mitigated to a less than significant level. However, a Statement of Overriding Considerations was required for unavoidable adverse impacts to air quality due to pollutant emissions that exceed the SCAQMD standards on regional air quality; impacts to water resources include the incremental increase and cumulative demand for water supply; impacts to biological resources due to loss of habitat, direct and indirect take of wildlife, the creation of barriers to wildlife movement, and the disturbances related to urban land uses; impacts to aesthetic resources due to the conversion of open space areas to urban land uses; and for the project's incremental contribution to the County's cumulative impacts to traffic and circulation issues. Source: Toscana Specific Plan No. 327, Draft EIR No. 439, County of Riverside, December 2005.

Source: *Cumulative Impacts Analysis Report* (2010) and Riverside County Transportation Commission (2010).
NOTE: The locations of these Specific Plans are shown later on Figure 3.25-1 in Section 3.25, Cumulative Impacts. Some of these Specific Plans are outside the project vicinity and are not shown on Figure 3.25-1. The project locations are described in regard to the SR-91 CIP limits.

The County of Riverside General Plan does not contain a Growth Element. However, policies from the Land Use, Circulation and Air Quality Elements and TCAP relevant to the SR-91 CIP are provided below.

Land Use Element Policies

- **LU 1.5:** The County shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management with Cities, local and regional agencies, stakeholders, Indian Nations, and surrounding jurisdictions.
- **LU 12.6:** Require that adequate and accessible circulation facilities exist to meet the demands of a proposed land use.
- **LU 16.2:** Protect agricultural uses, including those with industrial characteristics (dairies, poultry, hog farms, etc.) by discouraging inappropriate land division in the immediate proximity of, and allowing only uses and intensities that are compatible with, agricultural uses.
- **LU 16.4:** Encourage conservation of productive agricultural lands. Preserve prime agricultural lands for high-value crop production.

Circulation Element Policies

- **C 1.1:** Design the transportation system to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the Circulation Plan.
- **C 1.2:** Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-and-ride facilities, and pedestrian facilities.
- **C 1.4:** Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timely, and economically efficient extension of infrastructure and services.
- **C 1.5:** Evaluate the planned circulation system as needed to enhance the arterial highway network.
- **C 1.6:** Cooperate with local, regional, State, and federal agencies to establish an efficient circulation system.
- **C 21.1:** Encourage the installation and use of HOV lanes. Such lanes should be continuous, linking major population centers with employment centers. If HOV lanes are used, consider making them available for mixed-flow traffic during non-peak periods where warranted and feasible.

Air Quality Element Policies

- **AQ 14.4:** Preserve transportation corridors with the potential of high demand or of regional significance for future expansion to meet project demand.

Riverside County Area Plans: Temescal Canyon Area Plan

Area Plans were developed as part of the Riverside County General Plan to guide development in specific locations within the County. Area Plans are components of the General Plan and address issues and development policies for specific areas in greater detail than provided in the General Plan. The TCAP is within the project study area.

The TCAP encompasses the City of Corona and its SOI. However, the TCAP only addresses the unincorporated lands in this area. Land within the incorporated City of Corona is addressed in the City of Corona General Plan. The following TCAP policies are relevant to the SR-91 CIP:

- **TCAP 10.3:** Evaluate proposed projects located adjacent to the right-of-way of any of the existing I-15 interchanges for additional interchange improvements.
- **TCAP 10.4b:** Support the development of regional transportation facilities and services (such as HOV lanes, express bus service, and fixed transit facilities), which will encourage the use of public transportation and ridesharing for longer distance trips.
- **TCAP 14.2:** Accommodate the direction of the Riverside County to Orange County corridor study, once it is complete.

Riverside County Specific Plans

The seven Specific Plans in the unincorporated areas of Riverside County in the project study area are described in Table 3.1.4.

City of Yorba Linda General Plan

The City of Yorba Linda General Plan (adopted in 1993) is intended to establish land use and growth policy that is “visionary and creative, yet its goals, policies and programs must be realistic and achievable.” A small part of the project study area along SR-91, consisting of an approximately 1.8 mi long area of the western project segment on the north side of SR-91, is in the City of Yorba Linda. The General Plan land use designations in the study area include Open Space/Recreation and Industrial. The General Plan Growth Management Element (adopted December 6, 1993), includes the goals intended to improve traffic circulation. Goals and policies relevant to the SR-91 CIP from the Yorba Linda General Plan are provided below.

Circulation Element

- **Goal 1:** Develop a circulation system that meets the needs of current and future residents of the City of Yorba Linda, has adequate capacity for projected future traffic demands at acceptable levels of service, and facilitates the safe and efficient movement of people and goods throughout the City of Yorba Linda.
  - **Policy 1.10:** Work jointly with adjacent jurisdictions to achieve capacity improvements for intersections outside of the City of Yorba Linda, but which have significant impacts on the City.
- **Goal 2:** Support development of a network of regional roadway facilities that ensures the safe and efficient movement of people and goods from within the City of Yorba Linda to areas outside of its boundaries and accommodates the regional travel demands of areas outside of the City of Yorba Linda.
  - **Policy 2.1:** Coordinate roadway improvements with applicable regional, State and federal agencies.
  - **Policy 2.3:** Support the addition of capacity enhancement improvements such as HOV lanes, general-purpose lanes, and auxiliary lanes to the Riverside Freeway (SR-91).
- **Goal 3:** Develop a transportation system that provides adequate facilities for heavy vehicle traffic while reducing the environmental impacts of such a vehicle classification on the community.
  - **Policy 3.1:** Participate in the State and Regional Transportation Systems Management Programs.

Growth Management Element

- An adequate transportation/circulation system that supports regional and local land uses at adopted LOS standards and complies with requirements of the Countywide Traffic Improvement and Growth Management Program (Measure M).
- Reduced traffic congestion on the City's streets and highways through active coordination with the Congestion Management Agency to achieve transportation improvements consistent with land use planning.

City of Yorba Linda Specific Plans

As shown in Table 3.1.4, there are no Specific Plans in the City of Yorba Linda in the project study area.

City of Anaheim General Plan

The City of Anaheim General Plan (adopted in 2004) provides direction for land use decisions in the City. The western part of the project study area includes land in the City of Anaheim. The east part of the City of Anaheim in the project study area extends along the Santa Ana River to the Riverside County line and includes hilly terrain. The General Plan Land Use Element designates land uses in the project study area as Residential and Open Space/Recreation. Goals and policies relevant to the SR-91 CIP from the Anaheim General Plan Elements are listed below.

Circulation Element

- **Goal 1.1:** Provide a comprehensive multimodal transportation system that facilitates current and long-term circulation of people and goods in and through the City.
- **Goal 1.2:** Support improvements to highways passing near and through the City.
  - **Policy 1:** Continue working with the Department, FHWA, and FTA to address traffic flow along State highways that traverse the City.
  - **Policy 2:** Discourage SR-91 bypass traffic through the Hill and Canyon Area by working with the Department and OCTA to improve traffic flow on SR-91.
  - **Policy 4:** Work with the Department and adjacent jurisdictions to improve the operational performance of highways within and adjacent to the City.
  - **Policy 5:** Work with the Department in analyzing the performance of freeway interchanges located in the City and seek appropriate improvements.
- **Goal 2.2:** Provide a safe circulation system.
- **Goal 2.3:** Improve regional access for City residents and workers.
  - **Policy 1:** Continue to implement the State-mandated Congestion Management Program and Orange County's Growth Management Program.
  - **Policy 2:** Actively engage in interjurisdictional planning efforts as part of the Orange County Measure M program.
  - **Policy 4:** Participate in cooperative planning processes to promote effective regional transportation and sustainable development and ensure that citizens of southern California can access jobs, housing, and tourism destinations in Anaheim.

- **Goal 3.1:** Provide a well-maintained street system.
  - **Policy 4:** Coordinate maintenance and reconstruction projects.

Growth Management Element

- **Goal 1.2:** Participate in programs addressing regional growth issues.
  - **Policy 1:** Continue to participate in the Inter-Jurisdictional Planning Forums for the County Growth Management Areas (GMAs) that encompass Anaheim in order to coordinate planning efforts to minimize duplication services between adjacent jurisdictions, to mitigate the impacts associated with regional growth, and to maximize opportunities for implementing projects or programs of mutual jurisdictional benefit.
- **Goal 1.3:** Establish Citywide development priorities that efficiently use existing infrastructure and public facilities.
  - **Policy 3:** Monitor infrastructure and public facilities plans for major activity centers such as The Platinum Triangle, Downtown Anaheim, and The Canyon, and identify adequate funding mechanisms to address changing needs.
- **Goal 2.1:** Reduce traffic congestion on the City's arterial highway system.
  - **Policy 1:** Identify capital projects and strategies to meet, maintain or improve current traffic LOS standards through the 7-year Capital Improvement Program.
  - **Policy 2:** Participate in Inter-Jurisdictional Planning Forums at the GMA level to monitor development with multijurisdictional impacts and identify and prioritize appropriate mitigation measures.

City of Anaheim Specific Plan

The one Specific Plan in the City of Anaheim in the project study area is described in Table 3.1.4.

City of Corona General Plan

The Corona General Plan (adopted 2004) presents a vision for its future and a strategy to make that vision a reality. It is long range, looking ahead to 2025, while at the same time presenting policies to guide day-to-day decisions. According to the General Plan, most of the land best suited for development in the City of Corona has already been developed. As of 2002, only 16 percent (3,977 ac) of land in the City of Corona was vacant and could be considered available for possible development. Another 601 ac were being used for agriculture. The pace of future growth in Corona is forecast to slow, in part due to the economic recession that started in 2007 and is

likely to continue to slow, with most new development occurring on the limited available vacant land on the periphery of the existing urban development in the City.

As indicated in the General Plan, the land uses in the study area in the City of Corona are primarily residential and industrial. The City of Corona also established a land use and growth policy that extends to 2025. The General Plan supports initiatives to improve regional traffic flow to help improve congestion on city streets. The City of Corona General Plan policies relevant to the SR-91 CIP are listed below.

Land Use Element

- **Goal 1.1:** A community that contains a diversity of land uses that supports the needs of and provides a high quality of life for its residents, sustains and enhances the City's economy and fiscal balance, is supported by adequate community infrastructure and services, and is compatible with the environmental setting and resources.
- **Goal 1.2:** Create a cohesive and integrated City comprised of distinct and vital commercial and business districts and livable residential neighborhoods that are correlated with supporting transportation and utility infrastructure and sustain natural open space, hillsides, and canyons.
- **Goal 10.18:** Improve air quality conditions within the Corona Planning Area by controlling point sources, reducing vehicle trips, and striving to achieve attainment of ozone, nitrogen dioxide, carbon monoxide, and sulfate standards as enforced by the SCAQMD.

Circulation Element

- **Goal 6.2:** Support the development of a network of regional roadway facilities that ensure the safe and efficient movement of people and goods from within the City to areas outside its boundaries, and that accommodate the regional travel demands of developing areas outside the City.
  - **Policy 6.2.4:** Participate in programs to mitigate regional traffic congestion.
  - **Policy 6.2.7:** Consider the implementation of intercity/intraregional connections to improve regional and local mobility.
- **Goal 6.8:** Pursue alternative funding for transportation improvements, including federal, State, and private sources through grants, fair-share impact fees, and other mechanisms.

Growth Element

- **Goal 1.4:** Strategic growth that preserves existing viable residential neighborhoods and commercial and industrial districts and targets new development to remaining vacant parcels that are environmentally suitable and can be supported by infrastructure and services and reuses appropriate properties to enhance their economic vitality and community livability.
    - **Policy 1.4.2** Distribute and phase the timing of growth to protect the viability, character, and quality of existing residential neighborhoods, commercial districts, and industrial/business areas.

City of Corona Specific Plans

The three Specific Plans in the City of Corona in the project study area are described in Table 3.1.4.

City of Riverside General Plan

The City of Riverside General Plan (adopted in 2007) identifies the community's vision for its collective future and establishes the fundamental framework to guide decision-making about development, resource management, public safety, public services, and general community well being. The General Plan focuses future development in and adjacent to already urbanized areas in the City rather than in fringe areas. This is intended to reduce urban sprawl, make better use of existing infrastructure, and build on the established character of existing neighborhoods. The part of Riverside that is in the project study area starts at approximately Buchanan Street and continues east to Pierce Street (the project's eastern terminus). The General Plan land use designations for the study area include Residential, Mixed-Use, Commercial, and Public Facilities.

The Riverside General Plan does not contain a Growth Element; however, the Land Use Element discusses Smart Growth Principles and contains the following objectives relevant to the project. The policies, goals, and objectives of the City of Riverside General Plan relevant to the project are provided below.

Land Use Element Objectives

- **Objective LU-8:** Emphasize smart growth principles through all steps of the land development process.
- **Objective LU-9:** Provide for continuing growth within the General Plan Area, with land uses and intensities appropriately designated to meet the needs of anticipated growth and to achieve the community's objectives.

Circulation Element

- **Objective CCM-1:** Facilitate freeway and regional roadway improvements and construction to alleviate congestion and air pollution and to minimize regional cut-through traffic within Riverside.
  - **Policy CCM-1.2:** Support the addition of capacity improvements to SR-91, SR-60, I-215, and I-15.
  - **Policy CCM-1.3:** Support the development of a new regional roadway facility linking Riverside County with Orange County.
- **Objective CCM-2:** Build and maintain a transportation system that combines a mix of transportation modes and transportation system management techniques and that is designed to meet the needs of Riverside residents and businesses while minimizing the transportation system's impacts on air quality, the environment, and adjacent development.
- **Objective CCM-5:** Cooperate in the implementation of regional and interjurisdictional transportation plans and improvements to the regional transportation system.
  - **Policy CCM-5-1:** Coordinate impacts of new roadway connections with adjacent cities and Riverside County to ensure consistency in design and operations of the new facilities and connections.
  - **Policy CCM-5.4:** Actively participate with other jurisdictions and agencies such as the County, RCTC, Riverside Transit Agency (RTA), SCAG, Western Riverside Council of Governments (WRCOG), and Department to facilitate regionally integrated transportation networks.
  - **Policy CCM-5.5:** Participate in programs to mitigate regional traffic congestion.
- **Objective CCM-9:** Promote and support an efficient public multimodal transportation network that connects activity centers in Riverside to each other and to the region.
  - **Policy CCM-9.7:** Ensure adequate connections among all alternative modes.
  - **Policy CCM-9.8:** Preserve options for future transit use where appropriate when designing improvements for roadways.

City of Riverside Specific Plans

The one Specific Plan in the City of Riverside in the project study area is described in Table 3.1.4.

City of Norco General Plan

The City of Norco General Plan (amended 2006) provides direction for land use decisions in the City, which is primarily developed in low-density residential uses as designated in the General Plan. The northern segment of the project study area along I-15 includes land in the City of Norco from Hidden Valley Parkway on the south to Fifth Street on the north. The General Plan land use designations for the study area include Residential, Commercial, Industrial, and Water-Related (drainages). The policy relevant to the project from the City of Norco General Plan is provided below.

Circulation Element

Integration into developing regional public transit systems should be pursued.

City of Norco Specific Plans

The two Specific Plans in the City of Norco in the project study area are described in Table 3.1.4.

3.1.2.2 Environmental Consequences

Summary of Impacts

With the exception of the General Plan impacts related to the conversion of land from nontransportation to transportation uses described earlier in Section 3.1.1.2, Alternatives 1 and 2 are consistent with the applicable federal, State, and regional transportation and land use plans.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. With the exception of the General Plan impacts described earlier in Section 3.1.1.2, Alternative 2f (Initial Phase and Ultimate Project) would be consistent with the applicable federal, State, and regional transportation and land use plans.

Permanent Impacts to State, Regional, and Local Plans

Alternatives 1 and 2

Regional Transportation Plan and 2011 Federal Statewide Transportation Improvement Program

The project is currently programmed in the 2012 RTP, which was found to conform by the FHWA/FTA on June 4, 2012. The project is also programmed in the SCAG financially constrained 2011 FTIP (through Amendment 24), which was also found to be conforming by the FHWA/FTA on June 4, 2012. The description of the project in the 2012 RTP is as follows: Project ID No. RIV071250; Description: Phase 1: On SR-91/I-15: SR91 – Construct 1 mixed

flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). Phase 2: on SR-91/I-15: SR91 – Add 1 mixed flow lane in each direction (SR241 – SR71)(I15 – Pierce); I15 – add toll express lane (TEL) median direct connector (SB15 to WB91 & EB91 to NB15), 1 TEL each direction from Hidden Valley –SR-91 direct connector and from Ontario Interchange to Cajalco Interchange.

The description of the Initial Phase (Phase 1 as described in the RTP) in the 2011 FTIP (Amendment 24) is as follows: Project ID No. RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 TEL and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94).

The above descriptions of the Initial Phase and Ultimate Project for the SR-91 CIP are consistent with the description of the Preferred Alternative (Alternative 2f) as described in Chapter 2.0. Therefore, the SR-91 CIP is consistent with the 2012 RTP and the 2011 FTIP (through Amendment 24). The approved 2012 RTP and 2011 FTIP (Amendment 24) project listings are provided in Appendix K.

SCAG Regional Comprehensive Plan and Compass Growth Vision

Alternatives 1 and 2 would also be consistent with and help further the goals of the RCP as follows:

- The project would provide transportation infrastructure in support of regional growth plans and policies (RCP Policy 3.03).
- The project supports protection of vital resources such as wetlands and habitat for endangered plants and animals. Each alternative was developed with the intent to achieve maximum avoidance of such resources first, then considering minimization and mitigation opportunities (RCP Policy 3.20).
- The project would help support implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and

archaeological sites. Each alternative has been developed with the intent to achieve maximum avoidance of such resources first, then considering minimization and mitigation opportunities (RCP Policy 3.21).

- The project is consistent with the SCAG 2008 RCP because the RCP supports HOV gap closures and connectors, and express lanes.

Alternatives 1 and 2 would also be consistent with and help further the goals of the SCAG CGV as follows:

- The project would improve the functioning of SR-91, and improve mobility for area residents (Principle 1).
- Improvements under the project to the flow of traffic on SR-91 would improve the quality of life for residents and foster livability of the affected communities (Principle 2).
- Improvements under the project to the flow of traffic on SR-91 would improve transportation access to and from job centers, which will enable prosperity for residents in the affected communities (Principle 3).
- Improvements under the project to the flow of traffic on SR-91 would promote sustainability of the quality of life for area residents and commuters (Principle 4).

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP serves as a comprehensive, multi-jurisdictional Western Riverside County MSHCP and NCCP, and focuses on the conservation of species and their associated habitats in western Riverside County. The Western Riverside County MSHCP allows its permittees to better control local land use decisions and maintain a strong economic climate in the region while adhering to the requirements of FESA and the California Endangered Species Act (CESA). The Western Riverside County MSHCP is used to allow participating jurisdictions the "take" of plant and animal species identified in the Western Riverside County MSHCP and found within the boundaries of the Western Riverside County MSHCP Plan Area through an abbreviated authorization process with the wildlife resource agencies. Regulation of the "take" of threatened, endangered, and rare species is authorized by the wildlife agencies (USFWS and CDFG) under provisions of Section 7(a)(2) of FESA and the California Fish and Game Code Section 2050–2089, respectively. The wildlife agencies allow "Take Authorization" for otherwise lawful actions (e.g., public

and private development) in exchange for the assembly and management of a coordinated Western Riverside County MSHCP Conservation Area.

RCTC and the Department are obligated to follow specific conditions, as described in Sections 13.7 and 13.8 of the Western Riverside County MSHCP Implementation Agreement for the project. As a permittee under the Western Riverside County MSHCP, RCTC received a consistency conclusion from Western Riverside County RCA on April 4, 2011, that the SR-91 CIP demonstrates consistency with the requirements for covered road projects and with other requirements of the Western Riverside County MSHCP.

Refer to Sections 3.17, Natural Communities, 3.19, Plant Species, and 3.20, Animal Species, for additional discussion of the consistency of the project with the Western Riverside County MSHCP.

Orange County Natural Communities Conservation Plan

The nearest lands designated in the Orange County NCCP are approximately 2,000 ft south of SR-91 near the County line. Construction of the Build Alternatives would not result in the permanent or temporary use of any land designated in or adjacent to any lands designated in the Orange County NCCP. Therefore, Alternatives 1 and 2 would not result in direct or indirect impacts to any designated NCCP lands in Orange County.

City and County General Plans and Specific Plans

The purpose of the project is to reduce existing and forecast traffic congestion on SR-91 to accommodate planned growth in the area and to facilitate movement of people, freight, and goods. As a result, the project is consistent with the county and city General Plans and other land use plans. These plans anticipate substantial growth in the study area and have adopted goals and policies to reduce congestion. The Circulation Elements either reference improvement to SR-91 specifically or encourage HOV lanes as part of the regional transportation system. Therefore, Alternatives 1 and 2 are fully supportive of these local plans. The project improvements would support continued economic vitality of the surrounding communities by improving conditions for the movement of goods and people. The project would enhance public safety and security through the improvement of driving conditions, would enhance environmental conditions through an improvement in traffic mobility and accessibility, and would serve as a benefit to the surrounding communities and future land use goals. In summary,

Alternatives 1 and 2 would promote these objectives in the local jurisdictions' General Plans. In addition, Alternatives 1 and 2 would not conflict with or in any way preclude the implementation of other General Plan-designated land uses in the study area cities and counties.

As shown in Table 3.1.2, Alternatives 1 and 2 and their design variations would impact areas of designated Residential, Commercial, Industrial, Transportation, Open Space/Recreation, Mixed-Use, and Public Facilities General Plan uses. Alternatives 1 and 2 would require counties and cities to amend their General Plan Land Use and Circulation Elements and potentially individual Specific Plans to reflect the final project alignment, interchange locations, and redesignation of land acquired for the project to transportation designations. Specifically, Alternatives 1 and 2 would result in permanent impacts to General Plan land uses through the acquisition of right-of-way. The impacted General Plan land uses are shown on Figure 3.1-3 (Sheets 1–3) and Figure 3.1-4 (Sheets 1–3) for Alternatives 1 and 2, respectively. Table 3.1.2 summarizes the impacts of the project on General Plan land use designations by alternative and design variation.

General Plan Amendments would be required as a result of the incorporation of nontransportation General Plan-designated land into the SR-91 and I-15 facilities to ensure consistency with land uses as designated in the local General Plans.

In summary, Alternatives 1 and 2 are consistent with the transportation components of the local General Plan Circulation Elements and, with General Plan Amendments, would be consistent with the land use designations in the local General Plan Land Use Elements.

Temporary Impacts to State, Regional, and Local Plans

Alternatives 1 and 2

Alternatives 1 and 2 would result in the use of land for TCEs. The TCEs would be temporary and localized during construction and would not likely result in long-term changes in land use. At the completion of construction, the TCEs would be removed and the previous land uses would continue. No permanent project features will be constructed within the boundaries of the TCEs. No long-term changes in land uses are expected as a result of the TCEs. As a result, there are no temporary impacts related to consistency with State, regional, and local transportation or land use plans anticipated under Alternatives 1 and 2.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed. As described earlier, the General Plans of the cities and counties in the project study area either reference improvement to SR-91 specifically or encourage HOV lanes as part of the regional transportation system. Therefore, the No Build Alternative is inconsistent with these General Plans. In addition, because the No Build Alternative would not provide improvements to the existing SR-91, enhancements to the movement of goods and people on SR-91, or enhanced public safety and security through the improvement of driving conditions on SR-91, no improvements to environmental conditions by greater traffic mobility in the SR-91 study area would occur. These are policy objectives of the land use jurisdictions in the project study area. As a result, the No Build Alternative is not consistent with the circulation policy objectives of the regional and local jurisdictions.

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the project study area. Under the No Build Alternative, the project would not be constructed and no temporary impacts to State, regional, and local plans would occur.

3.1.3 Parks and Recreational Facilities

3.1.3.1 Affected Environment

Under NEPA and CEQA, the Department is required to analyze the impacts that the proposed project will have on recreational facilities (including equestrian trails, recreational bikeways, and other recreational trails) in the project study area. The Section 4(f) and 6(f) properties and other recreational resources within 0.5 mi of the centerline of the existing SR-91 facility are summarized in Table 3.1.5 and are shown on Figure B.1 in Appendix B.

3.1.3.2 Environmental Consequences

Chino Hills State Park

Permanent Use and Permanent Subsurface Easements

As shown on Figure 3.1-5 and as summarized later in Table 3.1.7, the Initial Phases of Alternatives 1 and 2 would permanently use a 0.48 ac area in CHSP on the north side of SR-91 for the footings of two columns, a permanent aerial easement at the location of the new westbound Green River Road off-ramp bridge over the BNSF railroad tracks and Prado Road, and a small area in CHSP south of the aerial

Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
Chino Hills State Park 1879 Jackson Street Riverside, CA 92504 On the north and south sides of SR-91 near SR-71, on Assessor's Parcels 1033-171-15-0000 (San Bernardino County); 101-120-018 (Riverside County); and 353-061-03, 085-071-43, 085-071-32, 085-071-35, and 085-071-33 (Orange County) California State Parks	CHSP, which is owned and operated by State Parks, is on the north and south sides of SR-91 near SR-71. Amenities provided in CHSP include on-site parking, picnic areas, an equestrian staging area, pipe corrals, a historic barn, water spigots, campsites, restrooms, and approximately 60 mi of hiking, bike, and equestrian trails. Organized campfires, school programs, nature hikes, a Junior Ranger program, and educational talks are offered throughout the year. A ranch house, barn, windmills, and watering troughs in the park are reminders of the cattle ranching in this area. CHSP serves a valuable function as a major link in a wildlife biolink that extends over 30 mi from the Santa Ana Mountains to the southeast to the Whittier Hills to the northwest. The Coal Canyon wildlife undercrossing, which connects the Santa Ana Mountains south of SR-91 and the Puente-Chino Hills north of SR-91, is in CHSP. This wildlife crossing is used by a wide variety of wildlife. The total area of CHSP is 14,173 ac. CHSP is normally open for both camping and day use. Based on input from State Parks (October 23, 2009), the estimated annual numbers of day-use and overnight visitors to CHSP are 100,000 and 3,500, respectively. The Freeway Complex Fire burned over 13,800 ac, or approximately 95 percent, of CHSP on November 15, 2008. As a result, the park was closed from November 15, 2008, to February 1, 2009. CHSP reopened on February 1, 2009, with some restrictions. As of 2012, CHSP is open from April to September, 8:00 a.m. to 7:00 p.m., Friday to Monday; and from October to March, CHSP is open 8:00 a.m. to 5:00 p.m., Friday to Monday. Camping is available at CHSP on Friday and Saturday nights and campers must leave CHSP by 12:00 noon on Sunday. There are 20 campsites on the park campground. Campfires are allowed on the campground as of November 18, 2011, but are prohibited during fire season. CHSP is closed Tuesday through Thursday. Vehicular access to CHSP is available at the park entrances at Rimcrest Drive and Bane Canyon Road. Those entrances are well north of the SR-91 CIP study area. Travelers on SR-91 can use SR-71 north to Soquel Canyon Parkway, then travel west on the Parkway to Bane Canyon Road. Pedestrians and bicyclists can access CHSP at those entrances and at a number of trailheads leading to trails in the park. There is a trailhead in CHSP just north of Green River Road. The unpaved trail extends east and north from that trailhead, along a maintenance road, into CHSP. Features that make CHSP special include its overall size, the wide range of natural resources within the park, the connections provided at CHSP to other open space and wilderness areas for wildlife, and the overall experience and enjoyment associated with such a large area of open space in a largely urbanized area. There is one trail in CHSP in the vicinity of the Green River Road westbound off-ramp. Users of that trail have views of existing SR-91 and will have views of the SR-91 CIP Build Alternatives. Refer to Figure 3.1-5 and Table 3.1.7, later in this section, and to Figure B.5 and Table B.1 in Appendix B for discussion of the effects of the Build Alternatives on CHSP under Sections 4(f) and 6(f).

Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
Santa Ana River Trail/Bike Lane 24001 Santa Ana Canyon Road Anaheim, CA 92808 Orange County Parks (part in Orange County) City of Corona (part in the City)	The Santa Ana River Trail/Bike Lane extends approximately 70 mi across Orange, Riverside, and San Bernardino Counties and 14 incorporated cities in those counties. Along the project segment of SR-91 and extending west to the Trail/Bike Lane terminus in Orange County, the Santa Ana River Trail/Bike Lane is a paved off-street, Class I bicycle path. East of Green River Road, although most of the Trail/Bike Lane is a paved Class I off-street bicycle path, some segments of the Trail/Bike Lane are in paved public street rights-of-way or are unpaved (such as in the San Bernardino National Forest). All of the Trail/Bike Lane in the SR-91 study area is paved. The Trail/Bike Lane in the study area is available for use by bicyclists and pedestrians and is primarily considered as a recreational trail. Some segments of the Trail/Bike Lane, such as in the San Bernardino County National Forest well east of the project study area, are unpaved and are available to use by equestrians as well as bicyclists and pedestrians. The Santa Ana River Trail/Bike Lane is a recreational facility only and not a transportation or mixed-use facility. However, the segment of the Trail/Bike Lane between Green River Road in Riverside County and Gypsum Canyon Road in Orange County, which parallels SR-91, is open to use by motorized bicycles in addition to regular bicycles and pedestrians. In the vicinity of the project segment of SR-91 in Riverside County, the Santa Ana River Trail/Bike Lane is a paved, off-street trail in a dedicated, publicly owned right-of-way in the City of Corona. Because that segment of the Trail/Bike Lane is owned and operated by the City and will be affected by the SR-91 CIP, it qualifies for protection as a Section 4(f) property. The segment of the Santa Ana River Trail/Bike Lane along SR-91 in Orange County is a paved, off-street trail in a dedicated, publicly owned right-of-way. That segment of the Trail/Bike Lane is outside the project disturbance limits and will not be affected by any of the SR-91 CIP Build Alternatives. The Santa Ana River Trail/Bike Lane intersects some established bicycle lanes/facilities along its alignment as well as 24 local and arterial roads. As a result, this Trail/Bike Lane can be widely accessed by foot or bicycle from access points along its entire length. In the study area for the SR-91 CIP, parking to access the Trail/Bike Lane is available on the street just east of the entrance to the Green River Golf Club in the City of Corona, and on-site parking is available in both CHSP and Featherly Regional Park. The Santa Ana River Trail/Bike Lane is one of many trails throughout the region. For example, as the Trail/Bike Lane travels south adjacent to the Santa Ana River, it crosses or connects to a number of trails and pedestrian and bicycle facilities along its alignment. These include several trails in CHSP on the north and south sides of SR-91. The Santa Ana River Trail/Bike Lane traverses Featherly Regional Park generally adjacent to the Santa Ana River. In the vicinity of SR-91, the Trail/Bike Lane is an off-street paved asphalt path, 12 ft wide, that is divided into two lanes so that cyclists may ride abreast and to allow for safe passing. The Trail/Bike Lane accommodates bicyclists, rollerbladers, joggers, and pedestrians. The segment of the Trail/Bike Lane in the SR-91 study area has only moderate topography and provides views of the Santa Ana River and wildlife. Destinations along the Santa Ana River Trail/Bike Lane outside the SR-91 study area include a rest area at Centennial Regional Park in the City of Santa Ana, picnic and rest-stop areas at Katella Avenue and Orange/Olive in the City of Orange, and a picnic area at Yorba Regional Park in the City of Anaheim. Because

Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
	the Trail/Bike Lane is open for public access at a large number of locations along its alignment, it is not possible to estimate the number of users of this facility. Features that make the Santa Ana River Trail/Bike Lane special include its length and route, which crosses much of Orange County adjacent to the Santa Ana River; its views of natural and developed areas along the Trail/Bike Lane alignment; and the access the Trail/Bike Lane provides to other recreational facilities, including parks and other trails. The segment of the Santa Ana River Trail/Bike Lane east of Featherly Regional Park is generally close to the State right-of-way for SR-91. In Featherly Regional Park, the Trail/Bike Lane is farther north and, as a result, is farther from SR-91. During a consultation meeting for this project, an NPS representative indicated that the NPS considers trails in this part of southern California to be potential links to the Anza Trail. The general alignment of the Anza Trail is well north of SR-91, in San Bernardino County, and is not crossed by or in the vicinity of the SR-91 CIP limits. However, as indicated by the NPS, Santa Ana River Trail/Bike Lane users could potentially reach the Anza Trail via trails in CHSP and other locations to the north. Because the Anza Trail is well north of the SR-91 CIP study area, it is described here as a part of the overall regional system of trails but not as a resource affected by the SR-91 CIP Build Alternatives. Refer to Figures B.2 and B.3 and Table B.1 in Appendix B for discussion of the effects of the Build Alternatives on the Trail/Bike Lane under Section 4(f).
Featherly Regional Park 24001 Santa Ana Canyon Road Anaheim, CA 92808 Orange County Parks	Featherly Regional Park is owned and operated by Orange County Parks. Amenities provided at Featherly Regional Park include on-site parking, a visitor center, park benches, picnic tables, campsites, restrooms, and the Santa Ana River Trail/Bike Lane. Featherly Regional Park covers 364 ac, much of which is a natural riparian wilderness area. Viewing opportunities are best from the Santa Ana River Trail/Bike Lane and the banks of the Santa Ana River. Featherly Regional Park offers both camping and day use. The estimated number of day and overnight visitors to Featherly Regional Park was not available from the Orange County Parks website. Featherly Regional Park is traversed by the Santa Ana River Trail/Bike Lane, which provides a connection between this park and a number of other recreational resources along the Trail/Bike Lane, including the Green River Golf Club and parks to the west and south all the way to the Pacific Ocean. Vehicular access to Featherly Regional Park is available via Gypsum Canyon Road. Travelers on SR-91 can exit the freeway at Gypsum Canyon Road and travel north on Gypsum Canyon Road a short distance to the main entrance of this park. Pedestrians and bicyclists can access the park at the main entrance on Gypsum Canyon Road or via the Santa Ana River Trail/Bike Lane. Features that make Featherly Regional Park special include the provision of camping and day use activities in proximity to a large number of users in the developed parts of northeast Orange County, the ability to use the Santa Ana River Trail/Bike Lane to access other area resources, and the riparian vegetation and wildlife along the Santa Ana River.

Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
	Featherly Regional Park is adjacent to SR-91. There is a substantial change in grade from the freeway to the park, with the park substantially lower than the freeway. In addition, the interchange ramps for the SR-241/ SR-91 interchange are immediately adjacent to and above Featherly Regional Park. Refer to Figure B.4 and Table B.1 in Appendix B and Table 3.1.7, later in this section, for discussion of the effects of the Build Alternatives on Featherly Regional Park under Section 4(f).
New Orange County Park (National Natural Landmark) Northeast Orange County, south of SR-91 Orange County Parks	The New OC Park (NNL) is owned by Orange County Parks. Although not yet open to the public as a recreation resource, the Park will be operated by Orange County Parks as parts of it are opened to the public. Approximately 20,000 ac of land were designated as an NNL in 2006 by the DOI. The NNL, owned at that time by The Irvine Company, extends to the Irvine Ranch from south of SR-91 and east of SR-241 to just north of the City of Irvine. There is substantial change in grade from SR-91 to this park, with the park substantially higher in elevation than the freeway. In addition, this parkland extends well south of SR-91. As defined in 36 CFR 62, NNLs are areas of exceptional value to the nation as a whole. NNLs identify and preserve natural areas that best illustrate the biological and geological character of the United States, enhance the scientific and educational values of preserved areas, strengthen public appreciation of natural history, and foster greater concern for the conservation of the nation's natural heritage. NNLs designated by the DOI are listed in the National Registry of Natural Landmarks. The NNL designation does not change the land use or land use designation of the area and does not change the ownership of the land. The Irvine Ranch NNL was open for limited public use. This NNL includes areas of natural beauty, native plants (coastal sage scrub, chaparral communities, and rare Tecate cypress woodlands) and animals, and geological resources. On June 30, 2010, it was announced that The Irvine Company had donated the NNL to the County of Orange for use as a public park and that the County of Orange Board of Supervisors had accepted that donation. As a result, the NNL is now considered a public park. This new park has not yet been named formally, so it is referred to in this document as "the New Orange County Park (National Natural Landmark)" or "the New OC Park (NNL)." The park includes Loma Ridge, Laguna Laurel, and Limestone Canyon. An existing 2,000 ac nature park, Black Star Canyon Regional Park, is also within the acreage of this larger park. The New OC Park (NNL) will be managed by the Irvine Ranch Conservancy under contract to OC Parks. It is anticipated that the park will be open for limited public use in the future. Refer to Figure 3.1-6 and Table 3.1.7, later in this section, for discussion of the effects of the Build Alternatives on the New OC Park (NNL) under Section 4(f).
El Cerrito Sports Park East of the El Cerrito Road/I-15 Interchange Corona, CA 92881 City of Corona	El Cerrito Sports Park is a 26.6 ac public park on the east side of I-15 that opened to the public on June 5, 2010. Amenities at the park include two full-size baseball/softball diamonds, two Little League baseball/softball diamonds, one T-ball multi-use field, two full-size soccer fields, two basketball courts, a 5,000-square-foot community center building, off-street parking, restrooms, landscaping, fencing, sports field lighting, tot lots, and a concession stand. Vehicle access to this park is via Rudell Road on the northeast side of the park. Pedestrian access to this park is via Rudell Road and El Cerrito Road. Refer to Figure B.7 and Table B.1 in Appendix B for discussion of the effects of the Build Alternatives on this Park under Section 4(f).

Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
Griffin Park 2804 Griffin Way Corona, CA 92879 City of Corona	This 12.9 ac neighborhood park in the City of Corona just north of SR-91 is owned and operated by the City. This park provides on-site parking, benches, grassy areas, a play area, and paved walking paths. The park provides opportunities for passive recreation. Griffin Park is open to the public with access via local streets and sidewalks. Vehicular access to Griffin Park is available via several local streets, including Griffin Way, Bristol Way, and Hillsborough Way. Pedestrians and bicyclists can also access Griffin Park via these local streets. Travelers on SR-91 can access the park from SR-91 by exiting at McKinley Street, traveling north on McKinley Street to Griffin Way, and then continuing east on Griffin Way to the park. No overnight use is allowed at Griffin Park. The estimated number of users at the park was not available from the City of Corona website. In addition, because this is a neighborhood park with unrestricted access for pedestrians and cars, it is not possible to estimate the number of users. Features that make Griffin Park special include being readily accessible to area residents and the presence of coastal sage scrub over a large part of the site. Griffin Park is at a higher elevation than, and overlooks, SR-91. Refer to Figure B.6 and Table B.1 in Appendix B for discussion of the effects of the Build Alternatives on this Park under Section 4(f).
Civic Center Gym 815 West Sixth Street Corona, CA 92882 City of Corona	This gym/park is approximately 500 ft south of SR-91, between Buena Vista Avenue and Vicentia Avenue, at the City of Corona City Hall. This 17 ac neighborhood park/gym provides ball fields, basketball courts, soccer fields, teen room/gym/fitness room, and a kitchen facility.
Sheridan Park 300 South Sheridan Corona, CA 92882 City of Corona	This park is approximately 500 ft south of SR-91, just east of Grand Boulevard in the City of Corona. This 3 ac neighborhood park provides active recreation such as ball fields, basketball courts, horseshoes, barbeques, covered shelter, play equipment, and picnic facilities.
City Park 930 East Sixth Street Corona, CA 92882 City of Corona	This park is approximately 950 ft south of SR-91, just east of East Grand Boulevard in the City of Corona. This 17 ac neighborhood park provides ball fields, volleyball courts, basketball courts, soccer fields, swimming pool, horseshoes, a band shell, a skate park, barbeques, covered shelter, play equipment, and picnic facilities.
Prado Regional Park 16700 South Euclid Avenue Chino, CA 91708 San Bernardino County Parks Department	This recreation area covers approximately 2,000 ac in San Bernardino and Riverside Counties and is approximately 0.3 mi north of SR-91 and east of SR-71. The southern party of the Prado Regional Park facing SR-91 includes Prado Dam and the Prado Dam Spillway. Those areas are not open to the public and do not contain any recreation resources. The public recreation amenities at Prado Regional Park include fishing, hiking, horseback riding, wildlife viewing, picnicking, camping and RV spaces, golf, shooting, boating, playfields, an archery range, horseshoe pits, a dog training facility, and a multipurpose room.

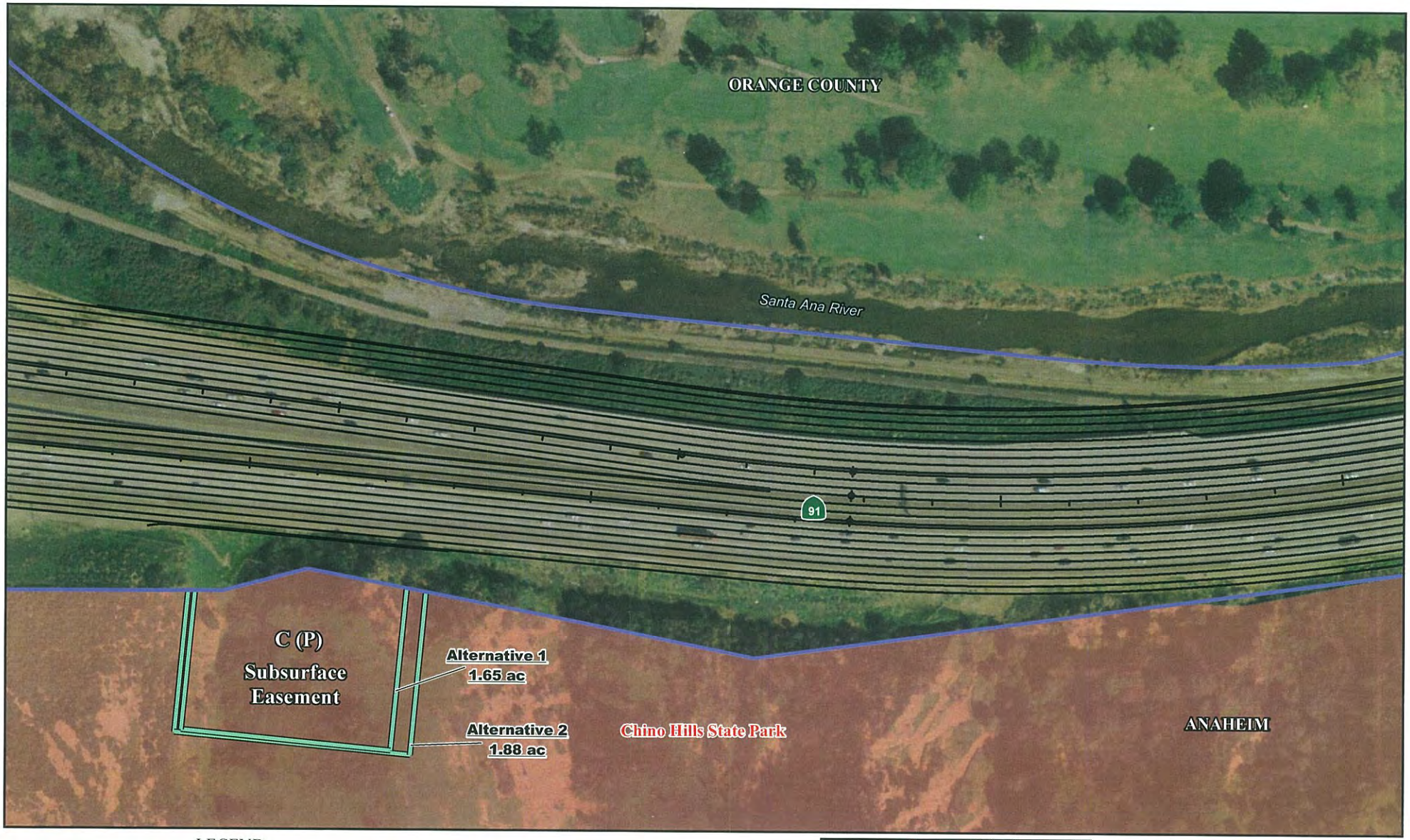
Table 3.1.5 Parks and Recreation Resources[1]

Name, Address, and Owner/Operator of Property	Description of Facilities and Resources on Property
Green River Golf Club 5215 Green River Road Corona, CA 92880 Orange County Flood Control District (Parts of the golf club property are located in Orange, Riverside, and San Bernardino Counties.)	This golf club is open to the public. The Santa Ana River winds through golf courses that are surrounded by mature native oak, sycamore, and cottonwood trees. Prior to initiation of the Corps project to relocate the Santa Ana River, this publicly owned golf club provided two 18-hole golf courses (36 holes total) and a clubhouse on the north side of SR-91 at Green River Road. As of January 2010, several holes on the golf course were closed and the vegetation removed as part of the Corps project. Refer to Section 2.2.3, Other Major Projects, for additional discussion regarding the Corps' projects in this area.
Mountain View Country Club 2121 Mountain View Drive Corona, CA 92882 Mountain View Country Club	This privately owned country club is immediately south of SR-91, just west of Serfas Club Drive. The country club includes an 18-hole golf course that is open to the public.
Cresta Verde Golf Course 1295 Cresta Road Corona, CA 92879 Cresta Verde Golf Club	This privately owned golf course is immediately east of I-15, just north of SR-91. The golf club includes an 18-hole golf course that is open to the public.

Sources: Thomas Bros. Map Reference: Orange County Street Guide (2006), San Bernardino & Riverside Counties Street Guide (2007), field visits in 2008 and 2009, and "Big Gift Swells O.C. Park Acreage" (*Los Angeles Times*, June 30, 2010).

[1] The locations of these properties are shown on Figure B.1 in Appendix B, Resources Evaluated Relative to the Requirements of Sections 4(f) and 6(f).

ac = acre/acres
Anza Trail = Juan Batista de Anza National Historic Trail
APE = Area of Potential Effects
CFR = Code of Federal Regulations
CHSP = Chino Hills State Park
CIP = Corridor Improvement Project
Corps = United States Army Corps of Engineers
DOI = United States Department of the Interior
ft = foot/feet
L&WCF Act = Land and Water Conservation Fund Act
mi = mile/miles
National Register = National Register of Historic Places
NNL = National Natural Landmark
NPS = National Park Service
OC = Orange County
RCTC = Riverside County Transportation Commission
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
State Parks = California State Parks



LEGEND

- Project Improvements
- Easement
- Existing State Right-of-Way
- Chino Hills State Park
- 0.48 acre of Permanent Use

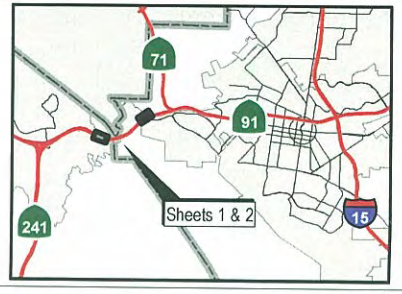
C - Permanent easement for subsurface tiebacks for the tieback wall

F - Permanent aerial easement for the new bridge

IP - Occurs in Initial Phase

UP - Occurs in the Ultimate Project

0 100 200
FEET



SOURCE: Air Photo USA (2008), County of Orange (2008), PB (2008).

I:\PAZ0701\GIS\4f\ChinoHillsStatePark_PCEs1.mxd (7/5/2012)

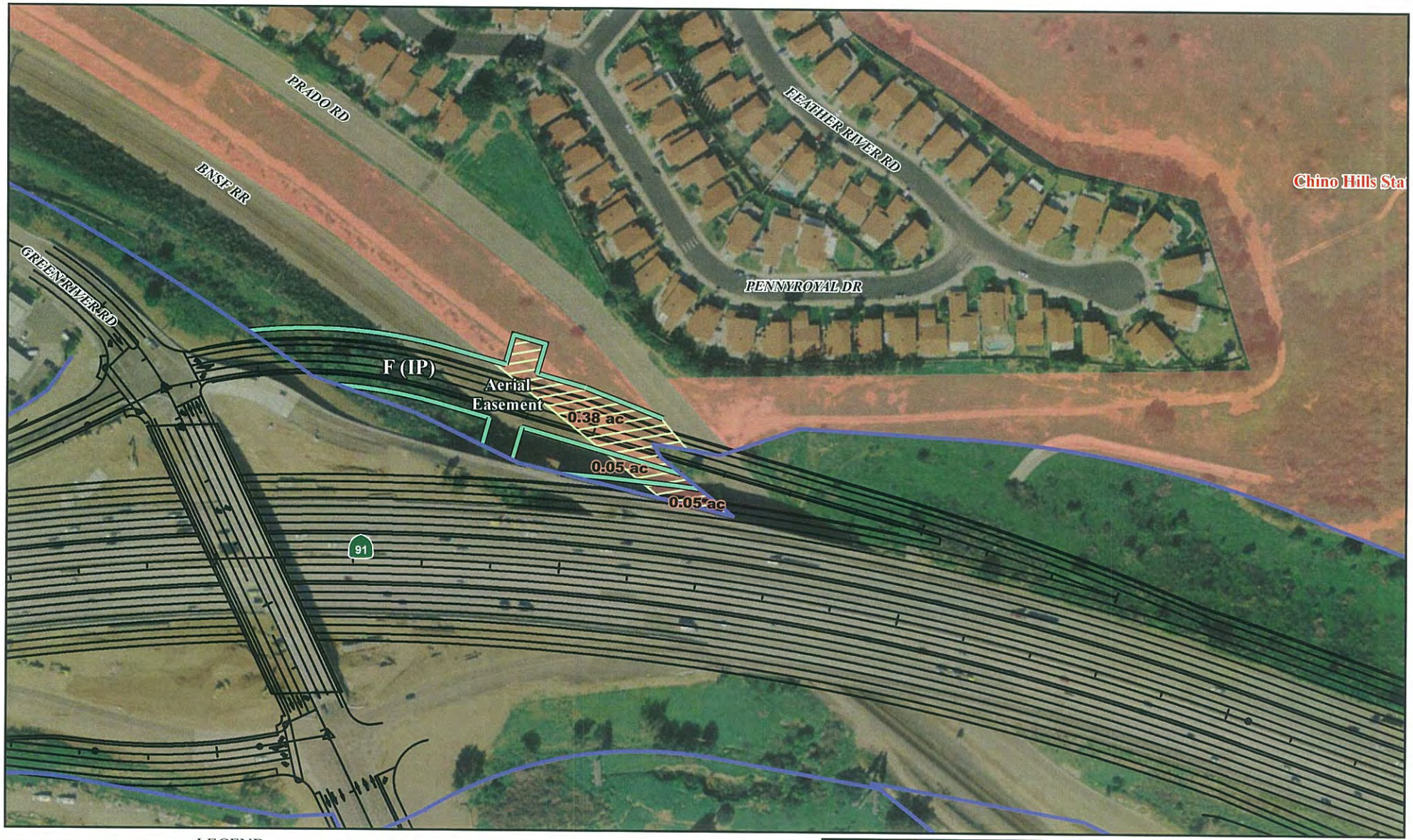
FIGURE 3.1.5
Sheet 1 of 2

SR-91 Corridor Improvement Project

Permanent Easements and Use at Chino Hills State Park

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- Project Improvements
- Easement
- Existing State Right-of-Way
- Chino Hills State Park
- 0.48 acre of Permanent Use

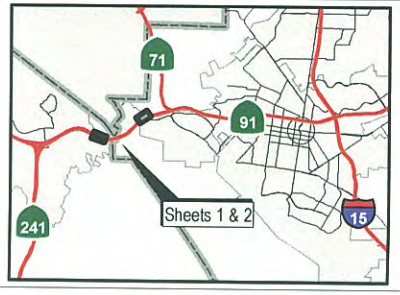
C - Permanent easement for subsurface tiebacks for the tieback wall

F - Permanent aerial easement for the new bridge

IP - Occurs in Initial Phase

UP - Occurs in the Ultimate Project

0 100 200
FEET



SOURCE: Air Photo USA (2008), County of Orange (2008), PB (2008).

I:\PAZ0701\GIS\4f\ChinoHillsStatePark_PCEs2.mxd (7/5/2012)

FIGURE 3.1.5
Sheet 2 of 2

SR-91 Corridor Improvement Project

Permanent Easements and Use at Chino Hills State Park

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

easement. This off-ramp must be high enough to cross the BNSF railroad tracks, an unpaved park maintenance road, and Prado Road. As a result, the off-ramp would be an elevated structure or bridge. Part of that elevated structure would cross CHSP property. Specifically, there is a need to place two columns and their footings on park property to support the elevated off-ramp structure. The footings for two columns supporting that bridge structure would be located within the 0.48 ac of land within the boundary of CHSP. The 0.48 ac would be at ground level below the aerial easement.

The two columns would be placed to avoid effects to the BNSF tracks, the unpaved park maintenance road, and Prado Road. In addition, the columns would not affect the trailhead located immediately to the north of the area or the unpaved trail that extends east and north from that trailhead along the unpaved maintenance road into CHSP. Users of that trail in CHSP would have very close views of a large retaining wall on the north side of SR-91 under Alternatives 1 and 2.

Additionally, as shown on Figure 3.1-5, the Alternative 1 and 2 Ultimate Projects would each result in one permanent subsurface easement in CHSP to accommodate subsurface tiebacks on the south side of SR-91. A 1.65 ac subsurface easement is required under the Alternative 1 Ultimate Project, and a 1.88 ac subsurface easement is required under the Alternative 2 Ultimate Project. No project activities associated with these subsurface easements would occur on the surface. Therefore, any permanent subsurface easement would not affect the surface land in those areas or the ownership of the land.

Temporary Construction Easements

Six TCEs will be necessary in the Alternative 1 and 2 Ultimate Projects in CHSP to access and modify drainages and utility facilities in the SR-91 right-of-way and another TCE will be required in and around the BNSF railroad right-of-way in the initial Phases of Alternatives 1 and 2 to accommodate construction of the Green River Road westbound exit ramp bridge over the railroad tracks as shown on Figure B.5 in Appendix B. No permanent project features will be constructed in CHSP within the boundaries of the TCEs. Because the areas used for TCEs are currently vegetated in native and mixed native/nonnative plant materials, those areas would be revegetated at the completion of construction. The revegetation would be conducted in consultation with State Parks to ensure the compatibility of the new vegetation with the existing vegetation in the adjacent areas. The intent is to ensure that the land used as TCEs is returned to the original property owners with similar functions and values as the land had prior to its use as a TCE.

Other Potential Effects on CHSP

The Build Alternatives were evaluated to assess whether the proximity of the transportation facility under those Alternatives will result in indirect impacts on CHSP and the resources in CHSP. As discussed below, it was determined that Build Alternatives will result in some indirect impacts on CHSP. Measures to address those potential project effects are also discussed in the following sections:

- **Visual and Aesthetics:** As discussed later in Section 3.7, Visual/Aesthetics, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) provided by Alternatives 1 and 2 will be visible along SR-91 from SR-71 to I-15, and along I-15 from SR-91 to Ontario Avenue. As a result, viewers on the north and south sides of SR-91 in CHSP and the City of Corona and along I-15 south of SR-91 will have views of these improvements.

  There is a trail in CHSP in the vicinity of the Green River Road westbound off-ramp. Users of that trail have views of existing SR-91 and will have views of the construction of the Build Alternatives and the improvements provided by the Build Alternatives. Some other areas in CHSP are at or above the grade of SR-91 and potentially have views of the freeway mainline, ramps, overcrossings, undercrossings, and other infrastructure features. In the long term, the views from the parts of CHSP adjacent to SR-91 will include views of the wider mainline cross section and the modified ramp, overcrossing, and undercrossing structures. Measures V-1 through V-4 (in Section 3.7) and PR-2 (in Section 3.1, Land Use), described later in Section 3.1.4.3, will substantially address the visual effects of the Build Alternatives, including effects at CHSP. Those measures include aesthetic treatments on structures, highway planting, and light, glare, and graffiti control.

- **Access:** Vehicular access to CHSP is currently available at the park entrances at Rimcrest Drive and Bane Canyon Road on the north side of CHSP, well outside the SR-91 project study area. Pedestrians and bicyclists can access CHSP at those entrances and several trailheads leading to trails in the park, including a trailhead in CHSP off Prado Road just north of Green River Road. That unpaved trail extends east and north from the trailhead, along a maintenance road, into CHSP. There is currently no vehicle parking on Prado Road or Green River Road in the vicinity of this trailhead.

The Build Alternatives will not affect the vehicular access to CHSP on the north side of CHSP and will not affect the trail or the trailhead in the vicinity of Green River Road. The Build Alternatives include improvements at the trailhead and the provision of approximately 30 vehicle parking spaces near the trailhead. Measure PR-1 (described later in Section 3.1.4.3) will improve trail connectivity in this area.

- **Ecological Impacts:** As discussed in Section 3.17, Natural Communities, the areas in CHSP adjacent to SR-91 include chaparral, coastal sage scrub (CSS), nonnative grasslands, and ruderal/ornamental plant materials. The Build Alternatives will require the use of 2.0 ac in CHSP for 7 TCEs during construction. When the areas used for those TCEs are no longer needed for project construction, they will be revegetated using plant species identified in consultation with State Parks and restored to a condition as good as or better than before those areas were used for TCEs.

  Although the project construction activities and continued operation of SR-91 adjacent to CHSP could result in adverse impacts related to invasive species in the parts of CHSP adjacent to SR-91, measure IS-1 (in Section 3.22, Invasive Species) is included in the project to minimize that potential impact.

- **Noise:** There are limited user amenities or noise sensitive receptors in the parts of CHSP adjacent to SR-91. Project-related construction noise is addressed by Measures N-2 and N-3 (in Section 3.15, Noise). In addition, Measure PR 3, as described later in Section 1.3.4.3, limits construction hours in Coal Canyon.

  Noise levels in this area will not be appreciably affected by the operation of the Build Alternatives, and very few park patrons are expected to be exposed to those forecasted increases in noise levels. Also, RCTC will develop a stand-alone project to construct barriers on the south and north sides of SR-91 to shield headlight glare and freeway noise at Coal Canyon.

- **Air Quality:** As discussed in Section 3.14, Air Quality, the construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of CHSP, including equipment emissions and dust. Measures SC-1 through SC-5 (in Section 3.14), which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives on CHSP.

  In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards.

Therefore, the Build Alternatives will not result in long-term adverse air quality impacts at CHSP.

- **Other:** State Parks identified a concern regarding the potential for fires on the freeway, which result from vehicle fires or cigarettes thrown from vehicles, spreading into CHSP. Measure UES-4 (in Section 3.5, Utilities/Emergency Services) specifically addresses the potential risk of fires spreading from the freeway right-of-way into CHSP through the provision of barriers along SR-91 adjacent to CHSP. Measures NC-4 (in Section 3.17) and UES-3 (in Section 3.5) specifically focus on construction-related fire prevention activities during the active fire season.

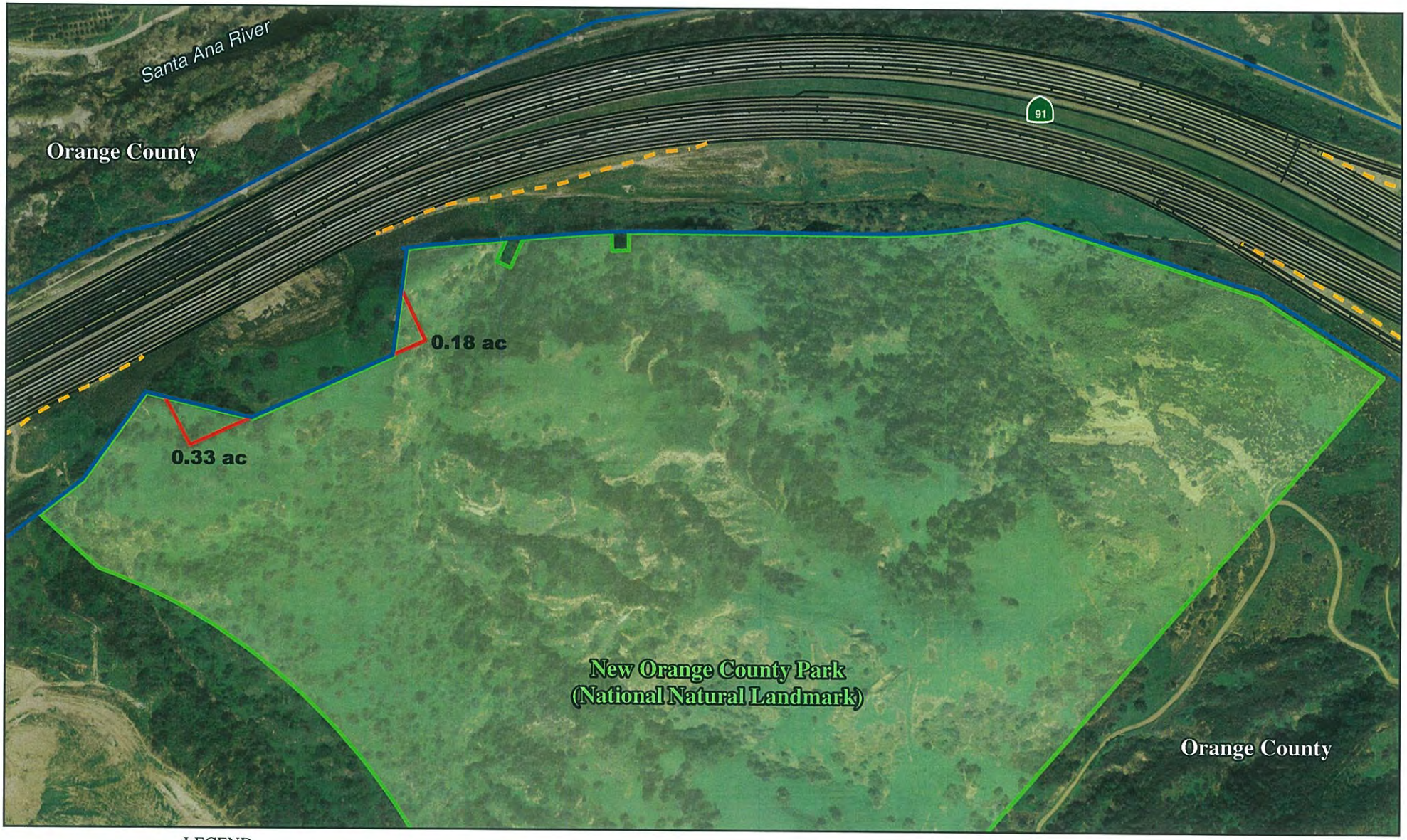
New Orange County Park (National Natural Landmark)

Permanent Subsurface Easements

The Alternative 1 and 2 Ultimate Projects would result in two permanent subsurface easements in the New OC Park (NNL) to accommodate subsurface tiebacks as shown on Figures 3.1-6 and 3.1-7, respectively, and summarized later in Table 3.1.7. The project construction at these locations would be the installation of underground tiebacks from within the freeway right-of-way, south into the easement areas, with no surface disturbance within the New OC Park (NNL). As shown on Figures 3.1-6 and 3.1-7, at the New OC Park (NNL), there would be a total 0.5 ac for the two easements in the Alternative 1 Ultimate Project and a total 2.2 ac for the two easements in the Alternative 2 Ultimate Project on the south side of SR-91. These permanent subsurface easements would not affect the surface land in those areas or the ownership of the land, and no construction, structures, or other activities would occur at the ground surface at these locations. As a result, these permanent subsurface easements for the Alternative 1 and 2 Ultimate Projects would not result in adverse impacts to the New OC Park (NNL).

Other Potential Effects on the New OC Park (NNL)

Alternatives 1 and 2 were evaluated to assess whether the proximity of the transportation facility under those Alternatives will result in indirect impacts on the New OC Park (NNL) and the resources in that park. As discussed below, it was determined that the Build Alternatives will result in some indirect impacts on this park. Measures to address those potential project effects are also discussed in the following sections:



LEGEND

- Project Improvements
- Grading Limits
- Existing State Right-of-Way
- Permanent Subsurface Easement
- New Orange County Park (National Natural Landmark)

*No permanent right-of-way acquisition is needed for Alternative 1 at this park.

N

0 200 400
FEET

SOURCE: AirPhoto USA (2008), RBF (2010)

I:\PAZ0701\GIS\4f\Alt1_NNL.mxd (7/2/2012)

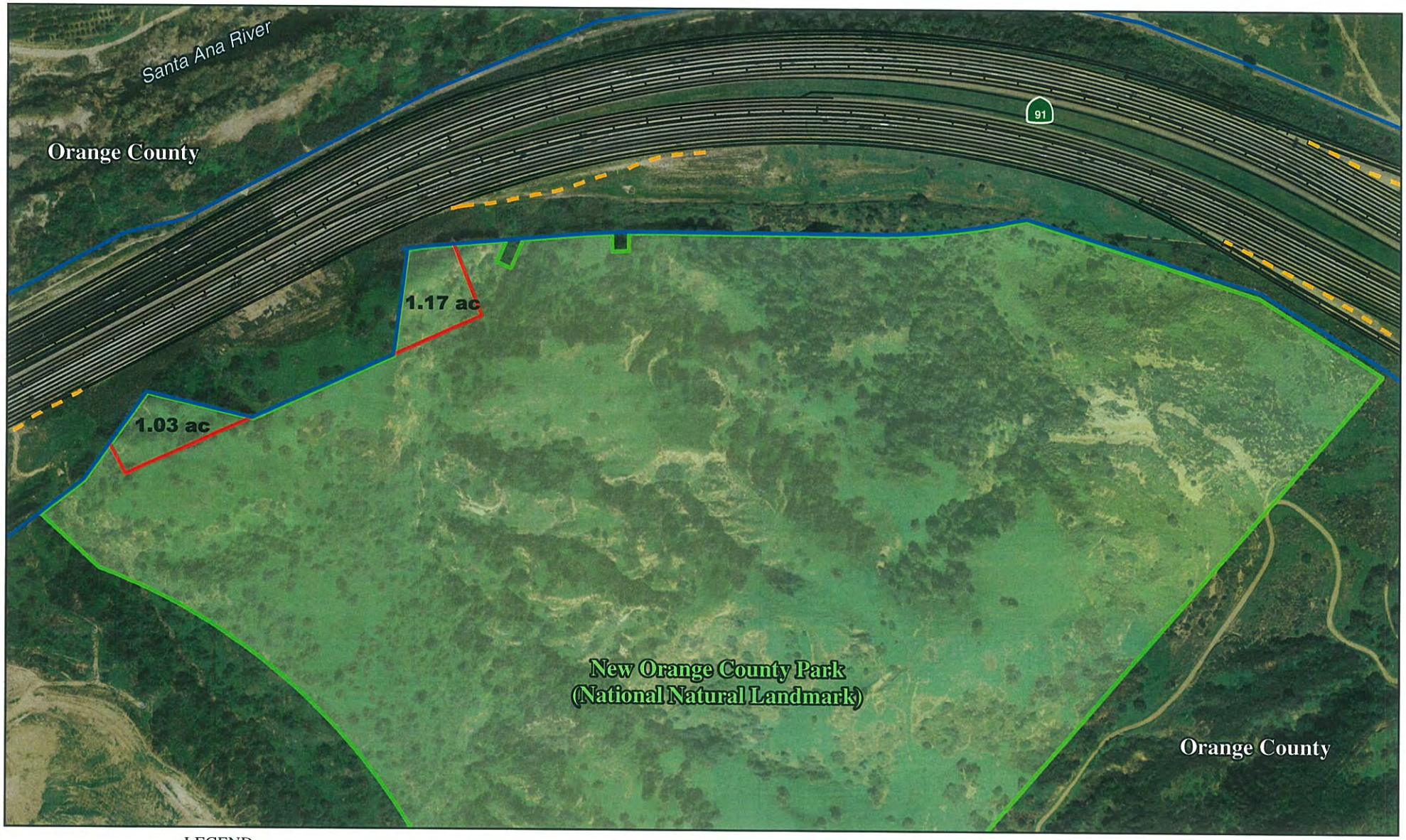
FIGURE 3.1-6

SR-91 Corridor Improvement Project

Alternative 1 at the New Orange County Park (National Natural Landmark)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- Project Improvements
- Grading Limits
- Existing State Right-of-Way
- Permanent Subsurface Easement
- New Orange County Park (National Natural Landmark)

*No permanent right-of-way acquisition is needed for Alternative 2 (LPA) at this park.

N

0 200 400
FEET

SOURCE: AirPhoto USA (2008), RBF (2010)

I:\PAZ0701\GIS\4f\Alt2_NNL.mxd (7/2/2012)

FIGURE 3.1-7

SR-91 Corridor Improvement Project

Alternative 2 at the New Orange County Park (National Natural Landmark)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

- **Visual and Aesthetics:** Public access to the New OC Park (NNL) is currently very limited. It is possible viewers in this park could see construction equipment and activities in the freeway right-of-way during construction of Alternatives 1 and 2.

  In the long term, the views from the parts of this park adjacent to SR-91 will include the wider mainline cross section and modified ramp, overcrossing, and undercrossing structures. However, those views will not be substantially different from existing views of the freeway facilities from those areas. Measures V-1 through V-4 (in Section 3.7) will address some of the visual effects of the Build Alternatives on the New OC Park (NNL).

- **Access:** Public access to the New OC Park (NNL) is currently very limited and there is no direct access to this park from SR-91. The permanent subsurface easements in the New OC Park (NNL) will result in no changes to the land surface and, because there is no access to the park from SR-91 in that area, the Build Alternatives will not result in changes to or impacts on access to this park in the future.

- **Ecological Impacts:** The areas in the New OC Park (NNL) adjacent to SR-91 include both native and nonnative plant species. The construction of the Build Alternatives will not result in the disturbance of any land in the New OC Park (NNL) because the subsurface easements will not require any construction activities at the surface in this park.

  Although the construction activities in the freeway right-of-way adjacent to the New OC Park (NNL) and the continued operation of SR-91 adjacent to the park could result in adverse impacts related to invasive species, measure IS-1 (in Section 3.22) is included in the project to minimize that potential impact.

- **Noise:** The New OC Park (NNL) is adjacent to SR-91, and noise generated on that existing facility can be heard within the park. As a result, park visitors will experience construction-related noise if the Build Alternatives are under construction at a time when park visitors are in the northern part of the New OC Park (NNL). However, construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. Measures N-2 and N-3 (in Section 3.15) will address construction noise.

  Future noise levels in this area under the Build Alternatives are not forecast to increase noticeably from existing conditions. No modeling of future noise levels

was conducted within the boundary of the New OC Park (NNL). As shown in Table 3.15.13 in Section 3.15, projected traffic noise levels on the north side of SR-91 north of the Green River Road off-ramp will increase by 1 dBA with the Build Alternatives compared to the existing and future No Build conditions. That modeled receptor is closer to SR-91 and the off-ramp than the boundary of the New OC Park (NNL), which is on the south side of SR-91. As a result, the change in noise levels at the New OC Park (NNL) will be 1 dBA or less compared to existing and future No Build conditions. Therefore, the Build Alternatives will not result in long-term noise impacts at the New OC Park (NNL).

- **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of the New OC Park (NNL), including equipment emissions and dust. Measures SC-1 through SC-5 (in Section 3.14), which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives at the New OC Park (NNL).

  In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Build Alternatives will not result in long-term adverse impacts related to air quality at the New OC Park (NNL).

Santa Ana River Trail/Bike Lane

Temporary Detours and Permanent Relocation of a Segment of the Santa Ana River Trail/Bike Lane

The construction of the Initial Phases of Alternatives 1 and 2 would potentially require temporary detours of the Santa Ana River Trail/Bike Lane. The Initial Phases of Alternatives 1 and 2 would also permanently relocate an approximately 200 ft long segment of the trail in the City of Corona farther north as shown on Figures B.2 and B.3 in Appendix B, and include the construction of an approximately 30-space surface parking lot in that area accessible to the trail. The relocation of the 200 ft long segment of the Trail/Bike Lane would not change the designation of the Trail/Bike Lane as a Class I paved bicycle path.

Other Potential Effects on the Santa Ana River Trail/Bike Lane

Alternatives 1 and 2 were evaluated to assess whether the proximity of the transportation facility under those Alternatives will result in indirect impacts on the Santa Ana River Trail/Bike Lane. As discussed below, it was determined that the Build Alternatives will result in some indirect impacts on this Trail/Bike Lane.

Measures to address those potential project effects are also discussed in the following sections. The Santa Ana River Trail/Bike Lane is on the north side of and parallels SR-91, and part of it is in the existing right-of-way for SR-91.

- **Visual and Aesthetics:** Users of the Santa Ana River Trail/Bike Lane currently have views of segments of SR-91, overpasses, ramps, and other infrastructure features. Some Trail/Bike Lane users may see construction activities along SR-91 during construction of the Build Alternatives. However, because Trail/Bike Lane users are transient, they will see views of short-term construction and the project facilities in the long-term for short periods of time as they travel through the area. Measures V-1, V-2, and V-4 (in Section 3.7) will provide aesthetic treatments on project structures, highway planting, and light, glare, and graffiti control, which will improve views for the Trail/Bike Lane users in the vicinity of the project segment of SR-91.
- **Access:** The Santa Ana River Trail/Bike Lane can be accessed by pedestrians and bicyclists at a large number of locations along its alignment. During construction, the Build Alternatives will potentially result in temporary closures of segments of the Trail/Bike Lane for limited periods of time (hours, days). Detours will be provided to ensure the continuity of the River Trail/Bike Lane during construction. Measure T-1 (in Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities) includes coordination of such closures with the appropriate agency and provision of signing before each detour to inform Trail/Bike Lane users of the temporary detours.

  An approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane will be permanently relocated to the north by the Build Alternatives, which will provide for continuity of the Trail/Bike Lane in that area in the long term.
- **Ecological Impacts:** In the vicinity of the project, the Santa Ana River Trail/Bike Lane is a paved facility and is not vegetated. The Build Alternatives will result in the relocation of an approximately 200 ft long segment of the Trail/Bike Lane into the right-of-way for Green River Road. Because the Trail/Bike Lane will be relocated to within an existing road, it will not impact plant communities.

  The construction activities adjacent to the Santa Ana River Trail/Bike Lane and the continued operation of SR-91 adjacent to the Trail/Bike Lane could result in adverse impacts related to invasive species in the areas around the Trail/Bike Lane. Measure IS-1 (in Section 3.22) is included in the project to address the

potential for invasive species along the Santa Ana River Trail/Bike Lane as a result of the Build Alternatives.

- **Noise:** Some segments of the Santa Ana River Trail/Bike Lane are close to SR-91 and currently hear noise generated on that facility. As a result, Trail/Bike Lane users will experience construction-related noise as they pass active construction areas. However, construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. In addition, Trail/Bike Lane users are transient and will be on segments of the Trail/Bike Lane adjacent to active construction areas for only short periods of time. Measures N-2 and N-3 (in Section 3.15) will address construction noise.

  The existing Trail/Bike Lane is within or very close to the right-of-way for SR-91. As a result, Trail/Bike Lane users along that segment of SR-91 currently experience freeway traffic noise. As discussed in Section 3.15, future noise levels in this area under the Build Alternatives are not forecast to noticeably increase from existing conditions. In addition, as noted above, Trail/Bike Lane users are transient and will be on the segments of the Trail/Bike Lane adjacent to SR-91 for only short periods of time. Therefore, Trail/Bike Lane users will not be adversely affected by operations noise under the Build Alternatives in the long term.

- **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of the Santa Ana River Trail/Bike Lane, including equipment emissions and dust. Measures SC-1 through SC-5 (in Section 3.14), which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives on the Santa Ana River Trail/Bike Lane.

  In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, PM2.5, and PM10 standards. Therefore, the Build Alternatives will not result in long-term adverse impacts related to air quality at the Santa Ana River Trail/Bike Lane.

Featherly Regional Park

Temporary Construction Easements

A total of three TCEs will be necessary in Featherly Regional Park to access and modify drainages (two TCEs) and utility facilities (one TCE) in the SR-91 right-of-way as shown on Figure B.4 in Appendix B. No permanent project features will be constructed in Featherly Regional Park within the boundaries of the TCEs needed

during construction of the Initial Phases of Alternatives 1 and 2. Because the areas used for TCEs are currently vegetated in native and mixed native/nonnative plant materials, those areas would be revegetated at the completion of construction. The revegetation would be conducted in consultation with OC Parks to ensure the compatibility of the new vegetation with the existing vegetation in the adjacent areas. The intent is to ensure that the land used as TCEs is returned to the original property owners with similar functions and values as the land had prior to its use as a TCE.

Other Potential Effects on Featherly Regional Park

Alternatives 1 and 2 were evaluated to assess whether the proximity of the transportation facility under those alternatives will result in indirect impacts on Featherly Regional Park and the resources in that park. As discussed below, it was determined that the Build Alternatives will result in some indirect impacts on this park. Measures to address those potential project effects are also discussed in the following sections.

- **Visual and Aesthetics:** Featherly Regional Park is adjacent to the north side of SR-91. There is a substantial change in grade from the freeway to the park, with most of the park at a substantially lower grade than the freeway. In addition, the interchange ramps for the SR-241/SR-91 interchange are immediately adjacent to and above Featherly Regional Park and are visible from many areas in the park. Because SR-91 is above the grade of the park, it is unlikely that park visitors will notice any substantial change in views of that area during either construction or operation of the Build Alternatives.
- **Access:** Vehicular access to Featherly Regional Park is currently available via Gypsum Canyon Road. Pedestrians and bicyclists can access the park at the main entrance on Gypsum Canyon Road or via the Santa Ana River Trail/Bike Lane.

  During construction, the ramps to/from SR-91 at Gypsum Canyon Road may be closed temporarily and/or the number of lanes on SR-91 and/or the Gypsum Canyon Road ramps may be reduced temporarily, which could result in delays or longer travel times for visitors traveling to/from Featherly Regional Park. However, alternative access will be available by exiting SR-91 at Weir Canyon Road, traveling north on Weir Canyon Road to La Palma Avenue, traveling east on La Palma Avenue to Gypsum Canyon Road, and then traveling south on Gypsum Canyon Road to the park entrance.

  Featherly Regional Park is also accessible from the Santa Ana River Trail/Bike Lane. As described earlier, there may be temporary detours on the Santa Ana

River Trail/Bike Lane during construction, but park visitors would still be able to access Featherly Regional Park from the Trail/Bike Lane.

Measure T-1 (in Section 3.6) includes coordination of freeway ramp closures and temporary Trail/Bike Lane detours with the appropriate agencies and provision of signing before each closure/detour to inform travelers destined to/from Featherly Regional Park of the ramp closures and temporary detours on the Trail/Bike Lane.

In the long term, the Build Alternatives will not impact access to Featherly Regional Park.

- **Ecological Impacts:** The areas in Featherly Regional Park adjacent to SR-91 include riparian forest, CSS, and nonnative grasslands. The Build Alternatives will require the use of 0.2 ac in Featherly Regional Park for three TCEs during construction. When the areas used for those TCEs are no longer needed for project construction, they will be revegetated using plant species identified in consultation with the County of Orange and restored to a condition as good as or better than before those areas were used for TCEs.

  Although construction activities and continued operation of SR-91 adjacent to the park could result in adverse impacts related to invasive species, measure IS-1 (in Section 3.22) is included in the project to minimize that potential impact.

- **Noise:** Featherly Regional Park is adjacent to SR-91, and park visitors currently hear noise generated on that facility. As a result, during the construction of Alternatives 1 and 2, park visitors will experience construction-related noise. However, construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. Measures N-2 and N-3 (in Section 3.15) will address project-related construction noise at Featherly Regional Park.

  Because the Park is immediately adjacent to SR-91, visitors currently experience freeway traffic noise. Future noise levels in this area under the Build Alternatives are not forecast to increase noticeably from existing conditions. As shown on Table 3.15.13 in Section 3.15, projected traffic noise levels on the north side of SR-91 adjacent to Featherly Regional Park will increase by 1 dBA with the Build Alternatives, compared to the existing and future No Build conditions. That level of change will not be perceptible to most park visitors. As a result, the change in noise levels at Featherly Regional Park will not result in long-term noise impacts at this park.

- **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of Featherly Regional Park including equipment emissions and dust. Measures SC-1 through SC-5 (in Section 3.14), which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives on Featherly Regional Park.

  In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Build Alternatives will not result in long-term adverse impacts related to air quality at Featherly Regional Park.

El Cerrito Sports Park

Temporary Construction Easements

Four TCEs will be necessary in El Cerrito Sports Park to access and modify drainages in the SR-91 right-of-way during construction of the Initial Phases of Alternatives 1 and 2 as shown on Figure B.7 in Appendix B. No permanent project features will be constructed in El Cerrito Sports Park within the boundaries of the TCEs. Because the areas used for TCEs are currently vegetated in native and mixed native/nonnative plant materials, those areas would be revegetated at the completion of construction. The revegetation would be conducted in consultation with the City of Corona to ensure the compatibility of the new vegetation with the existing vegetation in the adjacent areas. The intent is to ensure that the land used as TCEs is returned to the original property owners with similar functions and values as the land had prior to its use as a TCE.

Other Potential Effects on El Cerrito Sports Regional Park

Alternatives 1 and 2 were evaluated to assess whether the proximity of the transportation facility under those alternatives will result in indirect impacts on El Cerrito Sports Park and the resources in that park. As discussed below, it was determined that the Build Alternatives will result in some indirect impacts on this park. Measures to address those potential project effects are also discussed in the following sections:

- **Visual and Aesthetics:** El Cerrito Sports Park includes a wide range of sport facilities and landscaping. I-15 is visible from within the park. As a result, park visitors will have views of project construction activities and equipment. The segment of I-15 adjacent to the park will be widened in the median of the existing freeway. As a result, park visitors will have views of the widened freeway cross-

section in the long term. However, because this is an active sports park and visual quality is not a primary feature or value of the park, the short-term views during construction and the long-term views of the widened freeway will not substantially change the visitor experience at this park.

- **Access:** Vehicle access to this park is provided via Rudell Road on the northeast side of the park. Pedestrian access to this park is via Rudell Road and El Cerrito Road. There is no direct access to this park from I-15. The construction and operation of the Build Alternatives will not result in any effects on the local streets that provide access to El Cerrito Sports Park.
- **Ecological Impacts:** The areas in El Cerrito Sports Park adjacent to I-15 are currently landscaped as part of the overall landscaping in the park. The Build Alternatives will require the use of 0.19 ac in El Cerrito Sports Park for four TCEs during construction. When the areas used for those TCEs are no longer needed for project construction, they will be revegetated using plant species identified in consultation with the City of Corona and restored to a condition as good as or better than before those areas were used for TCES.

  Although construction activities and continued operation of I-15 adjacent to the park could result in adverse impacts related to invasive species, measure IS-1 (in Section 3.22) is included in the project to minimize that potential impact.
- **Noise:** El Cerrito Sports Park is adjacent to I-15, and park visitors currently hear noise generated on that facility. As a result, park visitors will experience construction-related noise. However, construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. Measures N-2 and N-3 (in Section 3.15) will address project-related construction noise at El Cerrito Sports Park.

  Because the park is immediately adjacent to I-15, visitors currently experience freeway traffic noise. Future noise levels in this area under the Build Alternatives are not forecast to increase noticeably from existing conditions and, therefore, park visitors will not be adversely affected by facility operations noise under the Build Alternatives in the long term.
- **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of El Cerrito Sports Park, including equipment emissions and dust. Measures SC-1 through SC-5, which

include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives on El Cerrito Sports Park.

In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Build Alternatives will not result in long-term adverse impacts related to air quality at El Cerrito Sports Park.

Griffin Park

Temporary Construction Easement

One TCE will be necessary in Griffin Park to access and modify drainages in the SR-91 right-of-way during construction of the Alternative 1 and 2 Ultimate Projects as shown on Figure B.6 in Appendix B. No permanent project features will be constructed in Griffin Park within the boundary of the TCE. Because the areas used for TCEs are currently vegetated in native and mixed native/nonnative plant materials, those areas would be revegetated at the completion of construction. The revegetation would be conducted in consultation with the City of Corona to ensure the compatibility of the new vegetation with the existing vegetation in the adjacent areas. The intent is to ensure that the land used as TCEs is returned to the original property owners with similar functions and values as the land had prior to its use as a TCE.

Other Potential Effects on Griffin Park

Alternatives 1 and 2 were evaluated to assess whether the proximity of the transportation facility under those alternatives will result in indirect impacts on Griffin Park and the resources in that park. As discussed below, it was determined that the Build Alternatives will result in some indirect impacts on this park. Measures to address those potential project effects are also discussed in the following sections:

- **Visual and Aesthetics:** Griffin Park is slightly above the grade of SR-91 and visitors to the park currently have views of SR-91. During construction, viewers in Griffin Park will see construction equipment and activities along SR-91. In the long term, views from Griffin Park will include the wider mainline cross-section on SR-91. Measures V-1 through V-4 (in Section 3.7) will provide some aesthetic treatments to structures, highway planting, and light, glare, and graffiti control.
- **Access:** Vehicular and pedestrian access to Griffin Park is currently available via local streets, including Griffin Way, Bristol Way, and Hillsborough Way. There is no direct access to this park from SR-91. The construction and operation of the

Build Alternatives will not result in any effects on the local streets that provide access to Griffin Park.

- **Ecological Impacts:** The areas in Griffin Park adjacent to SR-91 include CSS and nonnative landscaping. The Alternative 1 and 2 Ultimate Projects will require the use of 0.47 ac in Griffin Park for one TCE during construction. When the area used for that TCE is no longer needed for project construction, it will be revegetated using plant species identified in consultation with the City of Corona and restored to a condition as good as or better than before it was used for a TCE.

  Although construction activities and continued operation of SR-91 adjacent to the park could result in adverse impacts related to invasive species, measure IS-1 (in Section 3.22) is included in the project to minimize that potential impact.

- **Noise:** Griffin Park is adjacent to SR-91, and park visitors currently hear noise generated on that facility. As a result, park visitors will experience construction-related noise. However, construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. Measures N-2 and N-3 (in Section 3.15) will address construction noise.

  Because the park is immediately adjacent to SR-91, visitors currently experience freeway traffic noise. Future noise levels in this area under the Build Alternatives are not forecast to increase noticeably from existing conditions and, therefore, park visitors will not be adversely affected by facility operations noise under the Build Alternatives in the long term.

- **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of Griffin Park, including equipment emissions and dust. Measures SC-1 through SC-5, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives on Griffin Park.

  In the long term, the Build Alternatives reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Build Alternatives will not result in long-term adverse impacts related to air quality in the vicinity of Griffin Park.

Potential Project Effects at Other Parks and Recreation Resources

In addition to the parks discussed in the preceding sections, the potential for project effects on the remaining resources described in Table 3.1.5 was evaluated as shown in Table 3.1.6.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed and no permanent or temporary impacts to park and recreational uses would occur.

3.1.3.3 Section 4(f), Section 6(f), and the Public Parks Protection Act of 1971

Section 4(f)

Section 6009(a) of SAFETEA-LU amended the Section 4(f) legislation at 23 USC 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f).

FHWA's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and 23 CFR 774.17.

In the first substantive revision to Section 4(f) since its enactment, SAFETEA-LU amended the law to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f). This revision provides that once the United States Department of Transportation (DOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to the Memorandums (Memorandums of Understanding [MOUs]) under SAFETEA-LU Sections 6004 and 6005, including determinations and approval of Section 4(f) evaluations as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
Civic Center Gym 815 West Sixth Street Corona, CA 92882	The Civic Center Gym/park is approximately 500 ft south of SR-91, between Buena Vista Avenue and Vicentia Avenue, at the City of Corona City Hall. **Use of Land:** The gym/park is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at the gym/park under Alternatives 1 and 2. **Visual/Aesthetics:** Because this gym/park is in a developed area, visual quality is not a primary feature or value of the gym/park, and visitors would not have close views of the project improvements. As a result, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in adverse visual/aesthetic impacts to this gym/park. **Access:** Pedestrian and vehicle access to this gym/park is provided from Buena Vista Avenue. There is no direct access to this gym/park from SR-91. Alternatives 1 and 2 will not result in temporary or permanent changes to the access to this gym/park. **Ecological:** The natural resources at this gym/park are the landscaped areas on the property. Because this gym/park is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result impacts to the landscaping on the gym/park property. **Noise:** At approximately 500 ft from SR-91, visitors to the outdoor areas at this gym/park may hear construction noise during construction of the Build Alternatives. Construction noise is not generally considered a substantial impact because of the temporary nature of, and the limited nighttime exposure of sensitive receptors to, that noise. Project-related construction noise is addressed by Measures N-2 and N-3 in Section 3.15, Noise. As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this gym/park, which is approximately 500 ft south of SR-91, would not be perceptible to gym/park visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 in Section 3.14, Air Quality, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. As a result, at approximately 500 ft south of SR-91, it is unlikely that gym/park visitors will experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at the Civic Center Gym.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
Sheridan Park 300 South Sheridan Corona, CA 92882	This park is approximately 500 ft south of SR-91, just east of Grand Boulevard in the City of Corona. **Use of Land:** This park is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this park under Alternatives 1 and 2. **Visual/Aesthetics:** Because this park is in a developed area, visual quality is not a primary feature or value of the park and visitors would not have close views of the project improvements. As a result, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in adverse visual/aesthetic impacts to this park. **Access:** Pedestrian and vehicle access to this park is provided from Third, Fourth, Merrill, and Sheridan Streets. There is no direct access to this park from SR-91. Alternatives 1 and 2 will not result in temporary or permanent changes to the access to this park. **Ecological:** The natural resources at this park are the landscaped areas on the property. Because this park is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the landscaping on the park property. **Noise:** At approximately 500 ft from SR-91, visitors to this park may hear construction noise during construction of the Build Alternatives. Construction noise is not generally considered a substantial impact because of the temporary nature of, and the limited nighttime exposure of sensitive receptors to, that noise. Project-related construction noise is addressed by Measures N-2 and N-3 (in Section 3.15, Noise). As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this park, which is approximately 500 ft south of SR-91, would not be perceptible to park visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 in Section 3.14, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. As a result, at approximately 500 ft south of SR-91, it is unlikely that park visitors will experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at Sheridan Park.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
City Park 930 East Sixth Street Corona, CA 92882	This park is approximately 950 ft south of SR-91, just east of East Grand Boulevard in the City of Corona. **Use of Land:** This park is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this park under Alternatives 1 and 2. **Visual/Aesthetics:** Because this park is in a developed area, visual quality is not a primary feature or value of the park, and visitors would not have close views of the project improvements. As a result, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in adverse visual/aesthetic impacts to this park. **Access:** Pedestrian and vehicle access to this park is provided from Sixth Street, Quarry Street, and Kress Court. There is no direct access to this park from SR-91. Alternatives 1 and 2 will not result in temporary or permanent changes to the access to this park. **Ecological:** The natural resources at this park are the landscaped areas on the property. Because this park is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the landscaping on the park property. **Noise:** At approximately 950 ft from SR-91, visitors are not expected to hear construction noise during construction of the Build Alternatives. As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this park, which is approximately 950 ft south of SR-91, would not be perceptible to park visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 in Section 3.14, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. As a result, at approximately 950 ft south of SR-91, it is not expected that park visitors will experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at City Park.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
Prado Regional Park 16700 South Euclid Avenue Chino, CA 91708	This park is approximately 0.3 mi north of SR-91 and east of SR-71. **Use of Land:** This park is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this park under Alternatives 1 and 2. **Visual/Aesthetics:** At approximately 0.3 mi north of SR-91, most parts of this park do not have views of SR-91. Areas that do have views have distant views of the existing SR-91 and SR-71 mainline facilities and the SR-91/SR-71 interchange as well as closer views of Prado Dam and the Prado Dam Spillway. Park visitors will have similar views of the widened SR-91 under the Initial Phases and Ultimate Projects for Alternatives 1 and 2. Because views of SR-91 from this park will not change substantially, Alternatives 1 and 2 will not result in adverse visual/aesthetic impacts to this park. **Access:** Pedestrian and vehicle access to this park is provided from Euclid Avenue (from SR-71). There is no direct access to this park from SR-91. Alternatives 1 and 2 will not result in temporary or permanent changes to the access to this park. **Ecological:** The natural resources at this park include native plants and animals. Because this park is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the biological resources on the park property. **Noise:** At approximately 0.3 mi north of SR-91, visitors are not expected to hear construction noise during construction of the Build Alternatives. As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this park, which is approximately 0.3 mi north of SR-91, would not be perceptible to park visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 in Section 3.14, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. As a result, at approximately 0.3 mi north of SR-91, it is not expected that park visitors will experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at Prado Regional Park.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
5215 Green River Road Corona, CA 92880	**Use of Land:** This golf club is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this golf club under Alternatives 1 and 2. **Visual/Aesthetics:** Visitors to the golf club currently have views of the mainline SR-91 facilities. Because the freeway is above the grade of the golf course, golfers will have limited views of construction activities on the freeway. Alternatives 1 and 2 each include a retaining wall on the north side of SR-91 facing the golf course. As a result, golfers will have views of the retaining wall that will be approximately 28 ft high and 1,900 ft long under Alternative 1 and approximately 40 ft high and 2,400 ft long under Alternative 2. This retaining wall will be designed with aesthetic features as described in Measures V-1 and V-2. Because visual quality is not a primary feature or value of the golf club, the changes in views from the golf course to the south will not result in adverse visual/aesthetic impacts to this golf club. **Access:** Pedestrian and vehicle access to this golf club is provided from the Santa Ana River Trail/Bike Lane and Green River Road, respectively. There is no direct access to this park from SR-91. During construction of the on- and off-ramps and the mainline improvements on SR-91, there may be temporary delays for travelers using Green River Road to cross under SR-91 going to and from the Green River Golf Club. The travel lanes on Green River Road may be temporarily narrowed or shifted to accommodate project construction activities. During those periods, temporary signing and, if needed, flag persons will be provided. Alternatives 1 and 2 will not result in permanent changes to the access to this golf club. The project construction at Green River Road will not temporarily or permanently affect the segment of the Santa Ana River Trail/Bike Lane in that area. **Ecological:** The natural resources at this golf club include the landscaped greens, some native plants, and the Santa Ana River. Because this golf club is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the biological resources on that property. **Noise:** Visitors to this golf club will hear construction noise during construction of the Build Alternatives. Construction noise is not generally considered a substantial impact because of the temporary nature of, and the limited nighttime exposure of sensitive receptors to, that noise. Project-related construction noise is addressed by Measures N-2 and N-3 (in Section 3.15, Noise). As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this golf club would not be perceptible to golf club visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 (in Section 3.14), which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. Even with those measures, visitors to this golf club may experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
	and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at the Green River Golf Club.
Mountain View Country Club 2121 Mountain View Drive Corona, CA 92882	This country club is immediately south of SR-91, just west of Serfas Club Drive. **Use of Land:** This county club is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this country club under Alternatives 1 and 2. **Visual/Aesthetics:** Golfers at the west end of the golf course currently have views of the SR-91 mainline and Serfas Club Drive off-ramp, which are above the grade of the golf course. Trees and structures currently shield some views of the freeway facilities from the golf course. Because the freeway is above the grade of the golf course, golfers will have limited views of construction activities on the freeway and will have views of the improvements in Alternatives 1 and 2 similar to the existing views of SR-91 from the golf course property. Because visual quality is not a primary feature or value of the golf course, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in adverse visual/aesthetics impacts to this golf course. Because visual quality is not a primary feature or value of the county club, the changes in views to the north will not result in adverse visual/aesthetic impacts to this county club. **Access:** Pedestrian and vehicle access to this country club is provided from both Serfas Club Drive (to Pine Crest Drive to the country club) and Paseo Grande (to Pine Crest Drive to the country club). There is no direct access to this park from SR-91. Alternatives 1 and 2 will not result in permanent changes to the access to this country club. During construction on the SR-91 mainline and in the vicinity of the on- and off-ramps as Serfas Club Drive, there may be temporary delays for travelers using Serfas Club Drive to access the county club. The travel lanes on Serfas Club Drive may be temporarily narrowed or shifted to accommodate project construction activities. During those periods, temporary signing and, if needed, flag persons, will be provided. **Ecological:** The natural resources at this country club include landscaped greens and some native plants. Because this country club is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the biological resources on that property. **Noise:** Visitors to this country club will hear construction noise during construction of the Build Alternatives. Construction noise is not generally considered a substantial impact because of the temporary nature of, and the limited nighttime exposure of sensitive receptors to, that noise. Project-related construction noise is addressed by Measures N-2 and N-3 (in Section 3.15, Noise).

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
	As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this country club would not be perceptible to country club visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of SR-91. Measures SC-1 through SC-5 in Section 3.14, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. Even with those measures, visitors to this country club may experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at the Mountain View Country Club.
Cresta Verde Golf Course 1295 Cresta Road Corona, CA 92879	This privately owned golf course is immediately east of I-15 and La Cresta Road, just north of SR-91. **Use of Land:** This golf course is outside the right-of-way limits and disturbance limits for the Initial Phases and Ultimate Projects under Alternatives 1 and 2. As a result, there would be no permanent use of land, no permanent easements, and no temporary easements at this golf course under Alternatives 1 and 2. **Visual/Aesthetics:** Visitors to the golf course currently have views of some part of the mainline I-15 facilities and the I-15/SR-91 interchange facilities. Golfers will have views of the elevated I-15/SR-91 interchange HOV/tolled lane connectors provided under Alternatives 1 and 2. Because golfers already have views of this major interchange and visual quality is not a primary feature or value of the Cresta Verde Golf Course, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in adverse visual/aesthetics impacts to this golf course. Because visual quality is not a primary feature or value of the golf course, the changes in views to the east will not result in adverse visual/aesthetic impacts to this county club. **Access:** Pedestrian and vehicle access to this golf course is provided from La Cresta Road and Parkridge Avenue. There is no direct access to this golf course park from either I-15 or SR-91. Alternatives 1 and 2 will not result in temporary or permanent changes to the access to this country club. **Ecological:** The natural resources at this golf course are the landscaped greens and some native plants. Because this golf course is outside the right-of-way and disturbance limits, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in impacts to the biological resources on that property.

Table 3.1.6 Potential Project Effects on Other Parks and Recreation Resources[1]

Name and Address of Property	Assessment of Potential Project Effects
	Noise: Visitors to this golf course will hear construction noise during construction of the Build Alternatives. Construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited nighttime exposure of sensitive receptors to construction noise. Project-related construction noise is addressed by Measures N-2 and N-3 (in Section 3.15, Noise). As discussed in Section 3.15, future noise levels along SR-91 under the Build Alternatives are not forecast to increase noticeably from existing conditions. As a result, any change in noise levels at this golf course would not be perceptible to golf course visitors. **Air Quality:** The construction of the Build Alternatives has the potential to temporarily increase air quality emissions in the vicinity of I-15 and SR-91. Measures SC-1 through SC-5 in Section 3.14, which include standard Department and SCAQMD measures, will substantially reduce this short-term impact of the Build Alternatives. Even with those measures, visitors to this golf course may experience construction-related emissions during construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. In the long term, the Build Alternatives will reduce regional vehicle emissions and will not delay the attainment of the federal CO, $PM_{2.5}$, and PM_{10} standards. Therefore, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 will not result in long-term adverse impacts related to air quality at the Cresta Verde Golf Course.

Sources: Thomas Bros. Map Reference: Orange County Street Guide (2006), San Bernardino & Riverside Counties Street Guide (2007), field visits in 2008 and 2009, and "Big Gift Swells O.C. Park Acreage" (*Los Angeles Times*, June 30, 2010).

[1] The locations of these properties are shown on Figure B.1 in Appendix B, Resources Evaluated Relative to the Requirements of Sections 4(f) and 6(f).

CO = carbon monoxide
Department = California Department of Transportation
mi = mile/miles
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SCAQMD = South Coast Air Quality Management District
SR-71 = State Route 71
SR-91 = State Route 91
I-15 = Interstate 15

SAFETEA-LU Section 6009(a) amended the Section 4(f) legislation to allow the DOT to determine that certain uses of Section 4(f) land will have no adverse effect on a protected resource. As a result, the Department, under its assumption of responsibility pursuant to 23 USC 327, will determine whether a transportation use of Section 4(f) resource, after consideration of any impact avoidance, minimization, mitigation, or enhancement measures, will result in a de minimis impact on that protected resource.

De minimis impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not adversely affect the activities, features, and attributes of the Section 4(f) resource. The Department must make a finding for each resource and the responsible official with jurisdiction over each resource must agree in writing with that finding. Based on the information discussed above, the Department has made de minimis findings for the permanent use of land at CHSP and the permanent subsurface easements at CHSP and the New OC Park (NNL) as a result of Alternatives 1 and 2, which is described later in this section.

The parks and recreational facilities found within or adjacent to the SR-91 CIP project area for which a temporary use or a de minimis impact has been determined are discussed below and summarized on Table 3.1.7. Appendix B discusses those resources that do not trigger Section 4(f) protection either because: (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, or (4) the project does not permanently, temporarily, or constructively use the property as defined in 23 CFR Section 774.17.

In addition to the recreation and park resources discussed in this section, one National Register listed cultural resource, the Grand Boulevard Historic District in the City of Corona, is also protected under the requirements of Section 4(f) and is discussed later in this section.

Chino Hills State Park

Section 4(f) Use of Chino Hills State Park

The Department determined that the use of approximately 2.0 ac in CHSP for seven TCEs during the construction of the SR-91 CIP Build Alternatives satisfies the five conditions set forth in 23 CFR 774.13(d) for temporary occupancy and does not constitute a use; therefore, Section 4(f) would not apply to the use of 2.0 ac of land in CHSP for TCEs. Refer to Appendix B for additional discussion regarding this determination.

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	**Permanent Use**	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	
Santa Ana River Trail/Bike Lane (Refer to Figures B.2 and B.3 in Appendix B)						
Initial Phase: None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** Possible temporary detours during construction and permanent relocation of a 200 ft long segment of the Santa Ana River Trail/Bike Lane in the City of Corona **Ultimate Project:** None beyond the possible temporary detours in the Initial Phase	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** Possible temporary detours during construction and permanent relocation of a 200 ft long segment of the Santa Ana River Trail/Bike Lane in the City of Corona **Ultimate Project:** None beyond the possible temporary detours in the Initial Phase	**Permanent Use:** There are no permanent uses of the Santa Ana River Trail/Bike Lane under the Initial Phases or Ultimate Projects for Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **Permanent Easement:** There are no permanent easements at the Santa Ana River Trail/Bike Lane under the Initial Phases or Ultimate Projects for Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **TCEs and Other Temporary Occupancies:** The possible temporary detours of the Santa Ana River Trail/Bike Lane in the City of Corona during construction of the Initial Phases of Alternatives 1 and 2 and the permanent relocation of a short segment of the Trail/Bike Lane would be a temporary occupancy and, therefore, the requirements of Section 4(f) are not triggered. Refer to Appendix B for a more detailed explanation. In summary, the project effects at the Santa Ana River Trail/Bike Lane do not trigger the requirements for protection under Section 4(f) and are, therefore, exempt from the requirements of Section 4(f). **Public Park Preservation Act of 1971:** The Santa Ana River Trail/Bike Lane is not a public park. Therefore, the provisions of this Act do not apply to the Trail/Bike Lane.

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	**Permanent Use**	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	
Featherly Regional Park (Refer to Figure B.4 in Appendix B)						
Initial Phase: None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** 0.2 ac for TCEs **Ultimate Project:** None beyond the 0.2 ac for TCEs in the Initial Phase	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** 0.2 ac for TCEs **Ultimate Project:** None beyond the 0.2 ac for TCEs in the Initial Phase	**Permanent Use:** There are no permanent uses of Featherly Regional Park under the Initial Phases or Ultimate Projects for Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **Permanent Easement:** There are no permanent easements at Featherly Regional Park under the Initial Phases or Ultimate Projects for Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **TCEs and Other Temporary Occupancies:** The TCEs at Featherly Regional Park during construction of the Initial Phases of Alternatives 1 and 2 would be temporary occupancies and, therefore, the requirements of Section 4(f) are not triggered. Refer to Appendix B for a more detailed explanation. In summary, the project effects at Featherly Regional Park do not trigger the requirements for protection under Section 4(f) and are, therefore, exempt from the requirements of Section 4(f). **Public Park Preservation Act of 1971:** Because the SR-91 CIP will not result in the acquisition of property from Featherly Regional Park, the provisions of this Act do not apply to this park.

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	Permanent Easement	TCEs and Other Temporary Occupancies[1]	Permanent Use	Permanent Easement	TCEs and Other Temporary Occupancies[1]	
Chino Hills State Park (Refer to Figure 3.1-5 in this Section and Figure B.5, Sheets 1 to 4, in Appendix B)						
Initial Phase: Permanent use of a total of 0.48 ac of land for the footings for two columns under the aerial easement for the elevated Green River Road off-ramp and a small area south of that easement **Ultimate Project:** None beyond the 0.48 ac in the Initial Phase	**Initial Phase:** None **Ultimate Project:** 1.65 ac permanent subsurface easement	**Initial Phase:** 1.1 ac for one TCE at Green River Road **Ultimate Project:** 1.03 ac for six TCEs in addition to the 1.1 ac for a TCE in the Initial Phase	**Initial Phase:** Permanent use of a total of 0.48 ac of land for the footings for two columns under the aerial easement for the elevated Green River Road off-ramp and a small area south of that easement **Ultimate Project:** None beyond the 0.48 ac in the Initial Phase	**Initial Phase:** None **Ultimate Project:** 1.88 ac permanent subsurface easement	**Initial Phase:** 1.1 ac for one TCE at Green River Road **Ultimate Project:** 1.03 ac for six TCEs in addition to the 1.1 ac for a TCE in the Initial Phase	**Permanent Use:** The Initial Phases of Alternatives 1 and 2 would result in the permanent use of a total of 0.48 ac of land for an aerial easement and the footings for two columns under the elevated Green River Road off-ramp as well as the area south of the aerial easement. These uses would not affect the functions, values, and attributes of CHSP. **Permanent Easement:** The Alternative 1 and 2 Ultimate Projects would each require a permanent subsurface easement on the south side of SR-91 to accommodate subsurface tiebacks. This would be a permanent easement into perpetuity. This easement would not affect the functions, values, and attributes of CHSP. **TCEs and Other Temporary Occupancies:** The seven TCEs at CHSP during construction of the Initial Phases and Ultimate Projects of Alternatives 1 and 2 would be temporary occupancies. In summary, Alternatives 1 and 2 will use CHSP, but these uses are considered de minimis. State Parks concurred with this determination in a letter dated April 15, 2012. Refer to the discussion in Section 3.1.3.3 for more details. **Public Park Preservation Act of 1971:** The permanent acquisition of 0.48 ac of land from CHSP under the Initial Phases of Alternatives 1 and 2 and the permanent subsurface easements for the Alternative 1 and 2 Ultimate Projects are subject to the requirements of the Public Park Preservation Act of 1971. To comply with that Act,

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	**Permanent Use**	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	
						RCTC will provide compensation to State Parks for the permanent acquisition of 0.48 ac of land and the permanent subsurface easements in CHSP.
New Orange County Park (National Natural Landmark) (Refer to Figures 3.1-6 and 3.1-7 in this Section)						
Initial Phase: None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** 0.5 ac for a permanent subsurface easement	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** 2.2 ac for a permanent subsurface easement	**Initial Phase:** None **Ultimate Project:** None	**Permanent Use:** There are no permanent uses of the New OC Park (NNL) under the Initial Phases of, or Ultimate Projects for, Alternatives 1 and 2. **Permanent Easement:** The Alternative 1 and 2 Ultimate Projects will result in the use of two small areas for a permanent subsurface easement at the New OC Park (NNL) just south of SR-91. These would be easements in perpetuity. These easements would not affect the functions, values, and attributes of the New OC Park (NNL). In summary, permanent subsurface easements are permanent uses, but are considered de minimis. The County of Orange concurred with that determination in a letter dated May 2, 2012. Refer to the discussion in Section 3.1.3.3 for more details. **Public Park Preservation Act of 1971:** The permanent subsurface easements in the New OC Park (NNL) under the Alternative 1 and 2 Ultimate Projects are subject to the requirements of the Public Park Preservation Act of 1971. To comply with that Act, RCTC will provide compensation to the County of Orange for the permanent subsurface easements in the New OC (NNL) Park.

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	**Permanent Use**	**Permanent Easement**	**TCEs and Other Temporary Occupancies[1]**	
Griffin Park (Refer to Figure B.6 in Appendix B)						
Initial Phase: None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** 0.5 ac for a TCE	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** 0.5 ac for a TCE	**Permanent Use:** There are no permanent uses of Griffin Park under the Initial Phases of, or Ultimate Projects for, Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **Permanent Easement:** There are no permanent easements at Griffin Park under the Initial Phases of, or Ultimate Projects for, Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **TCEs and Other Temporary Occupancies:** The TCEs at Griffin Park during construction of the Alternative 1 and 2 Ultimate Projects would be temporary occupancies and, therefore, the requirements of Section 4(f) are not triggered. Refer to Appendix B for more details. In summary, the project does not use Griffin Park and does not trigger Section 4(f). **Public Park Preservation Act of 1971:** Because the SR-91 CIP will not result in the acquisition of property from Griffin Park, the provisions of this Act do not apply to this park.
El Cerrito Sports Park (Refer to Figure B.7 in Appendix B)						
Initial Phase: None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** 0.19 ac for TCEs **Ultimate Project:** None beyond the 0.19 ac for TCEs in the Initial Phase	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** None **Ultimate Project:** None	**Initial Phase:** 0.19 ac for TCEs **Ultimate Project:** None beyond the 0.19 ac for TCEs in the Initial Phase	**Permanent Use:** There are no permanent uses of El Cerrito Sports Park under the Initial Phases of, and Ultimate Projects for, Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. **Permanent Easement:** There are no permanent easements at El Cerrito Sports Park under the Initial Phases of, and Ultimate Projects for, Alternatives 1 and 2.

Table 3.1.7 Summary of Temporary Occupancies and Permanent Easements at Park and Recreational Facilities and Section 4(f) Properties by Alternative

Alternative 1 Project			Alternative 2 Project			Status Under Section 4(f) and the Public Park Preservation Act of 1971
Permanent Use	Permanent Easement	TCEs and Other Temporary Occupancies[1]	Permanent Use	Permanent Easement	TCEs and Other Temporary Occupancies[1]	
						TCEs and Other Temporary Occupancies: The TCEs at El Cerrito Sports Park would be temporary occupancies during construction of the Initial Phases of Alternatives 1 and 2. Therefore, the requirements of Section 4(f) are not triggered. Refer to Appendix B for more details. In summary, the project does not use El Cerrito Sports Park and does not trigger Section 4(f). **Public Park Preservation Act of 1971:** Because the SR-91 CIP will not result in the acquisition of property from El Cerrito Sports Park, the provisions of this Act do not apply to this park.

Source: Riverside County Transportation Commission (2010, 2011, and 2012).

[1] The following conditions must all be met for a temporary effect to be considered a temporary occupancy of a property:

- The duration of the occupancy must be temporary (i.e., less than the time needed for construction of the project), and there should be no change in ownership of the land;
- The scope of the work must be minor (i.e., both the nature and the magnitude of the changes to the Section 4(f) property must be minimal);
- There are no anticipated permanent adverse physical impacts, nor will there be interference with the protected activities, features, and/or attributes of the property on either a temporary or permanent basis;
- The land being used must be fully restored (i.e., the property must be returned to the condition that existed prior to the project); and
- There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

ac = acre/acres
BNSF = Burlington, Northern, Santa Fe
CHSP = Chino Hills State Park
ft = foot/feet
NNL = National Natural Landmark
OC = Orange County
SR-91 = State Route 91
TCEs = temporary construction easements

The Initial Phases of Alternatives 1 and 2 would result in the permanent use of 0.48 ac of land for the aerial easement that accommodates the elevated Green River Road off-ramp and less than 2 ac of permanent subsurface easements for tiebacks. The footings for two columns under the elevated Green River Road off-ramp are within the area under the elevated structure and the aerial easement. The permanent use of 0.48 ac of land from CHSP at the Green River Road off-ramp and the permanent aerial and subsurface easements will not substantively affect park users and will not affect access to/from this part of the park for park users or staff.

Alternatives 1 and 2 were evaluated to assess whether the proximity of a transportation facility under those Alternatives would result in indirect impacts so severe that the protected activities, features, and/or attributes that qualify CHSP for protection under Section 4(f) would be substantially impaired (i.e., constructive use). As discussed in Section B.3.2, Assessment of the Potential for Constructive Uses, in Appendix B, it was determined that although Alternatives 1 and 2 would result in some indirect impacts, those impacts would not be severe enough to result in a constructive use at CHSP.

Applicability of Section 4(f) to Chino Hills State Park

The Department determined that the SR-91 CIP satisfies the criteria for de minimis under Section 4(f) and that the permanent easements and use of 0.48 ac of land from CHSP under Alternatives 1 and 2 would result in a de minimis effect on CHSP.

Why the Use at Chino Hills State Park is De Minimis

The primary features of CHSP include its overall size, the wide range of natural resources in the park, the connections to other open space and wilderness areas for wildlife, and the overall experience and enjoyment associated with such a large area of open space in a largely urbanized area. Recreational activities in CHSP include camping and approximately 60 mi of trails for hiking, biking, and equestrian uses. Attributes of CHSP include a ranch house, a barn, windmills, watering troughs, on-site parking, picnic areas, an equestrian staging area, pipe corrals, a historic barn, water spigots, and restrooms. Because the SR-91 improvements do not impact the natural resources and recreational facilities in CHSP, there would be no interference with the features, activities, attributes, or purposes of CHSP, on either a temporary or permanent basis as a result of the SR-91 CIP Build Alternatives. The SR-91 CIP will ensure that hikers and vehicles

have future public access to CHSP in the vicinity of the Green River Road off-ramp.

The permanent use of 0.48 ac of land from CHSP at the Green River Road off-ramp will not substantively affect park users and will not affect access to/from this part of the park for park users or staff. There is an unpaved trail to the east, with the trailhead immediately north of where the columns for the elevated westbound Green River Road off-ramp would be located. The project would not affect the use of that trail. As a result, the Department determined that the SR-91 CIP satisfies the criteria for de minimis under Section 4(f) and that the use of 0.48 ac of land from CHSP under Alternatives 1 and 2 would result in only a minor, or de minimis, effect on CHSP.

Documentation of Consultation Regarding Chino Hills State Park

On April 5, 2012, State Parks provided written concurrence that the project effects at CHSP described above and summarized in Table 3.1.7 would be de minimis impacts. A copy of that letter is provided in Appendix B. Key agreement points regarding State Parks concurrence on the de minimis for the project impacts are:

- Concurrence that the TCEs constitute temporary occupancies and, therefore, are not uses of parkland under Section 4(f)
- Concurrence on the de minimis finding that the permanent subsurface easements and the permanent use of 0.48 ac of CHSP land by the SR-91 CIP would not adversely affect the activities, features, and attributes that qualify CHSP for protection under Section 4(f)
- Concurrence that the transportation use of the Section 4(f) resource, together with the Section 4(f) impact avoidance, minimization, and mitigation or enhancement measures incorporated in the SR-91 CIP, does not adversely affect the activities, features, and attributes that quality CHSP for protection under Section 4(f)

A summary of the meetings and letters documenting the Section 4(f) consultation with State Parks regarding the potential effects of the SR-91 CIP Build Alternatives on CHSP and copies of the consultation letters is provided in Appendix B.

Public Notice

In addition to consultation with State Parks, public scoping was conducted at the beginning of the process to prepare the EIR/EIS for the SR-91 CIP. It was made

known at that time that the proposed project was adjacent to, and could potentially affect, CHSP. Refer to Chapter 5, Comments and Coordination, for additional information regarding the public notice and consultation process for the SR-91 CIP. The circulation of the Draft EIR/EIS and the public hearing process for the Draft EIR/EIS provided additional opportunities for public review and comment on the project, including consideration of the project effects at CHSP, as discussed in Chapter 5 and Appendix O, Responses to Comments. In addition, "A Public Notice of Intent to Adopt a U.S. Department of Transportation Act Section 4(f) De Minimis Finding for Impacts to Chino Hills State Park" was posted at CHSP on June 1, 2012. A copy of that Notice of Intent is provided in Appendix B.

In addition, during public circulation and prior to final approval of the project, the Department coordinated with State Parks on obtaining agreement regarding the project effects on CHSP and the proposed de minimis finding for those effects.

New OC Park (NNL)

Section 4(f) Use of the New OC Park (NNL)

As shown on Figures 3.1-6 and 3.1-7, respectively, the Ultimate Projects for Alternatives 1 and 2 include two permanent subsurface easements within the New OC Park (NNL) for tiebacks for a tieback wall. For the Alternative 1 Ultimate Project, these two areas are approximately 0.33 and 0.18 ac (0.5 ac total) south of SR-91 and east of SR-241, as shown on Figure 3.1-6. For the Alternative 2 Ultimate Project, these two areas are 1.03 and 1.17 ac (2.2 ac total) south of SR-91 and east of SR-241, as shown on Figure 3.1-7.

Applicability of Section 4(f) to the New OC Park (NNL)

The Department initially determined that Section 4(f) did not apply to the permanent subsurface easements and instead addressed them as temporary occupancies. This was based on the fact that the easements would not affect the surface land in that area or the ultimate ownership of the land. No project construction, structures, or other activities would occur at the ground surface at this location.

The Department reevaluated the subsurface easements and now determines, per 23 CFR Section 774, that a de minimis impact finding for those permanent subsurface easements in the New OC Park (NNL) is more appropriate because the subsurface easements would be permanent.

Alternatives 1 and 2 were evaluated to assess whether the proximity of a transportation facility under those Alternatives would result in indirect impacts so severe that the protected activities, features, and/or attributes that qualify the New OC Park (NNL) for protection under Section 4(f) would be substantially impaired (i.e., constructive use). As discussed in Section B.3.2 in Appendix B, it was determined that although Alternatives 1 and 2 would result in some indirect impacts on this park, those impacts would not be severe enough to result in a constructive use of this park.

Why the Use at the New OC Park (NNL) is De Minimis

The New OC (NNL) Park is currently undeveloped and is open to the public on a limited basis. It is not known at this time what recreation uses and facilities would be provided at that park in the future. It is anticipated that the recreation uses would include trails, interpretive signing, and other passive recreation activities. The subsurface easements under the Build Alternatives will not restrict the ability of the County of Orange to develop and operate the New OC Park (NNL) in the future. As a result, a de minimis finding is appropriate because although the subsurface easements would be permanent, they would not adversely affect the future features, activities, and attributes that qualify the New OC Park (NNL) for protection under Section 4(f).

Documentation of Consultation Regarding the New OC Park (NNL)

The Department sent a letter dated April 17, 2012 to the County of Orange requesting concurrence on a de minimis determination at the National Natural Landmark (formerly labeled Anaheim 3 area by the Irvine Company). The County of Orange provided written concurrence with that determination on May 2, 2012. Therefore, the Department made a de minimis determination for the project effects at the New OC Park (NNL) per 23 CFR Section 774.13(d).A copy of the April 17, 2012, Department letter and the County's concurrence signature dated May 2, 2012, on that letter are provided in Appendix B.

Public Notice

In addition to consultation with the County of Orange, the circulation of the Draft EIR/EIS and the public hearing process for the Draft EIR/EIS provided opportunities for the public to review and comment on the project, including consideration of the project effects at the New OC Park (NNL) as discussed in Chapter 5 and Appendix O, Responses to Comments.

In addition, a Public Notice of Intent to Adopt a U. S. Department of Transportation Act Section 4(f) De Minimis Finding for impacts to the Irvine Ranch Open Space" was posted on the New OC Park (NNL) property on June 1, 2012. A copy of that Notice of Intent is provided in Appendix B.

Grand Boulevard Historic District

The Grand Boulevard Historic District is in the City of Corona. Figure 3.8.1 in Section 3.8, Cultural Resources, shows the location of the Grand Boulevard Historic District. It became a California Historic Landmark on May 19, 2011, and was listed on the National Register on July 14, 2011. The Historic District qualified for listing on the National Register because it is a property that is associated with events that have made a significant contribution to the broad patterns of our history (National Register Criterion A) and is a property that embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction (National Register Criterion C).

The Grand Boulevard Historic District consists of the 100 ft wide public right-of-way, which includes the road, curb, parkways, and sidewalks. Its primary character-defining feature is its circular design, which is 1 mi in diameter and was part of the original design of the Corona town site in 1886. Contributing elements include features within the right-of-way associated with the original design concept, early development, or function of Grand Boulevard during the period of significance (1886–1928). Contributing features include the roadway and its intersections with streets and alleys, driveways, gutters, curbs, parkways, street trees, streetlights, sidewalks, a hitching post, and two pocket parks.

Section 4(f) Use of the Grand Boulevard Historic District

Within a National Register listed historic district, Section 4(f) applies to the use of those properties that are considered contributing to the eligibility of the District, as well as any individually eligible property within the District. In general, contributing elements of the Grand Boulevard Historic District include the roadway and its intersections with historic streets and alleys, driveways, gutters, curbs, parkways, street trees, streetlights, sidewalks, a hitching post, and two pocket parks. None of the contributing features within the Area of Potential Effects (APE) for the SR-91 CIP are individually significant based on the National Register documentation and the survey and evaluation work conducted for the SR-91 CIP. Additionally, as a result of prior modifications to the

sidewalks, curbs, and gutters in the northern segment of the District, these features are not considered character-defining and do not contribute to the significance of the District.

Throughout the decades, minor modifications, including alterations to the parkways, sidewalks, and curbs, have been made to Grand Boulevard. Two major projects in the northern segment in 1961 (construction of SR-91) and 1976 (grade separation and street widening) also modified features along Grand Boulevard. As a result of these modifications, the sidewalks, curbs, and gutters in the northern part of the Historic District are not character-defining features and do not contribute to the significance of the Historic District.

Alternatives 1 and 2 would not result in any change in the Grand Boulevard Historic District boundary or require any permanent easements or TCEs within the District; therefore, no change in ownership will occur.

The Initial Phases of Alternatives 1 and 2, including the Preferred Alternative (Alternative 2f), would relocate short segments of sidewalks, curbs, and gutters; relocate up to 7 acorn-style streetlights; remove 18 street trees; reconfigure 2 intersections; and have some other indirect impacts. All these proposed modifications would occur in the northernmost part of Grand Boulevard Circle.

Because the sidewalks, curbs, and gutters within the APE are not contributing features, any modifications to them by Alternatives 1 and 2 will not adversely affect the historic significance of the Grand Boulevard Historic District as a whole.

The two intersections (Bollero Place/Frontage Road and Joy Street) that will be reconfigured during the Initial Phases of Alternatives 1 and 2 have also been previously modified. Because these intersections do not date to the period of significance for the Grand Boulevard Historic District, the project-related reconfiguration of these intersections will not adversely impact the historic significance of the District.

The acorn-style streetlights that will be removed during construction of the Initial Phases of Alternatives 1 and 2 will be reinstalled near their original locations or elsewhere in the Grand Boulevard Historic District, as discussed in Section 3.8.4.1, Conditions for the Acorn-Style Streetlights in the Grand Boulevard Historic District. Trees that are compatible with the District will be planted in a

1:1 ratio to replace the 18 trees that would be removed from the Grand Boulevard Historic District during construction of the Initial Phases of Alternatives 1 and 2 as provided in Measure V-2 in Section 3.7, Visual Resources, and Measure CR-1 in Section 3.8, Cultural Resources. Thus, these impacts to the Grand Boulevard Historic District are minimized and of a temporary duration.

The construction work in the Grand Boulevard Historic District would be conducted within the public right-of-way owned by the City of Corona and would be subject to the City's requirements for temporary encroachments and the conduct of construction activities in City-owned rights-of-way. Because Alternatives 1 and 2 will not alter characteristics that qualify the Grand Boulevard Historic District for the National Register in a manner that would diminish its integrity or impair its ability to convey its historic significance, a finding of No Adverse Effect to the District was made under Section 106.

Applicability of Section 4(f) to the Grand Boulevard Historic District

The SR-91 CIP Build Alternatives would result in the following effects at the Grand Boulevard Historic District:

- Removal and relocation of up to 7 acorn-style streetlights near their original locations or elsewhere in the Grand Boulevard Historic District during construction of the Initial Phases of Alternatives 1 and 2.
- Removal and replacement of 18 trees adjacent to the East Grand Boulevard and West Grand Boulevard undercrossings during construction of the Initial Phases of Alternatives 1 and 2.

The Department originally determined that the impacts to the Historic District constituted a temporary occupancy under 23 CFR Section 774.13(d); and that, therefore, Section 4(f) would not apply to the temporary impacts on the Grand Boulevard Historic District during construction of the Initial Phases of Alternatives 1 and 2.

The Department has since reconsidered and made a new determination that the impacts at the Grand Boulevard Historic District would be de minimis.

Why the Use of the Grand Boulevard Historic District is De Minimis

The impacts of the Build Alternatives at the Grand Boulevard Historic District would be de minimis because construction in the affected parts of the Grand Boulevard Historic District would not result in any permanent adverse physical

impacts in those areas after the conditions and mitigation described in Section 3.8 are implemented, and would not interfere with the protected activities, features, or attributes of those parts of the District on a permanent basis. In addition, the areas in the District affected temporarily by the project construction would be returned to a condition that is at least as good as that which existed prior to the project, including the reinstallation of the acorn-style streetlights and the replacement of street trees within the Grand Boulevard Historic District.

Documentation of Consultation Regarding the Grand Boulevard Historic District

According to a letter agreement between FHWA and the State Historic Preservation Officer (SHPO), as well as the January 1, 2004, Section 106 Programmatic Agreement, the Department can make a de minimis finding for a historic property where the SHPO has concurred with the No Adverse Effect finding and the Department has identified the subject property as a Section 4(f) property in a notification letter to SHPO. In a letter dated June 15, 2012, the Department notified SHPO of the de minimis finding for the project's impacts to the Grand Boulevard Historic District. In a letter dated June 26, 2012, SHPO concurred with the Department's No Adverse Effect finding under Section 106. A summary of the letters documenting the Section 4(f) consultation with SHPO regarding the potential effects of the SR-91 CIP Build Alternatives on the Grand Boulevard Historic District is provided in Chapter 5.

Public Notice

In addition to consultation with SHPO, public scoping was conducted at the beginning of the process to prepare the EIR/EIS for the SR-91 CIP. It was made known at that time that the proposed project was adjacent to, and could potentially affect, the Grand Boulevard Historic District. Refer to Chapter 5 for additional information regarding the public notice and consultation process for the SR-91 CIP. The circulation of the Draft EIR/EIS and the public hearing process for the Draft EIR/EIS provided additional opportunities for public review and comment on the project, including consideration of the project effects at the Grand Boulevard Historic District, as discussed in Chapter 5. Refer also to Section 3.8, which discusses additional consultation conducted regarding the Grand Boulevard Historic District.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed, and no temporary or permanent impacts to park and recreation facilities, trails, and Sections 4(f) and 6(f) properties would occur. However, because no improvements would be made to SR-91 and I-15 under the No Build Alternative, traffic conditions in the study area, including communities along these freeways, would worsen, the mobility of goods and people would be reduced, and the quality of life in the study area and for those traveling through the study area would be adversely affected.

Section 6(f)

State and local governments often obtain grant funds through the Land and Water Conservation Fund (L&WCF) Act to acquire or make improvements to parks and recreation areas. Section 6(f) of the L&WCF Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the United States Department of Interior (DOI) National Park Service (NPS).

Although most of CHSP is covered by Section 6(f), it has been determined that the Section 6(f) does not apply to the part that will be permanently converted for non-recreational purposes – parcel # 31. In its consultation letter dated January 26, 2012, the NPS indicated that two previous L&WCF Act grants were used for the acquisition of land for CHSP. The Build Alternatives would require acquisition of a small amount of land in parcel #31 in CHSP, which was not acquired with those prior grants. The NPS letter goes on to say "...we have determined that LWCFA §6(f)(3) does not now apply to parcel # 31, and that the proposed project, were it to be built today, would not cause a LWCFA conversion of parkland on parcel #31." As a result, at this time, the requirements for the protection and mitigation of the acquisition of land from parcel #31 for the proposed project under Section 6(f) do not apply.

However, the NPS also indicated in its consultation letter that the timing of the closing of an approved third major L&WCF Act grant to State Parks for CHSP is not known. When that grant is closed, it will modify the Section 6(f) boundary for CHSP to include all the existing land in the park, including all of parcel #31. Because of the uncertainty of the timing of the closing of that approved L&WCF Act grant to CHSP, the NPS consultation letter also recommends "...that CEQA and NEPA

environmental compliance treat the property as if §6f applied now, in terms of potential impacts assessment and mitigation measures."

Because parcel #31 is not currently subject to the requirements of protection and mitigation under Section 6(f), RCTC and Caltrans are proceeding without treating parcel #31 as if Section 6(f) applies now and will continue to monitor the status of the L&WCF Act grant closing. However, in the event that the grant is closed prior to construction of the SR-91 CIP, the requirements for the protection under Section 6(f) will need to be analyzed and addressed with CHSP and the California Department of Parks and Recreation, Office of Grants and Local Services.

The NPS consultation letter is provided in Appendix B.

Public Park Preservation Act of 1971

In addition to the requirements of Sections 4(f) and 6(f), the Public Park Preservation Act of 1971 (Public Resources Code Section 5400 et seq.) applies to parks in the project study area. The Act, which applies to any park operated by a public agency, provides in part that:

> "No city, city and county, county, public district, or agency of the state, including any division, department or agency of the state government, or public utility, shall acquire (by purchase, exchange, condemnation, or otherwise) any real property, which property is in use as a public park at the time of such acquisition, for the purpose of utilizing the property for any nonpark purpose, unless the acquiring entity pays or transfers to the legislative body of the entity operating the park sufficient compensation or land, or both, as required by the provisions of this chapter to enable the operating entity to replace the parkland and the facilities thereon."

The permanent acquisition of property from CHSP and permanent subsurface easements at CHSP and the New OC Park (NNL) under Alternatives 1 and 2 are subject to the requirements of the Public Park Preservation Act of 1971. Consistent with that Act, RCTC will be required to provide compensation, land, or both, to enable the replacement of the parkland and the facilities on the affected park land.

3.1.4 Avoidance, Minimization, and/or Mitigation Measures

3.1.4.1 Measures for Land Use

General Plan Amendments would be required as a result of the incorporation of nontransportation General Plan-designated land into the SR-91 and I-15 facilities to ensure consistency with land uses as designated in the local General Plans. Measure LU-1, below, would mitigate this impact of Alternatives 1 and 2 and those Alternatives would then be consistent with the local General Plans. The following measure would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

LU-1 If a Build Alternative is selected for implementation, RCTC will request the County of Riverside, the County of Orange, and the cities along the alignments of SR-91 and I-15 to amend their respective General Plans to reflect the selected SR-91 CIP alternative and the modification of land use designations for properties that would be acquired for the project which are not currently designated for transportation uses.

3.1.4.2 Measures for Consistency with Federal, State, Regional, and Local Plans

With the exception of the General Plan effects discussed above, Alternatives 1 and 2 would not result in any inconsistencies with federal, State, regional, or local plans. No mitigation is required.

3.1.4.3 Measures for Parks and Recreational Facilities

Measures PR-1 and PR-2 would be required for the Initial Phases of Alternatives 1 and 2 to address the project's impacts on CHSP.

PR-1 During final design/construction of the Initial Phase, RCTC will contribute $100,000 to the planning and implementation of improvements in that area that would support and expand regional trail connectivity.

PR-2 During final design/construction of the Initial Phase, RCTC will coordinate with State Parks on the aesthetic features that will be included in the project specifications for the proposed retaining wall facing CHSP between SR-71 and the westbound Green River Road off-ramp, consistent with the aesthetic and features required in

Measure V-1. The aesthetic treatment will include a texture to simulate a natural type appearance such as a soil or rock surface, or equivalent.

Measure PR-3 would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives to minimize nighttime noise impacts to CHSP.

PR-3 RCTC's Resident Engineer will require the design/build contractor to limit the hours of construction in CHSP to daylight hours (7:00 a.m. to 7:00 p.m.), with the exception of limited periods when evening or night construction is necessary for operations reasons. Operational reasons may include the desire to conduct certain construction activities, such as closing multiple ramps or travel lanes, during night hours to minimize delays to the traveling public. Any night construction must be approved in writing by the RCTC Resident Engineer and coordinated with the Department District 8 and 12 biologists, USFWS, and CDFG.

The entry gates at Coal Canyon must remain closed at all times except to provide access to and from the construction site for construction workers, materials delivery, and construction equipment, to prevent wildlife from inadvertently entering the freeway area.

Measures UES-4 and NC-4 will be implemented for fire prevention and suppression.

UES-4 **Fire Prevention Adjacent to CHSP.** The final design of the SR-91 CIP Build Alternatives will include closing gaps so there is the equivalent of a continuous barrier 30 to 36 inches high on the edge of the shoulder on both westbound and eastbound SR-91 from SR-71 to SR-241, as follows:

- **Initial Phase:** The 36-inch-high concrete barrier on westbound SR-91 between SR-71 and Green River Road already included in the design alternatives will meet the requirements for this barrier;
- **Ultimate Project:** Close gaps to provide an equivalent continuous barrier 30 to 36 inches high on the edge of shoulder on SR-91 in both directions between Green River Road and SR-241 meeting Department standards applicable at the time.

NC-4 When work is conducted during the fire season (as identified by the Orange County Fire Authority [OCFA], Riverside County Fire Department [RCFD], City of Norco Fire Department, and/or the City of Corona Fire Department) adjacent to any vegetated open space, RCTC's Resident Engineer will require the design/build contractor to ensure that appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) is available on site during all phases of project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire-preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities.

If a responsible fire agency (OCFA, RCFD, City of Norco Fire Department, or City of Corona Fire Department) requires RCTC to clear defensible spaces during construction, RCTC's Resident Engineer, the design/build contractor, and the design/build contractor's Designated Qualified Biologist will coordinate with the USFWS prior to this clearing effort. In the event there are resources in the areas identified for defensible clearing, RCTC's Resident Engineer and the Designated Qualified Biologist will coordinate with any applicable permitting agencies regarding possible effects to those resources prior to approving the defensible clearing of any areas by the contractor.

During all Red Flag Warning periods as issued by the National Weather Service, the design/build contractor will not be allowed to operate mechanized equipment or equipment that could throw off sparks or potentially start fires in any areas of natural open space in CHSP or other areas.

Measure AS-8, which is also provided in Section 3.20, will protect small animals in the vicinity of Coal Canyon and CHSP.

AS-8 RCTC's Resident Engineer will require the design/build contractor to install and maintain silt fence barriers at all staging or construction areas at Coal Canyon and areas within CHSP to prevent small animals from entering those areas.

Other measures provided elsewhere in Chapter 3 would also benefit CHSP, other parks, and other land uses, including:

- Measures for the project's visual impacts on CHSP:
  - **Measure V-1:** Structural enhancements and design measures from the 215/91 Corridor Master Plan
  - **Measure V-2:** Replacement planting
  - **Measure V-3:** Design of lighting to restrict lighting to within the highway right-of-way
  - **Measure V-4:** Graffiti control and removal

Refer to Section 3.7, Visual/Aesthetics, for the complete language of Measures V-1 to V-4.

- Measures for short-term air quality during construction:
  - **Measures SC-1 and SC-2:** Construction Emissions Mitigation Plan.
  - **Measures SC-4 and SC-5:** Appropriate removal and disposal of asbestos-containing materials (ACMs).

Refer to Section 3.14, Air Quality, for the complete language of these measures.

- Measures for short-term noise during construction:
  - **Measure N-2:** Compliance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," and Standard Special Provision (SSP) S5-310
  - **Measure N-3:** Compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside)

Refer to Section 3.15, Noise, for the complete language of Measures N-2 and N-3.

In addition to the measures listed above, there are other measures included in the SR-91 CIP Build Alternatives that will apply in areas adjacent to CHSP that will also partially serve to protect resources in CHSP. Refer to Appendix E, Environmental Commitments Record, for all the project measures, including biological resources measures that would be applicable adjacent to CHSP.

Other Commitments by RCTC Relevant to Chino Hills State Park

RCTC has committed to an additional action in the Coal Canyon area, as follows. A stand-alone project will be developed to construct barriers on the south and north sides of SR-91 to shield headlight glare and freeway noise. The required barriers are

estimated to be approximately 1,500 ft and 1,300 ft long on the south and north sides of SR-91 respectively. The project will follow environmental process requirements and engage subject area experts to establish the specific requirements and effectiveness of the proposed barriers to meet the project purpose as well as ensure safety and structural standards are met.

In consideration of and reliance on the needs of State Parks and other open space plans that depend on Chino Hills State Park, and subject to environmental review, RCTC commits to build this barrier in tandem with the completion of the SR-91 widening in this area currently planned for completion in 2035. RCTC intends to work with the Department and other agencies to fund and implement this project.

3.1.4.4 Measures for the Grand Boulevard Historic District

Refer to Section 3.8.4, Condition Placed on Project and Other Measures, for the condition and measures specifically included in the project to address the project effects on the Grand Boulevard Historic District.

This page intentionally left blank

3.2 Growth

3.2.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with National Environmental Policy Act of 1969, requires evaluation of the potential environmental consequences of all proposed federal activities and programs. This provision includes a requirement to examine indirect consequences, which may occur in areas beyond the immediate influence of a proposed action and at some time in the future. The CEQ regulations, 40 CFR 1508.8, refer to these consequences as secondary impacts. Secondary impacts may include changes in land use, economic vitality, and population density, which are all elements of growth.

The California Environmental Quality Act (CEQA) also requires the analysis of a project's potential to induce growth. CEQA Guidelines, Section 15126.2(d), require that environmental documents "…discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment…"

3.2.2 Affected Environment

The growth impact analysis is based on the CIA (December 2010) and follows the First Cut Screening guidelines provided in Caltrans' *Guidance for Preparers of Growth-Related, Indirect Impact Analyses* (May 2006). Several data sources were used to evaluate growth trends in population, housing, and employment, including the 2000 United States Census, local General Plans, the SCAG *Regional Transportation Plan* growth forecast,[1] and the WRCOG 2005 indicators.

The regional study area for the growth impact analysis includes both Orange and Riverside Counties. The local study area specifically focuses on 18 census tracts in the cities of Anaheim, Yorba Linda, Corona, Riverside, and Norco located within the limits of the project on SR-91 and I-15 (Figure 3.4-1).

3.2.2.1 Population

The project is located in and connects Orange and Riverside Counties. Riverside County has experienced rapid population and housing growth in the last few decades

[1] http://www.scag.ca.gov/resources/profiles.htm and http://www.scag.ca.gov/forecast/downloads/excel/RTP07_CityLevel.xls

and is projected to continue to grow over the next 20 years. Population growth in Orange County is projected to occur at a lower rate. SCAG projects that between 2010 and 2030, the population of Riverside County will grow approximately 45 percent and the population of Orange County will grow approximately 9 percent. This is a slower population growth rate than has occurred over the past few decades. Between 1980 and 1990, the population of Riverside County grew by 77 percent, while Orange County grew by 25 percent. Figure 3.2-1 illustrates the population growth patterns from 1970 to 2030 for Orange and Riverside Counties. Figure 3.2-2 illustrates the population growth patterns in the cities of Anaheim, Corona, Norco, Riverside and Yorba Linda from 1970 to 2030.

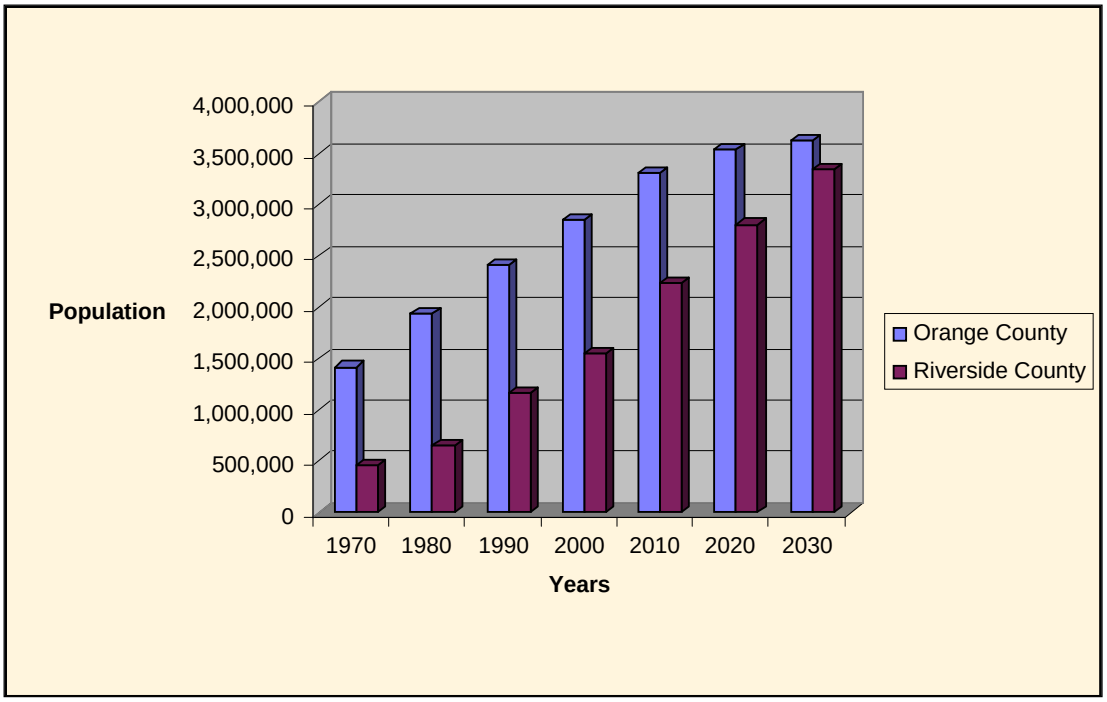
Historically, a lack of transportation system capacity and accessibility have not been major constraints to development in the local and regional study areas defined earlier in this section, as evidenced by extensive growth and development that has occurred in the project study area in advance of, or even absent, planned transportation improvements.

Orange County

The population of Orange County in 2007 was 3,098,121 persons, making it the third largest county in California and the fifth largest county in the nation based on population. The rate of population growth in Orange County has slowed considerably in the past decade. Between 1990 and 2000, the average annual increase in population in Orange County was 1.8 percent, compared to 1.5 percent annually between 2000 and 2005 and 0.9 percent annually between 2006 and 2007. The County's population is projected by SCAG to continue to increase but at an increasingly slower rate, reaching over 3.5 million people by 2030.

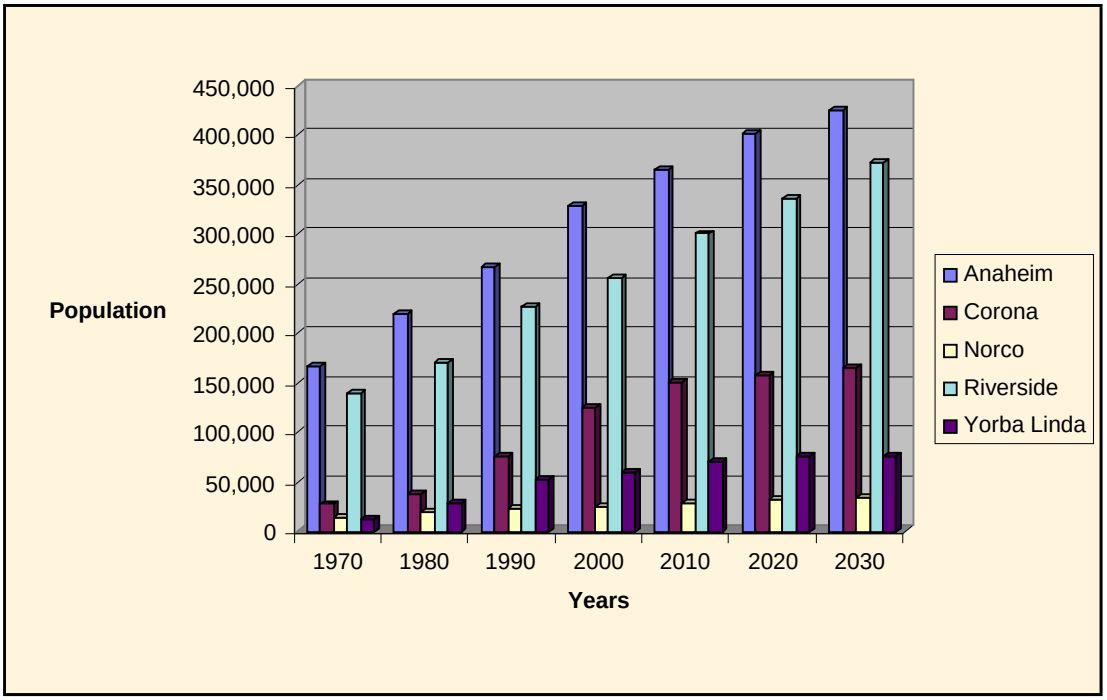
Riverside County

Riverside County is the fifth most populated county in California and the fifteenth most populated in the nation. The project segments of SR-91 and I-15 are in a subregion of the County referred to as western Riverside County, which includes the incorporated cities of Corona, Perris, San Jacinto, Riverside, Moreno Valley, and Hemet, as well as unincorporated areas around those cities. According to WRCOG 2005 indicators, the population in western Riverside County increased by 30 percent between 1990 and 2000, reaching a total of 1,131,981 persons. The total population in Riverside County is expected to continue to increase to more than 2.4 million residents by 2030.



Source: *Community Impact Assessment* (December 2010).

Figure 3.2-1 County Population Growth Patterns – 1970 to 2030



Source: *Community Impact Assessment* (December 2010).

Figure 3.2-2 City Population Growth Patterns – 1970 to 2030

This page intentionally left blank

Along with fast urbanization, increasing housing prices, and less vacant land in Los Angeles and Orange Counties, over the past decade many people moved from the surrounding counties to Riverside County for lower housing costs and a suburban lifestyle. The residential real estate market boomed in Riverside County until the beginning of the economic recession in 2007. The recent trends in residential real estate as well as impacts on many employment sectors have slowed the rate of population growth in Riverside County in the last few years. Nonetheless, the SCAG long-range projections still forecast a 3.4 percent average annual growth rate for Riverside County through 2030.

City of Anaheim (Orange County)

According to the 2000 United States Census, the population of Anaheim increased by 23 percent between 1990 and 2000. In 2000, the population of Anaheim was 328,014 persons, which accounted for 12 percent of the total population in Orange County.

According to the Anaheim General Plan Land Use Element (May 2004), the western and central parts of Anaheim are relatively built out and are characterized by a mix of suburban and urban development. The eastern part of Anaheim extends generally along the Santa Ana River to the Riverside County line and is classified in the Land Use Element as a developing area. According to the SCAG long-range projections, the total population in Anaheim is expected to increase by approximately 30 percent, to more than 425,000 residents, between 2000 and 2030.

City of Yorba Linda (Orange County)

The population of Yorba Linda increased dramatically between 1980 and 1990 (86 percent), from 28,251 to 42,422 persons, exceeding the growth rates in many of the other cities in north Orange County and the County of Orange overall. During the same period, the population of Orange County increased by 25 percent. The total population in the City of Yorba Linda as reported in the 2000 United States Census was 58,918 persons. The main factor limiting additional population growth in Yorba Linda is the relatively small amount of available land for residential development. Nonetheless, according to the SCAG long-range projections, the total population in Yorba Linda is expected to continue to increase, to more than 76,000 residents by 2030. Given that Yorba Linda is relatively built-out, future housing growth will primarily be accommodated on the City's periphery.

City of Corona (Riverside County)

According to the 1990 and 2000 United States Censuses, between 1990 and 2000 the population of Corona increased over 64 percent, from 76,095 to 124,966 persons, which made it the fastest growing city in the region over that time period. This increase was more than twice the percentage increase for Riverside County (32 percent) for the same period. This growth was largely due to Corona's accessibility from adjoining counties and affordable housing relative to other areas in southern California. By 2030, the population of Corona is projected to increase over 37 percent, to over 170,000 people.

City of Riverside (Riverside County)

According to the 2000 United States Census, the City of Riverside had over 255,000 residents in 2000. SCAG projects that the population of the City of Riverside will increase 44 percent by 2030, to more than 372,000 residents. Much of this growth is anticipated to be a result of increased jobs in the region and a continued influx of people to the region from coastal counties.

City of Norco (Riverside County)

The population of the City of Norco was 23,302 persons in 1990 and 24,157 persons in 2000. According to the WRCOG growth forecast data[1], since 2000 the population in the City has continued to grow, gaining slightly more than 3,000 persons, but this is the lowest rate of growth (13 percent) in western Riverside County. The WRCOG projects that Norco will have one of the slowest growth rates in the region, increasing by only 25 percent by 2035. Based on the Norco General Plan Land Use Map (updated May 25, 2012), the City is nearing build out in its residentially zoned areas and has a limited supply of available commercial- and industrial-zoned land. Most of the land potentially available for development consists of infill properties in commercial and residential areas. There are no planned substantial changes in land uses in the City in the foreseeable future. Additionally, the City's sphere of influence does not include much land beyond the existing City limits.

3.2.2.2 Employment and Economic Conditions

According to the United States Census Bureau, there were 650,000 jobs in Riverside County and 1.4 million jobs in Orange County in 2000. Based on estimates in the 2010 SCAG RTP Growth Forecast, jobs in 2035 are expected to increase in Riverside

[1] http://www.wrcog.cog.ca.us.

County by 116 percent to 1.4 million jobs and in Orange County by 40 percent to 1.98 million jobs.

Table 3.2.1 provides employment growth patterns from 2000 to 2035 for Orange and Riverside Counties and the cities of Yorba Linda, Anaheim, Corona, Riverside, and Norco. According to the 2035 employment estimates from the 2010 SCAG RTP, the number of jobs in the cities of Norco and Riverside will increase by more than 100 percent from 2000 to 2035, similar to the increase in Riverside County as a whole. The projected increase of 47 percent in employment for the City of Anaheim is similar to the projections for the increase in Orange County as a whole.

Table 3.2.1 Jobs Growth from 2000 to 2035

Jurisdiction	Number of Jobs in 2000	Number of Jobs in 2035	Percent Change in Jobs from 2000 to 2035
Orange County	1,411,901	1,981,902	40
Riverside County	654,387	1,413,512	116
City of Yorba Linda	15,917[1]	17,788	12
City of Anaheim	152,422	224,138	47
City of Corona	60,680	105,046	73
City of Riverside	116,137	281,264	142
City of Norco	9,836	19,998	103

Sources: United States Census 2000 and SCAG 2010 RTP Growth Forecast.
Note: Employment numbers are workers aged 16 and over.
[1] The Yorba Linda year 2000 jobs are extrapolated from an average of 2.4 percent, as indicated in the SCAG 2010 RTP for 2003 and 2005.
RTP = Regional Transportation Plan
SCAG = Southern California Association of Governments

3.2.2.3 Housing

According to the 2000 United States Census and the 2010 SCAG RTP, the total number of households in the Counties of Orange and Riverside and the cities of Yorba Linda, Anaheim, Corona, Riverside, and Norco are expected to increase substantially by 2030 as shown in Table 3.2.2. The greatest increase by 2035 is projected to occur in Riverside County, where households are estimated to increase by 134 percent to 1.18 million, exceeding the projected number of households in Orange County in 2035 by nearly 65,000 households.

3.2.2.4 Travel Patterns and Goods Movement

SCAG reports that people are moving farther away from established urban areas partly because of housing costs. This creates an incremental demand for travel; however, the capacity and extent of the road system in the SCAG region has not kept pace with population and transportation demands. California's population and total

Table 3.2.2 Household Growth from 2000 to 2035

Jurisdiction	Number of Households in 2000	Number of Households in 2035	Percent Change in Households from 2000 to 2035
Orange County	935,287	1,118,493	20
Riverside County	506,218	1,183,099	134
City of Yorba Linda	19,252	23,924	24
City of Anaheim	96,969	123,629	27
City of Corona	37,839	49,456	31
City of Riverside	82,005	126,972	55
City of Norco	6,136	9,257	51

Sources: United States Census 2000 and SCAG 2010 RTP Growth Forecast.
RTP = Regional Transportation Plan
SCAG = Southern California Association of Governments

VMT have more than doubled since 1970. However, expenditures on California's transportation infrastructure have decreased substantially since the 1970s, and the supply of roads has not matched the demand resulting from the growth that has occurred over the last four decades.

Table 3.2.3 illustrates travel patterns for the study area cities and counties. The 2000 United States Census shows that an average of 45 percent of the employed residents in the study area cities in Riverside County (Corona, Riverside, and Norco) work outside that county. In Orange County, 83 percent of residents work in that county while 17 percent work outside that county. Only 2 percent of the employed population of Anaheim works outside Orange County, while 22 percent of the employed population of Yorba Linda works outside that county. In all five cities, the majority of the employed population works outside their cities of residence.

Table 3.2.3 Travel Patterns

Place of Work	Number and Percent of Employed Persons by Jurisdiction						
	Orange County	Riverside County	Yorba Linda	Anaheim	Corona	Riverside	Norco
Work in County of Residence	1,090,703 (83%)	417,137 (71%)	22,806 (77%)	115,309 (46%)	25,906 (46%)	71,886 (69%)	4,628 (51%)
Work Outside County of Residence	217,100 (17%)	169,991 (29%)	6,746 (22%)	23,516 (2%)	30,133 (54%)	32,005 (31%)	4,429 (49%)
Work within City of Residence	292,852 (23%)	155,136 (26%)	4,801 (16%)	41,005 (29%)	15,503 (28%)	48,375 (46%)	1,529 (17%)
Work Outside City of Residence	996,907 (76%)	359,575 (61%)	24,942 (84%)	98,338 (72%)	40,706 (72%)	55,951 (34%)	7,583 (83%)
Mean Travel Time to Work (minutes)	27.2	31.2	30.4	28.1	35.3	28.7	34.4

Source: United States Census (2000).
Note: Data is based on workers age 16 and over (Census Summary File 3 [SF-3], Tables P26 and P27); therefore, percentages may not add up to 100 as not all members of the population are employed.

As shown in Table 3.2.3, the mean travel times for work trips in the study area cities and counties range from approximately 27 to 35 minutes. According to the *Final Traffic Study Report* (January 2010) prepared for the project, by 2035, without the project, ADT volumes are anticipated to increase between 7 and 21 percent on various segments of SR-91, which would be expected to result in increased travel times in and through the project study area.

The southern California goods movement system is the fastest-growing segment of the region's transportation sector. The container volume at the Ports of Los Angeles and Long Beach has increased almost 60 percent since 2000 and is expected to triple by 2030. According to SCAG, more than 75 percent of the containers processed by the Ports of Los Angeles and Long Beach between 2006 and 2007 involved at least one truck trip in the region to a rail intermodal facility, a warehouse, or a transload facility. These trucks contribute to the existing road congestion in the region and will contribute to future congestion because the number of trucks is projected to increase substantially. SCAG also projects that the number of freight trains in the region will double by 2025, and the transportation of goods by air will also increase, which will lead to an increase in truck trips as freight is transported to other transportation facilities.

3.2.2.5 Adopted Regional and Local Plans

Adopted regional and local plans that include growth management and transportation goals and policies are described by jurisdiction in Section 3.1, Land Use, which also provides additional information on existing land and planned land uses in Orange and Riverside Counties and the five cities in the project study area.

3.2.3 Environmental Consequences

3.2.3.1 Summary of Impacts

Alternatives 1 and 2 would not result in project-related growth impacts.

3.2.3.2 Summary of Impacts of Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. As discussed below in Section 3.2.3.3, Impacts of Alternatives 1 and 2, the Initial Phase and Ultimate Project under Alternative 2f would not result in project-related growth impacts.

3.2.3.3 Impacts of Alternatives 1 and 2

Because potential growth-related effects represent permanent impacts of a project, there is no discussion of temporary impacts related to growth in this section.

The "first cut screening" analysis focuses on addressing the following four questions:

How, if at all, does the project potentially change accessibility?

The Build Alternatives would improve the vehicle, person, and goods movement travel times on SR-91 and I-15 to more effectively serve existing and future travel demand between and within Orange and Riverside Counties. The Build Alternatives also propose improvements to intersecting local roads (interchange improvements and ramp modifications) along SR-91 and I-15 to more effectively serve existing and forecast intra-regional travel demand and to reduce the diversion of regional traffic from the freeways into the surrounding communities.

Alternative 2 proposes to extend the existing express lanes in Orange County east from the Orange County/Riverside County line to McKinley Street in Riverside. The existing HOV lanes would be converted to tolled express lanes and one additional tolled express lane in each direction would be constructed to I-15. Express lane direct connectors between I-15 and SR-91 would provide access from northbound I-15 to westbound SR-91 and from eastbound SR-91 to southbound I-15 extending to and from Cajalco Road. Additionally, the project includes express lane direct connectors from eastbound SR-91 to northbound I-15 and from southbound I-15 to westbound SR-91, extending north on I-15 to the Hidden Valley Parkway interchange. The direct connectors would allow express lane drivers to travel from the express lanes on one corridor into the express lanes on another corridor without having to merge through the general-purpose lanes.

As noted above, the Build Alternatives would result in improvements to the operational performance of SR-91 and I-15. However, the Build Alternatives would not add new interchanges with local roads or other freeways on either SR-91 or I-15. As a result, although the operations on SR-91 and I-15 would be improved, this would not result in a substantial change in accessibility to/from these corridors for the following reasons:

- No new interchanges between local roads and SR-91 and I-15 will be provided by the Build Alternatives.
- The Build Alternatives will modify local street access to/from interchanges with SR-91 and I-15 in the immediate vicinity of the interchanges but will not provide capacity or other accessibility-enhancing improvements farther away from the interchanges.

- Although the Build Alternatives include freeway-to-freeway ramps for the HOV and express tolled lanes that would improve operations and travel times on those facilities, those ramps would not provide new access between those freeways because traffic can currently travel from freeway to freeway in the general-purpose travel lanes.
- The Build Alternatives do not provide interchanges at or access to other freeway facilities not already accessible to/from SR-91 and I-15.

In summary, although the Build Alternatives would improve the operations on SR-91 and I-15 and would improve accessibility to and/or from existing interchanges in the SR-91 CIP study area, the project improvements would not add new access to and/or from SR-91 and I-15 that would result in growth pressures in areas where such access does not presently exist.

How, if at all, do the project type, project location, and growth pressure potentially influence growth?

The SR-91 CIP responds to existing and forecast traffic congestion resulting from prior restrictions to any improvements on SR-91 east of the Orange County toll road and traffic congestion due to local and regional growth that has already occurred in western Riverside County. This area is projected to continue to experience growth in population and jobs even in jurisdictions relatively constrained by limited land available for development. The project area includes highly urbanized areas (City of Corona, the part of Riverside County within the project limits) with little remaining development capacity. Improvements to SR-91 and opportunities for new residential and nonresidential development are also constrained on the south by the CNF and New OC Park (NNL), and on the north by CHSP, the Santa Ana River, and Featherly Regional Park.

The SR-91 CIP proposes improvements on existing transportation facilities. The SR-91 CIP will not provide new freeways or other new roads around SR-91 and I-15. In addition, as noted above, although this project will improve operations on SR-91 and I-15, it will not substantially modify overall local, intra regional, or inter regional accessibility to and/or from SR-91 and I-15. As a result, the type of project and the facility improvements proposed by the SR-91 CIP would not in themselves provide improved accessibility that could result in pressure for additional growth in the area.

SR-91 is the only major freeway corridor connecting Riverside and Orange Counties. As discussed in Section 3.1.2.2, Environmental Consequences, Alternatives 1 and 2

would require counties and cities to amend their General Plan Land Use and Circulation Elements and potentially individual Specific Plans to reflect the final project alignment, interchange locations, and redesignation of land acquired for the project from nontransportation to transportation designations. The General Plan land uses affected by the Build Alternatives that would require redesignation in the local land use plans are shown on Figures 3.1-3 and 3.1-4 for Alternatives 1 and 2, respectively, and are summarized in Table 3.1.2. Although the SR-91 CIP would result in land designated for other uses being converted to transportation uses, that in itself would not be sufficient to result in pressure for growth in nontransportation uses in other areas in the vicinity of SR-91 and I-15. As a result, the location of the project segments of SR-91 and I-15 in areas designated in the local General Plans for transportation and nontransportation uses would not in itself be sufficient to result in pressure for additional growth in the area.

With the exception of the redesignation of land uses for areas incorporated into the transportation facilities, the Build Alternatives are not expected to result in other changes to land uses in the study area based on the type of project or the location of the improvements provided by the Build Alternatives. This is because the Build Alternatives are on existing segments of SR-91 and I-15 in areas that have experienced rapid population, housing, and employment growth over the last couple of decades largely as a result of affordable and available housing in those areas. The past and forecasted growth in western Riverside County is consistent with the adopted local jurisdictions' General Plans and with overall adopted regional and local demographic forecasts and has not been and is not expected in the future to be dependent on transportation improvements in this part of western Riverside County. In addition, western Riverside County is projected to continue to experience growth in population and jobs even in jurisdictions that are relatively constrained by limited land available for development and without being dependent on transportation improvements. Growth in the counties and cities in the SR-91 CIP area is expected to occur with or without the project, and is not dependent on transportation improvements in the SR-91 and I-15 corridors.

The improved travel times expected to be achieved as a result of Build Alternatives could have a slight increase on demand for residential and nonresidential uses in the project area or nearby cities. However, that influence is expected to be very minor when considered with other pressures for growth and development, specifically economic and market conditions in the area and developers available and interested in developing residential and/or nonresidential projects in western Riverside County.

Demand for new development is largely driven by economic and market conditions. Improved travel times on SR-91 and I-15, while expected to benefit residents and businesses in this part of western Riverside County, are not expected by themselves to result in growth pressure for new residential or nonresidential uses in the area.

The SR-91 CIP has the potential to contribute to, and possibly accelerate, the growth rate for western Riverside County. However, it would be considered negligible, as the jurisdictions within the project footprint (Cities of Corona and Norco) are relatively constrained by limited land available for development[1] compared to other parts of western Riverside County. The project area includes highly urbanized areas (City of Corona and the part of the Riverside County Temescal Canyon Area Land Use and suburban areas [City of Norco]) with little remaining development capacity.[2] Improvements to SR-91 and opportunities for new residential and nonresidential development are also constrained by existing publicly owned lands that are subject to future development. These lands include:

- **CHSP on the North and South Sides of SR-91:** The CHSP area is identified as: (1) natural open space (no residential or commercial development permitted) on the City of Anaheim General Plan Land Use Map (November 30, 2010); (2) open space/recreation (no residential or commercial development permitted) in the City of Yorba Linda General Plan Land Use Element (1993); and (3) open space/recreation (no residential or commercial development permitted) in the City of Corona General Plan Map Book (January 25, 2012).
- **New OC Park (NNL) on the South Side of SR-91:** The New OC Park (NNL) area is identified as Open Space Reserve (land that is to remain open space as stated on page III-19 of the Orange County General Plan Land Use Element) on the Orange County General Plan Land Use Map (September 13, 2005).
- **Cleveland National Forest South of SR-91 and West of I-15:** The Cleveland National Forest area is identified as Cleveland National Forest (land under federal ownership that constitutes a constraint to development as stated on page III-8 of the Orange County General Plan Land Use Element) on the Orange County General Plan Land Use Map (September 13, 2005).

---

1 Updated Growth Forecast for WRCOG Subregion, http://www.wrcog.cog.ca.us.

2 City of Corona General Plan, page 29, adopted March 17, 2004; Riverside County General Plan, Temescal Canyon Area Land Use Plan, 2008; and City of Norco General Plan Land Use Map, updated May 25, 2012.

- **Featherly Regional Park on the North Side of SR-91:** The Featherly Regional Park area is identified as Parks (land for active and passive recreational uses only) on the City of Anaheim General Plan Land Use Map (November 30, 2010).

In summary, the type and location of the SR-91 CIP Build Alternatives are not sufficient to result in pressure for additional growth in western Riverside County. The Build Alternatives are expected to accommodate existing, approved, and planned growth in the area but are not expected to influence the amount, timing, or location of growth in the area as a result of the type or location of the project.

Is project-related growth reasonably foreseeable (as defined by NEPA, i.e. indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative)?

As discussed above, the SR-91 CIP is not expected to influence the amount, timing, or location of growth in the project area as a result of the type or location of the project. Therefore, the SR-91 CIP Build Alternatives will not result in reasonably foreseeable project-related growth in the study area.

If there is project-related growth, how, if at all, will that impact resources of concern?

As discussed above, there are no reasonably foreseeable project-related growth impacts expected to result from the project.

Based on this "First Cut Screening" analysis, no further analysis is required.

3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Consistent with the results of the "First Cut Screening" analysis, no avoidance, minimization and/or mitigation measures are required.

3.3 Farmlands/Timberlands

3.3.1 Regulatory Setting

The National Environmental Policy Act (NEPA) and the Farmland Protection Policy Act (FPPA; 7 USC 4201-4209; and its regulations, 7 CFR Part 658) require federal agencies, such as the FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance.

The California Environmental Quality Act (CEQA) requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to deter the early conversion of agricultural and open space lands to other uses.

3.3.2 Affected Environment

The information and analysis in this section regarding farmlands are based on the CIA. There are no timberlands in or adjacent to the study area for the project; therefore, there is no discussion of this resource in this section.

As shown on Figure 3.3-1, the study area for farmlands for the project is an approximately 1 mi wide area on each side of SR-91 and I-15 for the length of the project limits. This study area is consistent with the study area for the NRCS analysis of farmland impacts.

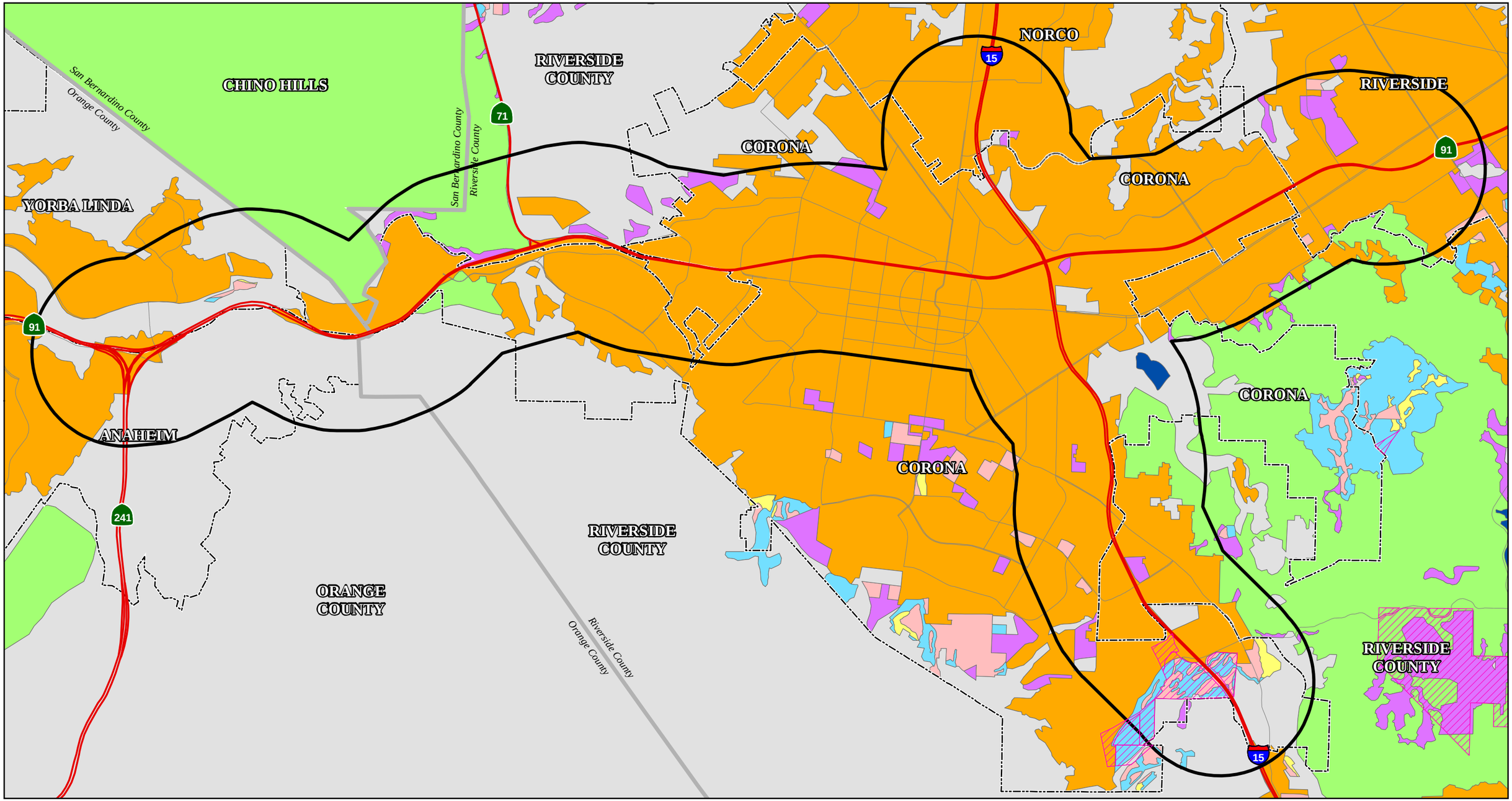
3.3.2.1 Designated Farmlands and Existing Agricultural Uses

Designated Farmlands

Based on information from Riverside County, Orange County, the State of California Department of Conservation, and the United States Department of Agriculture, there are five primary categories used to describe and map farmland:

- **Farmland of Local Importance:** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

This page intentionally left blank



LEGEND

- Study Area
- Land Uses in the Study Area
  - Farmland of Local Importance
  - Grazing Land
  - Urban and Built Up Land
  - Other Land
  - Farmland of Statewide Importance
  - Prime Farmland
  - Unique Farmland
  - Water
  - Agriculture Preserve

N

0 0.5 1
Miles

SOURCE: California Department of Conservation Farmland Mapping and Monitoring Program (2004), Riverside County TLMA (2007), PB (2009).

I:\PAZ0701\GIS\Farmlands\EIR_Farmlands.mxd (5/10/2010)

FIGURE 3.3-1

SR-91 Corridor Improvement Project

Existing Farmlands in the Study Area

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

- **Farmland of Statewide Importance:** Irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture, than Prime Farmland.
- **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, the University of California Cooperative Extension, and other groups interested in the extent of grazing activities in California.
- **Prime Farmland:** Irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high crop yields.
- **Unique Farmland:** Lesser quality soils used for production of the State's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California.

In addition to those five categories that focus on agricultural categories, the California Department of Conservation also maps land uses in the following categories:

- **Urban and Built Up Land:** Land occupied by structures with a building density of at least one unit to 1.5 ac, or approximately six structures to a 10 ac parcel.
- **Other Land:** Land that does not meet the criteria of any other land use category. Typical uses include low-density rural development, heavily forested land, mined land, or government land with restrictions on use.
- **Water:** Water areas with an extent of at least 40 ac.
- **Area Not Mapped:** Area that falls outside of the NRCS soil survey.

As shown in Table 3.3.1, lands in the study area that are mapped as Prime Farmland, Unique Farmland, Farmland of Statewide Importance, Farmland of Local Importance, or Grazing Lands comprise nearly 3,300 ac, as designated by the State of California Department of Conservation FMMP maps. In addition, the study area includes 1,100 ac of land within agricultural preserves. The agricultural preserves are south of Cajalco Road on the east and west sides of I-15 as shown on Figure 3.3-1.

Table 3.3.1 SR-91 CIP Study Area Farmland Acres by Land Category and Location

Land Mapping Category[1]	County (acres)			Total Acres Within the Study Area[2]	% of Total Study Area Acres[3]
	Orange	Riverside	San Bernardino		
Prime Farmland	15.9	210.8	0.0	226.1 (83.4)	0.8 (0.3)
Farmland of Statewide Importance	2.1	36.0	0.0	38.1 (0)	0.1 (0.0)
Unique Farmland	3.4	206.8	0.0	210.2 (147.2)	0.8 (0.5)
Farmland of Local Importance	0.0	664.1	0.0	664.1 (0)	2.4 (0.0)
Grazing Land	0.0	1,571.1	575.0	2,146.0 (0)	7.7 (0.0)
Urban and Built Up Land	1,396.0	16,483.0	23.3	17,902.3 (36.0)	63.9 (0.1)
Other Land	2,827.5	3,944.2	0.0	6,771.7 (83.4)	24.2 (0.3)
Water	0.0	44.9	0.0	44.9 (0)	0.2 (0.0)
Total Acres within the Study Area	4,244.9	23,160.8	598.3	28,003.9 (1,100.6)	--
% of Total Study Area Acres[4]	15.2%	82.7%	2.1%	100% (100%)	100%

Source: Farmland Mapping and Monitoring Program, State of California, Department of Conservation (February 2009).

[1] There is no land in the study area in the mapping category "Area Not Mapped."

[2] A number in parentheses indicates the acres of agricultural land in that category that are in agricultural preserves.

[3] A number in parentheses indicates the percentage of acres of agricultural land in that category that are in agricultural preserves.

[4] Totals may not be 100% due to rounding.

Existing Agricultural Uses

Agricultural production in the study area is extremely limited due to existing and proposed urban development and to the physical limitations posed by the topography of Santa Ana Canyon. There are mapped farmlands in the study area along the eastern segment of SR-91 in Riverside County, along SR-91 in Chino Hills State Park, and along the southern segment of I-15 in the City of Corona. Table 3.3.1 summarizes the distribution of farmland and other land uses in acres, by Farmland Mapping and Monitoring Program (FMMP) land mapping category in the project study area, and by county.

Agricultural-related General Plan policies, local ordinances, and other policies related to agricultural resources are described in detail in the CIA.

3.3.2.2 Prime and Unique Farmlands

The majority of the Prime and Unique Farmlands in the study area is in the City of Corona at the southernmost segment of I-15 near the Cajalco Road interchange, as shown on Figure 3.3-1. Prime and Unique Farmlands in Corona are also the only agricultural preserve lands in the study area. The land in the agricultural preserve has an agricultural land use designation and is identified as an Agricultural Opportunity District in the City of Corona General Plan (City of Corona General Plan Land Use Figure 11). This agricultural preserve is not included in any Williamson Act contract, as described later in Section 3.3.2.5, Williamson Act Contract Lands.

The mapped Prime Farmlands and Unique Farmlands in the study area are along the western segment of SR-91 in the City of Yorba Linda in Orange County:

- Land along the Santa Ana River owned by the OCFCD;
- A small area north of SR-91 near the eastern terminus of the project; and
- Several small areas on the west wide of I-15 and north of the larger area and agricultural preserve to the south.

3.3.2.3 Farmlands of Statewide or Local Importance

There is designated Farmland of Statewide Importance east of I-15 near the southern project terminus, and there are small areas of Farmland of Local Importance throughout the study area as shown on Figure 3.3-1.

3.3.2.4 Grazing Lands

As shown on Figure 3.3-1, Grazing Land in the study area is located along the western segment of SR-91 in Riverside and San Bernardino Counties, and in the City of Corona and unincorporated Riverside County east of I-15 and south of SR-91.

3.3.2.5 Williamson Act Contract Lands

The California Land Conservation Act, better known as the Williamson Act, is a nonmandated State program administered by counties and cities to preserve agricultural lands by discouraging the premature conversion of farmland to nonfarmland uses. Although participation in the program is voluntary on the part of both landowners and local governments, tax incentives for private landowners as well as planning advantages and fiscal assistance to local governments have made it the State's premier agricultural land protection program since its enactment in 1965. The Williamson Act allows individual property owners to have their properties assessed on the basis of their agricultural production rather than at their current market values. There are no agricultural lands in the study area covered by Williamson Act contracts.

3.3.3 Environmental Consequences

3.3.3.1 Summary of Impacts

The impacts of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 related to designated farmlands are the same with any design variation because the design variations are not located in or near any designated farmlands. As a result, the impacts for Alternative 2 and its design variations described in this section are the impacts for Alternative 2f, the Preferred Alternative as described below.

As described later in this section, the Initial Phases of Alternatives 1 and 2 and their design variations would result in the permanent conversion of 3.8 ac of designated Farmland of Local Importance and 2.7 ac of Grazing Land to nonagricultural uses.

The Alternative 1 Ultimate Project and its design variations would result in the permanent conversion of 1.8 ac of Farmland of Local Importance and 15.2 ac of Grazing Land to nonagricultural uses.

The Alternative 2 Ultimate Project and its design variations would result in the permanent conversion of 4.1 ac of Farmland of Local Importance and 16.6 ac of Grazing Land.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in permanent impacts related to remainder parcels and access to agricultural parcels, policies related to agricultural uses, and agricultural preserve and Williamson Act Contract lands.

The Initial Phases of Alternatives 1 and 2 and their design variations would not result in the temporary use of any designated agricultural land for TCEs or other uses during construction.

The Alternative 1 Ultimate Project and its design variations would result in the temporary use of 3.4 ac of Grazing Land for TCEs.

The Alternative 2 Ultimate Project and its design variations would result in the temporary use of 0.1 ac of Farmland of Local Importance and 3.5 ac of Grazing Land for TCEs.

Construction of the Build Alternatives could result in short-term air quality impacts on adjacent agricultural uses or noise impacts on grazing animals.

Summary of Impacts of Alternative 2f

The Initial Phase of Alternative 2f would result in the permanent conversion of 3.8 ac of designated Farmland of Local Importance and 2.7 ac of Grazing Land to nonagricultural uses. The Ultimate Project under Alternative 2f would permanently convert a total of 4.1 ac of designated Farmland of Local Importance and a total of 16.6 ac of Grazing Land to nonagricultural uses.

The Ultimate Project under Alternative 2f would also result in the temporary use of 0.1 ac of designated Farmland of Local Importance and 3.5 ac of Grazing Land for TCEs.

3.3.3.2 Permanent Impacts

Alternatives 1 and 2

Conversion of Designated Farmland

The amounts of designated farmlands that would be permanently converted to transportation uses by the Initial Phases and Ultimate Projects for Alternatives 1 and 2 are shown on Figures 3.3-2 through 3.3-4 and are summarized in Table 3.3.2. As shown in Table 3.3.2, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in the permanent conversion of any designated Prime Farmland, Farmland of Statewide Importance, or Unique Farmland.

Table 3.3.2 Permanent Impacts to Designated Farmlands (acres)

Alternative and Design Variations	Designated Farmlands						Impacts to Other Land Uses[1]
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Grazing Land	Total	
Initial Phases of the Alt. 1 and 2 Projects	0.0	0.0	0.0	3.8	2.7	6.5	71.6
Alternative 1 Ultimate Project[2]							
Design Variation 1a	0.0	0.0	0.0	1.8	15.2	17.0	192.4
Design Variation 1b	0.0	0.0	0.0	1.8	15.2	17.0	199.8
Design Variation 1c	0.0	0.0	0.0	1.8	15.2	17.0	191.0
Design Variation 1d	0.0	0.0	0.0	1.8	15.2	17.0	198.4
Alternative 2 Ultimate Project[2]							
Design Variation 2a	0.0	0.0	0.0	4.1	16.6	20.7	298.0
Design Variation 2b	0.0	0.0	0.0	4.1	16.6	20.7	297.6
Design Variation 2c	0.0	0.0	0.0	4.1	16.6	20.7	333.6
Design Variation 2d	0.0	0.0	0.0	4.1	16.6	20.7	333.2
Design Variation 2e	0.0	0.0	0.0	4.1	16.6	20.7	293.2
Design Variation 2f	0.0	0.0	0.0	4.1	16.6	20.7	292.7
Design Variation 2g	0.0	0.0	0.0	4.1	16.6	20.7	332.6
Design Variation 2h	0.0	0.0	0.0	4.1	16.6	20.7	332.6

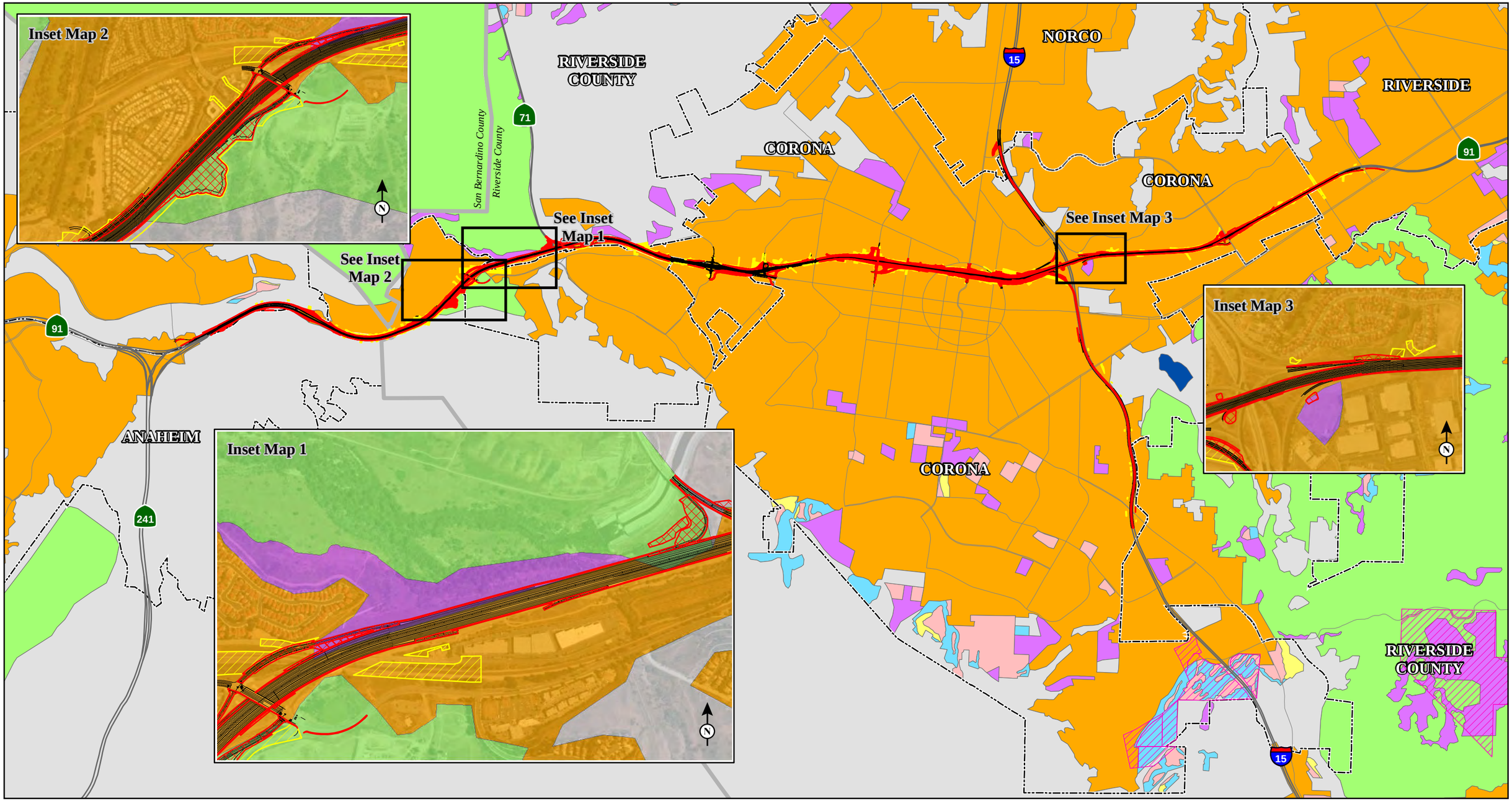
Source: *Community Impact Assessment* (December 2010).

[1] Other land uses are Urban and Built Up Land, Other Land, and Water.

[2] These impacts are in addition to the impacts that would occur in the Initial Phase of this Alternative.

Impacts to Farmlands of Local Importance would occur in the Initial Phases and Ultimate Projects under each of the Build Alternatives, as shown in Table 3.3.2. This conversion of farmland would occur on the farmlands on the north side of SR-91 in the western part of Riverside County and on lands south of SR-91 and east of I-15.

This page intentionally left blank



LEGEND

Alternative 1 Ultimate Project Right-of-Way Limits

Alternative 1 Ultimate Project Impacts

- Permanent Impacts
- Temporary Impacts

Land Uses in the Alternative 1 Right-of-Way Limits

- Urban and Built Up Land
- Grazing Land
- Farmland of Local Importance
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Other Land
- Water
- Agriculture Preserve

SOURCE: California Department of Conservation Farmland Mapping and Monitoring Program (2004), Riverside County TLMA (2007), PB (2010).
I:\PAZ0701\GIS\Farmlands\ALT1_Impacts.mxd (6/22/2012)

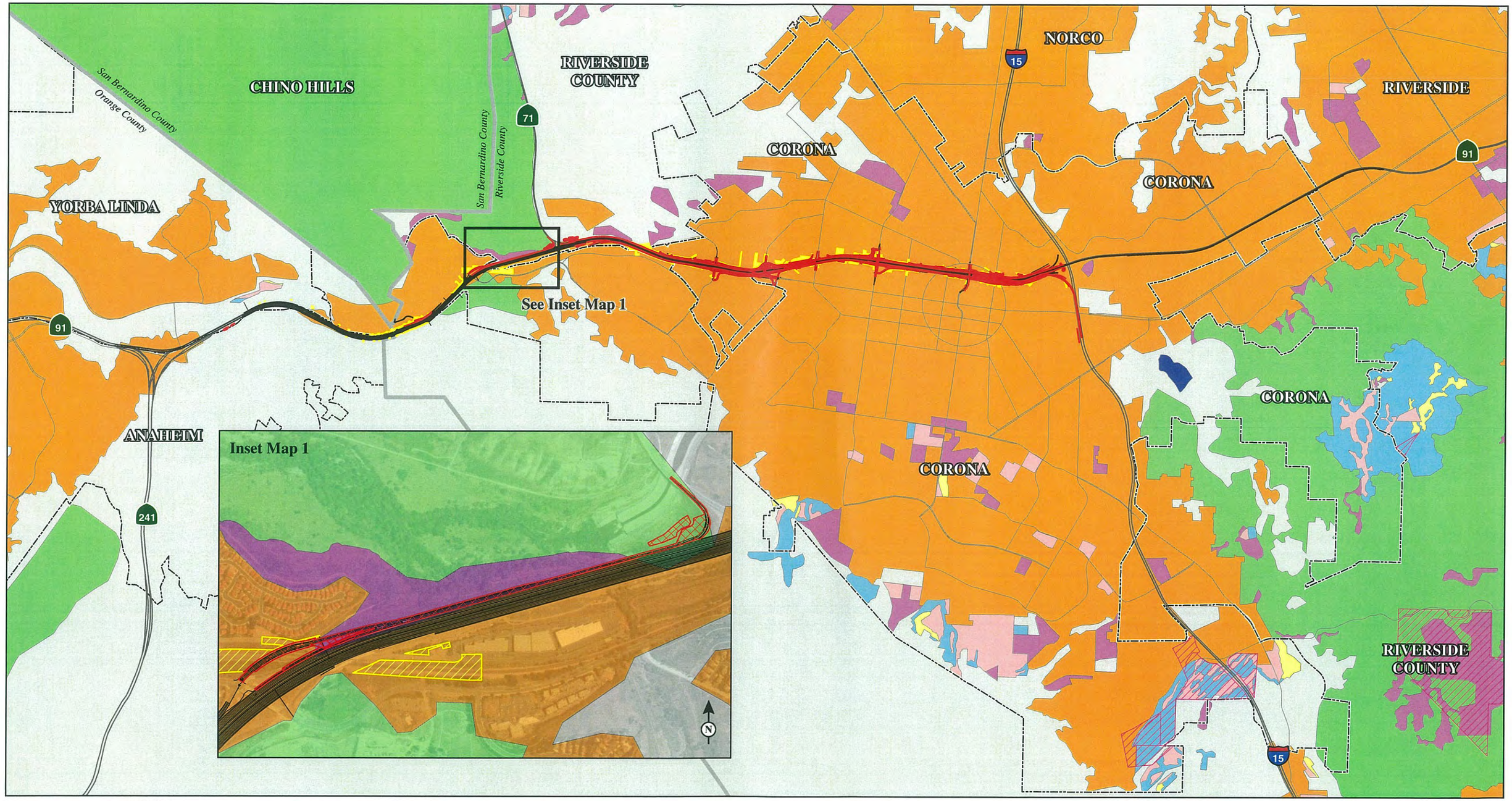
FIGURE 3.3-2

SR-91 Corridor Improvement Project

Farmlands Impacted by the Alternative 1 Ultimate Project

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



SOURCE: California Department of Conservation Farmland Mapping and Monitoring Program (2004), Riverside County TLMA (2007), PB (2010).
I:\PAZ0701\GIS\FEIR_EIS\Farmlands_ALT2_Initial_Impacts.mxd (6/22/2012)

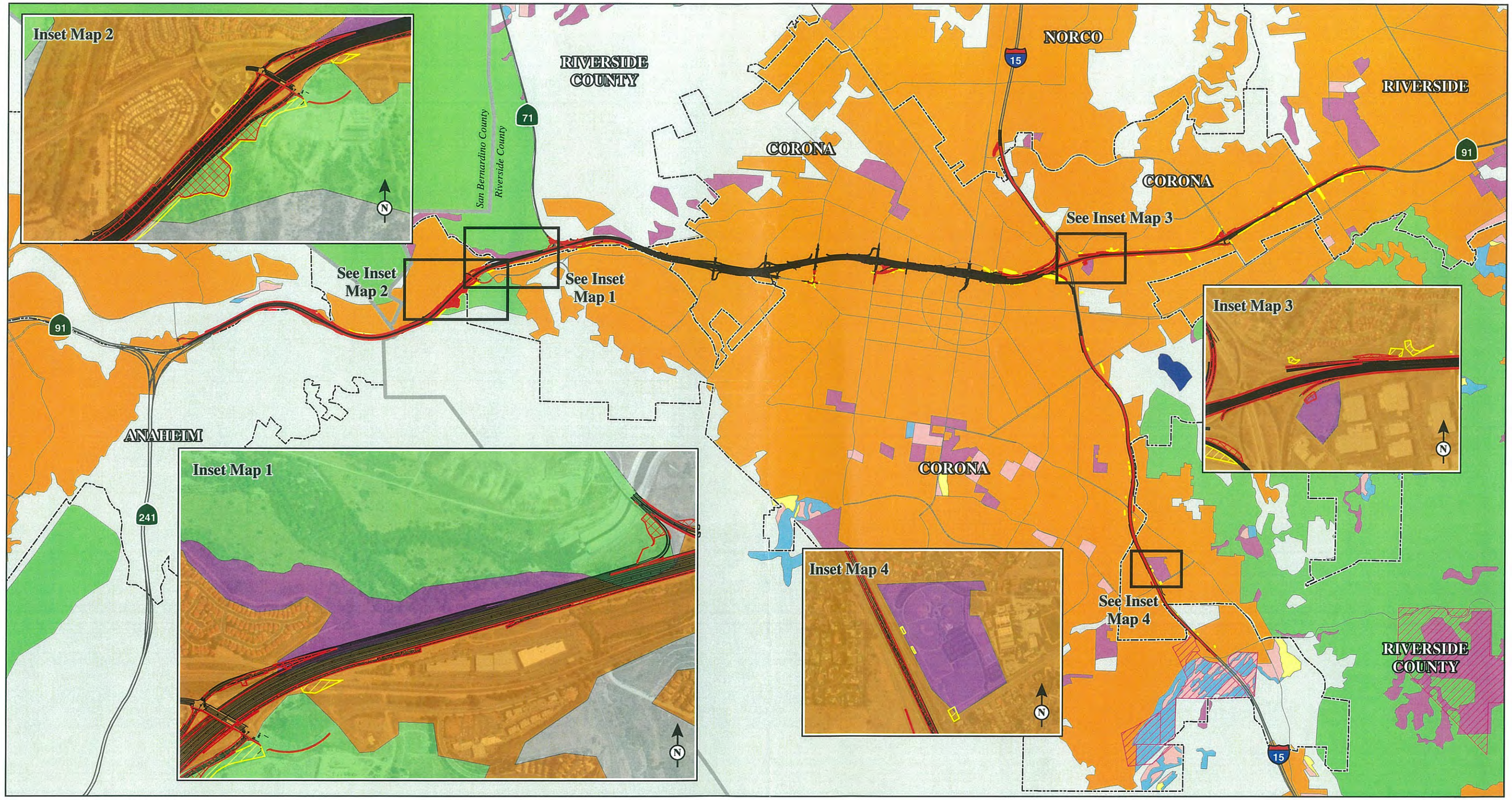
FIGURE 3.3-3

SR-91 Corridor Improvement Project

Farmlands Impacted by the Initial Phase of Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

Alternative 2 Ultimate Project Right-of-Way Limits

Alternative 2 Ultimate Project Impacts

- Permanent Impacts *
- Temporary Impacts *

Land Uses in the Alternative 2 Right-of-Way Limits

- Urban and Built Up Land
- Grazing Land
- Farmland of Local Importance
- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Other Land
- Water
- Agriculture Preserve

* These impacts are in addition to the impacts for the Initial Phase

SOURCE: California Department of Conservation Farmland Mapping and Monitoring Program (2004), Riverside County TLMA (2007), PB (2010).

I:\PAZ0701\GIS\FEIR_EIS\Farmlands_AL12_Impacts_Rev1.mxd (6/22/2012)

FIGURE 3.3-4

SR-91 Corridor Improvement Project

Farmlands Impacted by the Alternative 2 Ultimate Project

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

The greatest loss of designated farmland under the Build Alternatives would be the permanent conversion of Grazing Land along the western project segment in Riverside County, west of SR-71, as shown in Table 3.3.2. The permanent impacts to designated farmlands would result in conversion of approximately 0.3 to 0.8 percent of the farmlands in the project study area and only very small percentages of the total farmlands in Orange and Riverside Counties and the State.

North of SR-91 and West of SR-71

As shown in Inset Map 1 on Figures 3.3-2 through 3.3-4, there is designated Farmland of Local Importance and Grazing Land on the north side of SR-91. That land is currently not used for any agricultural or grazing purposes. The designated Farmland of Local Importance and the Grazing Land in this area is bounded by SR-71 to the east; urban and built-up land to the west and north; additional Farmland of Local Importance, Grazing Land, and CHSP to the north; and SR-91 to the south. Much of the Grazing Land to the north is in CHSP and is not currently used for any grazing or agricultural activities. The remainder of the land is also predominantly vacant and includes rights-of-way for SR-91, Corps facilities, and CHSP. Access to these areas is limited to the Department, the Corps, and CHSP.

The designated farmlands on the north side of SR-91 that would be permanently acquired and incorporated in the transportation facilities under Alternatives 1 and 2 are currently vacant and not used for any agricultural purposes. The area that would be used by Alternatives 1 and 2 is on the edge of the designated Farmland of Local Importance and Grazing Land, and would not bisect that area. As shown in Inset Map 1 on Figures 3.3-2 through 3.3-4, the parcel of Farmland of Local Importance is one large continuous parcel that would be sufficient to support agricultural operations in the future should State Parks choose to allow that type of land use in that part of CHSP. Therefore, Alternatives 1 and 2 would not result in unusable remainder parcels of designated agricultural land. The existing access to this area of Farmland of Local Importance and Grazing Land is restricted to the Department, CHSP, and the Corps. That access would not be affected by the use of designated farmlands adjacent to SR-91 in that area. Therefore, Alternatives 1 and 2 would not result in the removal of any active existing agricultural or grazing activities, bisect any designated farmlands, result in unusable remainder parcels of designated farmland, or in restrictions to access to designated farmlands not affected by the Build Alternatives in the areas on the north side of SR-91 and west of SR-71.

South of SR-91 and West of SR-71

As shown in Inset Map 2 on Figures 3.3-2 through 3.3-4, there is designated Grazing Land on the south side of SR-91, west of the SR-71 interchange. That land is vacant and is not currently used for any agricultural or grazing purposes. Access to the area is provided via Fresno Road and private unpaved roads in the areas designated as Grazing Land.

The designated farmlands on the south side of SR-91 that would be permanently acquired and incorporated in the transportation facilities under Alternatives 1 and 2 are currently vacant and not used for any agricultural purposes. The area that would be used by Alternatives 1 and 2 is on the edge of the designated Grazing Land and would not bisect those areas. Because relatively small amounts of land would be acquired in these areas, the remaining areas would be sufficient to support agricultural operations in the future and, therefore, Alternatives 1 and 2 would not result in unusable remainder parcels. The access to Grazing Land via Fresno Road and the unpaved roads in the Grazing Land area would not be affected because they are south of the designated farmlands adjacent to SR-91 that would be used in those areas. Therefore, Alternatives 1 and 2 would not result in the removal of any active existing agricultural or grazing activities, bisect any designated farmlands, result in unusable remainder parcels of designated farmland, or in restrictions to access to designated farmlands not affected by the Build Alternatives in the areas on the south side of SR-91 and west of SR-71.

South of SR-91 and East of I-15

As shown in Inset Map 3 on Figures 3.3-2 through 3.3-4, there is an area of designated Grazing Land on the south side of SR-91, immediately east of the I-15 interchange. This parcel is currently used for radio and other transmission towers/antennas. There are currently no grazing or agricultural activities occurring on any part of the designated Grazing Land. This area is completely surrounded by existing transportation and urban and built-up uses.

The area that would be permanently acquired and incorporated in the transportation facilities under Alternatives 1 and 2 is on the edge of the northwest side of the parcel and would not bisect the Grazing Land area or result in unusable remainder parcels. Access to the site is via Radio Road, which enters the Grazing Land area from the south. That access would not be affected by Alternatives 1 and 2. Therefore, Alternatives 1 and 2 would not result in the removal of any active existing agricultural or grazing activities, bisect any designated farmlands, result

in usable remainder parcels of designated farmland, or in restrictions to access to designated farmlands not affected by the Build Alternatives in the area on the south side of SR-91 and east of I-15.

Farmland Conversion Impact Rating Form

A project that has federal involvement and which would or may irreversibly convert farmland (directly or indirectly) to a nonagricultural use must comply with the federal FPPA. For corridor-type projects such as this project, the FPPA calls for completing Form NRCS-CPA-106. The purpose of completing the NRCS-CPA-106 form is to provide a method of assessing and quantifying potential project-related farmland impacts to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmlands to nonagricultural uses and to ensure that federal programs are administered in a manner that, to the extent practicable, will be compatible with State, local, and private programs and policies established to protect farmlands.

Form NRCS-CPA-106 uses a point-based approach to assess the relative value of agricultural lands. Completing the NRCS-CPA-106 form is an iterative process which required both the NRCS and the Department to complete specified parts of the form. For the first set of factors (i.e., the Land Evaluation Criteria), the NRCS determines whether the project limits include farmlands subject to the FPPA. If the project limits include farmland subject to the FPPA, the NRCS measures the relative value of that farmland on a numerical scale. Measuring and assigning point values to the second set of factors (i.e., the Corridor Assessment Criteria) is the responsibility of the Department. A single score is generated for a given project after the relative value of the farmland and the Corridor Assessment Criteria are scored and weighted. Final project scoring is based on a scale of 260 points, with a maximum score of 100 points for the Land Evaluation Criteria and a maximum score of 160 points for the Corridor Assessment Criteria. The total number of points is used to determine the level of impact a project could have on designated farmland. Through coordination with the NRCS, Form NRCS-CPA-106 was completed for the Build Alternatives and the No Build Alternative based on the designated agricultural lands in the study area. The completed form, dated June 18, 2010, is provided following the last page of text in this section.

Form NRCS-CPA-106 Results

Both Build Alternatives would traverse minimal amounts of land designated for agricultural uses such as grazing, citriculture, and nurseries. The final scoring for the

Build Alternatives and the No Build Alternative on Form NRCS-CPA-106 is provided in Table 3.3.3. As shown, the final score for Alternative 1 is 88, and the final score for Alternative 2 is 93. The Build Alternatives received scores of 81 in the Land Evaluation section completed by the NRCS. As shown, the Corridor Assessment scores are 7 for Alternative 1 and 12 for Alternative 2.

Table 3.3.3 Form NRCS-CPA-106 Final Scoring

Alternative	Land Evaluation Subtotal	Corridor Assessment Subtotal	Final NRCS-CPA-106 Score
Alternative 1	81	7	88
Alternative 2	81	12	93
Initial Phase of Alternative 2	81	12	93
No Build Alternative	0	0	0

Source: United States Department of Agriculture Farmland Conversion Impact Rating Form for the SR-91 CIP (June 2010; provided in Appendix A); and the California Department of Transportation (June 17, 2010).
SR-91 CIP = State Route 91 Corridor Improvement Project

Pursuant to the instructions for completing Form NRCS-CPA-106, sites receiving a total score of less than 160 points shall be given a "… minimum level of consideration for protection." The Build Alternatives for the project are well below the 160-point threshold and should be given the minimum level of consideration for protection. No further analysis is required to address farmland impacts under the FPPA for Alternatives 1 and 2.

Impacts Related to Access to Agricultural Parcels

The impacts related to mapped farmlands are along edges of the parcels as discussed in Section 3.2.2.2, Permanent Impacts, above. Because none of these parcels are in active agricultural production, Alternatives 1 and 2 would not adversely affect access to agricultural uses. Following the partial acquisitions of these agricultural parcels for the SR-91 CIP, access to the remainder of the parcel would be unchanged from what exists today.

Policies Related to Agricultural Uses

As described in the CIA, Section 3.4.2, Existing Policies and Regulations, there are several local plans/policies related to agricultural uses. Applicable plans and ordinances in the project study area include the Riverside County, City of Corona, and City of Riverside General Plans, and County of Riverside Ordinances 625 (Right to Farm) and 509 (Agricultural Preserves). The plan policies and ordinances provide protection to existing agricultural areas. However, the General Plans also state that urban uses are anticipated to be developed on the existing agricultural properties. The

Build Alternatives are not anticipated to result in conflicts related to existing agricultural zoning, policies, and ordinances.

The analyses in Section 3.1, Land Use, indicate that the local General Plans designate urban and built-out, residential, open space and parks, industrial, and mixed-use (industrial, residential, and commercial) uses. Those General Plans do not identify any agricultural uses in the areas designated as Farmland of Local Importance and Grazing Land that would be affected by the Build Alternatives. As a result, it is acknowledged that those local General Plans recognize that agricultural uses will not be located in those areas in the long term because they would be replaced with the nonagricultural land uses designated in the General Plans. The minor uses of designated farmlands by Alternatives 1 and 2 in the areas shown on Figures 3.3-2 through 3.3-4 are not expected to result in new pressures to develop the remaining agricultural lands into nonagricultural uses because those lands are not currently used for agriculture, and any pressure to develop them would be expected as a result of economic and market forces, not the minor use of parts of those lands by Alternatives 1 and 2.

Agricultural Preserve and Williamson Act Contract Lands

As shown on Figures 3.3-1 through 3.3-4, there is an agricultural preserve that largely consists of Prime and Unique Farmlands south of Cajalco Road and on both the east and west sides of I-15. This agricultural preserve area would not be permanently impacted by the Build Alternatives. Because there are no Williamson Contract lands in the study area, the Build Alternatives would not result in any permanent direct or indirect impacts to Williamson Act contract lands.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed and the permanent impacts to farmlands discussed above for the Build Alternatives would not occur.

3.3.3.3 Temporary Impacts

Alternatives 1 and 2

Temporary impacts to farmlands could result from existing farmland areas being used temporarily for TCEs for construction for equipment staging areas and other temporary uses. Because agricultural production in the project study area is limited and temporary impacts would occur within and adjacent to the public rights-of-way,

project construction is not anticipated to disrupt accessibility to agricultural activities in the vicinity of construction activities. The land used for TCEs would not be available for farmland activities (e.g., cultivation or grazing) during construction of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 but would be available for farmland uses once project construction is complete.

As shown in Table 3.3.4, Alternatives 1 and 2 would temporarily impact farmlands. Figures 3.3-2 through 3.3-4 show existing farmlands and the areas that would be impacted by construction of Alternatives 1 and 2. Table 3.3.4 provides the acreage of farmlands (by farmland category type) that would be temporarily impacted by construction of each alternative.

Table 3.3.4 Temporary Impacts to Designated Farmlands (acres)

Alternative and Design Variations	Designated Farmlands						Impacts to Other Land Uses[1]
	Prime Farmland	Farmland of Statewide Importance	Unique Farmland	Farmland of Local Importance	Grazing Land	Total	
Initial Phases of Alternatives 1 and 2	0.0	0.0	0.0	0.0	0.0	0.0	72.9
Alternative 1 Ultimate Project[2]							
Design Variation 1a	0.0	0.0	0.0	0.0	3.4	3.4	85.9
Design Variation 1b	0.0	0.0	0.0	0.0	3.4	3.4	84.5
Design Variation 1c	0.0	0.0	0.0	0.0	3.4	3.4	80.1
Design Variation 1d	0.0	0.0	0.0	0.0	3.4	3.4	78.8
Alternative 2 Ultimate Project[2]							
Design Variation 2a	0.0	0.0	0.0	0.1	3.5	3.6	99.2
Design Variation 2b	0.0	0.0	0.0	0.1	3.5	3.6	116.2
Design Variation 2c	0.0	0.0	0.0	0.1	3.5	3.6	127.4
Design Variation 2d	0.0	0.0	0.0	0.1	3.5	3.6	126.8
Design Variation 2e	0.0	0.0	0.0	0.1	3.5	3.6	111.8
Design Variation 2f	0.0	0.0	0.0	0.1	3.5	3.6	110.5
Design Variation 2g	0.0	0.0	0.0	0.1	3.5	3.6	137.8
Design Variation 2h	0.0	0.0	0.0	0.1	3.5	3.6	137.4

Source: *Community Impact Assessment* (December 2010).
[1] Other land uses are Urban and Built Up Land, Other Land, and Water.
[2] These impacts are in addition to the impacts that would occur in the Initial Phase of this Alternative.

As shown in Table 3.3.4, Alternative 1 would result in approximately 3.4 ac of temporary impacts to Grazing Land only, and Alternative 2 would result in temporary impacts to 0.1 ac of Farmland of Local Importance and 3.5 ac of Grazing Land. The areas that would be used temporarily during construction of Alternatives 1 and 2 are shown on Figures 3.3-2 through 3.3-4. As shown, those TCEs are either directly adjacent to the existing freeway and local street rights-of-way or to areas that would be permanently acquired for the project. As a result, Alternatives 1 and 2 would not result in the temporary removal of any active existing agricultural or grazing activities, bisect any designated farmlands, result in any remainder parcels of

designated farmland, or in restrictions to access to designated farmlands not affected by the Build Alternatives in the areas on the south side of SR-91 and east of I-15.

In addition to farmland areas being used for TCEs, potential fugitive dust emissions from grading and exhaust emissions from construction equipment could have an indirect adverse impact on farmlands adjacent to the construction areas. These impacts would be minimized through implementation of the dust control measures described in Mitigation Measures AQ-1 through AQ-3 in Section 3.14, Air Quality.

Further, noise from construction equipment could startle or otherwise disturb livestock. These impacts would be minimized through implementation of Measures N-2 and N-3, provided later in Section 3.15, Noise.

No Build Alternative

The No Build Alternative would not include construction of any project improvements. Therefore, the No Build Alternative would not result in any temporary impacts to farmlands.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

As stipulated in 7 CFR 658.4(c)(2) and as described in Section 3.3.3.2, Permanent Impacts, projects receiving a total score of less than 160 on Form NRCS-CPA-106, which is provided following the last page of text in this section, need not be given further consideration for protection. The farmland conversion impact ratings for the Build Alternatives are well below 160. Further coordination with NRCS, including mitigation or development of additional alternatives, is not required.

Measure CI-3, provided in Section 3.4, Community Impacts, addresses potential impacts related to remainder parcels and access to commercial and industrial parcels. No further avoidance, minimization, or mitigation measures are required.

All right-of-way acquisition for the project, including acquisition of any lands used for agricultural purposes, will be conducted by RCTC in compliance with the Uniform Act as described in detail in Appendix D, Summary of Relocation Benefits.

This page intentionally left blank

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING
FOR CORRIDOR TYPE PROJECTS

PART I (To be completed by Federal Agency)

1. Name of Project: SR-91 Corridor Improvement Project
2. Type of Project: Freeway Widening
3. Date of Land Evaluation Request: 1/6/09
4. Sheet 1 of 1
5. Federal Agency Involved: Caltrans District 8
6. County and State: Orange County, CA and Riverside County, CA
7. Date Request Received by NRCS:
8. Person Completing Form: R.S. HEWITT
9. Does the corridor contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form.) YES [X] NO [ ]
10. Acres Irrigated: 3.5 | Average Farm Size: 150 ac.
11. Major Crop(s): CITRUS, GRAZING, NURSERY
12. Amount of Farmland As Defined in FPPA: Acres: N/A %
13. Name Of Local Site Assessment System: CALIF STONE INDEX
14. Name of Land Evaluation System Used: NONE
15. Date Land Evaluation Returned by NRCS: 1-22-09 RSH

PART III (To be completed by Federal Agency)	Alternative Corridor For Segment			
	ALT 2U	ALT 2U	ALT 2U	
A. Total Acres To Be Converted Directly	17.0	20.9	6.8	
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0	0	0
C. Total Acres In Corridor	24.24	41.14	38.18	
PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland	0			
B. Total Acres Statewide And Local Important Farmland	13.45	6.24	3.8	
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	0		0	0
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V (To be completed by NRCS) Land Evaluation Information Criterion Relative Value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)	81	81	81	81
PART VI (To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))	Maximum Points			
1. Area In Nonurban Use	15	0	0	0
2. Perimeter In Nonurban Use	10	0	0	0
3. Percent Of Corridor Being Farmed	20	0	0	0
4. Protection Provided By State And Local Government	20	20	20	
5. Size of Present Farm Unit Compared To Average	10			
6. Creation Of Nonfarmable Farmland	25	0	0	0
7. Availability Of Farm Support Services	5	5	5	5
8. On-Farm Investments	20	2	5	0
9. Effects Of Conversion On Farm Support Services	25	0	0	0
10. Compatibility With Existing Agricultural Use	10	0	0	0
TOTAL CORRIDOR ASSESSMENT POINTS	160	7	12	12
PART VII (To be completed by Federal Agency)				
Relative Value Of Farmland (From Part V)	100	81	81	81
Total Corridor Assessment (From Part VI above or a local site assessment)	160	27	32	32
TOTAL POINTS (Total of above 2 lines)	260	108	113	113

1. Corridor Designated	2. Total Acres of Farmland to be Converted by Project	3. Date Of Selection	4. Was A Local Site Assessment Used?
			YES [ ] NO [ ]

5. Reason For Selection:

Signature of Person Completing this Part: DATE:

NOTE: Complete a form for each segment with more than one Alternate Corridor

6-3-2010 Robert S Hewitt

6-18-2010 Robert S Hewitt

I = Initial Project
U = Ultimate Project
* = depending on the design variation

This page intentionally left blank

3.4 Community Impacts

3.4.1 Community Character and Cohesion

3.4.1.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA), established that the federal government use all practicable means to ensure that all Americans have safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 USC 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act, an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

3.4.1.2 Affected Environment

Study Area

The information in this section is based on the CIA (December 2010), the *Final Visual Impact Assessment* (May 2010), the August 2010 and September 2011 Right-of-Way Data Sheets, the *Draft Relocation Impact Report* (June 2010), and the *Final Relocation Impact Report* (for Alternative 2f only; November 2011).

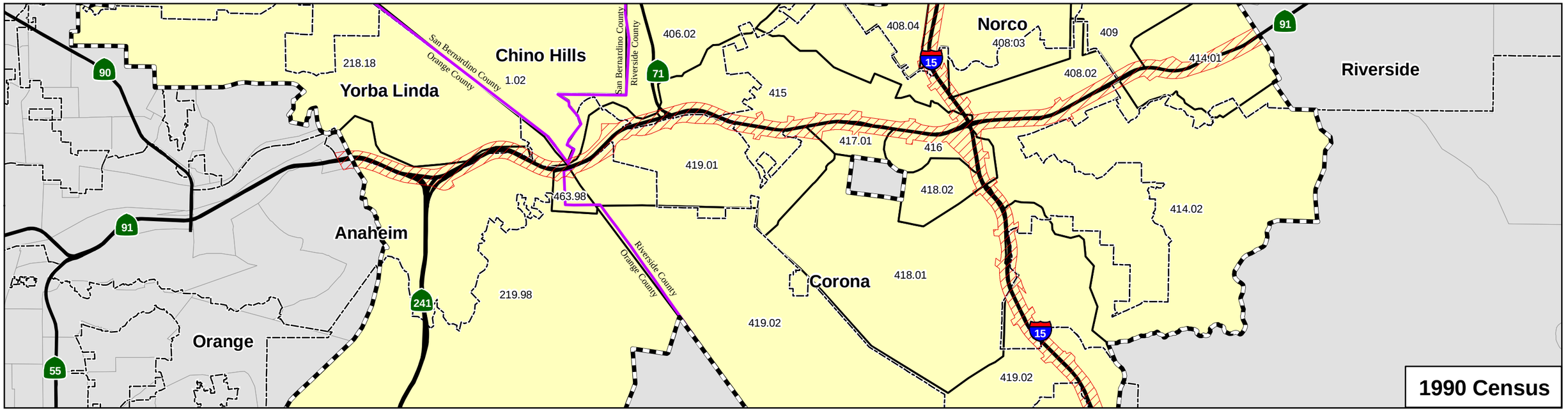
The project's community impact study area is generally defined as a band extending approximately 1,000 ft from each side of the centerlines of existing SR-91 and I-15. The study area extends through seven jurisdictions (five cities and two counties). The study area cities are Anaheim, Yorba Linda, Corona, Norco, and Riverside. The study area counties are Orange and Riverside. The study area consists of urbanized, mixed-use, residential, agricultural, industrial/commercial, and open space uses. The more focused study area for demographics is the census tracts along SR-91 and I-15 in

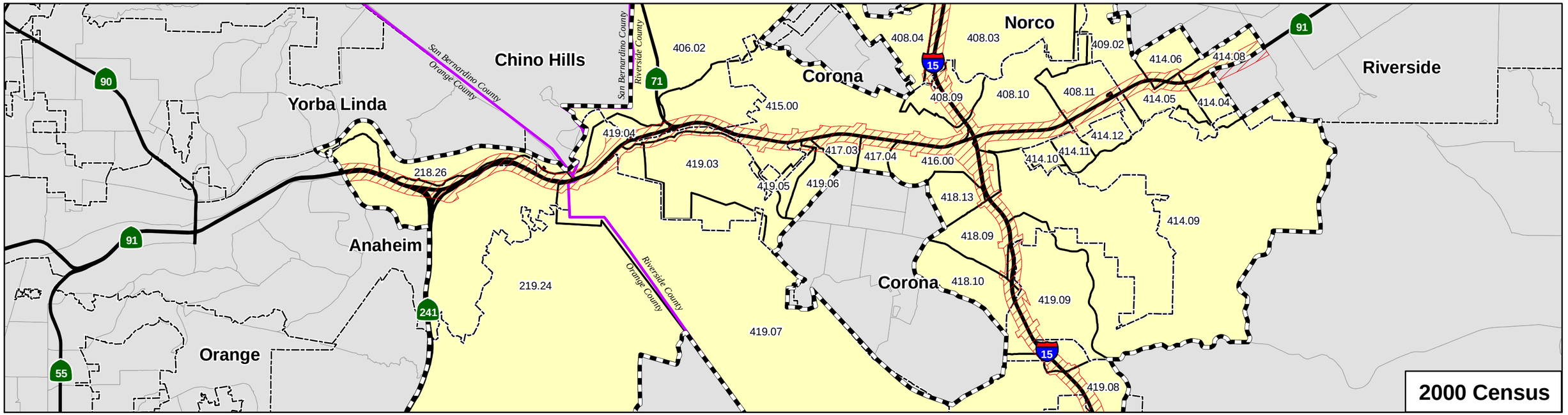
those jurisdictions. The boundaries of the general study area and the census tracts for 1990 and 2000 are shown on Figure 3.4-1[1].

Visual Character

As discussed in detail in Section 3.7, Visual/Aesthetics, key views were specifically selected and provided for the project to represent views from different land uses in the study area that show the overall community character of the cities and other areas crossed by the project segments of SR-91 and I-15. Key views represent the line-of-sight from various viewer groups and land uses. The existing visual quality of the key views in the project study area are summarized below; more detailed descriptions and figures showing the key views and the methodology for the visual impacts assessment are provided in Section 3.7. The overall visual quality rating (1 to 7, or very low to very high) is an average of three criteria ratings: vividness, intactness, and unity and is consistent with the rating system identified in the FHWA's Visual Impact Assessment for Highway Projects (1981). The use of these evaluative criteria helps to establish an existing baseline to evaluate the effects on visual quality, which is provided later in Section 3.7.3.

[1] Data from the 2010 Census was not available from the U.S. Census Bureau until September 2011. The Department has reviewed the same data sets from the 2010 Census that were used from the 1990 and 2000 Censuses for the analysis of community impacts of the SR-91 CIP and determined that there were no substantial changes in the demographic trends from 2000 to 2010 as compared to the trends reported from 1990 to 2000 that would result in different conclusions as to how the Build Alternatives would affect community cohesion (discussed in Section 3.4.1) or environmental justice (discussed in Section 3.4.3). Specifically, the 2010 census data showed rapid population growth in the SR-91 study area (42 percent increase in population from 2000 to 2010 compared to a 32 percent increase in population from 1990 to 2000). With regard to ethnicity and poverty, the most impacted community (the City of Corona) is relatively unchanged from 2000 to 2010 (non-white population of 38 percent in 2000 compared to 36 percent in 2010 and below poverty level population of 11 percent in 2000 compared to 9 percent in 2010). Because there were no substantial changes in the demographic trends between 2000 and 2010, the analysis of community impacts was not updated with the 2010 Census data.





LEGEND

- Study Area
- Census Tracts Inside Study Area
- Census Tracts Outside Study Area
- City Boundary
- County Boundary

0 4600 9200
FEET

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (2010)

I:\PAZ0701\GIS\CIA\Census_Tracts_Fig3.4-1.mxd (7/27/2010)

FIGURE 3.4-1

SR-91 Corridor Improvement Project

Community Impact Study Area and Census Tracts

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Key View 1

Key View 1 looks south toward SR-91 and the CNF from the Green River Golf Club in the west part of the study area. The existing visual quality of this view is moderately high because viewers see mostly open space and individual holes on the Green River Golf Club (as shown on Figure 3.7-10 later in this EIR/EIS). SR-91 is in this view; however, trees and landscaping provide a visual barrier between the highway and the Green River Golf Club. The vividness or positive visual features in the view include the cluster of trees in the middle ground and the Santa Ana Mountains and CNF in the background. Limited views of the highway and signs encroach on the intactness of this view. Unity is slightly higher than the other visual quality features because the view is mainly open space and the golf course, which are consistent features in this view.

People exposed to this view are mostly golfers and pedestrians and bicyclists who use the Santa Ana River Trail/Bike Lane adjacent to SR-91. The viewing duration would vary for each golfer, bicyclist, and pedestrian, but most likely would not exceed 15 minutes. Therefore, the overall viewer exposure level is moderate. Viewer sensitivity for Key View 1 would also be moderate because the viewer's activity and awareness are recreational in nature (golf and Trail/Bike Lane). In the Department's Scenic Highway Program (www.dot.ca.gov/hq/LandArch/scenic/cahisys3.htm), the segment of SR-91from SR-55 to Weir Canyon Road, west of the SR-91 study area, is an officially designated State Scenic Highway; the segment of SR-91between Weir Canyon Road and I-15, in the SR-91 study area, is eligible for designation as a State Scenic Highway. As a result, viewer sensitivity for Key View 1 would be moderate along the segment of SR-91 between SR-241 and Coal Canyon because it is eligible for designation as a State Scenic Highway.

Key View 2

Key View 2 is from a part of CHSP directly adjacent to a residential area on the north side of SR-91, near SR-71, facing southwest toward SR-91 and the CNF. The Prado Road/SR-91 undercrossing is in the west part of this view. The existing visual quality is moderate and includes natural landforms and land cover from the mountains, vegetation, and a strongly defined skyline. The view's vividness is slightly lower than its intactness and unity because the view lacks a visual pattern in a predominantly natural setting. The intactness of this view is affected by minor encroachments which include fencing, the Prado Road undercrossing, and drainage features from SR-91 in the foreground and middle ground. The moderate unity in this view is reflected by the horizontal line of SR-91 and the open space seen in this view.

Residents and CHSP visitors are the main viewer groups for Key View 2. The viewing duration would be permanent for those residents with views of this location. The overall viewer exposure level and viewer sensitivity would both be moderate to high because any changes in the view would be permanent, and the residents would have a permanent view of this area. Viewer exposure is low for CHSP visitors because there are few CHSP visitors who access the park from this location due to limited parking availability, and those who do experience a view of SR-91 for approximately 900 ft along the access road.

Key View 3

Key View 3 is from a residential street on the south side of SR-91, east of the SR-91/SR-71 interchange, facing northeast from the corner of Ridgeview Terrace and Via Santiago. Existing commercial/retail property is the main focus of this view for nearby residents and drivers on Ridgeview Terrace and Via Santiago. The existing view is considered to have low visual quality because of low vividness, based on the lack of landform and natural land cover. The view is predominantly man-made and lacks contrasting visual elements to achieve any memorability in the view. The intactness is low because of the electric poles, billboards, and other encroaching features, and the view's unity is reflected by the sidewalk lines and fencing.

Residents and drivers are the main viewers of Key View 3. The duration of the view is permanent for residents. For drivers, however, the duration of the view depends on the speeds along Ridgeview Terrace and Via Santiago; therefore, the overall viewer exposure, activity, awareness, and overall sensitivity levels are moderate to high.

Key View 4

Key View 4 is from a residential street on the north side of SR-91, adjacent to the North Buena Vista Avenue undercrossing. Existing visual quality for nearby residents is moderate because the trees and landscaping on the south side of the road add to the view's vividness despite the encroachments in the intactness of the view, which include the sound barrier between the residential street and SR-91, utility lines, trash cans, and cars. The view's unity is reflected by the parallel lines of the road, mailboxes, sidewalks, and fencing.

Key View 4 represents a residential setting adjacent to SR-91. Because residents are the main viewers of Key View 4 and the duration of the view is permanent, the overall viewer exposure and sensitivity levels are high.

Key View 5

Key View 5 is of Main Street and SR-91, including the Main Street overcrossing and the SR-91 westbound on-ramp, facing southwest. The existing visual quality is rated below moderate because, while drivers along Main Street see mostly vehicle traffic and urban uses, the existing view includes the mountains and open sky in the background. The vividness is limited to vegetation adjacent to Main Street and the SR-91 westbound on-ramp. Vehicle encroachments and traffic signs and signals throughout the view affect the view's intactness, and the view lacks man-made and/or natural pattern elements due to the existing mix of uses that affect the unity in the view.

The overall viewer exposure level for Key View 5 is moderate because the primary viewers along Main Street for Key View 5 are drivers, and the duration of the view depends on the speed limits of local roads. In addition, modifications to highways and on- and off-ramps are expected by Southern California drivers and residents; therefore, the viewer sensitivity is low because this type of view is typical along a busy highway and adjacent roads.

Key View 6

Key View 6 is along eastbound SR-91, just east of the I-15/Main Street overcrossing, facing east. Existing visual quality is low because visual features for drivers are limited to the distant view of the hills and mountains, and motorists on SR-91 see various commercial and industrial uses mixed with undeveloped or landscaped areas. Encroachments into this view include highway signs, billboards, and light poles, which decrease the intactness of the view. The view's unity is reflected by the parallel lines and posts separating the HOV and GP lanes along SR-91.

The primary viewer group for Key View 6 is motorists on SR-91, and the overall exposure is low to moderate. The viewer sensitivity and vividness for motorists on SR-91 is considered low because this type of view is typical along a highway.

Key View 7

Key View 7 is facing southwest along Cresta Road, which is a residential street northeast of the SR-91/I-15 interchange. The main focus of this key view for nearby residents and motorists along local streets is the SR-91/I-15 interchange, with the mountains and skyline in the far distance. Other urban uses are visible at the base of the mountains; therefore, the existing visual quality is low. Visual features for the view's vividness include the mountains and skyline; however, the cluster of urban

uses at the base of the mountains and air pollution decrease the memorability of this view. Encroachments include vehicles on I-15 and its on- and off-ramps as well as fencing and light poles along the residential road in the north side of the view which affects the intactness of the view. The view's unity is obstructed by the mix of uses and lack of pattern.

Motorists and residents are the two main viewer groups for Key View 7, and the overall exposure is low to moderate. Key View 7 also represents a residential setting near the SR-91/I-15 interchange. The viewer sensitivity for residents is high because the view would be permanent for residents but low for drivers since the change in view would be visible to drivers for only a few minutes, depending on traffic speeds.

Key View 8

Key View 8 is along the I-15/Magnolia Avenue overcrossing, facing north. The main focus of this existing view for motorists is I-15, north of the Magnolia Avenue overcrossing. The existing visual quality is low given the mix of uses (commercial, highway, and residential) visible from the view point. Views of the mountains and skyline in the distance contribute to the view's vividness; however, encroachments, including cars along I-15 and construction along the median and adjacent right-of-way in the middle ground views, affect the view's intactness. The view's unity is obstructed by mixed uses and a lack of pattern between the natural and man-made elements.

Motorists on I-15 and the Magnolia Avenue overcrossing are the primary viewer group in this key view. The overall exposure of motorists to the view is moderate because there would be thousands of drivers per day, but the duration of the view for individual motorists would be seconds to minutes, depending on traffic speeds. Therefore, viewer sensitivity for motorists on I-15 is considered low.

Community Cohesion

Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time (Department Standard Environmental Reference Environmental Handbook, Volume 4, 2011, page 54). The demographic information provided in this section was obtained from a combination of sources, including the United States Census Bureau, SCAG, and WRCOG.

Indicators of community cohesion in demographic data used to profile communities from the 2000 United States Census (2000 Census) are:

- **Age:** The elderly and stay-at-home parents tend to be more active in their communities. They have time to become involved in community activities.
- **Ethnicity:** Ethnic homogeneity is associated with a higher degree of community cohesion.
- **Household Size:** Households of two or more people tend to correlate with a higher degree of community cohesion.
- **Housing Tenure:** Householders who have been residents of a community for a longer period of time tend to correlate with a higher degree of community cohesion.
- **Transit-Dependent Population:** Residents who tend to walk or use public transportation for travel tend to correlate with a higher degree of community cohesion. The transit-dependent population is comprised of the population without private transportation, under age 18, age 65 and older, or below poverty or median income levels.
- **Community Facilities:** Areas with parks and other recreational facilities, schools, libraries, post offices, and community centers allow informal social interaction and interdependence, and tend to correlate with a higher degree of community cohesion.

According to several indicators of community cohesion, including the long tenure of many of the residents in the study area (many of the rural neighborhoods in the study area have been in existence for decades), ethnic homogeneity, a high percentage of persons aged 65 and over, and a large number of residents who are pedestrians (as confirmed through the finding of high percentages of transit-dependent persons), it can be concluded there is a high degree of community cohesion in different parts of the study area, which includes Anaheim, Corona, and Riverside. Because the property acquisition for the project and the removal of homes from acquired parcels would be in the City of Corona, the evaluation of impacts to community cohesion is focused on the City of Corona. The City of Corona has a high degree of ethnic homogeneity; almost 40 percent of the population is transit-dependent and nearly 60 percent of the population has lived in their homes since 1999 or earlier.

Census data were used in this analysis to describe the demographic characteristics of the study area and demographic changes in the study area from 1990 to 2000. These demographic characteristics for the study area are described in the following sections.

Age

Table 3.4.1 shows the distribution of the population by age in the State and the study area cities and counties for 1990 and 2000. According to the 2000 Census, between 1990 and 2000, the number of residents in Orange and Riverside Counties under the age of 18 increased by 30 and 41 percent, respectively. The population over age 64 in both Orange and Riverside Counties increased an average of 27 percent over the same period.

Table 3.4.1 Age Distribution

Jurisdiction	Year	Total Percentage		
		Population < 18	Population 18–64	Population >64
State				
California	1990	7,750,725 (26%)	18,873,744 (63.4%)	3,135,552 (10.5%)
	2000	10,234,571 (22.9%)	24,621,819 (72.7%)	3,595,658 (10.6%)
County				
Orange	1990	589,303 (24.4%)	1,600,140 (66.4%)	221,113 (9.17%)
	2000	768,419 (27%)	1,797,107 (63.1%)	280,763 (9.9%)
Riverside	1990	333,261 (28.5%)	682,479 (58.3%)	154,673 (13.2%)
	2000	468,691 (30.3%)	880,732 (57%)	195,964 (12.7%)
City				
Anaheim	1990	77,467 (28.8%)	166,566 (62%)	22,292 (8.3%)
	2000	108,284 (33%)	192,930 (88.8%)	26773 (8.1%)
Yorba Linda	1990	15,611 (29.7)	32,758 (62.4)	2,619 (4.9%)
	2000	17,623 (29.3%)	37,129 (63%)	4,526 (7.7%)
Corona	1990	23,711 (31.2%)	47,946 (63.0%)	4,438 (5.8%)
	2000	41,733 (33.4%)	75,944 (60.8%)	7,289 (5.8%)
Norco	1990	5,162 (22%)	15,450 (22%)	1,117 (4.8%)
	2000	5,413 (22.4%)	17,140 (71%)	1,604 (6.6%)
Riverside	1990	65,666 (28.9%)	140,573 (62%)	20,266 (8.9%)
	2000	76,704 (30%)	155,408 (60.9%)	23,054 (9%)

Sources: United States Census (1990 and 2000).

As reported in the 2000 Census, residents under age 18 in the study area cities comprised a similar proportion of the population as the study area counties, at approximately 28 percent. Specifically, in the Cities of Anaheim and Corona, the population under the age of 18 made up 33 percent of the population in 2000. The City of Corona experienced a 76 percent increase in this age group between 1990 and 2000. In 2000, residents over age 64 in both counties averaged 11 percent, similar to the State average. However, in the study area cities, the percent of this age group is slightly lower than the County and State averages, with the City of Corona reporting the lowest percent at 5.8 percent and the City of Riverside the highest at 9 percent.

Ethnicity

Table 3.4.2 shows the ethnic composition of the study area counties and cities in 1990 and 2000. Based on the 2000 Census, the largest racial category in Orange and Riverside Counties and the study area cities was White, at an average of 65.2 percent for the counties and 68 percent for the cities. Between 1990 and 2000, Riverside County saw an 82 percent increase in the Hispanic[1] population and a 52 percent increase in the Black population. During this period, the White population in Orange County decreased by nearly 3 percent, and increased 13 percent in Riverside County. Anaheim and Riverside experienced nearly 6 percent decreases in the White population between 1990 and 2000. During this same period, Anaheim and Corona each reported a nearly 30 percent increase in the Black population, while the Asian population increased by 66 and 75 percent, respectively. Anaheim and Corona also had the greatest increases in Hispanic population from 1990 to 2000, at 83 and 93 percent, respectively.

As described in the *Regional Transportation Plan Socioeconomic Forecast Report* (SCAG, June 2004), Riverside County is projected to be more racially and ethnically diverse in 2030 than it was in 2000. According to the 2000 Census, the White population comprised the majority of the population in Riverside County; however, based on the SCAG report, by 2030 Hispanics are expected to account for 47 percent of the total population in the County, an increase of 164 percent from 2000 to 2030.

Unlike Los Angeles and Orange Counties where the population is forecast to experience negative growth by 2030, the White population is projected to increase in Riverside County. However, unlike other ethnic groups, this increase will not be caused by a high fertility rate. A net gain in domestic migration spurred by reasonably affordable housing and suburban living has accounted for much of the growth in Riverside County over the last two decades, and this trend is expected to continue to 2030.

Household Size

According to the 2000 Census, the average household size in Riverside County was 2.98 persons per household. Of the study area cities, Anaheim had the highest average household size in 2000, at 3.34 persons, while the City of Riverside had the smallest

[1] Persons of Hispanic or Latino heritage may also be considered members of other racial classifications.

Table 3.4.2 Ethnic Composition

Jurisdiction	Year	Total percentage[1]						
		White	Black	American Indian/ Native Alaskan	Asian[2]	Hawaiian[3]/ Pacific Islanders	Other	Hispanic
County								
Orange County	1990	1,894,593 (78.5%)	46,281 (1.7%)	12,165 (0.5%)	240,703 (9.9%)	8,489 (0.35%)	211,925 (8.7%)	564,828 (23.4%)
	2000	1,844,652 (64.8%)	47,649 (1.7%)	19,906 (0.7%)	386,785 (13.6%)	8,938 (0.3%)	421,208 (14.8%)	875,579 (30.8%)
Riverside County	1990	894,767 (76.4%)	63,591 (5.4%)	11,494 (1.0%)	41,591 (3.6%)	----	158,970 (13.6%)	307,514 (26.3%)
	2000	1,013,478 (65.6%)	96,421 (6.2%)	18,168 (1.2%)	56,954 (3.7%)	3,902 (0.3%)	288,868 (18.7%)	559,575 (36%)
City								
Anaheim	1990	190,309 (71%)	6,780 (2.5%)	1,425 (0.5%)	23,595 (8.9%)	1,059 (0.39%)	42,874 (16%)	83,755 (31.4%)
	2000	179,627 (54.8%)	8,735 (2.7%)	3,041 (0.9%)	39,311 (12%)	1,393 (0.4%)	79,427 (24.2%)	153,374 (46.8%)
Yorba Linda	1990	44,949 (86%)	579 (1.2%)	222 (0.42%)	5,243 (10%)	64 (0.12%)	1,365 (2.6%)	4,948 (9.4%)
	2000	48,015 (81.5%)	688 (1.2%)	220 (0.4%)	6,537 (11.1%)	56 (0.1%)	1,593 (2.7%)	6,044 (10.3%)
Corona	1990	57,744 (75.9%)	2,102 (2.8%)	634 (0.8%)	5,399 (7.1%)	----	10,261 (13.4%)	23,101 (30.4%)
	2000	77,514 (62%)	8,031 (6.4%)	1,086 (0.9%)	9,425 (7.5%)	387 (0.3%)	21,894 (17.5%)	44,569 (35.7%)
Norco	1990	19,206 (82%)	1,852 (7.9%)	163 (0.69%)	259 (4.8%)	58 (0.24%)	1,764 (7.5%)	4,556 (19.5%)
	2000	19,915 (82.4%)	1,481 (6.1%)	182 (0.8)	280 (1.2)	33 (0.1)	1,538 (6.4%)	5,504 (22.8%)
Riverside	1990	160,344 (71%)	16,740 (7.3%)	1,910 (0.84%)	10,920 (4.8%)	901 (0.39%)	35,690 (15.8%)	226,505 (25%)
	2000	151,377 (59.3%)	18,906 (7.4%)	2,779 (1.1%)	14,501 (5.7%)	991 (0.4%)	53,591 (21%)	97,315 (38.1%)

Sources: United States Census (1990 and 2000).

[1] Percentages do not add to 100 percent because the White, Black, American Indian and Alaska Native, Hawaiian and Pacific Islander, and Other categories include persons identified with one race only; the Hispanic category overlaps with other categories.

[2] In 1990, the Asian population included Hawaiian and Other Pacific Islanders; in 2000, the Asian population did not include Hawaiian and Other Pacific Islanders.

[3] In the 1990 United States Census, the Hawaiian and Other Pacific Islanders race was included with the Asian population.

average household size, at 3.02 persons. The average household size of the study area cities is greater on average, at 3.18 persons, than in both counties (Riverside and Orange) and the State.

Housing Tenure

The United States Census Bureau conducts the American Housing Survey (AHS) to obtain housing statistics for the United States Department of Housing and Urban Development (HUD). The AHS is conducted by field representatives who obtain information from residents. They obtain information on vacant residences from sources such as landlords, rental agents, or knowledgeable neighbors.

The AHS provides information on only a general sample of a metropolitan area (MA). The Riverside-San Bernardino-Ontario and Anaheim-Santa Ana MAs cover a larger area than the study area cities. Nevertheless, the AHS information for those MAs is useful as a general indicator of neighborhood stability and is based on the assumption that the longer people live in a community, the more committed they become to it and the more cohesive the community becomes.

For AHS Riverside-San Bernardino-Ontario MA 2002 (issued July 2003), the samples were from surveys conducted in the Cities of Riverside and San Bernardino and the County of Riverside. According to that AHS, 7,081 of the 10,839 households in the sample (or 65.3 percent of households) had lived in their units since 1999 or earlier. For AHS Anaheim-Santa Ana MA 2002 (issued May 2004), the sample was from surveys conducted in the Cities of Anaheim, Santa Ana, and Garden Grove. According to that AHS, roughly 60 percent of households in that sample area have lived in their units since 1999 or earlier.

Transit-Dependent Population

The FTA defines transit-dependent persons as those who are without private transportation, elderly (over age 65), youths (under age 18), or below poverty or median income levels as defined by the United States Census Bureau.

SCAG projects that the percentage of senior citizens in the southern California region will continue to rise over the next two decades, with approximately one in six people expected to be age 65 or over in 2030. The percentage of persons under age 18 will essentially be unchanged from 2000 to 2030. Persons under 18 and over 65 comprise a large part of the transit-dependent population. Therefore, an increase in the population of persons over 65 is expected to place increased demands on public transportation services.

Additional Demographic Characteristics

Table 3.4.3 shows additional demographic characteristics for the study area cities, Orange and Riverside Counties, and the State, respectively, as reported in the 2000 Census. As shown in Table 3.4.3, Riverside County reported a 32 percent increase in population between 1990 and 2000, which was substantially higher than Orange County at 18 percent and the State at 13.6 percent. The City of Corona reported the highest population increase at 64 percent, followed by the Cities of Anaheim, Yorba Linda, and Riverside at 23.1, 17.4, and 13.2 percent, respectively.

Table 3.4.3 Demographic Characteristics from the 2000 Census for the Study Area Cities and Counties, and the State

Characteristics	Study Area Cities					Study Area Counties		State
	Yorba Linda	Anaheim	Corona	Riverside	Norco	Orange County	Riverside County	
Population change (1990 to 2000)	+17.4%	+23.1	+64%	+13.2%	+3.9%	+18%	+32%	+13.6%
Median Household Income	$89,593	$47,122	$59,615	$41,646	$62,652	$58,820	$42,887	$47,493
Persons Below Poverty	3.0%	14.1%	8.3%	15.8%	5.3%	10.3%	14.2%	14.2%
High School Graduate (over age 25)	93.4%	69.3%	80.6%	74.9%	75.4%	79.5%	58.3%	76.8%
College Graduate (over age 25)	41.5%	19.6%	22%	19.1%	11.9%	30.8%	16.7%	26.6%
Employed in Civilian Labor Force	71.5%	64.2%	65.8%	62.3%	51.2%	65.5%	53.6%	61.8%
Persons per Household	3.08	3.34	3.29	3.02	3.15	3.0	2.98	2.87

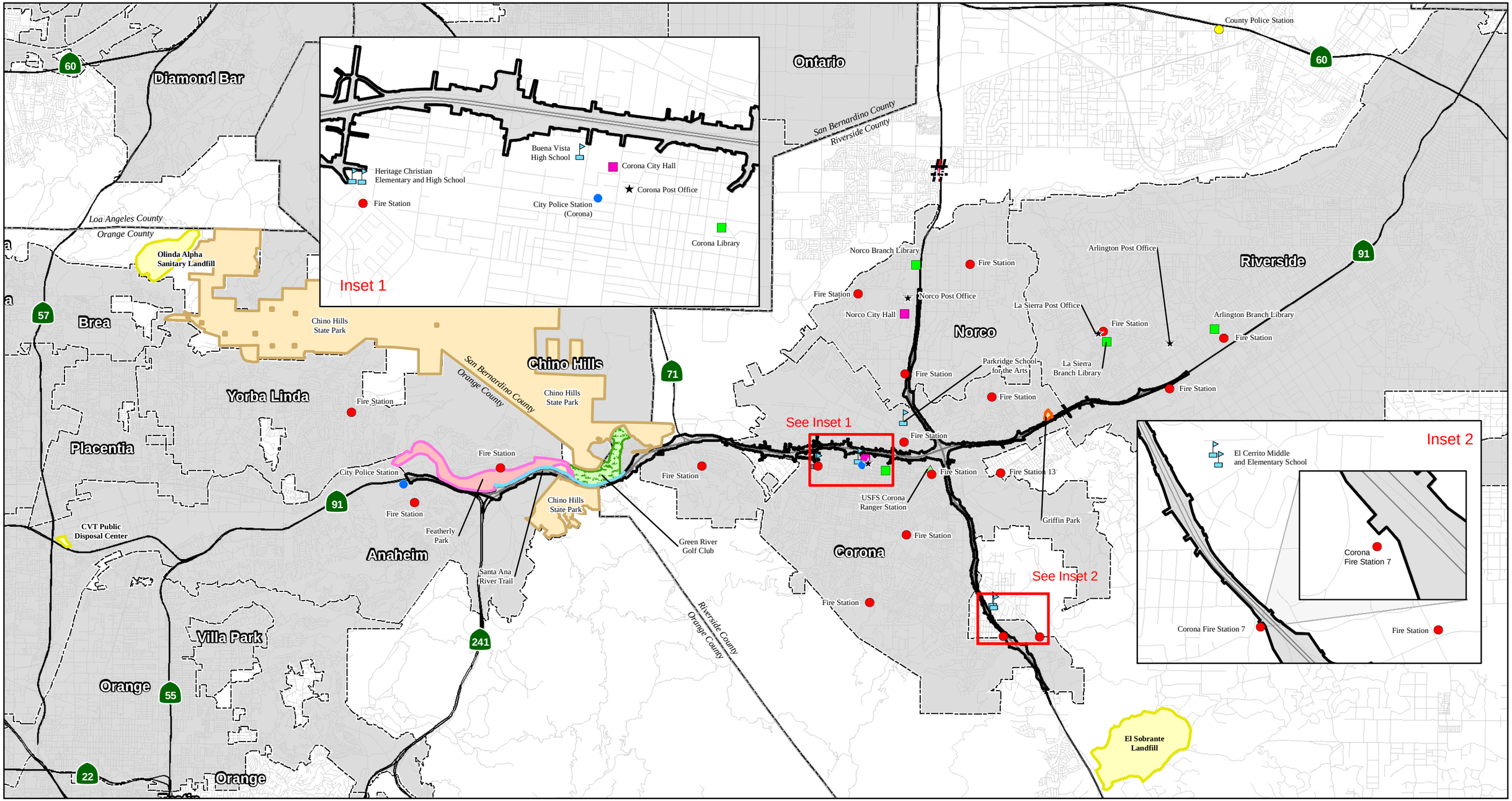
Sources: United States Census Bureau (2000).

The annual median household income for Riverside County in 2000 was approximately $4,600 lower than the State average, and for Orange County was approximately $11,000 higher than the State average. The City of Yorba Linda reported annual median household income $30,000 higher than that of Orange County. The City of Riverside annual median household income is slightly below the Riverside County average and approximately $6,000 lower than the State average.

For 2000, the United States Department of Health and Human Services (DHHS) poverty guideline was $18,310 for a family of three and $22,050 for a family of four. In the City of Riverside, nearly 16 percent of the population was living below the poverty level, higher than both Riverside County and the State. The City of Anaheim reported 14 percent of the population living below the poverty level, which is slightly higher than Orange County, but similar to the State. The City of Yorba Linda reported the lowest percentage of population living below the poverty level at 3 percent.

Community Facilities

In addition to the public safety facilities discussed in Section 3.5, Utilities and Emergency Services, and the parks and recreation facilities discussed in Section 3.1, Land Use, other community facilities such as schools, libraries, post offices, and community centers in the project study area are discussed below. All community facilities are shown on Figure 3.4-2.



LEGEND

- Study Area
- City Hall
- City Police
- County Police
- Fire Station
- Library
- Post Office
- Ranger Station
- School
- Santa Ana River Trail
- Featherly Regional Park
- Griffin Park
- Chino Hills State Park
- Green River Golf Club
- Landfill

0 5280 10560
FEET

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (2010)

I:\PAZ0701\GIS\CIA\PublicServices_Fig3.4-2.mxd (7/27/2010)

FIGURE 3.4-2

SR-91 Corridor Improvement Project

Public and Community Facilities

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Schools

County of Orange

Orange County does not have its own school district. The Orange County Department of Education serves as a connecting agency among Orange County school districts, community college districts, local, State, and federal governmental agencies, and community organizations. There are no schools in unincorporated Orange County in the study area.

County of Riverside

Riverside County does not have its own school district. The County Office of Education is a service agency linking the County's 23 school districts to the California Department of Education. There are no schools in unincorporated Riverside County in the study area.

City of Anaheim

There are no Anaheim City School District schools in the study area.

City of Yorba Linda

The City of Yorba Linda is served by the Placentia-Yorba Linda Unified School District (PYLUSD). There are no PYLUSD schools in the study area.

Cities of Corona and Norco

The City of Corona is served primarily by the Corona-Norco Unified School District (CNUSD), with the exception of the northeast part of the City which is served by the Alvord Unified School District (AUSD). The City of Norco is also served by the CNUSD. There are no schools in the AUSD in the study area. The following CNUSD schools are in the study area for the project:

- **El Cerrito Elementary School:** 7581 Rudell Road, Corona
- **El Cerrito Middle School:** 7610 El Cerrito Road, Corona
- **Orange Grove High School:** 300 South Buena Vista Avenue, Corona
- **Parkridge School for the Arts:** 750 Corona Avenue, Corona

City of Riverside

The City of Riverside is served by the Riverside Unified School District (RUSD). There are no RUSD schools in the study area for the project.

Other Community Facilities (Libraries, Post Offices, City Halls)

The following libraries are in the study area for the project:

- **City of Corona:** The City of Corona operates its own public library. The Corona Public Library circulates over 500,000 items each year and offers a variety of services including homework help, literacy programs, computer learning, Internet service, and book groups. The Corona Public Library, at 650 South Main Street, is in the study area for the project.
- **City of Riverside:** The Riverside Public Library has a collection of approximately 600,000 books and materials, 125 public access computers, and an annual circulation of 1.2 million. The library offers a variety of community services, including youth services, literacy programs, computer classes, Internet access, study rooms, research services, and public meeting rooms. Two branch libraries are in the study area for the project: the Arlington Branch at 9556 Magnolia Avenue and the La Sierra Branch at 4600 La Sierra Avenue.
- **City of Norco:** The City of Norco is a participant in the Riverside County Library System. The Norco Public Library offers literacy programs, book clubs, computer learning and Internet services, English as a Second Language (ESL) conversation classes, and a variety of public programs. The Norco Public Library, at 3954 Old Hamner Road, is in the study area for the project.

There are four post offices in the study area for the project:

- **Arlington Post Office:** 10275 Hole Street, Riverside
- **Corona Post Office:** 414 West Grand Boulevard, Corona
- **La Sierra Post Office:** 11134 Pierce Street, Riverside
- **Norco Post Office:** 1801 Town and Country Road, Norco

There are two City Halls in the study area for the project: the Corona City Hall at 400 South Vicentia Street and the Norco City Hall at 2870 Clark Street.

Economics

The employed civilian populations in the study area counties and cities are summarized in Table 3.4.4. As shown, the educational/health/social services, manufacturing, and retail trade sectors have the highest levels of employment in the study area cities.

Table 3.4.4 Employment in the Study Area Jurisdictions

Economic Sector	Employed Civilian Population (16 and Over)						
	Yorba Linda	Anaheim	Corona	Riverside	Norco	Orange County	Riverside County
Construction	1,827 (6%)	9,714 (6.8%)	4,125 (7.2%)	8912 (8%)	1,106 (12%)	81,822 (6.1%)	55,751 (9.2%)
Manufacturing	4,910 (16%)	28,854 (20.2%)	10,569 (18.5%)	14,109 (13%)	1,407 (15.3%)	227,495 (17%)	72,837 (12.1%)
Retail Trade	3,240 (11%)	16,409 (11.5%)	6,950 (12.1%)	12,539 (11.7%)	983 (10.7%)	150,462 (11%)	76,466 (12.7%)
Finance, Insurance	3,264 (11%)	10,414 (7.3%)	3,924 (6.9%)	5,738 (5.4%)	567 (6.2%)	117,351 (8.8%)	34,348 (5.7%)
Professional, Technical Services	3,195 (11%)	14,511 (10.2%)	4,785 (8.4%)	9,155 (8.6%)	648 (7%)	168,930 (12.6%)	51,577 (8.6%)
Educational, Health, Social Services	5,396 (18%)	20,252 (14.2%)	9,973 (17.4%)	25,049 (23.5%)	1,578 (17%)	216,017 (16%)	113,407 (18.8%)
Lodging, Food Service	1,803 (6%)	14,691 (10.3%)	3,814 (6.7%)	8,060 (7.5%)	549 (1%)	111,469 (8.3%)	58.131 (9.8%)
All Other Sectors	1,233 (4%)	7,286 (5.1%)	13,136	5,433 (5.1%)	373 (4%)	67,009 (5%)	30,166 (5%)

Sources: United States Census Bureau (2000).

Commuting Patterns

Traffic congestion and long commutes can have a negative impact on personal perceptions of quality of life. As employment and population continue to increase in the region, hours of traffic delays and daily vehicle miles traveled per person are projected to increase as well. One major transportation and mobility issue that the Inland Empire as a whole faces is that many residents work in neighboring counties. While this has become slightly less pronounced over time, the 2000 United States Census showed that nearly 61 percent of Riverside County residents were employed outside their cities of residence, and only 21 percent were employed in their cities of residence. Table 3.4.5 illustrates commute and travel time information for the study area cities and counties.

Table 3.4.5 Travel Patterns in the Study Area Jurisdictions

Place of Work	Yorba Linda	Anaheim	Corona	Riverside	Norco	Orange County	Riverside County
Work in County of Residence	22,806 (77%)	115,309 (46%)	25,906 (46%)	71,886 (69%)	4,628 (51%)	1,090,703 (83%)	417,137 (71%)
Work Outside County of Residence	6,746 (22%)	23,516 (2%)	30,133 (54%)	32,005 (31%)	4,429 (49%)	217,100 (17%)	169,991 (29%)
Work within City of Residence	4,801 (16%)	41,005 (29%)	15,503 (28%)	48,375 (46%)	1,529 (17%)	292,852 (23%)	155,136 (26%)
Work Outside City of Residence	24,942 (84%)	98,338 (72%)	40,706 (72%)	55,951 (34%)	7,583 (83%)	996,907 (76%)	359,575 (61%)
Mean Travel Time to Work (minutes)	30.4	28.1	35.3	28.7	34.4	27.2	31.2

Sources: United States Census Bureau (2000).
Note: percentages may not add up to 100 as not all members of the population are employed.

SCAG reports that between 1990 and 2000, carpools in the region increased by 22 percent; however, the number of workers driving alone also increased over that period. On average, residents who worked outside their cities of residence had the longest commute times. Employed residents of the City of Corona had the longest average commute time, 35 minutes, but this is only 4 minutes longer than the Riverside County average travel time (31 minutes). Residents of Norco had the next longest commute time, at 34 minutes, which may be attributed to their geographic location and the fact that most Norco residents work outside of the local area. Orange County residents had the shortest commute time, at 27 minutes, with Yorba Linda residents commuting an average of 30 minutes and Anaheim residents commuting just 28 minutes.

Pedestrian and Handicap Access Facilities

There are no sidewalks or other pedestrian facilities on the freeway mainline or ramp facilities. Sidewalks are currently provided on most of the local streets crossing the project segments of SR-91 and I-15 and other local streets in the vicinity of SR-91 and I-15. The majority of the local streets crossing SR-91 and I-15, which consist of overcrossings and undercrossings, include sidewalks. Those sidewalks vary from 4 to 11.5 ft wide. Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, summarizes the existing pedestrian facilities on local streets crossing the project segments of SR-91 and I-15. In addition to these sidewalks, the Santa Ana River Trail/Bike Lane on the north side of SR-91 between Featherly Regional Park and the Green River Golf Club is available for pedestrians and bicyclists.

Table 3.6.8, provided later in Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, summarizes the existing pedestrian facilities on local streets crossing the project segments of SR-91 and I-15. Table 3.6.8 also indicates whether those facilities cross over the freeways (on overcrossings), under the freeways (in undercrossings), or do not cross the freeways. As shown later in Table 3.6.32 in Section 3.6, the lengths of the existing crossings under the SR-91 and I-15 facilities generally range from 100 to 210 ft, depending on the individual crossing and the freeway structures at the crossing.

Handicap access ramps (ADA access ramps) are provided on the sidewalks at most of the intersections of the local streets with the free ramp facilities on the project segments of SR-91 and I-15, as shown in Section 3.6. In addition, handicap access ramps are provided on the sidewalks at many of the local street intersections in the vicinity of SR-91 and I-15.

3.4.1.3 Environmental Consequences

Summary of Impacts

Alternative 1 would result in the acquisition and removal of 21 single-family homes under all variations, and 72 to 96 multifamily homes, depending on the design variation. Alternative 2 would result in the acquisition and removal of 23 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. The majority of the homes acquired and removed under Alternatives 1 and 2 are located in the City of Corona along SR-91 between Green River Road and I-15. Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated there would be ample resources for all residential and commercial owners and tenant displacees. However, the removal of these homes would change the community character and potentially reduce the overall cohesion of the areas along SR-91 in Corona.

Community character would also be affected by the improvements provided under Alternatives 1 and 2. Specifically, the project would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The heights of the retaining walls included in Alternatives 1 and 2 range between 2 and 40 ft, depending on the location along the alignment. These changes would modify the visual quality of the study area by introducing more urbanized and hardscape elements and, as a result, would affect the existing community character. However, with the consideration of aesthetic features for retaining walls, sound walls, and bridge structures during final design, some of the project impacts to community character would be minimized. Additional landscaping consistent with the *215/91 Corridor Master Plan* will also be implemented where existing landscaping is being removed during construction and/or expanded right-of-way allows. The additional landscaping would further minimize potential impacts of Alternatives 1 and 2 to community character. Although the visual measures would minimize some of the impacts to community character in the City of Corona, the widened freeway facilities would contribute to continued urbanization of the area. As a result, not all the impacts of Alternatives 1 and 2 related to community character can be mitigated.

Alternatives 1 and 2 would provide improved pedestrian and bicycle facilities within the project limits and improved sidewalks on the arterials crossing SR-91. In addition, a segment of the Santa Ana River Trail/Bike Lane would be relocated north and

farther away from SR-91, which would improve the pedestrian and bicycling experience in that area.

On the local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings. As shown later on Table 3.6.32 in Section 3.6, the lengths of the crossings under the widened freeways would generally range from 145 to 519 ft, depending on the individual crossing and the freeway structures at the crossing, and the Build Alternative and the design variation. As a result of the widened mainline and modified ramp structures, the lengths of the crossings under the widened freeway under Alternatives 1 and 2 would be longer than the crossings under the existing freeway facilities. Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting for vehicles and pedestrians consistent with local standards. However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design and includes the provision of appropriate lighting in the new parts of the undercrossings and additional lighting in the existing parts of the undercrossings, if it is determined to be necessary. Measure V-2, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion.

Measures CI-1 through CI-3, T-1(which requires the preparation and implementation of a Traffic Management Plan), T-4, and V-1 would minimize the effects of Alternatives 1 and 2 and their design variations related to community character and cohesion. Refer also to Appendix D, Summary of Relocation Benefits, which describes RCTC's relocation process and potential benefits available for displaced residents, tenants, and businesses.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase under Alternative 2f would result in the acquisition and removal of 18 single-family and

127 multifamily homes. The Alternative 2f Ultimate Project has a larger footprint than the Initial Phase and, therefore, would result in the acquisition and removal of 9 multifamily homes in addition to the acquisitions and removals under the Initial Phase. As discussed above for Alternatives 1 and 2, the majority of the homes acquired and removed under Alternative 2f are also in the City of Corona along SR-91 between Green River Road and I-15, and the removal of these homes would change the community character and potentially reduce the overall cohesion of those areas along SR-91 in Corona. Appendix D, Summary of Relocation Benefits, describes RCTC's relocation process and potential benefits available for displaced residents, tenants, and businesses.

Alternative 2f would result in the displacement of 88 businesses. Other nonresidential impacts of Alternative 2f would include indirect impacts such as changes to the business clientele. However, as discussed in Section 3.4.2, Relocations and Real Property Acquisitions, adequate business opportunities exist in the area at the present time to relocate businesses so they can continue to offer their services to local residents.

Alternative 2f would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The heights of retaining walls under Alternative 2f would be similar to those described for Alternatives 1 and 2.

Alternative 2f would modify the visual quality of the study area by introducing more urbanized and hardscape elements and, as a result, would affect the existing community character. Aesthetic features for retaining walls, sound walls, and bridge structures would minimize some of the project impacts to community character under Alternative 2f. Additional landscaping consistent with the *215/91 Corridor Master Plan* will also be implemented where existing landscaping is removed during construction and/or expanded right-of-way allows. Although the visual measures would minimize some of the impacts to community character in the City of Corona, the widened freeway facilities would contribute to continued urbanization of that area. Similar to the discussion above for Alternatives 1 and 2, not all the impacts of Alternative 2f related to community character can be minimized.

Alternative 2f would provide improved pedestrian and bicycle facilities within the project limits and improved sidewalks on the arterials crossing SR-91. Alternative 2f

would relocate an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane to the north and farther away from SR-91, which would improve the pedestrian and bicycling experience in that area.

The widened freeway cross sections under Alternative 2f would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings. Pedestrians and bicyclists may also perceive the longer overcrossings and undercrossings under Alternative 2f as negatively affecting their experiences as they cross the freeways and may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion.

Permanent Impacts

Alternatives 1 and 2

The Build Alternatives would acquire and remove a number of homes, which would permanently alter the character of the affected existing communities. Once complete, the project would result in a wider road through the study area and in some reconfigurations or modifications of existing roads, sidewalks, bicycle lanes, and driveways along and in the immediate vicinity of the project segments of SR-91 and I-15. On local streets affected by the project, sidewalks and crosswalks familiar to the residents would be modified and/or replaced with new sidewalks and crosswalks. Existing routes that are used to travel from one part of the community to another and are familiar to residents would be redesigned to accommodate project-related interchanges and area road improvements. Property acquisition would result in the relocation of residents, which would impact community character and cohesion. A summary of the properties that would be impacted by full or partial acquisitions is provided in Table 3.4.6. Because SR-91 is an existing facility, widening of the lanes would not divide an existing community or create a barrier between communities.

Available survey data indicate that up to 20 percent of residents displaced by the project could be considered low income. These data are derived from City of Corona housing statistics and field research conducted since the preparation of the *Draft Relocation Impact Report*. This could represent up to approximately 30 homes acquired for and removed by the project. For those affected residents who qualify for Section 8 Housing, the analysis derived from the *Final Relocation Impact Report* identified 89 homes in the replacement area that could accommodate that need.

Table 3.4.6 Summary of Property Acquisitions for the Build Alternatives

Alternative	Permanent Parcel Acquisitions				TCEs and PEs	
	Full Parcels		Partial Parcels		Number of Parcels	Total (sf)
	Number of Parcels	Total (sf)	Number of Parcels	Total (sf)		
Alternative 1 and Its Design Variations						
1a	**Total: 81** Residential: 34 Nonresidential: 47	986,459	**Total: 91** Residential: 17 Nonresidential: 87	69,266,056	200	2,046,993
1b	**Total: 77** Residential: 29 Nonresidential: 48	940,851	**Total: 92** Residential: 19 Nonresidential: 86	69,297,419	200	2,052,011
1c	**Total: 75** Residential: 34 Nonresidential: 41	903,456	**Total: 106** Residential: 19 Nonresidential: 87	69,976,084	206	2,062,139
1d	**Total: 71** Residential: 29 Nonresidential: 42	857,938	**Total: 94** Residential: 21 Nonresidential: 86	70,007,447	206	2,067,157
Alternative 2 and Its Design Variations						
2a	**Total: 89** Residential: 39 Nonresidential: 50	1,103,761	**Total: 140** Residential: 32 Nonresidential: 108	89,441,261	246	1,768,046
2b	**Total: 85** Residential: 35 Nonresidential: 50	1,074,354	**Total: 145** Residential: 36 Nonresidential: 109	89,550,161	244	1,766,848
2c	**Total: 94** Residential: 40 Nonresidential: 54	1,161,625	**Total: 159** Residential: 46 Nonresidential: 113	89,942,516	245	1,751,078
2d	**Total: 91** Residential: 37 Nonresidential: 54	1,164,618	**Total: 164** Residential: 50 Nonresidential: 114	90,016,568	242	1,746,396
2e	**Total: 82** Residential: 39 Nonresidential: 43	934,444	**Total: 148** Residential: 33 Nonresidential: 115	89,890,149	250	1,779,559
2f	**Total: 85** Residential: 34 Nonresidential: 51	1,577,411	**Total: 140** Residential: 39 Nonresidential: 101	90,671,417	212	1,708,767
2g	**Total: 91** Residential: 40 Nonresidential: 51	1,101,145	**Total: 163** Residential: 46 Nonresidential: 117	90,110,029	246	1,758,687
2h	**Total: 88** Residential: 37 Nonresidential: 51	1,104,138	**Total: 168** Residential: 50 Nonresidential: 118	90,184,081	243	1,760,944

Sources: *Draft Relocation Impact Report* (June 2010), *Final Relocation Impact Report* (for Alternative 2f only; November 2011), and Right-of-Way Data Sheets (September 2011).
PE = permanent easement
sf = square feet
TCE = temporary construction easement

On the local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings. Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting consistent with local standards for both vehicles and pedestrians. However, the segments of those roads under the

existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design and includes the provision of appropriate lighting in the new parts of the undercrossings and additional lighting in the existing parts of the undercrossings, if it is determined to be necessary. Measure V-1, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion. Alternatives 1 and 2 would improve pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. In addition, an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane would be relocated north and farther away from SR-91, which would improve the bicycling experience in that area.

Residential Displacement Impacts Under Alternatives 1 and 2

Residential Displacement Impacts under Alternative 1 and Its Design Variations

As shown in Table 3.4.7, Alternative 1 and its design variations would result in the acquisition and removal of 21 single-family homes and 72 multifamily homes under Design Variations 1b and 1d, and 21 single-family homes and 96 multifamily homes under Design Variations 1a and 1c.

Table 3.4.7 Acquisition and Removal of Homes Under Alternative 1 and Its Design Variations

Type	Alternative 1 Design Variations			
	1a	**1b**	**1c**	**1d**
Single-Family Homes	21	21	21	21
Multifamily Homes[1]	96	72	96	72
Total Homes	**117**	**93**	**117**	**93**

Source: Right-of-Way Data Sheets (August 2010 and May 2011).
Note 1: The number of homes being acquired for and removed by the project may be higher than the total residential parcel acquisitions due to the high number of multifamily homes.
Note 2: Although a detailed phasing plan for the Initial Phase of Alternative 1 has not been developed, it is anticipated to result in the acquisition and removal of fewer homes than Alternative 1.
[1] Multifamily homes include mobile homes.

The majority of single-family and multifamily home acquisitions and removals occur from the intersection of SR-91 and Green River Road east to the intersection of SR-91 and I-15 in the City of Corona. Over 90 percent of the homes to be acquired and removed are between Smith Avenue and East Grand Boulevard along SR-91. These acquisitions and removals include single-family homes and multifamily homes (which include mobile homes). It should be noted that all the mobile homes are in one mobile home park that would be acquired and removed under both Build Alternatives. Although a detailed phasing plan for the Initial Phase of Alternative 1 has not been developed, it is anticipated to result in fewer home acquisitions and removals than the Initial Phase of Alternative 2 as described later in this section.

As noted earlier, all the property acquisition for Alternative 1 will be in the City of Corona. As discussed in Section 2.3.4, Phasing Plans for the Build Alternatives, all the Alternative 1 project improvements between approximately SR-71 and I-15 in the City of Corona will be constructed in the Initial Phase. As a result, nearly all the acquisitions of homes and removals listed in Table 3.4.7 for Alternative 1 and its design variations will occur during the Initial Phase of Alternative 1.

Residential Displacement Impacts under the Initial Phase of Alternative 2 and Its Design Variations

As shown in Table 3.4.8, the Initial Phase of Alternative 2 and its design variations would result in the acquisition and removal of 18 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. Similar to Alternative 1, these home acquisitions and removals would occur within the same area along SR-91 between Green River Road and I-15. The majority of the acquired and removed residential units would be single-family homes and mobile homes.

As noted earlier, all the property acquisition for Alternative 2 will be in the City of Corona. As discussed in Section 2.3.4, all the Alternative 2 project improvements between approximately SR-71 and I-15 in the City of Corona will be constructed in the Initial Phase. As a result, as shown in Table 3.4.8, the acquisition and removal of all but nine multifamily homes for Alternative 2 and its design variations, including Alternative 2f, will occur during the Initial Phase

Table 3.4.8 Acquisition and Removal of Homes Under Alternative 2 and Its Design Variations

Type	Design Variations							
	2a	**2b**	**2c**	**2d**	**2e**	**2f**	**2g**	**2h**
Initial Phase of Alternative 2 and Its Design Variations								
Single-Family Homes	23	24	23	24	23	18	23	24
Multifamily Homes	105	81	129	118	105	118	129	118
Total Homes	**128**	**105**	**152**	**142**	**128**	**136**	**152**	**142**
Alternative 2 and Its Design Variations								
Single-Family Homes	23	24	23	24	23	18	23	24
Multifamily Homes	114	90	138	127	114	127	138	127
Total Homes	**137**	**114**	**161**	**151**	**137**	**145**	**161**	**151**
Number of Homes Acquired After the Initial Phase of Alternative 2								
Single-Family Homes	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Multifamily Homes	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**
Total Homes	**9**	**9**	**9**	**9**	**9**	**9**	**9**	**9**

Sources: *Draft Relocation Impact Report* (June 2010) and *Final Relocation Impact Report* (for Alternative 2f only; November 2011).
Note: The number of homes being acquired for and removed by the project may be higher than the total residential parcel acquisitions due to the high number of multifamily homes.
[1] Multifamily homes include mobile homes.

of Alternative 2. As shown in Table 3.4.8, acquisition and removal of nine multifamily homes would be necessary for the improvements constructed after the Initial Phase of Alternative 2.

Residential Displacement Impacts under Alternative 2 and Its Design Variations

As shown in Table 3.4.8, Alternative 2 and its design variations would acquire and remove 18 to 24 single-family homes and 90 to 138 multifamily homes (depending on the design variation), resulting in the highest number of homes needing to be acquired. The largest demographic of impacted residential types is mobile home units, followed by multifamily duplex and apartment homes.

Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated that there would be ample relocation sites, residential units, and business units for all owner and tenant displacees, both residential and commercial. Recent research provided in the *Final Relocation Impact Report* (for Alternative 2f only) indicates that housing would be widely available at the time the acquisition process begins.

Specifically, demographic research for the City of Corona by the Southern California Multiple Listing Service (MLS) and commercial and residential resources from Realquest.com and Loopnet.com have demonstrated ample

availability of both commercial and residential inventory in the immediate project area. Attachments 3.4.A through 3.4.I provide a list of residential and commercial relocation opportunities, and identify a large number of residential and business replacement properties available for lease and/or purchase in the general vicinity of the SR-91 CIP as of July 2011. This research has also provided indicators that the availability of housing and commercial sites should be widely anticipated throughout the duration of the acquisition and relocation process.

The relocation or replacement area is defined as the immediate local vicinity where residential and business displacees would likely secure replacement sites. Generally, if the resources of the immediate area permit, residential relocatees prefer to relocate as close as possible to their existing location, and businesses prefer to do the same. Because the Cities of Corona and Riverside have sufficient resources to absorb the project's displacement needs, they are anticipated to be the primary relocation regions.

Nonresidential Relocation Impacts Under Alternatives 1 and 2

Property acquisitions would result in the relocation of established businesses and places of employment, which would impact community character and cohesion. The majority of the nonresidential relocations would occur along SR-91 between Auto Center Drive and the SR-91/I-15 junction in the City of Corona. Only one business to be relocated, a fast food restaurant, is west of Auto Center Drive, on Green River Road.

As noted earlier, all the property acquisition for Alternatives 1 and 2 will be in the City of Corona. As discussed in Section 2.3.4, all the Alternative 1 and 2 project improvements between approximately SR-71 and I-15 in the City of Corona will be constructed in the Initial Phases of those Build Alternatives. As a result, similar to the acquisition and removal of homes described earlier, nearly all the acquisitions of nonresidential properties listed in Tables 3.4.9 and 3.4.10 for Alternatives 1 and 2 and their design variations, respectively, will occur during the Initial Phases of Alternatives 1 and 2.

Nonresidential Relocation Impacts under Alternative 1 and Its Design Variations

As shown in Table 3.4.9, Alternative 1 and its design variations would result in business relocation impacts ranging from 110 displaced businesses under Design Variation 1c to 189 businesses under Design Variation 1b.

Table 3.4.9 Business Displacements Under Alternative 1 and Its Design Variations

Business Type	Alternative 1 and Its Design Variations			
	1a	1b	1c	1d
Light Manufacturing[1]	149	149	73	73
Low-Rise Office[2]	19	19	19	19
Other Retail/Service	20	21	18	19
Government/Public	0	0	0	0
Total Nonresidential[1]	**188**	**189**	**110**	**111**

Sources: Right-of-Way Data Sheets (August 2010 and May 2011) and *Employment Density Study Summary Report* (SCAG 2001).

[1] The land use category "Light Manufacturing" includes the following: industrial, industrial/commercial, and industrial/office.

[2] The land use category "Low-Rise Office" includes the following: commercial, commercial/office, and office.

[3] Nonresidential uses include industrial, retail/service, office, and special purpose. Displacements are based on the number of individual businesses, not on parcel data.

SCAG = Southern California Association of Governments

Although a detailed phasing plan for the Initial Phase of Alternative 1 and its design variations has not been developed, it is anticipated to result in fewer business displacement impacts than the impacts estimated under the Initial Phase of Alternative 2.

Nonresidential Relocation Impacts under Alternative 2 and Its Design Variations

The business displacements under Alternative 2 and its design variations shown in Table 3.4.10 would range from 88 displaced businesses under Design Variation 2f to 275 businesses under Design Variation 2d.

Table 3.4.10 Business Displacements Under Alternative 2 and Its Design Variations

Business Type	Design Variations							
	2a	2b	2c	2d	2e	2f	2g	2h
Alternative 2								
Light Manufacturing[1]	227	227	231	231	180	34	229	229
Low-Rise Office[2]	19	19	19	19	19	19	19	19
Other Retail/Service	24	25	24	25	22	35	23	24
Government/Public	0	0	0	0	0	0	0	0
Total Nonresidential[3]	**270**	**271**	**274**	**275**	**221**	**88**	**271**	**272**

Sources: *Draft Relocation Impact Report* (June 2010), *Final Relocation Impact Report* (for Alternative 2f only; November 2011), and *Employment Density Study Summary Report* (SCAG 2001).

[1] The land use category "Light Manufacturing" includes the following: industrial, industrial/commercial and industrial/office.

[2] The land use category "Low-Rise Office" includes the following: commercial, commercial/office, and office.

[3] Nonresidential uses include industrial, retail/service, office, and special purpose. Displacements are based on the number of individual businesses, not on parcel data.

SCAG = Southern California Association of Governments

Other nonresidential impacts of Alternatives 1 and 2 would include indirect impacts such as changes to the business clientele. Relocated businesses may require time to re-establish loyal long-term customers. Existing customers without automobile transportation would likely be affected and may not be able to follow businesses to their new locations. However, as discussed in Section 3.4.2, Relocations and Real Property Acquisitions, adequate business opportunities exist within the study area vicinity at the present time to relocate businesses so they can continue to offer their services to local residents.

The improved transportation infrastructure would also serve to benefit these communities and local businesses by providing improved connections to other parts of the study area and the region as a whole. Community services in the study area, such as fire and police protection, would be more readily available with the Build Alternatives because mobility in the study area would improve over existing conditions.

Overall, as discussed in Section 3.4.2, adequate resources to relocate residents and businesses currently exist in the study area vicinity. The Build Alternatives would not divide an existing community or create a barrier between communities. Therefore, no permanent impacts to community character and cohesion would occur as a result of Alternatives 1 and 2.

Advance Acquisition of Land for the Build Alternatives

Authority and Categories for Advance Land Acquisition

Under the authority of 23 CFR 710.501 and 710.503, Chapter 5 of the Caltrans *Right-of-Way Manual*, and the Department policy memorandum "Guidelines for Early Acquisition Prior to Environmental Approval (Projects on State Highway System Only)" (July 18, 2007), RCTC is proceeding with the purchase of right-of-way for the project in qualifying situations, prior to a project receiving environmental approval. The Department policy memorandum outlines three categories for qualification of advance acquisition of land for a project: Hardship Acquisition, Protective Buying, and Open Market Transaction. Those categories are defined as:

- **Hardship Acquisition:** To be considered for hardship acquisition, a property owner must be under unusual personal circumstances aggravated by the project.

- **Protective Buying:** To be considered for protective buying, a parcel must be subject to imminent substantial building activity or appreciation would cause the land value to increase substantially faster than the STIP inflation rate for construction projects.
- **Open Market Transaction:** To be considered for an open market transaction, an individual property must be for sale on the open market, and the property owner's decision to sell must be unsolicited by the local public agency.

Cost Exposure

The RCTC is contractually responsible for providing the right-of-way to the design-builder within the timelines provided in the design-build contract. Any delay in awarding the design-build contract after the issuance of the ROD to allow for additional acquisitions would cost RCTC approximately $3 million to $4 million per month. A delay during construction (such as a delay associated with a complex business relocation) could expose RCTC to approximately $8 million to $10 million in additional costs per month. The cost exposure to the RCTC is substantially reduced by acquiring the needed parcels as early in the process as possible.

Project Funding

As described in Section 2.3.4.2, Need for the Phasing Plans, the project would be funded by a combination of sales tax measure funds and/or toll revenue bonds and possible federal sources/loans. Successful sale of the toll revenue bonds would be directly tied to RCTC's ability to meet project delivery schedule commitments, of which right-of-way acquisition is a critical step.

RCTC acknowledges and solely accepts the financial risk associated with early acquisition activities approved by the Department. RCTC is using local funds and is not requesting reimbursement for right-of-way acquired in the early acquisition phase. All acquisitions for the project, including the advance acquisitions, are being (or would be) conducted in compliance with the Uniform Act and the RCTC Relocation Assistance Program (RAP) for implementing the Uniform Act, as described later in Section 3.4.2.5, Avoidance, Minimization, and/or Mitigation Measures for Relocations and Real Property Acquisition, and Appendix D, Summary of Relocation Benefits. All early acquisitions are also being conducted in compliance with 49 CFR

710.501 (b) "Eligible Costs" to maintain eligibility for a federal soft match in the future.

Early Right-of-Way Acquisition

On April 5, 2011, the Department approved RCTC's request to proceed with the voluntary early acquisition of up to 147 parcels prior to completion of the environmental process and selection of the Preferred Alternative. The 147 commercial and residential parcels were determined to be full and partial acquisition core parcels. Core parcels are defined as those parcels that would be needed for the implementation of any Build Alternative or design variation under consideration. As such, the full and partial core parcels would be common to all the Build Alternatives.

As of June 30, 2012, RCTC has purchased 20 parcels (15 residential and 5 nonresidential), has closed escrow on 4 parcels (4 residential), and is actively negotiating or appraising the remaining 121 full and partial core parcels (73 residential and 100 nonresidential). In addition to the 147 core parcels that were previously approved by the Department for consideration of early acquisition, RCTC submitted a Supplemental Early Acquisition request and received approval from the Department on May 12, 2012, to proceed with early acquisition for an additional 50 parcels on May 30, 2012.

The initiation of early acquisition activities prior to completion of the environmental document and the selection of the Preferred Alternative is in accordance with FHWA as set forth in 23 CFR Part 710.501, and CEQA Guidelines Section 15004 (b)(2)(A). The early acquisition of right-of-way for the SR-91 CIP has not influenced the environmental analysis or process, including decisions related to the need to construct the project or identification of Alternative 2f as the Preferred Alternative.

Temporary Impacts

Alternatives 1 and 2

Construction of the Build Alternatives would temporarily affect the communities crossed by the project segments of SR-91 and I-15. Construction activities include grading, excavation, road detours, and relocation. These construction activities would occur throughout the project construction period. Temporary construction impacts could include disruption of local traffic patterns (traffic diversions due to local road, temporary ramp and mainline lane closures) and access to homes, businesses, and

community facilities, including schools and libraries; increased traffic congestion; and increased noise, vibration, and dust.

During construction of the Build Alternatives, some freeway ramps and connectors on SR-91 would require major reconstruction or realignment. Complete closure of the ramps or connectors would be required for certain periods of time or on weekends during construction. Ramp closure scenarios were evaluated to ensure minimal inconvenience to the traveling public. Preliminary construction staging plans were developed to ensure that the closure durations would be minimized and, if at all possible, no concurrent multiple closures would occur. Detours provided during construction of the project that would redistribute traffic flow currently using the local road system may contribute to potential delays.

In addition, the existing cross sections on local streets crossing the project segments of SR-91 and I-15 may be narrowed or reduced to accommodate the temporary construction activities. As a result, sidewalks may be temporarily closed at these crossings. On-street bicycle facilities on Green River Road and Magnolia Avenue at their crossings of SR-91 may also be temporarily closed so that the reduced street cross section can provide sufficient vehicle travel lanes to accommodate vehicle traffic. As a result, pedestrian and bicycle access across SR-91 and I-15 may be temporarily disrupted during construction.

Short segments of the Santa Ana River Trail/Bike Lane west of the Green River Golf Club and east of Featherly Regional Park may be closed temporarily during construction for the safety of users of the Trail/Bike Lane and construction personnel. These closures are anticipated to be of very limited duration (e.g., hours and days) and alternate routes would be provided.

The impacts to traffic circulation and pedestrian and bicycle facility access during construction are temporary. Implementation of a TMP, described in Measure T-1 in Section 3.6, would reduce temporary construction-related impacts to circulation and access. As a result, impacts to existing community connectivity during construction would be minimized.

Short-term noise, vibration, and dust impacts would occur during construction of the Build Alternatives. However, construction would not be staged in areas where sensitive receptors such as homes are present. In addition, the project construction would comply with standard air quality Measures SC-1 through SC-5 (provided in Section 3.14, Air Quality) and standard noise/vibration Measures N-2 and N-3

(provided in Section 3.15, Noise). With the implementation of those measures, the construction-related noise and air quality impacts would not result in impacts related to community character and cohesion.

3.4.1.4 Avoidance, Minimization, and/or Mitigation Measures

Measures for Community Character and Cohesion

Measures CI-1 through CI-3, provided later in Section 3.4.2.5, would minimize impacts on community character and cohesion related to property acquisition for the Initial Phases and Ultimate Projects under Alternatives 1 and 2.

Refer also to Appendix D, Summary of Relocation Benefits, which describes RCTC's relocation process and potential benefits available for displaced residents, tenants, and businesses.

As discussed above, the Build Alternatives and their design variations would result in home and business property acquisitions that would impact community character and cohesion. Based on Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated there are adequate resources in the study area cities to relocate the affected residents and businesses. (Refer to Attachments 3.4.A through 3.4.I for a list of available residential and commercial properties.) Therefore, because adequate resources exist in the study area cities to relocate the affected residents and businesses, the Build Alternatives and their design variations would not divide an existing community or create a barrier between communities, and no avoidance, minimization or mitigation measures are required.

Construction, including construction staging, may impact local streets and access to communities and business in the study area. To minimize disruptions due to traffic delays and closures, a TMP will be developed during final design and implemented during construction to reduce project-related temporary impacts to community character and cohesion. The TMP will be tailored to accommodate major traffic movements during construction and to minimize construction impacts with traffic management techniques such as traffic controls, traffic diversions to alternate routes, transportation demand management, public awareness measures (including signing, mailers, brochures, newspaper articles, the Internet), and a Construction Zone Enhanced Enforcement Program (COZEEP). The objective of the TMP is to maintain the safe movement of vehicles through the construction zone as well as the highest level of traffic circulation and access during the project construction period. The TMP

will include a PAC, a media communication program, and a construction detour and signing plan developed for the periods of temporary ramp and lane closures during each construction stage. The detailed construction staging, traffic control, detour, and signing plans for the project will be developed as part of the final design phase. Refer to Section 3.6 for additional discussion regarding the TMP.

3.4.2 Relocations and Real Property Acquisitions

3.4.2.1 Regulatory Setting

The Department's Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix D for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d et seq.). Please see Appendix C for a copy of the Department's Title VI Policy Statement.

3.4.2.2 Affected Environment

The information in this section is based on the CIA, the Right-of-Way Data Sheets, and the *Final Relocation Impact Report* (for Alternative 2f only). The project study area consists of a mix of urbanized, mixed-use, residential, agricultural, industrial/ commercial, and open space uses. Existing land uses in the study area were shown earlier on Figure 3.1-1. Residential properties are properties developed in single-family homes, mobile homes, and multifamily homes. Nonresidential properties include retail trade, finance, insurance, services, government/nonprofit, and other types of nonresidential land uses.

Full acquisition of a property is defined as the acquisition of an entire legal parcel of land. Full acquisitions result in the removal of occupied or unoccupied homes and commercial structures or can be full acquisitions of vacant parcels. A partial acquisition is required if anything less than the full parcel is necessary for the construction of project improvements. The displacement of some businesses and residential units will occur and, in certain circumstances, modification of the existing use on site may be required. Typically, partial acquisitions consist of slivers of land

from back, side or front yards, landscaped areas, or parking areas. Partial acquisitions typically result in minor impacts, but in higher density, more urbanized centers, partial acquisitions can sometimes result in modifying the remaining uses on the parcel.

The severity of property acquisition impacts varies greatly with the population involved. For instance, if a person is highly mobile and has had a history of changing homes frequently, the impact may only be a minor inconvenience. However, if a community is stable and cohesive and residents have been in their homes for many years, many of the displaced persons may have a difficult time adjusting to new homes and neighborhoods because they have a strong attachment to their existing homes and neighborhoods.

The areas where right-of-way would be required for the project begins approximately at the intersection of Green River Road and SR-91, and continues east to the intersection of SR-91 and I-15. The area within the project right-of-way includes residential, retail, office, and industrial uses, and vacant land.

3.4.2.3 Environmental Consequences

Summary of Impacts

Alternative 1 would result in the acquisition and removal of 21 single-family homes under all design variations, and 72 to 96 multifamily homes, depending on the design variation. Alternative 2 would result in the acquisition and removal of 18 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. The majority of the homes acquired and removed under Alternatives 1 and 2 are in the City of Corona along SR-91 between Green River Road and I-15.

Business parcel acquisitions under Alternative 1 would displace approximately 110 and 189 businesses, depending on design variation. Alternative 2 with design variation 2f would displace approximately 88 businesses within the City of Corona. The total employee displacements estimated for Alternative 1 range from 114 to 527 employees, depending on the design variation. The total employee displacements estimated for Alternative 2 range from 133 to 576 employees depending on the design variation. However, based on current market availability described in the *Final Relocation Impact Report*, the supply of potential replacement business sites in other areas would remain adequate. Although some businesses may temporarily close or relocate during a prolonged construction period, this impact would be localized and would not likely result in long-term changes in land use.

All full business parcel acquisitions under Alternatives 1 and 2 would occur in the City of Corona. The amount of tax levied is approximately 1 percent of the assessed property value. The reported property tax collected in the entire City of Corona totaled $160,219,509.15 in 2007/2008. The potential property tax losses under Alternative 1 and its design variations would result in between $188,691 and $279,889 in property tax revenue losses, depending on the design variation. The potential property tax losses under Alternative 2 and its design variations would result in between $274,216 and $399,372 in property tax revenue losses, depending on the design variation. In addition, the right-of-way acquisitions associated with the Build Alternatives would result in the relocation of a number of sales tax-generating businesses in the City of Corona.

Under Alternative 1, the potential sales tax loss from the business relocations in the City of Corona would range between $442,343 and $494,825, depending on the design variation. These relocations under Alternative 1 would result in a loss of 1.5 to 1.7 percent of the overall sales tax revenues in the City of Corona.

Under Alternative 2, the potential sales tax losses from the business relocations in the City of Corona would range between $517,317 and $607,285, depending on the design variation. These relocations under Alternative 2 would result in a loss of 1.7 to 2.2 percent of overall sales tax revenues in the City of Corona.

Nonoccupant owners leasing space to others refers to those owners of properties being acquired for the project who do not occupy the property but lease the space to others. This could be considered a business and may be eligible for certain benefits under the RAP identified in the *Final Relocation Impact Report* (for Alternative 2f only).

Another impact not typically considered is the acquisition and removal of storage facility units. Depending on the design variation, Alternative 1 would acquire and remove 50 to 122 storage units, and Alternative 2 would displace 154 to 199 storage units. In considering the number of displacements for the project, storage facilities were not considered in the overall number of business parcel displacements.

Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated that there would be ample resources for all residential and commercial owners and tenant displacees. However, the removal of homes and business would change the

community character of the areas. Measures CI-1 through CI-3 would minimize those effects to community character and cohesion as a result of property acquisition.

Temporary impacts that may result as part of the project include temporary jobs that would be created by construction of the project. The direct effect is the number of construction jobs created to construct the project. The indirect effect is the additional employment and business activity that would be generated in the regional economy based on the expenditure of funds for construction materials and labor. Therefore, implementation of the project would be considered a beneficial effect. It is estimated that Alternative 1 would generate between 21,762 and 22,736 total direct and indirect jobs, depending on the design variation. Alternative 2 is estimated to generate between 30,563 and 32,154 total direct and indirect jobs, depending on the design variation.

As noted earlier, all the property acquisition for Alternatives 1 and 2 will be in the City of Corona. As discussed in Section 2.3.4, all the Alternative 1 and 2 project improvements between approximately SR-71 and I-15 in the City of Corona will be constructed in the Initial Phases of those Build Alternatives. As a result, the project effects related to acquisition of residential and nonresidential properties in the City, including effects related to losses in sales and property taxes, would nearly all occur in the Initial Phases of Alternatives 1 and 2.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase under Alternative 2f would result in the acquisition and removal of 18 single-family and 118 multifamily homes. The Ultimate Project under Alternative 2f would result in the acquisition and removal of an additional 9 multifamily homes. As a result, Alternative 2f would displace 507 residents.

Business parcel acquisitions under Alternative 2f would displace 88 businesses in the City of Corona. The total employee displacements estimated for Alternative 2f range from 169 to 576. As discussed above for Alternatives 1 and 2, based on current market trends, the supply of potential replacement business sites in other areas would remain adequate. Although some businesses may temporarily close or relocate during a prolonged construction period, this impact would be localized and would not likely result in long-term changes in land use in the City of Corona.

Alternative 2f would result in $298,825 in property tax revenue losses in the City of Corona. In addition, the right-of-way acquisition associated with Alternative 2f would

result in the relocation of a number of sales tax-generating businesses in the City of Corona. The sales tax losses in the City of Corona under Alternative 2f would be $659,766. The business relocations under Alternative 2f would result in a loss of 2.2 percent of the overall sales tax revenues in the City of Corona.

Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated there would be ample resources for all residential and commercial owners and tenant displacees.

Alternative 2f would displace 10 billboards in the City of Corona. As discussed for Alternatives 1 and 2, to minimize impacts associated with the relocation of digital and static billboards, RCTC (Project Engineer and Right-of-Way Agents) will work with the billboard owners and the City of Corona to assist with relocations within the City in accordance with the City's sign ordinances and the issuance of the appropriate Department permits and approvals.

Alternative 2f would also result in temporary effects including construction jobs and other additional employment and business activity that would be generated in the regional economy based on the expenditure of funds for construction materials and labor. The Initial Phase of Alternative 2f would generate an estimated 7,681 direct jobs and 14,796 indirect jobs. The Ultimate Project under Alternative 2f is estimated to generate an additional 2,931 direct jobs for a total of 10,612 direct jobs and an additional 5,645 indirect jobs for a total of 20,441 indirect jobs.

Relocations

Permanent Impacts

Alternatives 1 and 2

The Build Alternatives would require full and partial acquisition of private property, including homes and businesses. Generally, partial acquisitions do not require relocations, but they may become necessary in some situations. Under some instances, full acquisition of a single parcel and the removal of the home/homes on that parcel would result in a relocation of several households (e.g., relocation of multifamily homes such as condos and apartment complexes) or businesses (e.g., business parks, strip malls). As a result, the numbers of full acquisitions will not match the relocation and displacement numbers. A summary of the properties that would be impacted by full or partial acquisitions was provided earlier in Table 3.4.6.

As discussed above in Section 3.4.1.3, Environmental Consequences, Alternatives 1 and 2 would result in the permanent acquisition of businesses (i.e., commercial, industrial, and manufacturing businesses) and homes (i.e., mobile homes, single-family, multifamily) parcels.

Residential Displacements

As shown in Table 3.4.11, it is estimated that Alternative 1 would acquire and remove between 93 and 117 homes, depending on the design variation. For this environmental analysis, it was assumed that one home was located on each parcel zoned for residential use. Current right-of-way mapping shows that all of these residential acquisitions and removals would occur in the City of Corona. Most of the residential acquisitions and removals involve multifamily homes; however, some single-family homes would also be acquired.

Table 3.4.11 Removal of Homes and Displacements of Residents by Alternative 1

Type	Alternative 1 and Its Design Variations			
	1a	1b	1c	1d
Number of Homes Removed[1]	117	93	117	93
Total Residents Displaced[2]	410	326	336	252

Source: Right-of-Way Data Sheets (August 2010 and September 2011).
[1] Removals are based on homes, not on parcel data.
[2] Based on an average of 3.5 persons per home.

As shown in Table 3.4.11, depending on the design variation, homes acquired and removed under Alternative 1 would displace between 252 and 410 residents from the study area.

The acquisition and removal of homes and the displacement of residents under Alternative 2 and its design variations are shown in Table 3.4.12. Alternative 2f would displace 507 residents.

All relocations required for the Build Alternatives will be handled in accordance with the Uniform Act.

The median home value within a 1 mi radius of the project limits is $303,531, and the percentage of owner-occupied housing is 38.2 percent. The replacement housing/business property research survey completed for the *Final Relocation Impact Report* was conducted during July 2011 in order to

Table 3.4.12 Removal of Homes and Displacements of Residents by Alternative 2

Type	Design Variations							
	2a	2b	2c	2d	2e	2f	2g	2h
Alternative 2 and Its Design Variations								
Number of Homes Removed[1]	137	114	161	151	137	145	161	151
Total Residents Displaced[2]	480	399	564	529	480	507	564	529

Sources: *Draft Relocation Impact Report* (June 2010) and *Final Relocation Impact Report* (for Alternative 2f only; November 2011).
[1] Removals are based on homes, not on parcel data.
[2] Based on an average of 3.5 persons per home.

determine the market availability within the City of Corona and nearby communities. The replacement housing survey identified 192 single-family homes and 81 multifamily homes available for rent, and 250 single-family homes and up to 61 multifamily homes available for purchase.

Attachments 3.4.A through 3.4.I at the end of this section list residential and business replacement properties available for lease and/or purchase in the general vicinity of the SR-91 CIP as of July 2011. The tables in Attachments 3.4.A through 3.4.I provide the following information for the available replacement properties: type of property, location (street address and city), size, and price range. This information is current as of July 2011, when the research for available relocation properties was conducted.

Based on this information and considering the abundant housing stock developed during the past decade, the recent downward trend in the housing market in Riverside County, and a surplus of homes on the market, it is expected that a sufficient number of comparable replacement dwellings meeting decent, safe, and sanitary standards exist within the study area cities. It is anticipated that finding replacement housing for owner- or tenant-occupied homes would not present any unusual problems for the project.

Business and Employee Displacement Impacts

Business and employee displacements by Alternatives 1 and 2 and their design variations are shown in Table 3.4.13. As shown, Alternative 1 with Design Variation 1c would displace approximately 110 nonresidential units. Alternative 1 with Design Variation 1b would displace approximately 189 nonresidential units. Alternative 2 with Design Variation 2f would displace approximately 242 nonresidentials and 169 to 576 employees.

Table 3.4.13 Business and Employee Displacements by Alternatives 1 and 2 and Their Design Variations

Type	Alternative 1				Alternative 2							
	1a	1b	1c	1d	2a	2b	2c	2d	2e	2f	2g	2h
Nonresidential Units Removed[1]	188	189	110	111	270	271	274	275	221	242	271	272
Total Employees Displaced[2]	133–438	114–527	133–410	114–500	133–464	133–554	133–404	133–553	133–450	169-576	133–400	133-548
Percentage of Employees Displaced[3]	0.18–0.59	0.15–0.71	0.18–0.55	0.15–0.67	0.18–0.62	0.18–0.74	0.18–0.54	0.18–0.79	0.18–0.60	0.2–0.75	0.18–0.59	0.18–0.73

Sources: *Draft Relocation Impact Report* (June 2010), *Final Relocation Impact Report* (for Alternative 2f only; November 2011), Right-of-Way Data Sheets (August 2010 and September 2011), and *Employment Density Study Summary Report* (SCAG 2001).

[1] Removals are based on business units, not on parcel data.

[2] Based on types of business (e.g., light manufacturing, low-rise office, other retail/service, and government/ public).

[3] Based on the City of Corona Employee Labor Force, http://www.edd.ca.gov, accessed on June 3, 2010).

SCAG = Southern California Association of Governments

The total employee displacements estimated for Alternative 1 range from 114 to 527 employees, depending on the design variation. The total employee displacements estimated for Alternative 2 range from 133 to 615 employees, depending on the design variation. The number of displaced employees was calculated on the basis of the coefficients provided in the *Employment Density Study Summary Report* (SCAG 2001), *Draft Relocation Impact Report*, and *Final Relocation Impact Report* (for Alternative 2f only). The affected businesses were divided into four sets: light manufacturing, low-rise office, other retail/service, and government/public land use categories. The largest employee demographic for the project is the light manufacturing land use category. The number of displaced employees was compared to the City of Corona employed labor force (74,600 persons) as estimated in 2008 by the United States Census Bureau. All affected non-residential parcels acquired under Alternatives 1 and 2, not including storage facility units, are currently designated as various light manufacturing, low-rise office, other retail/service, and government/public land use types.

The numbers of employees displaced by Alternatives 1 and 2 and their design variations are provided in Table 3.4.13. As shown, Alternative 2f would result in 242 nonresidential unit acquisitions.

As stated previously, the replacement housing/business property research survey was conducted to determine the market availability within the City of Corona and nearby communities. The replacement survey identified 576

commercial properties available for lease and 295 commercial properties available for purchase. Based on current market trends, the supply of potential replacement business sites in other areas would remain adequate.

It should be noted that market trends may contribute to challenges in the future, potentially requiring some of the businesses to relocate outside of the displacement area. However, considering the existing congestion of some of the local area access routes and/or other challenges in the local market (including age, condition, and quality of the available sites), some businesses may choose to re-establish in more modern facilities (e.g., in established industrial parks), thus benefiting from enhanced access and operation capabilities.

Nonoccupant owners leasing space to others refers to those owners of properties being acquired for the project who do not occupy the property but lease the space to others. This could be considered a business and may be eligible for certain benefits under the relocation assistance program identified in the *Final Relocation Impact Report*.

Storage Facility Displacement Impacts

Another impact not typically considered a displacement or not fitting into the categories listed in Table 3.4.13 is moving personal property and nonoccupant owners' leasing space to others for storage facility displacements. The partial or full acquisition of storage facilities in the study area may require the removal of personal property from the affected individual units. Table 3.4.14 shows the approximate number of storage units that would be acquired and removed under Alternatives 1 and 2 and their design variations. In considering the number of displacements for the project, storage facilities were not considered in the overall number of business parcel displacements but are identified in Table 3.4.14.

Table 3.4.14 Storage Facility Removals by Alternatives 1 and 2 and Their Design Variations

Type	Alternative 1				Alternative 2							
	1a	1b	1c	1d	2a	2b	2c	2d	2e	2f	2g	2h
Storage Units Removed	122	122	50	50	199	199	199	199	157	154	199	199

Sources: *Draft Relocation Impact Report* (June 2010) and *Final Relocation Impact Report* (for Alternative 2f only; November 2011).

[1] Removals are based on business units, not on parcel data.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed, no relocations would be required, and no displacement of residents or employees would occur.

Temporary Impacts

Alternatives 1 and 2

Temporary construction impacts could include disruption of local traffic patterns (traffic diversions due to local road, temporary ramp, and mainline lane closures) and access to homes, businesses, and community facilities; increased traffic congestion; and increased noise, vibration, and dust. Although some businesses may close or relocate during a prolonged construction period, this impact would be localized and would not likely result in substantial relocations. Likewise, other community facilities, including schools and libraries, would be indirectly impacted by construction activities but would not result in relocations.

3.4.2.4 Economics

As noted earlier, all the property acquisition for Alternatives 1 and 2 will be in the City of Corona. As discussed in Section 2.3.4, all the Alternative 1 and 2 project improvements between approximately SR-71 and I-15 in the City of Corona will be constructed in the Initial Phases of those Build Alternatives. As a result, the project effects related to acquisition of residential and nonresidential properties in the City, including the effects related to losses in sales and property taxes described in this section, would nearly all occur in the Initial Phases of Alternatives 1 and 2.

Property Taxes

All full-parcel acquisitions under Alternatives 1 and 2 would occur in the City of Corona. The amount of tax levied is approximately 1 percent of the assessed property value. The amount of property tax loss was estimated based on property taxes paid to the Riverside County Assessor's Office. The property taxes paid were obtained from the property tax bills assessed and collected in 2007/2008 from the impacted parcels in the City of Corona. The reported property tax collected in the entire City of Corona totaled $160,219,509.15 in 2007/2008.

Annual Property Tax Revenue Losses under Alternative 2

The potential property tax losses under Alternatives 1 and 2 and their design variations are shown in Table 3.4.15.

Table 3.4.15 Property Tax Losses Under Alternatives 1 and 2 and Their Design Variations

Property Tax Revenue: $160,219,509		
Alternative	**Property Tax Loss**	**% of Revenue Loss**
Alternative 1		
1a[1]	$279,889	0.17%
1b[2]	$221,893	0.14%
1c[3]	$246,687	0.15%
1d[4]	$188,691	0.12%
Alternative 2		
2a[5]	$359,713	0.22%
2b[6]	$335,415	0.21%
2c[7]	$399,372	0.25%
2d[8]	$375,074	0.23%
2e[9]	$298,514	0.19%
2f[10]	$298,825	0.18%
2g[11]	$303,595	0.19%
2h[12]	$352,740	0.22%

Sources: Riverside County and Orange County Treasurer Tax Collectors (2010).
Note: Property tax revenue estimations are approximate and will be finalized during final design.

[1] Out of 81 full acquisitions, only 40 had no tax information
[2] Out of 77 full acquisitions, only 15 had no tax information.
[3] Out of 75 full acquisitions, only 40 had no tax information.
[4] Out of 71 full acquisitions, only 35 had no tax information.
[5] Out of 89 full acquisitions, only 3 had no tax information.
[6] Out of 85 full acquisitions, only 3 had no tax information.
[7] Out of 94 full acquisitions, only 6 had no tax information.
[8] Out of 91 full acquisitions, only 6 had no tax information.
[9] Out of 82 full acquisitions, only 4 had no tax information.
[10] Out of 85 full acquisitions, only 3 had no tax information.
[11] Out of 91 full acquisitions, only 6 had no tax information.
[12] Out of 88 full acquisitions, only 7 had no tax information.

As shown in Table 3.4.15, Alternative 1 and its design variations would result in between $188,691 and $279,889 in property tax revenue losses, depending on the design variation. Alternative 2 and its design variations would result in between $274,216 and $399,372 in property tax revenue losses.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed, no property acquisitions would be required, and no loss of property tax revenue would occur.

Sales Tax Revenue

When businesses cease to operate, the State and local jurisdictions lose sales tax revenues. This analysis provides an estimate of the annual sales tax revenue losses to city, county, and State governments as a result of the nonresidential acquisitions that would occur under Alternatives 1 and 2. The right-of-way acquisitions associated

with the Build Alternatives would result in the relocation of a number of sales tax-generating businesses in the City of Corona, specifically 88 business relocations under Alternative 2f. Losses in sales tax revenue are approximate and will be finalized during final design.

Annual Sales Tax Revenue Losses under Alternatives 1 and 2

The potential annual sales tax revenue losses to the City of Corona, Riverside County, and the State resulting from business relocations in the City of Corona under Alternatives 1 and 2 and their design variations are shown in Tables 3.4.16 and 3.4.17, respectively.

As shown in Table 3.4.16, under Alternative 1, the potential sales tax loss from the business relocations in the City of Corona would be an estimated $487,327 for Alternative 1a (based on the relocation of 65 businesses), an estimated $494,825 for Alternative 1b (based on the relocation of 66 businesses), an estimated $442,343 for Alternative 1c (based on the relocation of 59 businesses), and an estimated $449,840 for Alternative 1d (based on the relocation of 60 businesses). These relocations would result in a loss of 1.5 to 1.7 percent of the overall sales tax revenues in the City of Corona.

As shown in Table 3.4.17, under Alternative 2, the potential sales tax losses from the business relocations in the City of Corona would be estimated as follows:

- $569,798 for Alternative 2a (based on the relocation of 76 businesses)
- $577,295 for Alternative 2b (based on the relocation of 77 businesses)
- $599,787 for Alternative 2c (based on the relocation of 80 businesses)
- $607,285 for Alternative 2d (based on the displacement of 81 businesses)
- $517,317 for Alternative 2e (based on the relocation of 69 businesses)
- $569,766 for Alternative 2f (based on the relocation of 88 businesses)
- $577,295 for Alternative 2g (based on the relocation of 77 businesses)
- $584,793 for Alternative 2h (based on the displacement of 78 businesses)

Depending on the Alternative and design variation selected, these relocations would result in a loss of 1.7 to 2.2 percent of overall sales tax revenues in the City of Corona.

Table 3.4.16 Potential Annual Sales Tax Revenue Loss Under Alternative 1 and Its Design Variations

Tax Rate		Taxable Sales	Total Sales Tax Revenue	Business Permits	Average Sales Tax/ Business	Alternative 1			
City/County	%					1a	1b	1c	1d
Corona	1	$2,994,438,000	$29,944,380	3,994	$7,497	$487,327 1.6%	$494,825 1.7%	$442,343 1.5%	$449,840 1.5%
Riverside County	0.5	—	$14,972,190	—	$3,749	$243,664	$247,412	$221,172	$224,920
State of California	7.25	—	$217,096,755	—	$54,356	$3,533,122	$3,587,478	$3,206,988	$3,261,343

Sources: Riverside County Office of the Assessor, 2007; Bureau of Equalization, Taxable Sales in California, 2008; and Right-of-Way Data Sheets (May 2010 and September 2011).

Note: In April 2008, the State of California increased the sales tax base from 6.25% to 7.25%.

Table 3.4.17 Potential Annual Sales Tax Revenue Loss Under Alternative 2 and Its Design Variations

Tax Rate		Taxable Sales	Total Sales Tax Revenue	Business Permits	Average Sales Tax/ Business	Alternative 2							
City/ County	%					2a	2b	2c	2d	2e	2f	2g	2h
Corona	1	$2,994,438,000	$29,944,380	3,994	$7,497	$569,798 1.9%	$577,295 1.9%	$599,787 2.0%	$607,285 2.0%	$517,317 1.7%	$659,766 2.2%	$577,295 1.9%	$584,793 2.0%
Riverside County	0.5	—	$14,972,190	—	$3,749	$284,899	$288,648	$299,894	$303,642	$258,658	$329,883	$288,648	$292,396
State of California	7.25	—	$217,096,755	—	$54,356	$4,131,035	$4,185,391	$4,348,458	$4,402,814	$3,750,545	$4,783,304	$4,185,391	$4,239,746

Sources: Riverside County and Orange County Treasurer's Tax Collections., Riverside County Office of the Assessor, 2007; Bureau of Equalization, Taxable Sales in California, 2008; and Right-of-Way Data Sheets (May 2010 and September 2011).

Note 1: In April 2008, the State of California increased the sales tax base from 6.25% to 7.25%.

Note 2: Potential sales tax revenue loss estimations are approximate and will be finalized during final design.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed, no property acquisitions and relocations would occur, and no sales tax revenue losses would occur in the City of Corona.

Other Revenue

Alternative 1 would require relocation of 9 billboards and Alternative 2, including Alternative 2f, would require relocation of 10 billboards within the project limits in the City of Corona. These billboards generate revenue for the City. To minimize impacts associated with the relocation of digital and static billboards, RCTC, the Project Engineer, and the Right-of-Way Agents will work with the billboard owners and the City of Corona to assist with the relocations within the City in accordance with the City of Corona Municipal Code and the Department's Outdoor Advertising Act and Regulations. Existing relocation agreements between the City and billboard owners will be considered during the process. Every effort will be made to relocate all affected billboards on the same parcels or elsewhere in the City. The relocations of the billboards would be completed prior to the removal of the existing billboards. Although there is a potential that the City may experience economic impacts from the relocation of these billboards, those impacts are not considered substantial and therefore are not discussed further in this EIR/EIS.

Construction Employment

Alternatives 1 and 2

This section estimates the number of temporary jobs that would be created by construction of the project, which would be a beneficial effect of the project. As shown in Table 3.4.18, construction employment has two components, direct and indirect effects. The direct effect is the number of construction jobs created to construct the project. The indirect effect is the additional employment and business activity that would be generated in the regional economy based on the expenditure of funds for construction materials and labor.

It is estimated that Alternative 1 would generate between 21,762 and 22,736 total direct and indirect jobs, depending on the design variation. Alternative 2 is estimated to generate approximately 30,563 to 32,154 total direct and indirect jobs, depending on the design variation. Alternative 2f would generate 31,053 direct and indirect jobs.

Table 3.4.18 Estimated Construction Employment

Alternative	Capital Construction Costs[1]	Estimated Employment Generated		
		Direct Effect[2]	Indirect Effect[3]	Total Effects
Alternative 1 Project and Its Design Variations				
1a	$782,800,000	7,437	14,325	21,762
1b	$780,600,000	8,451	14,285	22,736
1c	$793,300,000	7,536	14,517	22,053
1d	$791,200,000	7,516	14,479	21,995
Alternative 2 and Its Design Variations				
2a	$1,099,400,000	10,444	20,119	30,563
2b	$1,099,900,000	10,449	20,128	30,577
2c	$1,136,800,000	10,800	20,803	31,603
2d	$1,137,400,000	10,805	20,814	31,619
2e	$1,116,400,000	10,606	20,430	31,036
2f	$1,117,000,000	10,612	20,441	31,053
2g	$1,156,000,000	10,982	21,155	32,137
2h	$1,156,600,000	10,988	21,166	32,154
Initial Phase of Alternative 2 and Its Design Variations				
2a	$791,900,000	7,523	14,492	22,015
2b	$790,000,000	7,505	14,457	21,962
2c	$833,800,000	7,921	15,259	23,180
2d	$831,800,000	7,902	15,222	23,124
2e	$810,400,000	7,699	14,830	22,529
2f	$808,500,000	7,681	14,796	22,477
2g	$851,400,000	8,088	15,581	23,669
2h	$849,300,000	8,068	15,542	23,610

Source: *Community Impact Assessment* (December 2010).

Note: Estimated construction employment numbers are approximate and will be finalized during final design.

[1] Capital construction costs from the project engineer (2011 estimates). The capital costs include roadway and structure costs.

[2] ARTBA estimates 9.5 new on-site construction jobs created for every $1 million of investment in freeway construction projects in the United States.

[3] ARTBA estimates 18.3 new indirect employment jobs created for every $1 million of investment in freeway construction projects in the United States.

ARTBA = American Road and Transportation Builders Association

3.4.2.5 Avoidance, Minimization, and/or Mitigation Measures for Relocations and Real Property Acquisition

Measures CI-1 through CI-3 would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives because relocations would occur under both the Initial Phases and Ultimate Projects. These measures will avoid, minimize, or mitigate adverse impacts of the Build Alternatives related to relocations and real property acquisition. Relocation assistance payments and counseling will be provided to persons and businesses in accordance with the Uniform Act, as amended, to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. All eligible displacees will be entitled to moving expenses. All benefits and services will be provided equitably to all residential and business relocatees without regard to race, color, religion, age, national origins, and disability as specified under Title VI of the Civil Rights Act of 1964.

Measure C-1 is a minimization measure that the Department routinely applies as part of a typical design/bid/build process. Measure C-1 would apply this same minimization measure to the design/build process proposed for the SR-91 CIP.

CI-1 The RCTC Project Engineer will ensure that design refinements are incorporated in the design/build process to minimize impacts to existing land uses related to the temporary use and/or permanent acquisition of property.

Prior to and during construction, RCTC's Resident Engineer will ensure that the design refinements to minimize impacts to existing land uses related to temporary use and/or permanent acquisition of property are properly implemented by the design/build contractor.

CI-2 Where property acquisition and relocation are unavoidable, RCTC's Right-of-Way Agents will follow the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for Federal and Federally Assisted Programs. Appendix D in the EIR/EIS provides a summary of the RCTC Relocation Assistance Program for implementing the Uniform Act.

For properties where a partial acquisition results in the removal of some or all of the parking for the property, RCTC's Right-of-Way Agents will conduct parking studies to investigate the use of adjacent acquisitions for replacement parking, reconfiguring the remaining parking spaces and lots on the property, restriping parking spaces, enlarging parking lots, and reconfiguring driveways and/or delivery locations to reduce the project effects on the parking on the affected property. RCTC is committed to reducing the project effects on parking by implementing either one or more of the actions listed above and/or providing financial compensation for lost parking based on compliance with the Uniform Act.

CI-3 During final design, RCTC's Right-of-Way Agents and the Project Engineer will work with owners of commercial, agricultural, and industrial uses subject to partial property acquisitions to reconfigure those uses on site consistent with applicable local codes and ordinances in such a manner as to enable them to remain in operation.

If a commercial or industrial partial acquisition cannot be reconfigured to allow for continued operation, RCTC's Right-of-Way Agents will work with the property owners to either relocate that use to land designated for that given land use, preferably within the boundaries of the study area or to provide compensation for the land pursuant to the provisions of the Uniform Act. If an agricultural use cannot be reconfigured to allow for its continued operation, the property owner will be compensated pursuant to the provisions of the Uniform Act as required in Measure CI-2 and the agricultural use will be discontinued.

Measure CI-4 would be required under the Initial Phases of both SR-91 CIP Build Alternatives because all billboard relocations would occur during the Initial Phases of Alternatives 1 and 2. This measure will minimize and mitigate adverse impacts related to billboards as a result of the Initial Phases of the Build Alternatives.

CI-4 During final design and property acquisition, the RCTC Project Engineer and Right-of-Way Agents will work with billboard/property owners, the City of Corona, and the Department's Outdoor Advertising Unit to find locations for relocating the affected billboards within the existing sites where the billboards are currently located or other sites in the City where billboards are allowed. The Right-of-Way Agents will work with the City and the Department's Outdoor Advertising Unit to ensure that the sites for the relocated billboards comply with the requirements in the City of Corona Municipal Code and the Outdoor Advertising Act and Regulations. The Right-of-Way Agents will also work with the billboard/property owners to develop Billboard Relocation Agreements with the City of Corona.

Refer also to Appendix D, Summary of Relocation Benefits, which describes RCTC's relocation process and potential benefits available for displaced residents, tenants, and businesses.

3.4.3 Environmental Justice

3.4.3.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President Clinton on February 11, 1994. The Executive Order directs federal agencies to take the

appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines; for 2000, this was $18,310 for a family of three and $22,050 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

3.4.3.2 Affected Environment

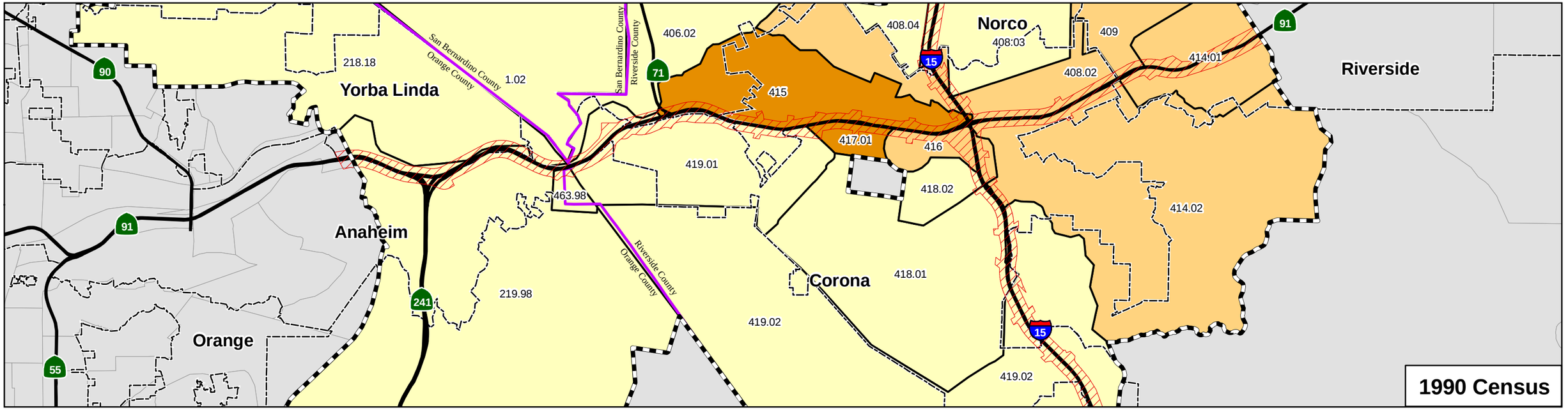
Low-income and minority populations are defined as any readily identifiable group of low-income or minority persons who live in geographically adjacent areas, or groups of geographically dispersed or transient persons who would be similarly affected by a proposed FHWA program, policy, or activity. Transportation agencies such as the Department and RCTC must collect and evaluate data on minority and income characteristics, increase public participation in decision-making, and provide measures to avoid, minimize, or mitigate the adverse effects of the federal action.

The environmental justice analysis was conducted using census information from the 1990 and 2000 Censuses for the total populations of Orange and Riverside Counties; the Cities of Anaheim, Yorba Linda, Corona, Riverside, and Norco; and the Census Tracts along the project segments of SR-91 and I-15.

The following analysis provides a comparison of five measures with which to evaluate environmental justice:

- Percentage of Non-White residents as shown on Figure 3.4-3
- Percentage of Hispanic residents (the Census Bureau considers Hispanic or Latino ethnicity distinct from racial background) as shown on Figure 3.4-4
- Percentage of population below poverty level as shown on Figure 3.4-5
- Median household income as shown on Figure 3.4-6
- Transit-dependent population as shown on Figure 3.4-7

This page intentionally left blank



1990: Average Percentage of Non-White Population per Affected City-
Anaheim- 9.8%
Corona- 25.5%
Norco- 20.8%
Riverside- 24.0%
Yorba Linda- 14.6%

2000: Average Percentage of Non-White Population per Affected City-
Anaheim- 26.7%
Corona- 37.9%
Norco- 27.9%
Riverside- 35.6%
Yorba Linda- 28.6%

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (LSA Associates, Inc, 2010)

I:\PAZ0701\GIS\CIA\Non_White_EJ_Fig3.4-3.mxd (5/12/2010)

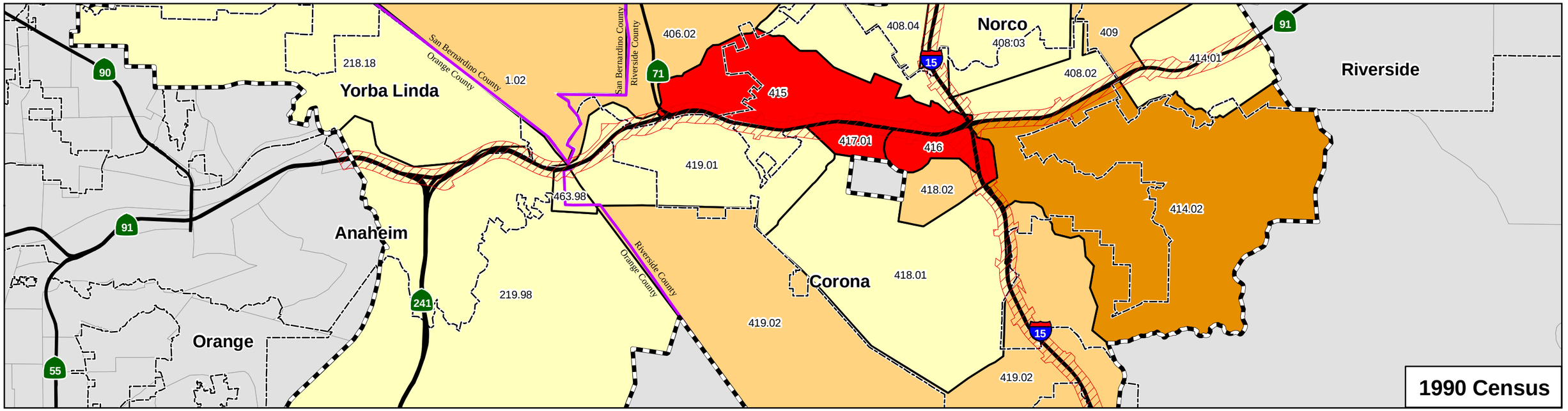
FIGURE 3.4-3

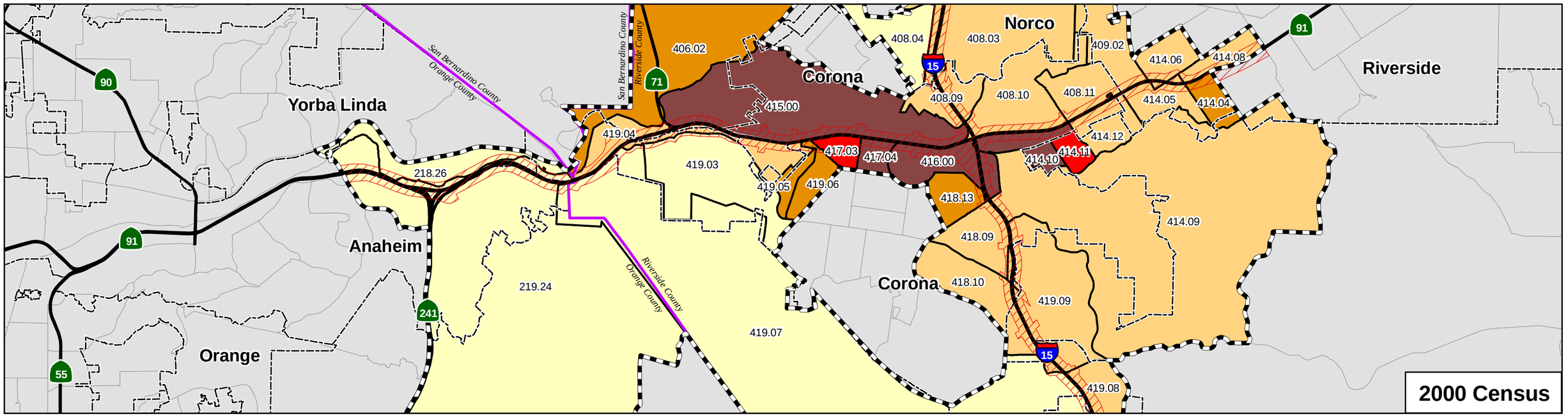
SR-91 Corridor Improvement Project

Environmental Justice : Non-White Population

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

- Survey Area
- Census Tracts Inside Study Area
- Census Tracts Outside Study Area
- City Boundary
- County Boundary

Percent Hispanic Population

- 0% - 20%
- 21% - 40%
- 41% - 60%
- 61% - 80%
- 81% - 100%

0 4600 9200
FEET

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (LSA Associates, Inc, 2010)

I:\PAZ0701\GIS\CIA\Hisp_EJ_Fig3.4-4.mxd (5/12/2010)

1990: Average Percentage of Hispanic Population per Affected City-
Anaheim- 4.9%
Corona- 36.3%
Norco- 21.9%
Riverside- 29.5%
Yorba Linda- 9.3%

2000: Average Percentage of Hispanic Population per Affected City-
Anaheim- 14.3%
Corona- 44.4%
Norco- 23.4%
Riverside- 33.2%
Yorba Linda- 12.9%

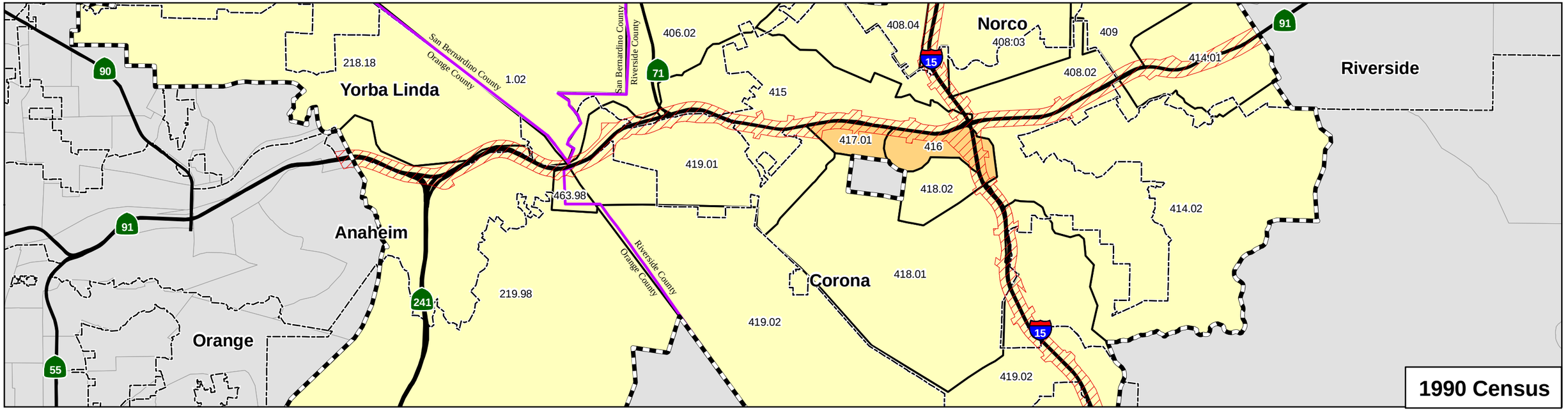
FIGURE 3.4-4

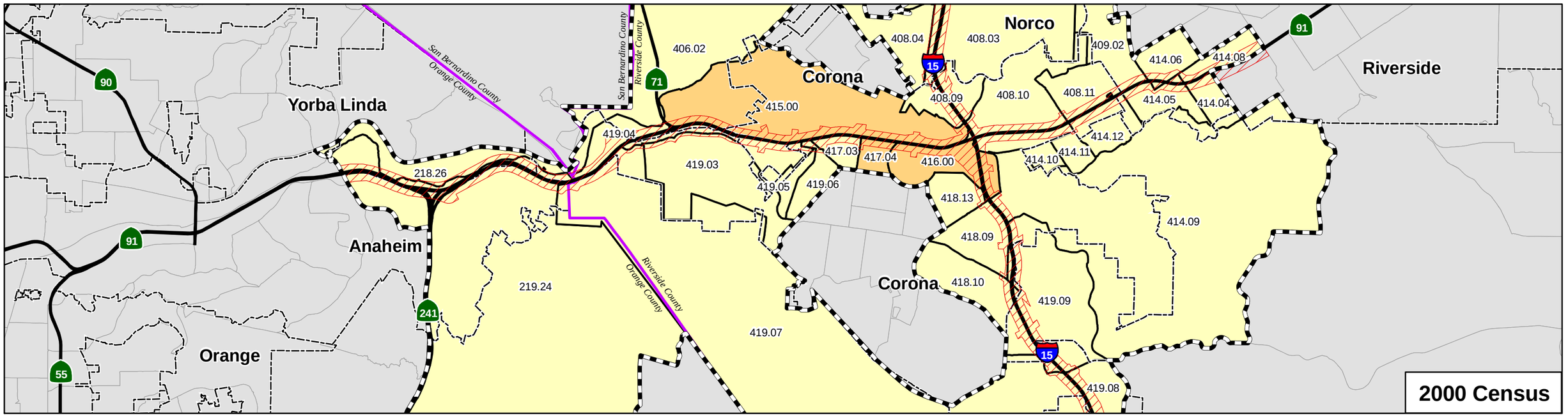
SR-91 Corridor Improvement Project

Environmental Justice : Hispanic Population

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

- Survey Area
- Census Tracts Inside Study Area
- Census Tracts Outside Study Area
- City Boundary
- County Boundary

Poverty Level Population

- 0-20%
- 21-40%

0 4600 9200
FEET

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (2010)

I:\PAZ0701\GIS\CIA\Section3.4\Poverty_Level_EJ.mxd (9/26/2010)

1990: Average Percentage of Poverty Level Population per Affected City-
Anaheim- 1.9%
Corona- 9.5%
Norco- 5.6%
Riverside- 7.8%
Yorba Linda- 2.5%

2000: Average Percentage of Poverty Level Population per Affected City-
Anaheim- 2.6%
Corona- 10.9%
Norco- 5.6%
Riverside- 9.0%
Yorba Linda- 3.4%

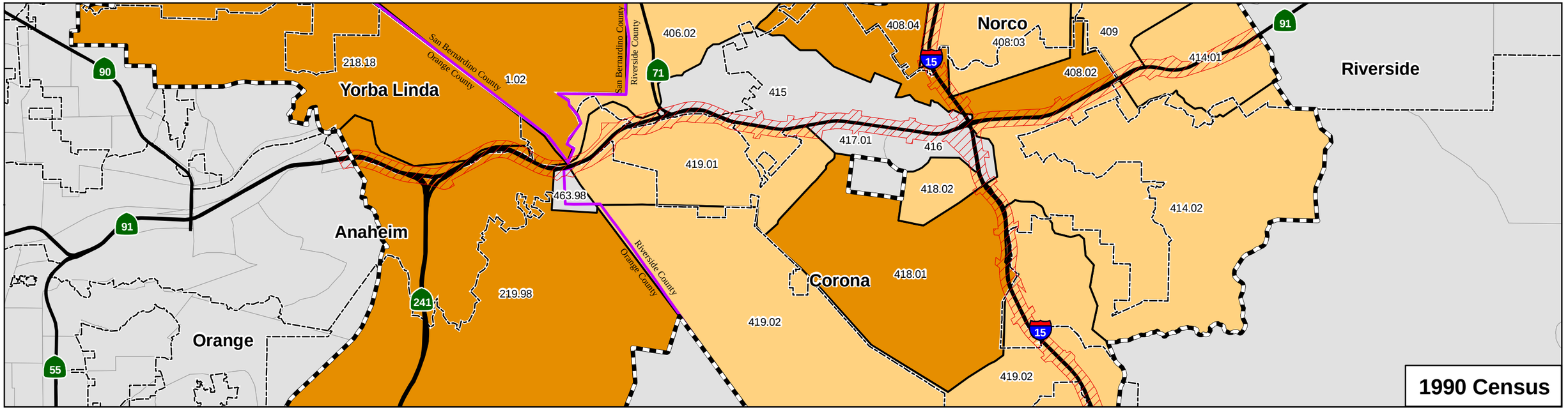
FIGURE 3.4-5

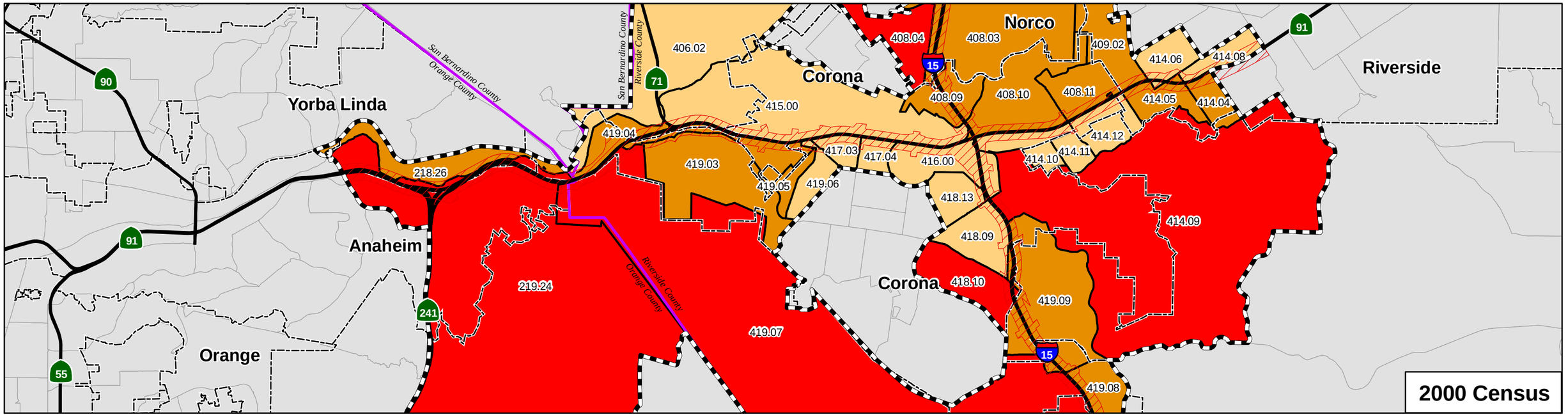
SR-91 Corridor Improvement Project

Environmental Justice : Poverty Population

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

- Study Area
- Census Tracts Inside Study Area
- Census Tracts Outside Study Area
- City Boundary
- County Boundary

Median Household Income

- $0-25,000
- $25,001 -50,000
- $50,001 -75,000
- $75,001 +

0 4600 9200 FEET

1990: Average Median Household Income per Affected City-
Anaheim- $ 26,271
Corona- $ 41,871
Norco- $ 49,527
Riverside- $ 40,159
Yorba Linda- $ 63,072

2000: Average Median Household Income per Affected City-
Anaheim- $ 89,547
Corona- $ 53,148
Norco- $ 63,237
Riverside- $ 52,542
Yorba Linda- $ 78,567

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (2010)

I:\PAZ0701\GIS\CIA\Section3.4\Median_house_Income_EJ.mxd (9/26/2010)

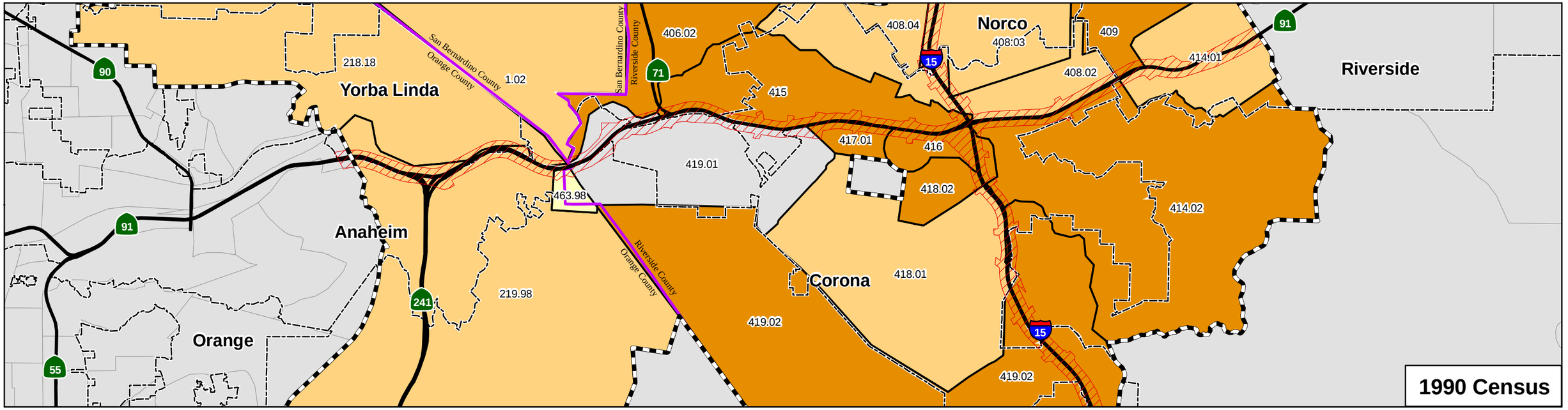
FIGURE 3.4-6

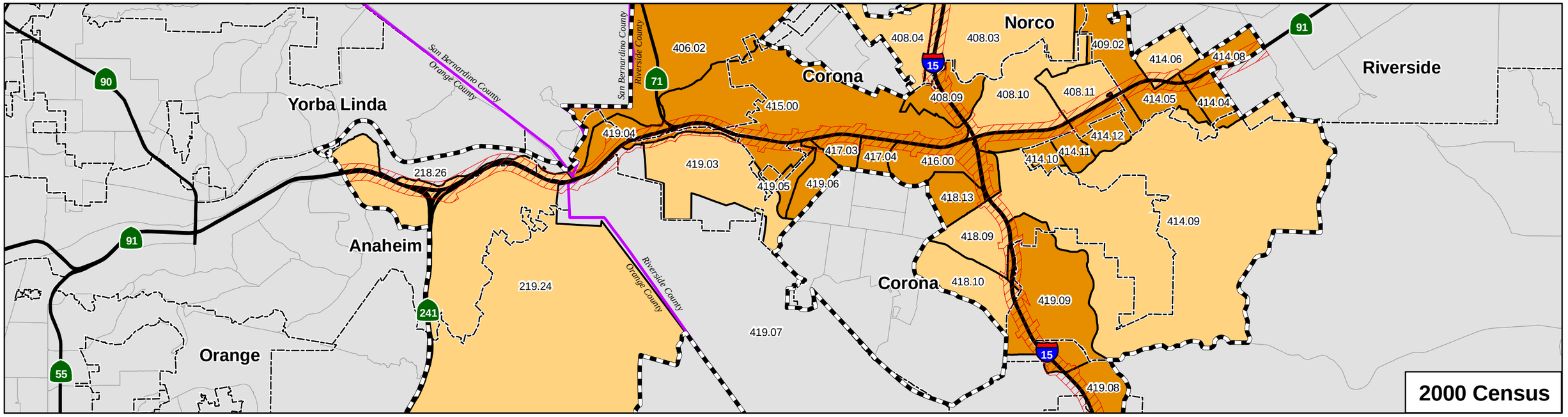
SR-91 Corridor Improvement Project

Environmental Justice : Median Household Income

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank





LEGEND

- Survey Area
- Census Tracts Inside Study Area
- Census Tracts Outside Study Area
- City Boundary
- County Boundary

Percent Transit Dependent Population

- 0-20%
- 21-40%
- 41-60%

0 4600 9200
FEET

1990: Average Percentage of Transit Dependent Population per Affected City-
Anaheim- 15.1%
Corona- 43.5%
Norco- 38.0%
Riverside- 41.7%
Yorba Linda- 32.6%

2000: Average Percentage of Transit Dependent Population per Affected City-
Anaheim- 32.7%
Corona- 45.8%
Norco- 41.0%
Riverside- 43.2%
Yorba Linda- 35.3%

SOURCE: US Census Bureau (2000) and *Community Impact Assessment* (2010)

I:\PAZ0701\GIS\CIA\Section3.4\Transit_Dep_EJ.mxd (9/26/2010)

FIGURE 3.4-7

SR-91 Corridor Improvement Project

Environmental Justice : Transit Dependent Population

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Figures 3.4-3 through 3.4-7 show a large number of census tracts in the vicinity of the project segments of SR-91 and I-15. However, the study area for the assessment of potential project impacts to environmental justice populations focused on those census tracts in which property would be acquired for the project. As discussed in Chapter 4.0 of the CIA, current right-of-way mapping shows that relocations would occur entirely within the City of Corona. All of the relocations would occur within the following census tracts in the City of Corona: 408.10, 408.11, 414.10, 414.11, 417.03, 417.04, and 419.06. Those census tracts are the defined study area for the environmental justice analysis.

Table 3.4.19 summarizes the demographic characteristics for those study area census tracts and shows the environmental justice data for those census tracts.

Table 3.4.19 Comparison of Low-Income and Minority Populations for the Study Area Census Tracts

Tract	Percent Environmental Justice Population			
	Non-White	Hispanic	Below Poverty Level	Median Household Income
408.10	45%	23%	6%	$63,685
408.11	47%	22%	5%	$60,350
414.10	59%	92%	19%	$36,681
414.11	50%	73%	9%	$41,906
417.03	49%	70%	24%	$28,125
417.04	59%	82%	26%	$29,229
419.06	44%	55%	7%	$41,520
Riverside County	30%	36%	14%	$42,887
Corona	38%	44%	11%	$53,148

Source: United States Census Bureau (2000).

Non-White Population

The percentage of Non-White residents was calculated by subtracting the number of White residents (one race only, as identified by the 2000 Census) from the overall population and dividing the difference by the total population. Between 1990 and 2000, the total population in Riverside County grew by 32 percent. However, the percentages of some groups in the total county population decreased over that time period. In Riverside County in 1990, the Non-White population comprised 23.6 percent of the total population. In 2000, the Non-White population comprised 34.4 percent of the total population in Riverside County. In Orange County, the Non-White population comprises approximately 30 percent of the population, while the Hispanic population is nearly 31 percent.

Among the Cities of Anaheim, Yorba Linda, Corona, Riverside, and Norco, Anaheim has the largest percent of Non-White residents at 40 percent, while Norco has the least at 15.5 percent. The City of Anaheim has the largest percentage of Hispanic residents, nearly 47 percent, while Yorba Linda reports just 10 percent Hispanic population. In the City of Corona, where the majority of the displacements would occur, approximately 33 percent of the population is Non-White, and nearly 36 percent of the population is Hispanic.

The City of Anaheim experienced an overall increase in Non-White population between 1990 and 2000, with the largest increases in the American Indian/Native Alaskan, Other, and Asian populations (at 113, 85, and 66 percent, respectively). In 1990, the Non-White population comprised 28 percent of the population, and by 2000 it had increased to 40 percent.

In the 2000 Census, the City of Yorba Linda reported the least substantial change in its Non-White population with only a 21 percent increase. The Asian population reported the largest increase, at 25 percent, followed by the Black population, which increased 18 percent.

In 1990, the Non-White population in the City of Corona comprised 24.1 percent of the population, and by 2000 it had increased to 38 percent. The Black population had the greatest increase between 1990 and 2000 in the City of Corona, at 282 percent. This was followed by substantial increases in several other populations, including Other, Asian, and American Indian/Native Alaskan (at 113, 75, and 71 percent, respectively).

The Non-White population in the City of Norco decreased between 1990 and 2000 from 21 percent to 14.5 percent, with the biggest decrease in the Hawaiian/Pacific Islanders population (at -43 percent). Over that same time period, the Black population in the City of Norco decreased by 20 percent.

Between 1990 and 2000, the Non-White population in the City of Riverside increased by 73 percent with the Other, American Indian/Native Alaskan, and Asian populations increasing by 50, 45, and 32 percent, respectively.

Two census tracts reported over 50 percent Non-White population in the 2000 Census: Census Tracts 414.10 and 417.04 each at 59 percent.

Hispanic Population

Between 1990 and 2000, the Hispanic population in Riverside and Orange Counties increased 82 and 55 percent, respectively. In the City of Corona, the Hispanic population increased nearly 93 percent between 1990 and 2000. The Hispanic population increased by 83 percent in the City of Anaheim over the same period. The City of Riverside reported the next largest increase at 57 percent. The Cities of Norco and Yorba Linda both experienced an average 20 percent increase in the Hispanic population over that time period.

As reported in the 2000 Census, at 92 percent, Census Tract 414.10 had the largest Hispanic population in 2000, followed by Census Tracts 415.00 and 417.04, at 84 and 82 percent, respectively. Census Tracts 219.42 and 218.26 reported the smallest Hispanic populations in 2000, at 12 and 13 percent, respectively.

Poverty Level

For 2000, DHHS defines poverty guidelines for a family of three at $18,310 and a family of four at $22,050. As shown earlier in Table 3.4.3, the poverty rate for Orange and Riverside Counties in the 2000 Census is, on average, similar to the State average of 14.2 percent. The City of Riverside has the greatest percentage of persons below poverty, at 15.8 percent, followed by the City of Anaheim at 14.1 percent. The City of Yorba Linda reported the lowest amount of persons below poverty, at 3.0 percent. The City of Norco reported 5.3 percent of persons below poverty and the City of Corona reported 8.3 percent of persons below poverty.

As reported in the 2000 Census, of the census tracts in the study area, Census Tract 415.00 had the highest percentage of persons below poverty, at nearly 30 percent, followed by Census Tracts 416.00 and 417.03 at approximately 26 percent each. Census Tract 419.07 had the lowest percent of persons below poverty, at 1.14 percent, followed by Census Tract 418.10 at 1.94 percent.

Median Household Income

The 2000 Census reports that the average median household incomes for Orange and Riverside Counties are higher than the State average of $47,493. The City of Yorba Linda has the highest median household income, $89,593, which is higher than the State and Orange County averages. The City of Riverside has the lowest, at $41,646.

As reported in the 2000 Census, Census Tract 219.24 has the highest median household income, at $90,377, followed by Census Tract 414.09 at $85,023. Three

census tracts reported median household incomes below $30,000: Census Tracts 416.00, 417.03, and 417.04.

3.4.3.3 Environmental Consequences

The potential impacts of the SR-981 CIP related to environmental justice populations are described in the following sections:

- Summary of Impacts, which provides a brief summary of the project effects on environmental justice populations
- Summary of Impacts for Alternative 2f, which provides a brief summary of the effects of Alternative 2f on environmental justice populations
- Permanent Impacts, which discusses the permanent project effects on environmental justice populations in more detail
- Temporary Impacts, which discusses the temporary project effects on environmental justice populations in more detail

Summary of Impacts

Minority and low-income populations in census tracts adjacent to the project segment of SR-91 would be impacted by the acquisition of property, the removal of homes and businesses and the displacement/relocation of residents and businesses for Alternatives 1 and 2. As discussed in Section 3.4.2, Relocations and Real Property Acquisitions, the relocations under Alternatives 1 and 2 will occur entirely in the City of Corona in Census Tracts 408.10, 408.11, 414.10, 414.11, 417.03, 417.04, and 419.06. Alternatives 1 and 2 would impact minority and low-income populations in those census tracts primarily as a result of the acquisition of property and removal of homes and businesses from the acquired properties. For the SR-91 CIP to meet the defined project purpose, which is to provide for effective and efficient movement between and through Corona and western Riverside County, it is not possible to avoid those census tracts.

As a result, Alternatives 1 and 2 would result in adverse impacts to minority and low-income populations, including in some census tracts where the percentages of the environmental justice populations are higher than in the City and Riverside County. However, those census tracts also include populations that are not defined as environmental justice populations. Although minority or low income populations will be affected, they will not be disproportionately affected.

Alternatives 1 and 2 would benefit most study area residents, including minority, low-income, and transit-dependent populations, by improving mobility and circulation

through the City of Corona and to/from western Riverside County and northeastern Orange County. Additionally, local access at all the existing interchanges would be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Alternatives 1 and 2 include HOV lanes or tolled express lanes that would provide increased mobility and improved travel times on SR-91 compared to the No Build Alternative.

Alternatives 1 and 2 would provide improved pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. In addition, an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane would be relocated north and farther away from SR-91, which would improve the pedestrian and bicycling experience in that area. These modifications would benefit minority, low-income, and transit-dependent populations by improving mobility in the area.

On the local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings and the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings. Even with lighting consistent with local standards, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91.

Measures CI-1 through CI-4, T-1, T-4, and V-1 would minimize the effects of Alternatives 1 and 2 and their design variations related to community character and cohesion, including those effects on environmental justice populations.

In summary, although Alternatives 1 and 2 would impact certain environmental justice populations, those impacts would not be disproportionately high or adverse to those populations based on consideration of the project benefits to those populations and the measures included in the project to specifically address effects associated with property acquisition.

Construction activities would temporarily affect low-income and minority populations. Those impacts could include disruption of local traffic patterns and access to residences and businesses, increased traffic congestion, and increased noise, vibration, and dust. No construction staging will occur in areas where sensitive

receptors are present. In addition, the project construction would comply with standard air quality Measures SC-1 through SC-5 (provided in Section 3.14) and standard noise/vibration Measures N-2 and N-3 (provided in Section 3.15). With the implementation of those minimization measures, the construction-related noise and air quality impacts would not result in disproportionate impacts related to community character and cohesion for minority or low-income populations.

Summary of Impacts for Alternative 2f

Minority and low-income populations in census tracts adjacent to the project segment of SR-91 would be impacted by the acquisition of property, the removal of homes and businesses and the displacement/relocation of residents and businesses for Alternative 2f. As discussed in Section 3.4.2, the relocations under Alternative 2f will occur entirely in the City of Corona in Census Tracts 408.10, 408.11, 414.10, 414.11, 417.03, 417.04, and 419.06. Alternative 2f would impact minority and low-income populations in those census tracts primarily as a result of the acquisition of property and removal of homes and businesses from the acquired properties. For Alternative 2f to meet the defined project purpose, which is to provide for effective and efficient movement between and through Corona and western Riverside County, it is not possible to avoid those census tracts.

As a result, Alternative 2f would result in adverse impacts to minority and low-income populations, including in some census tracts where the percents of the environmental justice populations are higher than in the City and Riverside County. However, those census tracts also include populations that are not defined as environmental justice populations. Although minority or low income populations will be affected, they will not be disproportionately affected.

Alternative 2f would benefit most study area residents, including minority, low-income, and transit-dependent populations, by improving mobility and circulation through the City of Corona and to/from western Riverside County and northeastern Orange County. Additionally, local access at all the existing interchanges would be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Alternative 2f includes tolled express lanes that would provide increased mobility and improved travel times on SR-91 compared to the No Build Alternative.

Alternative 2f would provide improved pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. In addition, an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane would be relocated north and farther away from SR-91, which would improve the pedestrian and bicycling experience in that area. These modifications would benefit minority, low-income, and transit-dependent populations by improving mobility in the area.

On the local streets that cross SR-91 and I-15, the widened freeway cross sections in Alternative 2f would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings and the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings. Even with lighting consistent with local standards, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91.

Measures CI-1 through CI-4, T-1, T-4, and V-1 would minimize the effects of Alternative 2f related to community character and cohesion, including those effects on environmental justice populations.

In summary, although Alternative 2f would impact certain environmental justice populations, those impacts would not be disproportionately high or adverse to those populations based on consideration of the project benefits to those populations and the measures included in the project to specifically address effects associated with property acquisitions.

Construction activities for Alternative 2f would temporarily affect low-income and minority populations. Those impacts could include disruption of local traffic patterns and access to residences and businesses, increased traffic congestion, and increased noise, vibration, and dust. No construction staging will occur in areas where sensitive receptors are present. In addition, the project construction would comply with standard air quality Measures SC-1 through SC-5 (provided in Section 3.14) and standard noise/vibration Measures N-2 and N-3 (provided in Section 3.15). With the implementation of those minimization measures, the construction-related noise and air quality impacts for Alternative 2f would not result in disproportionate impacts related to community character and cohesion for minority or low-income populations.

Permanent Impacts

In the Caltrans Desk Guide, *Environmental Justice in Transportation Planning and Investments* (January 2003), no definitive guidelines are given for determining what impacts to environmental justice populations should be considered disproportionately high or adverse. However, two general issues are weighed for environmental justice analysis for transportation projects:

1. Whether the adverse impact(s) of the proposed project will be predominantly borne by a minority or low-income population group; or
2. Whether the adverse impact(s) of the proposed project will be appreciably more severe or greater in magnitude than the adverse impacts to nonminority and/or non-low-income population groups even after avoidance, minimization, and mitigation measures and offsetting project benefits are considered.

The analyses in this section evaluated the potential impacts of the project on environmental justice populations based on consideration of those two general issues.

Alternatives 1 and 2

Minority and Low-Income Populations

Minority and low-income populations in census tracts adjacent to the project segment of SR-91 would be impacted by the acquisition of property, the removal of homes and businesses and the displacement/relocation of residents and businesses for Alternatives 1 and 2. As discussed in Section 3.4.2, the relocations under Alternatives 1 and 2 will occur entirely in the City of Corona in Census Tracts 408.10, 408.11, 414.10, 414.11, 417.03, 417.04, and 419.06. The minority and low-income populations in those census tracts, provided earlier in Table 3.4.19, are summarized below:

- Census Tracts 414.10 and 417.04 have the highest percentage of Non-White residents (59 percent). The percent of Non-White residents in the remaining census tracts ranges from a low of 44 percent in Census Tract 419.06 to 50 percent in Census Tract 414.11. The percentages of Non-White residents in all seven census tracts are higher than for the City of Corona (38 percent) and Riverside County (30 percent).
- Census Tract 414.10 has the highest percentage of Hispanic residents (92 percent). The percentage of Hispanic residents in the remaining census tracts ranges from a low of 22 percent in Census Tract 408.11 to 82 percent in Census Tract 417.04. Five of the census tracts have percentages of Hispanic

residents higher than both the City of Corona (44 percent) and Riverside County (36 percent).

- Census Tract 417.04 has the highest percentage of residents below the poverty level (26 percent). The percentage of residents below the poverty level in the remaining census tracts ranges from 5 percent in Census Tract 408.11 to 24 percent in Census Tract 417.03. Three of the census tracts have percentages of residents below the poverty level higher than both the City of Corona (11 percent) and Riverside County (14 percent).
- Census Tract 417.03 has the lowest median household income ($28,125). The median household income in the remaining census tracts ranges from $29,229 in Census Tract 417.04 to $63,685 in Census Tract 408.10. Five of the census tracts had median household incomes less than the City of Corona ($53,148) and Riverside County ($42,887).

The two general issues noted above were considered to assess whether the impacts of the SR-91 CIP would be disproportionately high or adverse on environmental justice populations, as follows:

1. Will the adverse impacts of the Build Alternatives be predominantly borne by a minority or low-income population group?

   Alternatives 1 and 2 would impact minority and low-income populations in the census tracts described above primarily as a result of the acquisition of property and removal of homes and businesses from the acquired properties. For the SR-91 CIP to meet the defined project purpose, which is to provide for effective and efficient movement between and through Corona and western Riverside County, it is not possible to avoid those census tracts. For example, it is not possible to avoid the acquisition of property and the removal of homes and businesses in Census Tracts 414.10, 417.03, and 417.04 because they are immediately adjacent to existing SR-91 and it would require shifting a long segment of the freeway mainline and several interchanges to the north to avoid impacts in these census tracts. Shifting the entire freeway and several interchanges north to avoid right-of-way acquisition in Census Tracts 414.10, 417.03, and 417.04 would substantially increase the right-of-way acquisition and construction costs for the Build Alternatives. Widening SR-91 to the north only between Auto Center Drive and McKinley would require realigning the frontage road and Pomona Road entirely, relocating a segment of Railroad Boulevard, reconstruction of the SR-91/I-15 interchange and connectors,

relocation of railroad tracks, and many more full parcel acquisitions of businesses north of SR-91 along Pomona Road. This could result in approximately $300 million in additional construction costs and $50 million for additional right-of-way costs along this approximately 5 mi long segment of SR-91. Similarly, to avoid impacts in Census Tracts 408.10 and 408.11, the freeway mainline and several interchanges would have to be shifted to the south, which would increase the impacts in Census Tracts 414.10 and 414.11.

As a result, Alternatives 1 and 2 would result in adverse impacts to minority and low-income populations, including in some census tracts where the percentages of the environmental justice populations are higher than in the City and Riverside County. However, those census tracts also include populations that are not defined as environmental justice populations. Although minority or low-income populations will be affected, they will not be disproportionately affected because implementation of Measures CI-1 through CI-3 would offset the impacts of removing homes and business in the affected census tracts.

2. Will the adverse impacts of the Build Alternatives be appreciably more severe or greater in magnitude than the adverse impacts to non-minority and/or non-low-income population groups even after mitigation measures and offsetting project benefits are considered?

   Alternatives 1 and 2 would benefit most study area residents, including minority, low-income, and transit-dependent populations, by improving mobility and circulation through the City of Corona and to/from western Riverside County and northeastern Orange County.

   Additionally, local access at all the existing interchanges would be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Alternatives 1 and 2 include HOV lanes or tolled express lanes that would provide increased mobility and improved travel times on SR-91 compared to the No Build Alternative. The HOV or tolled express lanes would benefit the surrounding communities as a whole, including minority, low-income, and transit-dependent populations. Therefore, the SR-91 CIP would improve traffic

patterns for residents and businesses, including minority, low-income, and transit-dependent populations.

The project effects related to property acquisition would not be appreciably more severe or greater in magnitude than the adverse impacts to non-minority and/or non-low-income populations based on implementation of Measures CI-1 through CI-3, which address the removal of homes and businesses. Specifically, the needs of minority and low-income populations are addressed in the *Final Relocation Impact Report*, which states:

> "Certain population groups such as senior citizens, low income residents and non-English speaking individuals often have strong community ties and depend upon primary social relationships and important support networks that can be severed upon relocation… The agency should be prepared for making relocating individuals who have suffered considerable financial loss and may owe more on their home than its current market value. Unemployment is extremely high at over 10% as of the date of this report with the Inland Empire region being one of the highest rates in the entire state. All of these factors could make for a difficult transition for some individuals and businesses affected by the project. Thoughtful, creative training of relocation consultants and managers, coupled with the appropriate Last Resort housing and relocation policies will be needed in order to administer the program at a high standard."

In summary, although Alternatives 1 and 2 would impact certain environmental justice populations, those impacts would not be disproportionately high or adverse to those populations based on consideration of the project benefits to those populations and the measures included in the project to specifically address effects associated with property acquisitions.

Transit-Dependent Populations

As stated previously, the transit-dependent population is comprised of the population without private transportation, under age 18, age 65 and older, or below poverty or median income levels. The FTA defines transit-dependent persons as those who are without private transportation, elderly (over age 65),

youths (under age 18), or below poverty or median income levels as defined by the United States Census Bureau.

Alternative 1 would maintain the existing HOV lanes on SR-91 between the Orange/Riverside County line and Pierce Street, which would continue to act as an incentive for bus transit and ridesharing in this corridor. Alternative 2 would extend the existing tolled express lanes from the County line to I-15 in the City of Corona. Alternatives 1 and 2 both support bus transit, carpools, and vanpools as a result of the HOV/tolled express lanes. Those lanes will be open to all buses, potentially at reduced tolls, and free or at a discounted rate to carpools and vanpools with three or more occupants. Express bus improvements planned independently from the SR-91 CIP include four additional express routes in the SR-91 corridor by 2015/2016. These routes would originate in the Riverside and Temecula areas with destinations to employment centers in Anaheim and Orange in Orange County. Transit-dependent populations would benefit by the continued availability of and improved travel speeds for bus transit, carpools, and vanpools on SR-91 under Alternatives 1 and 2 for those residents in Riverside County to access jobs and other activities in Orange and Los Angeles Counties.

On the local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks on the overcrossings or in the undercrossings. Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting consistent with local standards for both vehicles and pedestrians. However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design, including the provision of appropriate lighting in the new parts of the undercrossings and additional lighting in the existing parts of the undercrossings, if it is determined to be necessary. Measure V-1, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists, including minority populations, may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion.

Measures CI-1 through CI-3, T-1, T-4, and V-1 would minimize the effects of Alternatives 1 and 2 and their design variations related to community character and cohesion, including effects on low-income, minority, and transit-dependent populations. Those environmental justice populations in the study area are expected to generally benefit from the project for the following reasons:

- Where there is a local street improvement, the sidewalks will be designed to meet current ADA standards when possible.
- Regional public bus transit will have more efficient access with the tolled express lanes and/or HOV lanes.
- HOVs will have more efficient access with the tolled express lanes and/or HOV lanes.
- Under Alternative 2, tolls would be exempted or reduced for vehicles with three or more persons or public transportation.

Therefore, the adverse project impacts would not be appreciably more severe or greater in magnitude to transit dependent members of the community after avoidance, minimization, and mitigation measures and offsetting project benefits are considered.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, the project would not be constructed and no permanent impacts related to low-income and minority populations would occur.

Temporary Impacts

Alternatives 1 and 2

Construction activities would temporarily affect low-income and minority populations. Temporary construction impacts to these populations could include disruption of local traffic patterns and access to residences and businesses, increased traffic congestions, and increased noise, vibration, and dust. However, construction would also provide jobs that would benefit local economies, including minority and low-income populations.

No Build Alternative

Under the No Build Alternative, the temporary construction-related adverse effects to minority and low-income populations that would occur under the Build Alternatives

would not occur. However, these populations also would not gain any economic benefit from construction activities.

3.4.3.4 Avoidance, Minimization, and/or Mitigation Measures Related to Environmental Justice

Compliance with the Uniform Act (as described in Measure CI-2 and Real Property Acquisitions) would reduce the impacts of the Build Alternatives on low-income and minority populations related to displacement and relocation of residential and nonresidential uses.

Alternatives 1 and 2 would not cause disproportionately high and adverse effects on any minority or low-income populations per EO 12898 regarding environmental justice. Therefore, no avoidance, minimization, or mitigation measures are required. Measures described elsewhere in this EIR/EIS (land use, air quality, visual, noise, etc.) would reduce adverse project impacts to all affected populations, including low-income and minority populations.

The attachments for Section 3.4 following this page provide information from the *Final Relocation Impact Report* regarding relocation opportunities for properties affected by the Build Alternatives.

Available Multifamily Rental Units – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Baths**	**Rent**
1	600 Central Ave	Riverside	1	1	$650
2	3861 4th St.	Riverside	1	1	$675
3	1865 B Ohio Ave	Riverside	1	1	$675
4	5748 Tilton Ave	Riverside	1	1	$695
5	1447 7th St	Riverside	2	1	$700
6	3327 Lemon St	Riverside	1	1	$750
7	5777 Corwin Ln	Riverside	2	1	$790
8	4178 Mission Inn Ave	Riverside	1	1	$795
9	3993 Iowa Ave.	Riverside	1	1	$798
10	3939 Cranford Ave	Riverside	1	1	$799
11	11937 Knoefler Dr	Riverside	2	1	$830
12	1144 Blaine St.	Riverside	1	1	$850
13	2963 Elgin Dr	Riverside	2	2	$850
14	8165 Philbin	Riverside	2	1	$850
15	1341 Massachusetts Ave	Riverside	1	1	$860
16	5164 Olivewood	Riverside	2	1	$895
17	4982 Jurupa	Riverside	2	1	$895
18	123 N. Buena Vista Ave	Corona	2	2	$895
19	5206 Olivewood	Riverside	2	1	$900
20	4971 Brooks St	Riverside	2	2	$900
21	3939 Cranford Ave	Riverside	2	1	$995
22	3993 Iowa Ave	Riverside	2	1	$998
23	375 Central Ave	Riverside	1	1	$999
24	3939 Cranford Ave	Riverside	2	2	$1,025
25	2505 San Gabriel Way	Corona	1	1	$1,050
26	1010 La Terraza Cr	Corona	1	1	$1,050
27	3939 Cranford Ave	Riverside	2	2	$1,050
28	1035 La Terraza Cr	Corona	1	1	$1,075
29	778 Gianni Dr	Corona	2	1	$1,100
30	994 La Costa Dr	Corona	2	2	$1,100
31	1506 Border Ave	Corona	2	2	$1,150
32	1485 Everton Pl	Riverside	2	2	$1,150
33	7450 Northrop Dr	Riverside	1	1	$1,158
34	1343 Massachusetts Ave	Riverside	2	2	$1,200
35	6130 Avenue Juan Diaz	Riverside	3	2	$1,200
36	7450 Northrop Dr	Riverside	2	2	$1,217
37	2400 Ridgeview Dr	Chino Hills	1	1	$1,218
38	1013 W. Linden St	Riverside	2	2	$1,295
39	3473 Columbia	Riverside	3	2	$1,295
40	1171 Stone Pine Ln	Corona	2	2	$1,300
41	380 Via Capri	Corona	2	2	$1,350
42	6990 Kern Dr	Riverside	4	2	$1,350
43	1742 Forum Way	Corona	2	3	$1,395
44	13316 Woodsorrel Dr	Chino Hills	1	1	$1,440
45	1740 Forum Way	Corona	3	3	$1,495
46	1466 Camelot Dr	Corona	3	4	$1,500
47	2851 Bedford Ln	Chino Hills	2	2	$1,505
48	2851 Bedford Ln	Chino Hills	2	1	$1,520
49	13316 Woodsorrel Dr	Chino Hills	2	2	$1,540
50	2400 Ridgeview Dr	Chino Hills	2	2	$1,540
51	6580 Carioca Ln	Riverside	3	3	$1,550
52	7062 Seville Way	Riverside	3	3	$1,550
53	5464 W. Homecoming Cr	Mira Loma	1	2	$1,570
54	1775 Dumitru Way	Corona	3	3	$1,570
55	2851 Bedford Ln	Chino Hills	2	2	$1,570
56	1421 N. Gilbert St	Corona	2	2	$1,570
57	1518 Via Del Rio	Corona	3	3	$1,595
58	4312 Kingsbury PL	Riverside	3	2	$1,595
59	4312 Kingsbury Pl	Riverside	3	3	$1,595
60	1518 Via Del Rio	Corona	3	3	$1,595
61	2140 Triador	Corona	3	3	$1,595
62	5464 W. Homecoming Cr	Mira Loma	2	3	$1,600
63	2522 Laramie Rd	Riverside	3	2	$1,600
64	8025 Weirick Rd	Corona	3	2	$1,600
65	13316 Woodsorrel Dr	Chino Hills	2	2	$1,605
66	775 Harbor Cliff	Riverside	2	3	$1,645
67	2140 Triador St	Corona	3	3	$1,650
68	13316 Woodsorrel Dr	Chino Hills	2	2	$1,650

Available Multifamily Rental Units – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Baths**	**Rent**
69	13316 Woodsorrel Dr	Chino Hills	2	2	$1,665
70	8915 Cuyamaca St	Corona	2	2	$1,750
71	1048 Explanada St	Corona	3	3	$1,750
72	12571 Montellano Ln	Mira Loma	3	4	$1,800
73	13316 Woodsorrel Dr	Chino Hills	2	2	$1,810
74	2851 Bedford Ln	Chino Hills	3	2	$1,845
75	4301 Junction Cr	Corona	2	2	$1,900
76	4431 Brookbridge	Riverside	3	3	$1,900
77	869 Havasu St	Corona	4	3	$1,900
78	7450 Northrop Dr	Riverside	3	2	$1,991
79	12880 Magnolia Ave	Riverside	3	3	$2,000
80	5464 W. Homecoming Cr	Mira Loma	3	3	$2,050
81	452 Amargosa Way	Corona	4	3	$2,200

Available Single-Family Rental Units – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Baths**	**Rent**
1	3964 2nd St	Riverside	1	1	$680
2	6260 Jones Ave	Riverside	2	1	$895
3	4729 Brockton Ave	Riverside	2	1	$950
4	3374 Lime St	Riverside	2	1	$950
5	9570 Mason St	Riverside	2	1	$1,000
6	9723 Garfield St	Riverside	2	1	$1,100
7	9313 Sage Ave	Riverside	2	1	$1,250
8	2789 Lime St	Riverside	1	2	$1,295
9	25071 Yolanda Ave	Riverside	4	2	$1,300
10	6646 Palm Ave	Riverside	3	1	$1,350
11	Challen Ave	Riverside	4	2	$1,350
12	5701 Mitchell Ave	Riverside	3	2	$1,395
13	4569 Central Ave	Riverside	3	1	$1,395
14	6511 Asa Way	Riverside	3	2	$1,395
15	1309 W. La Cadena Dr	Riverside	2	1	$1,400
16	3575 Campbell St	Riverside	2	1	$1,400
17	3417 Florin Ave	Riverside	3	2	$1,400
18	13372 Lazy Brook Dr	Corona	3	2	$1,450
19	8687 Clearview Pl	Riverside	3	2	$1,450
20	19054 Diplomat Ave	Corona	3	2	$1,450
21	3294 Wickham Dr	Riverside	4	2	$1,475
22	4322 6th St	Riverside	2	2	$1,495
23	3543 Arlington Ave	Riverside	3	3	$1,495
24	3839 Wayne Ct	Riverside	3	2	$1,495
25	11146 Schuyler Ave	Riverside	3	2	$1,500
26	7285 Lydia Ave	Riverside	4	2	$1,500
27	4121 Mennes Ave	Riverside	3	3	$1,500
28	7327 Barnstable Pl	Riverside	3	2	$1,575
29	4506 Landeen Ct	Riverside	3	3	$1,600
30	4470 Morristown Dr	Riverside	3	2	$1,600
31	11120 Francisco Pl	Riverside	3	3	$1,600
32	5268 Mission Rock Way	Riverside	3	2	$1,600
33	8197 Helena Ave	Riverside	3	2	$1,600
34	9402 Reserve Dr	Corona	2	2	$1,650
35	13322 Green Mountain Dr	Corona	3	3	$1,650
36	1586 Via Del Rio	Corona	3	2	$1,650
37	1425 Elgin Way	Corona	3	2	$1,650
38	10060 Hillsborough Ln	Riverside	3	1	$1,650
39	6236 Thunder Bay Trl	Riverside	3	2	$1,650
40	Lantana Dr	Corona	3	2	$1,695
41	5144 Osuna Ct	Mira Loma	3	2	$1,695
42	23082 Claystone Ave	Corona	4	3	$1,695
43	13304 March Way	Corona	3	2	$1699
44	4555 Warren St	Riverside	4	2	$1,699
45	26911 Lightfoot Dr	Corona	3	3	$1,700
46	3843 Houghton Ave	Riverside	3	2	$1,700
47	4045 Havenhurst Ave	Riverside	3	2	$1,700
48	5650 Via Cerezo	Riverside	3	2	$1,700
49	645 Sweetser Dr	Riverside	3	3	$1,700
50	5555 Hardwicke Dr	Riverside	4	2	$1,700
51	Whitetail Dr	Corona	2	2	$1,750
52	934 Acorn Ln	Corona	3	3	$1,750
53	26819 Colt Dr.	Corona	3	3	$1,750
54	22744 Canyon View Dr.	Corona	3	2	$1,750
55	3879 Middleton Pl	Riverside	5	3	$1,775
56	5584 El Palomino Dr	Riverside	3	3	$1,795
57	6747 Dove Ln	Riverside	3	3	$1,795
58	1869 Breckenridge Cr	Corona	4	3	$1,795
59	24200 Augusta Dr	Corona	2	2	$1,800
60	1544 Calgrove Dr	Corona	3	3	$1,800
61	2070 Georgetown Dr	Corona	3	2	$1,800
62	1592 Stoneykirk Dr	Corona	3	2	$1,800
63	435 E. Francis St	Corona	6	2	$1,825
64	835 Viewpointe Ln	Corona	3	3	$1,850
65	526 W. 11th St	Corona	3	2	$1,850
66	13504 Leafwood Dr	Corona	3	3	$1,850
67	2908 Dorchester Cr	Corona	4	3	$1,850
68	829 Canary Ln	Corona	4	2	$1,850

Available Single-Family Rental Units – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Baths**	**Rent**
69	19470 Alice Springs Pl	Riverside	4	3	$1,850
70	10632 Cass St	Riverside	3	2	$1,875
71	1742 Edmon	Riverside	4	3	$1,880
72	1425 Hermosa Dr	Corona	3	2	$1,890
73	2908 Griffin Cr	Corona	4	3	$1,895
74	294 Celeste Dr	Riverside	3	3	$1,900
75	5444 Circle View Dr	Riverside	3	3	$1,900
76	2678 S. Buena Vista Ave	Corona	4	3	$1,900
77	7985 Carlyle Dr	Riverside	4	3	$1,900
78	1756 Carrie Way	Riverside	5	3	$1,900
79	22808 Canyon View Dr	Corona	4	3	$1,950
80	2151 Coachman Ln	Corona	4	3	$1,950
81	19010 Spalding Ave	Riverside	4	3	$1,950
82	22733 Canyon View Dr	Corona	3	3	$1,975
83	1805 Kingsford Dr	Corona	3	2	$1,980
84	3141 Huckleberry Dr	Corona	4	3	$1,995
85	11545 Orion St	Riverside	4	3	$1,995
86	219 E. Campus View	Riverside	4	2	$1,995
87	9393 Newbridge Dr	Riverside	4	5	$1,995
88	981 Kilmarnock Way	Riverside	5	3	$1,995
89	23993 Fawnskin Dr	Corona	2	2	$2,000
90	8865 Buttercup Ct	Corona	2	2	$2,000
91	13347 Placid Hill Dr	Corona	3	3	$2,000
92	715 la Cumbre St	Corona	4	3	$2,000
93	9231 Meadow Ln	Riverside	4	4	$2,000
94	9024 Kara Cr	Riverside	4	3	$2,000
95	5212 Quapaw Way	Riverside	4	3	$2,099
96	5976 Robinson Ave	Riverside	3	2	$2,100
97	2250 Shanna Carle Dr	Corona	4	3	$2,100
98	6942 Cedar Creek Rd	Corona	4	3	$2,100
99	4268 Riverfield Ct	Riverside	4	3	$2,100
100	4862 Brookstone Ct	Riverside	4	4	$2,100
101	5009 Trojan Ct	Riverside	4	3	$2,100
102	4755 Valley Glen Dr	Corona	5	3	$2,100
103	7487 Carrollton Pl	Corona	5	3	$2,100
104	1531 Ransom Rd	Riverside	5	2	$2,100
105	5552 Peacock Ln	Riverside	5	4	$2,100
106	1782 Kapalua Bay Ln	Corona	4	3	$2,150
107	1449 Tanglewood Dr	Corona	4	3	$2,175
108	8466 Elmira Ct	Riverside	4	3	$2,195
109	6798 Jasper Dr	Corona	4	3	$2,200
110	13333 Clear Canyon Ct	Corona	4	3	$2,200
111	6451 Tigers Eye Ct	Mira Loma	4	3	$2,200
112	7895 Corte Castillo	Riverside	4	3	$2,200
113	12830 Maryland Ave	Corona	5	3	$2,200
114	13619 Golden Eagle Ct.	Corona	5	3	$2,200
115	6863 Dock Dr	Corona	5	3	$2,200
116	4878 Streambay Ct	Riverside	5	4	$2,200
117	9142 San Luis Obispo Ln	Riverside	5	3	$2,200
118	19825 Rotterdam St.	Riverside	5	3	$2,200
119	13334 Babbling Brook Way	Corona	3	3	$2,250
120	Norgate Cr	Corona	4	3	$2,250
121	3677 Shorthorn	Corona	4	3	$2,250
122	9300 Grangehill Dr	Riverside	4	3	$2,250
123	14444 Dove Canyon Dr	Riverside	4	3	$2,250
124	6363 Emeral Ridge Way	Corona	5	3	$2,250
125	2399 McMackin Dr	Corona	4	3	$2,275
126	12450 Trinity Dr	Mira Loma	5	3	$2,280
127	1349 Kirkmichael Cr	Riverside	4	3	$2,295
128	18504 Hawksbury	Riverside	4	3	$2,295
129	11084 Sweetgum St	Corona	5	3	$2,295
130	2083 Crystal Downs Dr	Corona	4	3	$2,300
131	8449 Lucia St	Riverside	4	3	$2,300
132	7624 Potter Valley Dr	Corona	5	3	$2,300
133	7421 Wild Rose	Corona	5	4	$2,300
134	11935 Silver Loop	Mira Loma	6	3	$2,300
135	24162 Songsparrow Ln	Corona	3	4	$2,350
136	7439 Westcliff Way	Corona	4	4	$2,350

Available Single-Family Rental Units – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Baths**	**Rent**
137	14759 Bittersweet Ln	Corona	5	3	$2,350
138	6066 Delaware Park Ct	Corona	5	3	$2,380
139	7283 Bay Bridge Rd.	Corona	5	4	$2,390
140	13972 Hollywood Ave	Corona	4	4	$2,399
141	971 Cornerstone Way	Corona	4	3	$2,400
142	13473 Quail Run Rd	Corona	5	5	$2,400
143	13883 Star Gazer Ct	Corona	5	4	$2,450
144	22925 Copper Ridge Dr	Corona	6	5	$2,450
145	385 Minaret St	Corona	6	3	$2,450
146	985 Hyde Park Ct	Corona	6	5	$2,495
147	3689 Van Buren Blvd	Riverside	1	2	$2,500
148	3368 Deaver Dr	Corona	4	3	$2,500
149	25277 Pacific Crest St	Corona	4	4	$2,500
150	3215 Bighorn Cr	Corona	4	3	$2,500
151	4595 Universidy Ave	Riverside	4	2	$2,500
152	980 Othello Ln	Corona	5	3	$2,500
153	19629 Rotterdam St	Riverside	5	4	$2,550
154	7538 Elm Grove Ave	Corona	5	4	$2,570
155	5656 Ashwell Ct	Corona	5	3	$2,590
156	13359 Rowen Ct	Corona	5	3	$2,595
157	2993 Bavaria Dr	Corona	5	3	$2,595
158	690 Barbre Ln	Corona	4	3	$2,600
159	1664 Tamarron Dr	Corona	4	3	$2,600
160	7219 Canopy Ln	Corona	4	5	$2,600
161	14613 Meadowstreet Dr	Corona	5	4	$2,600
162	13618 Apple Moss Ct	Corona	5	4	$2,600
163	7966 Koa Wood Ct	Corona	5	5	$2,600
164	2087 Eureka St	Corona	5	4	$2,600
165	16579 Weeping Willow Dr	Riverside	5	4	$2,600
166	25127 Pacific Crest St	Corona	4	3	$2,650
167	13730 Deerpath Cr	Corona	5	4	$2,695
168	1387 Roadrunner Dr	Corona	5	3	$2,695
169	18712 Lurin Ave	Riverside	5	5	$2,695
170	25596 Spicewood St	Corona	5	3	$2,700
171	6552 Mallory Ct	Corona	5	4	$2,700
172	25668 Spicewood St	Corona	5	5	$2,800
173	1798 Kapalua Bay Ln	Corona	5	3	$2,800
174	13744 Star Ruby Ave	Corona	6	5	$2,800
175	6064 Gold Spirit St	Corona	6	5	$2,800
176	6861 Wild Lupine Rd	Corona	5	5	$2,875
177	23403 Toronja Corte	Corona	5	4	$2,895
178	3190 Stable Way	Norco	4	3	$2,900
179	12652 Greenbelt Rd	Corona	5	5	$2,900
180	13847 Blue Ribbon Ln	Corona	5	4	$2,900
181	200 Oldenburg Ln	Norco	5	4	$2,900
182	2154 Gainsborough Dr	Riverside	5	4	$2,900
183	6925 Edinburgh Rd	Corona	6	5	$2,950
184	8526 Edelweidss Dr	Corona	5	4	$3,300
185	1747 Flag Pin Dr	Corona	5	5	$3,700
186	3921 S Main St	Corona	4	4	$4,500
187	19415 Harley John Rd	Riverside	4	5	$4,500
188	965 White Ranch Cr	Corona	5	5	$4,500
189	6201 Appian Way	Riverside	6	5	$4,500
190	16430 Landon Ct	Riverside	6	5	$4,595
191	9394 Gum Tree Dr	Corona	6	6	$5,200
192	16122 Ponderosa Ln	Riverside	3	3	$6,000

Available Section 8 Rental Units – July 2011					
No.	**Address**	**City**	**Bedroom**	**Bath**	**Rent**
1	4855 Jackson St #F	Riverside	1	1	$400
2	3964 Castleman St	Riverside	0	1	$675
3	863 River Rd	Corona	1	1	$699
4	1325 W. 8th St.	Corona	1	1	$700
5	10260 Gould St #D	Riverside	1	1	$700
6	956 Avenida Del Vista	Corona	1	1	$707
7	10036 Gould St	Riverside	1	1	$715
8	8426 Colorado Ave	Riverside	1	1	$731
9	2665 Clark Ave #510	Norco	1	1	$735
10	2665 Clark Ave #111	Norco	1	1	$735
11	8395 Magnolia Ave	Riverside	1	1	$750
12	13370 Magnolia Ave	Corona	1	1	$775
13	7708 Magnolia Ave	Riverside	1	1	$775
14	7718 Magnolia Ave	Riverside	1	1	$775
15	6920 Phoenix Ave #21	Riverside	2	1	$775
16	4291 Monroe St #99	Riverside	1	1	$795
17	5234 Central Ave	Riverside	1	1	$795
18	801 Magnolia Ave	Corona	1	1	$820
19	606 W 7th St #4	Corona	1	1	$825
20	956 Avenida Del Vista	Corona	1	1	$825
21	7756 California Ave #512	Riverside	1	1	$835
22	2801 Adams St	Riverside	1	1	$845
23	956 Avenida Del Vista	Corona	2	1	$845
24	7510 Magnolia Ave #200	Riverside	1	1	$850
25	7510 Magnolia Ave #207	Riverside	1	1	$850
26	7510 Magnolia Ave #200	Riverside	1	1	$850
27	1325 W. 8th St	Corona	2	1	$850
28	10380 Gould St #9	Riverside	2	1	$850
29	9413 ½ Garfield St #B	Riverside	1	1	$873
30	11290 Heathcliff Dr #B	Riverside	1	1	$875
31	10380Gould St #1	Riverside	2	1	$875
32	8426 Colorado Ave	Riverside	2	2	$877
33	1418 Chalgrove Dr	Corona	1	1	$895
34	2801 Adams St	Riverside	1	1	$895
35	4982 Jurupa Ave	Riverside	2	1	$895
36	5882 Montgomery St	Riverside	2	1	$895
37	7756 California Ave #701	Riverside	2	1	$925
38	2801 Adams St	Riverside	2	1	$925
39	3895 McKenzie St	Riverside	2	2	$925
40	7756 California Ave #007	Riverside	2	1	$935
41	2400 San Gabriel Way	Corona	1	1	$950
42	7774 Magnolia Ave #13	Riverside	2	2	$965
43	1435 Circle City Dr #5	Corona	2	1	$995
44	60 Summerwood Court	Corona	2	1	$1,000
45	2178 Stoneridge Dr	Corona	1	1	$1,000–1,045
46	125 N. Buena Vista #125 K	Corona	2	2	$1,010
47	1351 N. Buena Vista. #135 L	Corona	2	2	$1,010
48	1371 N, Buena Vista	Corona	2	2	$1,010
49	956 Avenida Del Vista	Corona	2	1	$1,015
50	2801 Adams St	Riverside	2	1	$1,025
51	901 S Smith Ave	Corona	2	2	$1,050
52	10350 Gould St	Riverside	2	1	$1,075
53	1254 W 10th St	Corona	2	1.5	$1,095
54	801 Magnolia Ave	Corona	2	1.5	$1,100
55	60 Summerwood Court	Corona	2	2	$1,100
56	7594 Magnolia Ave #1	Riverside	2	1.5	$1,100
57	3771 Harvill Ln #1	Riverside	3	2	$1,100
58	13370 Magnolia Ave	Corona	3	1	$1,175
59	7774 Mangolia Ave #23	Riverside	3	2	$1,175
60	2178 Stoneridge Dr	Corona	2	1	$1,175–1195
61	2178 Stoneridge Dr	Corona	2	2	$1,205–1230
62	586 Penrose Dr. Unit A	Corona	3	1.5	$1,275
63	2178 Stoneridge Dr	Corona	3	2	$1,300
64	4839 Jackson St #B	Riverside	3	1.5	$1,300
65	13391 Kay Dr	Corona	3	1.5	$1,345
66	956 Avenida Del Vista	Corona	3	3	$1,350
67	6633 Adair Ave	Riverside	3	2	$1,350
68	5055 Fashion Pl	Riverside	3	3	$1,375

Available Section 8 Rental Units – July 2011					
No.	**Address**	**City**	**Bedroom**	**Bath**	**Rent**
69	1526 Via Del Rio	Corona	3	2	$1,395
70	23255 Bay St	Riverside	3	2	$1,395
71	10371 Hole Ave	Riverside	3	2	$1,449
72	3622 Artesian St	Riverside	3	2	$1,449
73	4273 Wheeler St	Riverside	4	2	$1,450
74	3160 Puesta Del Sol Ct #G202	Corona	2	2	$1,475
75	3190 Puesta Del Sol Ct #L204	Corona	3	2	$1,475
76	921 Boon Pl A	Corona	3	2.5	$1,550
77	6836 Rutland Ave	Riverside	4	2	$1,595
78	10998 Cochran Ave	Riverside	4	2	$1,600
79	5170 Appleton St	Riverside	3	2	$1,625
80	2355 Weatherwood Rd	Corona	3	2	$1,670
81	3364 Lincoln St	Riverside	4	3	$1,690
82	3078 McHarg Rd	Riverside	4	3	$1,690
83	1098 Alta Loma Dr	Corona	4	2	$1,700
84	1098 Alta Loma Dr	Corona	4	2	$1,700
85	3905 Skofstat St	Riverside	3	1.5	$1,790
86	829 Canary Ln	Corona	4	2	$1,850
87	1443 Whispering Wind Ln	Corona	5	3	$1,980
88	17450 Windcreek Cir	Riverside	5	3	$2,350
89	10990 Norwood Ave	Riverside	6	2	$2,600

MLS Available Residential Properties for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
1	3993 Blair St	Corona	2	864	$90,000
2	321 W 4th St	Corona	3	732	$107,000
3	832 W 9th St	Corona	2	816	$110,000
4	2596 Avenida Del Vista	Corona	2	956	$129,900
5	2325 Del Mar Way	Corona	2	915	$134,900
6	315 N Garfield Ave	Corona	3	836	$145,000
7	13451 Babcock Dr	Corona	3	982	$145,000
8	4086 Moody St	Corona	4	1,124	$145,000
9	1354 Pleasant View Ave	Corona	3	1,200	$149,900
10	502 E 7th St	Corona	3	1,100	$150,000
11	168 N Buena Vista Ave	Corona	3	1,176	$150,000
12	1602 Marie St	Corona	3	1,438	$150,000
13	1003 Fullerton Ave	Corona	3	1,200	$159,900
14	1549 Jadestone Ln	Corona	3		$160,000
15	1211 S Merrill St	Corona	3	1,246	$165,000
16	906 Wyval Ave	Corona	3	1,348	$167,750
17	1513 S Lincoln Ave	Corona	3	1,126	$169,900
18	515 W 8th St	Corona	2	1,417	$170,000
19	818 Pine	Corona	2	1,128	$174,000
20	938 W 8th St	Corona	3	1,498	$174,000
21	1047 Sycamore Ln	Corona	3	1,052	$175,000
22	1037 W 7th St	Corona	3	1,005	$179,000
23	718 W 8th St	Corona	2	1,020	$179,000
24	324 S Victoria Ave	Corona	2	1,104	$179,000
25	1771 Spring Ln	Corona	3	1,113	$179,900
26	402 E Grand Blvd	Corona	2	702	$180,000
27	1137 Acacia	Corona	3		$180,000
28	978 W Kendall St	Corona	3	1,476	$181,900
29	522 W 9th	Corona	2	970	$185,000
30	1231 W 10th	Corona	3	1,082	$189,999
31	1014 W Grand Blvd	Corona	2	976	$190,000
32	1586 Lark Ln	Corona	3	1,111	$190,000
33	717 Ford St	Corona	4	1,260	$190,000
34	1167 Via Santiago	Corona	5	2,366	$190,000
35	1020 Sunflower Ct	Corona	3	1,475	$194,900
36	1955 Via Del Rio	Corona	4	1,266	$195,000
37	2973 Rimpau Ave	Corona	4	1,626	$199,500
38	2410 Mesquite	Corona	3	1,201	$199,900
39	801 W 8th St	Corona	3	1,201	$199,900
40	1553 Del Norte Dr	Corona	3	1,428	$200,000
41	2198 Saddleback Dr	Corona	3	1,485	$200,000
42	1027 Lorna St	Corona	3	1,422	$200,000
43	1125 Greengate St	Corona	3	1,294	$205,000
44	13415 Tolton Ave	Corona	3	1,038	$209,900
45	1333 Turquoise Dr	Corona	4	1,817	$210,000
46	1150 Sapphire	Corona	4	1,440	$210,000
47	129 E Rancho Rd	Corona	3	1,231	$215,000
48	529 San Gorgonio	Corona	3	1,241	$216,300
49	948 Blossom Hill Dr.	Corona	4	1,748	$219,000
50	1513 Teta Dr	Corona	4	1,660	$219,900
51	864 Bramble Ln	Corona	3	1,769	$219,999
52	521 Mesa Dr	Corona	3	1,948	$220,000
53	973 Cadiz St	Corona	3	1,491	$220,000
54	1691 W Ontario Ave	Corona	4	1,312	$220,000
55	1002 W 9th St	Corona	3	1,100	$220,000
56	1027 W Crestview St	Corona	4	1,823	$224,900
57	968 Wheaton Dr	Corona	4	1,562	$226,000
58	1259 Regent Cr	Corona	4	1,761	$229,000
59	923 Pinecone Dr	Corona	3	1,623	$229,900
60	920 Foxtail Dr	Corona	3	1,485	$229,900
61	1762 Bern Dr	Corona	4	1,440	$230,000
62	1270 Mirasol Ln	Corona	3	1,286	$230,000
63	1373 E Redtail Dr	Corona	4	1,809	$230,000
64	857 Camino Cr	Corona	4	1,225	$232,000
65	1769 Quail Cr	Corona	3	1,356	$232,351
66	2041 San Antonio Dr	Corona	3	1,471	$234,000
67	1326 Haven Tree Ln	Corona	3	1,575	$235,000
68	1742 Sunset Ln	Corona	4	1,440	$235,000

MLS Available Residential Properties for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
69	3486 Briarvale St	Corona	4	1,230	$235,000
70	924 Ferndale Dr	Corona	3	1,220	$235,000
71	2574 Monterey Peninsula Dr	Corona	4	1,845	$235,700
72	2180 Russell Dr	Corona	3	1,206	$238,800
73	1519 San Rafael Pl	Corona	3	1,684	$239,000
74	1324 Longwood Pines Ln	Corona	3	1,348	$239,000
75	1027 Forester Dr	Corona	3	1,642	$239,900
76	2166 Stratford Dr	Corona	3	1,670	$239,900
77	711 W 10th St	Corona	3	1,094	$239,999
78	1805 Noah	Corona	3	1,678	$240,000
79	2369 Mesquite Ln	Corona	3	1,000	$240,000
80	1516 Classico Way	Corona	3	1,501	$240,000
81	1846 Panoramic Dr	Corona	3	1,678	$244,999
82	1133 Redwood St	Corona	3	960	$244,999
83	1836 Kingsford Dr	Corona	4	1,699	$245,000
84	1257 Lakeport Ln	Corona	3	1,317	$245,000
85	1159 Tulip St	Corona	4	1,744	$245,000
86	1861 Champlain Dr	Corona	4	1,829	$245,000
87	870 Alder St	Corona	4	1,653	$245,000
88	823 Via Felipe	Corona	4	1,266	$245,900
89	910 Acorn Ln	Corona	3	1,623	$248,500
90	1043 Lincrona	Corona	3	1,539	$248,900
91	1728 Fraser Cr	Corona	3	1,201	$249,900
92	827 Capistrano St	Corona	3	1,429	$249,900
93	2220 Cabana Ct	Corona	3	1,524	$249,900
94	3517 Ellesmere Dr	Corona	4	1,407	$249,900
95	1837 Providence Way	Corona	3	1,324	$249,999
96	2325 Manzanita Rd	Corona	3	1,163	$250,000
97	971 Astonvilla Way	Corona	4	2,145	$250,000
98	658 Rock Vista Dr	Corona	4	1,797	$251,000
99	1781 Panoramic Dr	Corona	3	1,678	$255,000
100	818 Yorkshire Way	Corona	4	1,577	$255,000
101	1187 Zircon St	Corona	4	1,870	$255,000
102	577 W Ontario Ave	Corona	4	2,122	$255,000
103	300 Suffolk St	Corona	3	1,407	$256,900
104	1029 Queenspark Rd	Corona	4	2,145	$259,000
105	1028 Viewpointe Ln	Corona	4	1,886	$259,000
106	804 Saint James Dr	Corona	3	1,551	$259,000
107	1173 Jadestone Ln	Corona	5	2,520	$259,000
108	950 La Palma Cr	Corona	3	1,722	$259,800
109	656 Terra Dr	Corona	3	1,969	$259,900
110	1429 Sandia St	Corona	4	1,624	$259,900
111	932 W Francis	Corona	3	1,253	$259,900
112	1005 Tranquil Ln	Corona	4	1,404	$259,900
113	2459 Sena St	Corona	3	1,491	$260,000
114	764 View Ln	Corona	3	1,497	$260,000
115	483 Termino Ave	Corona	5	2,327	$263,880
116	890 Cheyenne Rd	Corona	3	1,812	$264,900
117	1802 Bern Dr	Corona	4	1,440	$264,900
118	1023 Stamford Ct	Corona	3	1,324	$264,900
119	1022 Country Club Ln	Corona	4	1,704	$264,999
120	1327 Haven Tree Ln	Corona	3	1,797	$265,000
121	1665 Raleigh	Corona	4	1,624	$265,000
122	2622 Presidio Ln	Corona	4	2,198	$265,000
123	316 Roxanne Ln	Corona	4	2,184	$265,900
124	840 San Carlos Cr	Corona	4	1,999	$267,000
125	435 E Francis St	Corona	6	1,597	$267,900
126	1017 Aurora Ln	Corona	4	1,886	$269,000
127	1083 Nightcrest Cr	Corona	3	1,320	$269,900
128	2118 Siskiyou Ln	Corona	3	1,485	$269,900
129	301 E Francis St	Corona	3	1,696	$269,900
130	1793 Spring Ln	Corona	4	1,440	$269,900
131	984 Blackburn Dr	Corona	3	1,712	$269,900
132	1374 Haven Tree Ln	Corona	3	1,575	$269,900
133	2270 Avenida Del Vista	Corona	4	1,440	$269,950
134	751 Saint Andrews Ct	Corona	4	1,776	$270,000
135	360 E Hacienda Dr	Corona	3	1,854	$270,000
136	2174 Bowdoin St	Corona	3	1,475	$271,000

MLS Available Residential Properties for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
137	2616 Galisteo St	Corona	3	1,841	$274,900
138	927 Brandywine Ln	Corona	3	1,393	$274,990
139	944 Auburndale St	Corona	4	2,175	$275,000
140	1601 Sutter Ln	Corona	5	2,255	$275,000
141	1697 Turquoise Dr	Corona	5	2,526	$275,000
142	960 Harbor St	Corona	4	1,841	$275,000
143	1069 Morning Sun Ln	Corona	4	1,754	$275,000
144	785 Beverly Rd	Corona	4	1,916	$275,000
145	2303 Mangular Ave	Corona	4	1,782	$279,000
146	992 Redwood Ct	Corona	4	1,539	$279,800
147	2142 La Cruz Cr	Corona	4	1,999	$280,000
148	2041 Cedar Glen Dr	Corona	4	1,872	$280,000
149	2107 S Lincoln Ave	Corona	3	1,407	$280,000
150	2096 Green River Rd	Corona	1	1,672	$280,000
151	1104 Daffodil St	Corona	4	1,839	$282,000
152	2171 Devonshire Dr	Corona	3	1,670	$283,500
153	359 W Crestview St	Corona	5	1,707	$284,500
154	366 Lydia Ln	Corona	4	1,956	$284,900
155	2016 Maywood Cr	Corona	3	1,701	$284,900
156	3126 Geranium Way	Corona	3	1,720	$285,000
157	1843 Madera Cr	Corona	4	2,233	$285,000
158	2205 Coriander Cr	Corona	4	2,062	$285,000
159	1626 Davis St	Corona	4	2,143	$285,000
160	365 Jessica Ln	Corona	3	1,769	$285,000
161	147 Roxanne Ln	Corona	4	1,956	$287,500
162	223 Burr St	Corona	3	1,581	$287,900
163	2164 Caraway Ct	Corona	4	2,299	$289,000
164	944 Park Ln	Corona	3	1,583	$289,000
165	3212 Willow Park Dr	Corona	3	1,543	$289,900
166	718 Cherry St	Corona	4	2,200	$289,900
167	1267 Regent Cr	Corona	4	1,863	$289,900
168	684 Avondale Dr	Corona	4	2,256	$290,000
169	711 W Ontario Ave	Corona	3	1,552	$290,000
170	2962 McDonald Ln	Corona	3	2,217	$295,000
171	2306 Pine Crest Dr	Corona	4	2,279	$295,000
172	3125 Dogwood Dr	Corona	3	1,435	$295,000
173	2750 Johnson Ln	Corona	4	1,868	$299,000
174	1105 Millbrook Rd	Corona	4	2,159	$299,000
175	1056 Salem Dr	Corona	4	1,825	$299,000
176	3031 Mountainside Dr	Corona	4	2,080	$299,000
177	1817 Yucca Dr	Corona	4	1,460	$299,000
178	3770 Wallowa Cr	Corona	3	2,200	$299,000
179	1335 S Lincoln Ave	Corona	4	1,818	$299,500
180	2195 Aberdeen Dr	Corona	3	1,543	$299,900
181	2443 Peacock Ln	Corona	3	1,784	$299,900
182	1248 Emeraldport St	Corona	3	1,317	$299,900
183	1179 Zircon St	Corona	4	1,870	$299,900
184	3246 Sagewood Ln	Corona	3	1,492	$299,999
185	851 W 10th St	Corona	2	1,134	$300,000
186	1168 Blossom Hill Dr	Corona	4	2,175	$300,000
187	728 Ochee Cr	Corona	4	2,665	$300,000
188	3462 Braemar Ln	Corona	4	1,786	$305,000
189	780 Oakmont Ct	Corona	4	1,870	$305,900
190	680 Pointe Vista Ln	Corona	4	1,732	$307,000
191	397 Raymor Ave	Corona	4	1,676	$307,500
192	499 Donatello Dr	Corona	3	1,665	$308,000
193	610 Canary Ln	Corona	4	2,252	$309,000
194	2636 Cottage Dr	Corona	4	2,404	$309,000
195	703 Shasta Dr	Corona	3	1,850	$309,000
196	871 La Docena	Corona	3	1,779	$309,000
197	8551 Shinkle Dr	Corona	3	2,605	$309,000
198	1116 Nightcrest Cr	Corona	3	1,543	$309,000
199	1818 Cook Cr	Corona	4	1,650	$309,900
200	741 Viewtop Ln	Corona	4	1,967	$309,900
201	1429 Goldeneagle Dr	Corona	4	1,809	$310,000
202	3088 Ocelot Cr	Corona	3	1,800	$314,900
203	756 Cottonwood St	Corona	6	2,318	$314,900
204	3149 Nutmeg Dr	Corona	4	1,804	$314,900

MLS Available Residential Properties for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
205	2231 Thyme Dr	Corona	4	2,330	$314,900
206	924 Nottingham Dr	Corona	4	2,175	$315,000
207	1205 Rosemary Cr	Corona	4	2,279	$315,000
208	1066 Sugarberry Ln	Corona	4	1,852	$315,000
209	2980 Lombardy Ln	Corona	5	2,172	$315,180
210	2246 Coriander Cr	Corona	5	2,443	$318,000
211	3112 Mountain Pass Dr	Corona	3	2,048	$318,000
212	747 Donatello Dr	Corona	4	2,113	$318,000
213	1037 Regina Way	Corona	5	2,301	$319,000
214	943 Hemingway Dr	Corona	6	3,034	$319,000
215	809 Atlantic Cr	Corona	4	1,885	$319,300
216	2685 Twinleaf Ln	Corona	3	1,742	$319,900
217	780 N Temescal St	Corona	4	2,266	$320,000
218	927 Monarch Dr	Corona	4	1,577	$320,000
219	2122 Skylark Cr	Corona	4	1,934	$324,900
220	3263 Stargate Dr	Corona	4	2,564	$324,900
221	1227 Emeraldport St	Corona	3	2,089	$325,000
222	2628 Toumey Ln	Corona	4	2,103	$325,000
223	8560 Vienna Dr	Corona	3	2,605	$325,000
224	959 Cornerstone Way	Corona	4	2,198	$325,000
225	2382 Macbeth Ave	Corona	3	3,074	$329,000
226	868 Greenridge Rd	Corona	5	3,390	$329,900
227	3195 Mountain Pass Dr	Corona	3	2,048	$329,900
228	14445 San Remo Dr	Corona	4	2,554	$330,000
229	2241 Bloomfield Ln	Corona	4	2,142	$330,000
230	2421 Northmoor Dr	Corona	4	1,914	$334,000
231	8668 Vienna Dr	Corona	3	2,237	$335,000
232	740 N Temescal St	Corona	5	2,577	$335,000
233	2152 S Vicentia Ave	Corona	4	1,734	$335,900
234	2131 Thyme Dr	Corona	4	2,299	$339,000
235	1124 Apple Blossom Ln	Corona	3	2,176	$340,000
236	2556 Centennial Way	Corona	4	2,040	$345,000
237	807 Bridgewood St	Corona	4	2,680	$346,900
238	1443 White Holly Dr	Corona	4	1,822	$349,000
239	2838 Cape Dr	Corona	4	2,326	$349,000
240	750 Yorkshire Way	Corona	3	1,670	$349,000
241	1662 S Main St	Corona	4	2,785	$349,900
242	1390 Oxford Cr	Corona	4	2,438	$349,900
243	2920 Spring Meadow Dr	Corona	4	2,404	$349,900
244	2855 Teal Dr	Corona	4	2,125	$349,900
245	3355 Deaver Dr	Corona	4	2,363	$349,900
246	1118 Blossom Hill Dr	Corona	4	1,800	$349,988
247	3011 Ocelot	Corona	4	2,357	$350,000
248	2250 Pepperwood Ln	Corona	4	2,182	$350,000
249	8456 Fowler Ln	Corona	4	2,988	$369,000
250	8311 Fiske Dr	Corona	5	3,628	$454,915

MLS Available Residential Income Properties for Sale – July 2011					
No.	**Address**	**City**	**Units**	**Sq Ft**	**Price**
1	4059 Cedar St	Riverside	2		$85,000
2	4156 11th St	Riverside	2		$94,900
3	4095 Mennes Ave	Riverside	2		$118,900
4	2996 9th St	Riverside	2		$125,000
5	1350 Villa St	Riverside	2		$125,000
6	4081 S. Neece St	Corona	2		$129,900
7	7634 Casa Blanca St	Riverside	2		$134,910
8	9618 Indiana Ave	Riverside	2		$135,900
9	5890 Warren St	Riverside	2	1,200	$139,900
10	8212 Carnation Ct	Riverside	3	2,472	$150,000
11	2207 11th St	Riverside	2	1,930	$150,000
12	7435 Evans St	Riverside	2		$154,900
13	9343 Sage Ave	Riverside	2	1,480	$155,000
14	2068 Thornton St	Riverside	2		$159,000
15	3370 Lemon St	Riverside	2		$164,900
16	41 Sanrive Ave	Riverside	4		$165,000
17	2690 12th St	Riverside	2		$169,900
18	1309 Edelweiss	Riverside	1		$170,000
19	9335 Garfield St	Riverside	2		$175,000
20	4142 Kenneth St	Riverside	3		$180,000
21	3963 2nd St	Riverside	4		$181,900
22	3985 Kansas Ave	Riverside	2		$185,000
23	11038 Bushnell Ave	Riverside	3	1,968	$190,000
24	4209 Columbia Ave	Riverside	2	1,349	$199,000
25	2211 9th St	Riverside	3	1,998	$200,000
26	8235 Zinnia Pl	Riverside	2		$210,000
27	2892 Orange St	Riverside	2		$229,900
28	7460 Potomac St	Riverside	2		$229,000
29	2658 12th St	Riverside	2		$240,000
30	8135 Philbin	Riverside	4		$245,000
31	5005 Olivewood Ave	Riverside	2		$249,000
32	7414 Potomac St	Riverside	2		$250,000
33	3448 Fairmount Blvd	Riverside	3	1,344	$255,000
34	10196 Gramercy Pl	Riverside	2		$289,900
35	1997 W. Linden St	Riverside	2		$289,900
36	4211 El Dorado St	Riverside	2		$295,000
37	1186 Fountain St	Riverside	4		$299,000
38	4738 Elderwood Ct	Riverside	4		$299,000
39	17525 Caton Ct	Riverside	1		$299,999
40	5941 Limonite Ave	Riverside	4		$350,000
41	5943 Limonite Ave	Riverside	4		$350,000
42	3379 Spruce St	Riverside	2		$359,000
43	3555-61 Dwight Ave	Riverside	4	3,800	$379,000
44	4768 Elderwood Ct	Riverside	4		$430,000
45	4210 Riverview Dr	Riverside	4		$440,000
46	7499 Potomac St	Riverside	3		$450,000
47	6354 Stobbs Way	Riverside	4		$475,000
48	6421 Rathke Dr	Riverside	4		$475,000
49	6411 Rathke Dr	Riverside	4		$475,000
50	903 N. Vicentia Ave	Corona	4		$490,000
51	11398 Magnolia Ave	Riverside	4		$499,000
52	2418 Mission Inn Ave	Riverside	8		$525,000
53	1134 W. 9th St	Corona	4		$549,900
54	5061 Marlatt St	Mira Loma	2		$550,000
55	3567 Harrison	Riverside	2		$599,000
56	1009 S. Belle Ave	Corona	4		$695,000
57	1175 W. Spring St	Riverside	10		$697,000
58	983 W. La Cadena Dr	Riverside	34		$999,000
59	3743 Jefferson St	Riverside	2		$1,099,999
60	3000 Canyon Crest Dr	Riverside	14		$1,582,000
61	800 Via Pueblo	Riverside	15		$4,900,000

MLS Available Condominiums for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
1	1518 Border Ave	Corona	1	680	$63,000
2	1549 Border Ave	Corona	1	731	$69,900
3	1456 Chalgrove	Corona	1	680	$70,000
4	2160 Highpointe	Corona	1	540	$70,000
5	789 Gianni Dr	Corona	2	850	$70,000
6	779 Gianni Dr	Corona	2	850	$71,900
7	789 Gianni Dr	Corona	2	850	$75,000
8	1456 Chalgrove	Corona	2	860	$79,000
9	1311 Via Santiago	Corona	2	934	$79,900
10	1315 Via Santiago	Corona	2	902	$79,900
11	1995 Las Colinas Cr	Corona	1	642	$80,000
12	1549 Border Ave	Corona	1	731	$82,000
13	1515 Border Ave	Corona	1	731	$82,900
14	2596 Avenida Del Vista	Corona	1	673	$84,750
15	1020 La Terraza	Corona	1	642	$84,900
16	2505 San Gabriel Way	Corona	1	650	$85,499
17	1542 Border Ave	Corona	2	1,040	$89,900
18	779 Gianni Dr	Corona	2	800	$89,900
19	2350 Del Mar Way	Corona	1	650	$90,000
20	2400 San Gabriel Way	Corona	1	735	$93,000
21	1198 Border Ave	Corona	2	934	$95,000
22	2525 San Gabriel	Corona	1	650	$97,000
23	990 Margarita	Corona	2	888	$99,900
24	2320 Del Mar Way	Corona	1	735	$102,000
25	2930 Via Toscana	Corona	1	1,007	$110,000
26	2320 Del Mar Way	Corona	1	650	$110,000
27	1395 Via Del Rio	Corona	2	902	$114,900
28	1545 Border Ave	Corona	2	1,035	$114,900
29	2155 Highpointe Dr	Corona	2	1,146	$117,000
30	1542 Border Ave	Corona	3	1,220	$119,000
31	876 Tangerine	Corona	2	1,054	$120,000
32	1020 Vista Del Cerro Dr	Corona	2	941	$125,000
33	2090 Highpointe Dr	Corona	2	1,146	$125,000
34	1020 La Terraza Cr	Corona	2	941	$125,000
35	1356 Brentwood Cr	Corona	2	1,095	$125,190
36	1304 Brentwood Cr	Corona	2	1,095	$126,900
37	2375 Del Mar Way	Corona	2	995	$129,900
38	1452 Call Way	Corona	3	990	$130,000
39	2400 Del Mar Way	Corona	2	915	$130,000
40	1170 Laurel Leaf Pl	Corona	2	1,138	$134,900
41	826 Live Oak Pl	Corona	2	1,318	$134,900
42	2090 Highpointe Dr	Corona	2	1,146	$135,000
43	2380 Del Mar Way	Corona	3	915	$142,000
44	1611 Raintree Pl	Corona	2	1,138	$143,000
45	2380 Del Mar Way	Corona	2	995	$145,000
46	1636 Coco Palm Ct	Corona	2	1,138	$149,900
47	3793 Camino Tobago	Riverside	2	1,300	$150,000
48	3710 Calle Curacso	Riverside	2	1,203	$155,000
49	3788 Camino Anguilla	Riverside	2	1,300	$180,000
50	13031 Via Antibes	Riverside	3	1,300	$183,000
51	2450 San Gabriel Way	Corona	2	915	$158,000
52	1304 Camelot Dr	Corona	2	1,394	$162,900
53	2031 Via Como Ct	Corona	3	1,298	$164,000
54	1119 Stone Pine Ln	Corona	2	1,024	$164,900
55	1652 Persimmon	Corona	2	1,076	$164,900
56	1375 Camelot	Corona	3	1,449	$165,000
57	1123 Border Ave	Corona	3	1,639	$170,000
58	3160 Castelar Ct	Corona	2	1,004	$174,900
59	1150 San Nicholas Ct	Corona	2	1,004	$175,000
60	3140 Castelar Ct	Corona	2	1,004	$179,900
61	2235 Indigo Hills Dr	Corona	2	1,380	$179,900
62	2241 Indigo Hills Dr	Corona	2	1,380	$184,900
63	2275 Indigo Hills Dr	Corona	3	1,714	$189,900
64	1657 Toyon Pl	Corona	3	1,497	$190,000
65	2290 Indigo Hills Dr	Corona	3	1,714	$192,000
66	690 Azure Ln	Corona	3	1,555	$195,700
67	3100 Puesta Del Sol Ct	Corona	2	1,115	$219,000
68	2280 Indigo Hills Dr	Corona	3	1,714	$220,000

MLS Available Condominiums for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
69	1049 Bolton St	Corona	3	1,712	$222,900
70	2205 Mira Monte St	Corona	3	1,199	$225,000
71	140 Rugby Ct	Corona	3	1,357	$235,000
72	1053 Bolton St	Corona	3	2,040	$255,000
73	949 Cimarron Ln	Corona	4	1,950	$259,000
74	819 Oso Dr	Corona	4	1,937	$259,900
75	239 Jessica Ln	Corona	3	1,956	$264,900
76	207 Roxanne Ln	Corona	3	1,956	$278,000

MLS Available Mobile Homes for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
1	3290 Riverside Dr #113	Lake Elsinore	1	684	$10,500
2	3701 Fillmore St #50	Riverside	1	550	$11,900
3	3700 Buchanan #158	Riverside	2	n/a	$13,900
4	1410 E 6th St #44	Corona	2	n/a	$15,000
5	32900 Riverside Dr #115	Lake Elsinore	2	1,040	$15,000
6	5800 Hamner Ave #239	Mira Loma	2	1,152	$16,900
7	3701 Fillmore St #147	Riverside	2	784	$19,900
8	15181 Van Buren Blvd #3	Riverside	2	1,440	$19,900
9	23820 Ironwood Ave #65	Moreno Valley	3	1,440	$19,900
10	307 S Smith Ave	Corona	2	1,800	$20,000
11	4080 Pedley Rd #217	Riverside	2	1,056	$20,000
12	3700 Buchanan Ave #105	Riverside	2	1,344	$21,500
13	4080 Pedley Rd #49	Riverside	2	1,056	$21,900
14	995 E Pomona Rd #1	Corona	2	1,344	$23,000
15	3883 Buchanan Ave #89	Riverside	2	1,400	$24,900
16	4000 Pierce St #12	Riverside	2	1,440	$24,999
17	31750 Machado St #59	Lake Elsinore	2	1,080	$24,999
18	777 S Temescal St #102	Corona	3	1,344	$25,000
19	5800 Hamner Ave #304	Mira Loma	3	1,168	$25,000
20	32900 Riverside Dr #41	Lake Elsinore	3	1,056	$27,000
21	777 S Temescal St #23	Corona	2	n/a	$27,500
22	13381Magnolia Ave #82	Corona	2	1,440	$28,000
23	23820 Ironwood Ave #75	Moreno Valley	2	1,152	$29,000
24	4000 Pierce St #92	Riverside	2	n/a	$29,500
25	4000 Pierce St #30	Riverside	2	n/a	$29,900
26	4000 Pierce St #62	Riverside	2	n/a	$29,900
27	4041 Pedley Rd #127	Riverside	2	1,440	$29,900
28	1550 Rimpau Ave #106	Corona	3	1,248	$29,900
29	307 S Smith #68	Corona	3	1,248	$29,900
30	31750 Machado St #61	Lake Elsinore	2	1,227	$31,900
31	307 S Smith #82	Corona	2	1,344	$34,000
32	13381 Magnolia Ave #64	Corona	2	1,840	$34,300
33	1203 W 6th St #61	Corona	2	n/a	$35,000
34	6130 Camino Real #214	Riverside	3	960	$35,000
35	25350 Santiago Dr #96	Moreno Valley	2	1,152	$35,000
36	25350 Santiago Dr #163	Moreno Valley	2	1,120	$36,500
37	4000 Pierce St #8	Riverside	3	1,344	$36,900
38	853 N. Main St #25	Corona	1	682	$37,500
39	4901 Green River Rd #140	Corona	3	1,344	$39,900
40	21650 Temescal #5	Corona	3	n/a	$39,900
41	13381 Magnolia Ave #157	Corona	2	1,440	$39,900
42	3825 Crestmore Rd #442	Riverside	3	1,260	$39,900
43	21650 Temescal Canyon Rd #14	Corona	3	1,248	$40,000
44	15181 Van Buren #104	Riverside	3	1,456	$40,000
45	4041 Pedley Rd #132	Riverside	3	1,344	$40,000
46	1550 Rimpau Ave #89	Corona	2	1,830	$42,000
47	3701 Fillmore St #143	Riverside	3	1,200	$42,000
48	31750 Machado St #76	Lake Elsinore	2	1,039	$42,900
49	206 S Buena Vista #2	Corona	2	1,500	$44,900
50	4901 Green River Rd #290	Corona	3	1,450	$44,900
51	4000 Pierce St #122	Riverside	2	1,782	$45,000
52	6130 Camino Real #10	Riverside	3	1,519	$45,000
53	13381 Magnolia #147	Corona	2	1,440	$45,000
54	1550 Rimpau Ave #36	Corona	2	1,950	$45,000
55	3100 Santo Tomas St #0	Perris	4	1,848	$46,000
56	13381 Magnolia Ave #165	Corona	2	1,800	$47,500
57	21650 Temescal Canyon Rd #14	Corona	3	1,248	$48,000
58	1550 Rimpau Ave	Corona	2	1,830	$48,900
59	3900 S Temescal St #32	Corona	3	1,050	$49,000
60	21581 Mack St #0	Perris	2	720	$49,000
61	4901 Green River Rd.#323	Corona	3	1,380	$49,900
62	13381 Magnolia Ave #167	Corona	2	1,830	$49,900
63	13381 Magnolia Ave #71	Corona	2	1,930	$49,900
64	21650 Temescal Canyon Rd #31	Corona	3	1,344	$49,900
65	15181 Van Buren Blvd #16	Riverside	3	1,456	$49,999
66	6130 Camino Real #81	Riverside	3	1,568	$49,999
67	21772 Eucalyptus Ave #0	Perris	3	1,248	$50,000
68	4901 Green River Rd #255	Corona	3	1,127	$50,400

MLS Available Mobile Homes for Sale – July 2011					
No.	**Address**	**City**	**Bedrooms**	**Sq Ft**	**Price**
69	10513 Magnolia Ave #E7	Riverside	2	1,068	$52,000
70	853 N Main St #35	Corona	3	1,120	$54,000
71	3701 S Fillmore St #117	Riverside	3	1,248	$54,900
72	3701 S Fillmore St #35	Riverside	3	1,248	$54,900
73	13381 Magnolia Ave	Corona	2	1,930	$54,900
74	777 S Temescal St #6	Corona	4	1,800	$55,000
75	1550 Rimpau #63	Corona	3	1,344	$55,000
76	6130 Camino Real #190	Riverside	2	1,104	$55,000
77	22569 Raymond Rd #0	Perris	2	1,440	$55,000
78	21650 Temescal Canyon Rd #28	Corona	2	1,344	$55,999
79	15181 Van Buren Blvd #169	Riverside	3	2,040	$60,000
80	3883 Buchanan Ave #55	Riverside	3	1,356	$60,000
81	307 S Smith #77	Corona	2	2,176	$60,000
82	1550 Rimpau #50	Corona	2	1,344	$60,520
83	3700 Quartz Cnyn Rd #122	Riverside	3	1,344	$65,000
84	17895 Cajalco Rd #0	Perris	2	1,160	$65,000
85	21650 Temescal Canyon Rd #49	Corona	3	1,344	$68,000
86	1550 Rimpau #98	Corona	3	4,318	$68,000
87	21903 River Rd #2	Perris	3	1,624	$68,000
88	17235 Palomas Dr #0	Perris	1	700	$68,500
89	25350 Santiago Dr #92	Moreno Valley	4	1,560	$68,999
90	1550 Rimpau Ave #81	Corona	3	1,560	$69,900
91	1197 Cambridge #0	Corona	2	720	$69,900
92	853 N Main St #43	Corona	3	1,040	$69,900
93	777 S Temescal St #20	Corona	3	1,566	$69,900
94	1550 Rimpau #154	Corona	3	1,440	$69,900
95	3700 Quartz Cnyn Rd #42	Riverside	4	1,313	$69,950
96	3700 Quartz Cnyn Rd #48	Riverside	3	1,539	$69,999
97	19451 Marquez Rd #0	Perris	3	1,680	$70,000
98	4000 Pierce St #61	Riverside	2	1,440	$70,500
99	995 Pomona Rd #34	Corona	3	1,512	$71,000
100	14110 Loma Sola St #000	Riverside	2	1,440	$72,500
101	1550 Rimpau Ave #148	Corona	3	1,560	$74,900
102	18291 Tereticornis Ave #0	Lake Elsinore	2	567	$75,000
103	3700 Quartz Cnyn Rd #69	Riverside	2	1,056	$75,000
104	25350 Santiago Dr #13	Moreno Valley	2	1,848	$76,000
105	1550 Rimpau Ave #41	Corona	3	1344	$78,000
106	1550 Rimpau Ave #88	Corona	3	1,456	$79,000
107	3700 Quartz Cnyn Rd #46	Riverside	3	1,568	$79,900
108	25350 Santiago Dr #162	Moreno Valley	3	1,568	$80,000
109	3700 Quartz Canyon Rd #70	Riverside	3	1,824	$83,000
110	777 S Temescal #110	Corona	4	1,344	$95,000
111	10260 Stageline St #0	Corona	3	1,440	$95,000
112	918 Whitecliff Way #000	Corona	2	1,440	$99,500
113	15980 Grand Ave #M23	Lake Elsinore	3	1,440	$112,000
114	1453 Shadowglen Way #000	Corona	2	1,440	$114,999
115	918 Whitecliff	Corona	2	1,440	$118,000
116	1405 Glengrove Sq #000	Corona	2	1,440	$118,500
117	3700 Quartz Canyon Dr #33	Riverside	3	2,160	$120,000
118	19600 Brown St #1	Perris	3	1,440	$212,000

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
1	120 N Joy St	Corona	Industrial	12,255	$0.25
2	232 N Granite St	Corona	Industrial	43,008	$0.25
3	232 N Granite St	Corona	Industrial	36,739	$0.25
4	1620 Leeson Ln	Corona	Industrial	133,000	$0.31
5	341 Bonnie Cir, #104	Corona	Industrial	34,100	$0.34
6	210 & 250 Harrison St	Corona	Industrial	8,000	$0.35
7	370 Meyer Circle, 1st Floor	Corona	Industrial	23,417	$0.35
8	505 E Rincon St	Corona	Industrial	24,823	$0.35
9	191 Granite St	Corona	Industrial	19,315	$0.36
10	232 N Granite St	Corona	Industrial	79,747	$0.36
11	9185 Magnolia Ave	Riverside	Retail	32,000	$0.38
12	505 E Rincon St, #100	Corona	Industrial	12,183	$0.39
13	1550 Magnolia Ave	Corona	Industrial	48,600	$0.39
14	1592 N Jenks Dr	Corona	Industrial	22,454	$0.39
15	232 N Granite St	Corona	Industrial	60,000	$0.39
16	505 E Rincon St, #150	Corona	Industrial	12,640	$0.39
17	555 S Promenade, #103	Corona	Industrial	404,000	$0.39
18	555 S Promenade, #102	Corona	Industrial	48,500	$0.39
19	6421 Central Ave, #105E	Riverside	Industrial	10,218	$0.39
20	210 & 250 Harrison St	Corona	Industrial	4,000	$0.40
21	350 W Rincon St	Corona	Industrial	93,268	$0.41
22	1531 Pomona Rd	Corona	Industrial	57,971	$0.43
23	725 E Harrison St	Corona	Industrial	43,450	$0.43
24	2341 Pomona Rincon Rd, #1	Corona	Industrial	15,480	$0.44
25	1169 Sherborn St	Corona	Industrial	10,000	$0.45
26	1587 Bently Dr, 1st Floor	Corona	Industrial	25,243	$0.45
27	520 E Rincon St	Corona	Industrial	36,000	$0.45
28	11860 Magnolia Ave, Bldg 11	Riverside	Industrial	20,487	$0.45
29	2281 Business Way	Riverside	Industrial	1,350	$0.45
30	2283 Business Way	Riverside	Industrial	1,440	$0.45
31	725 E Harrison St	Corona	Industrial	72,550	$0.47
32	132 N Sherman Ave	Corona	Industrial	14,155	$0.48
33	144 N Sherman Ave	Corona	Industrial	14,028	$0.48
34	1530 Consumer Circle, #101	Corona	Industrial	8,864	$0.48
35	1700 Delilah Ave, #1	Corona	Industrial	25,963	$0.49
36	2621 Research Dr, #102	Corona	Industrial	118,000	$0.49
37	2755 Wardlow Rd	Corona	Industrial	41,093	$0.49
38	2951 Doherty Street	Corona	Industrial	25,000	$0.49
39	4375 Prado Rd, #103	Corona	Industrial	7,078	$0.49
40	4375 Prado Rd, #104	Corona	Industrial	5,837	$0.49
41	4375 Prado Rd, #103 & 104	Corona	Industrial	112,915	$0.49
42	575 Alcoa Cir	Corona	Industrial	30,000	$0.49
43	575 Alcoa Cir	Corona	Industrial	35,000	$0.49
44	575 Alcoa Cir	Corona	Industrial	58,000	$0.49
45	12803 Temescal Canyon Rd, Unit C	Corona	Industrial	1,230	$0.50
46	137 North Joy St	Corona	Industrial	22,000	$0.50
47	160 Vander St, Unit B	Corona	Industrial	3,335	$0.50
48	170 Vander St, Unit A	Corona	Industrial	1,843	$0.50
49	170 Vander St, Unit A/B	Corona	Industrial	3,687	$0.50
50	170 Vander St, Unit B	Corona	Industrial	1,843	$0.50
51	215 N Joy St	Corona	Industrial	6,000	$0.50
52	2440 Railroad St	Corona	Industrial	21,991	$0.50
53	341 Delilah Street, 1st Floor	Corona	Industrial	56,985	$0.50
54	450 Princeland Crt	Corona	Industrial	9,950	$0.50
55	12321 Magnolia Ave, Ste I	Riverside	Industrial	1,400	$0.50
56	23215 Temescal Canyon Rd, Unit A	Corona	Industrial	4,625	$0.52
57	13375 Estelle St	Corona	Industrial	23,040	$0.53
58	1521 Pomona Rd, Unit A	Corona	Industrial	17,000	$0.53
59	820 E Parkridge Ave	Corona	Industrial	23,925	$0.53
60	12363 Doherty St	Riverside	Industrial	7,696	$0.53
61	117 Via Trevizio, #1	Corona	Industrial	26,892	$0.54
62	1852 W Pomona Rd	Corona	Industrial	9,817	$0.54
63	280 Ott St	Corona	Industrial	14,000	$0.54
64	12825 Temescal Canyon Rd, Unit G	Corona	Industrial	1,614	$0.55
65	150-500 Rincon St	Corona	Industrial	26,898	$0.55
66	1500 Commerce St	Corona	Industrial	16,170	$0.55
67	1950 Compton Ave, #107/108	Corona	Industrial	6,912	$0.55
68	235 Benjamin Dr	Corona	Office	10,814	$0.55

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
69	235 Benjamin Dr	Corona	Industrial	6,500	$0.55
70	297 Harrison St	Corona	Industrial	7,740	$0.55
71	375 Klung Circle	Corona	Industrial	15,748	$0.55
72	958 El Sobrante Rd	Corona	Industrial	15,000	$0.55
73	7119 Arlington Ave, Unit E	Riverside	Industrial	1,078	$0.55
74	264 Mariah Circle	Corona	Industrial	17,112	$0.56
75	440 Harrison St	Corona	Industrial	8,352	$0.56
76	7121 Arlington Ave, Unit E	Riverside	Industrial	1,078	$0.57
77	7123 Arlington Ave, Unit A	Riverside	Industrial	1,078	$0.57
78	7123 Arlington Ave, Unit B	Riverside	Industrial	1,078	$0.57
79	1112 Olympic Dr	Corona	Industrial	10,500	$0.59
80	23143 Temescal Canyon Rd, Ste A	Corona	Industrial	7,695	$0.59
81	645 E Harrison St	Corona	Industrial	13,892	$0.59
82	12321 Magnolia Ave, Ste J	Riverside	Office	1,500	$0.59
83	1711 Jenks Dr	Corona	Industrial	7,440	$0.60
84	19930 Jolora Ave	Corona	Industrial	11,900	$0.60
85	7121 Arlington Ave, Unit A	Riverside	Industrial	1,078	$0.60
86	7171 Arlington Ave, Unit B	Riverside	Industrial	1,078	$0.60
87	1148 California Ave	Corona	Industrial	17,840	$0.65
88	2175 Sampson, #125	Corona	Industrial	1,728	$0.65
89	280 Smith Ave	Corona	Industrial	6,452	$0.65
90	337 E Harrison St, Unit B	Corona	Industrial	11,025	$0.65
91	470 Princeland Court #1	Corona	Industrial	1,764	$0.65
92	1912 Elise Circle	Corona	Industrial	3,712	$0.67
93	1280 Graphite Dr	Corona	Industrial	11,360	$0.68
94	12321 Magnolia Ave, Ste D	Riverside	Office	1,000	$0.69
95	12321 Magnolia Ave, Ste F	Riverside	Industrial	1,400	$0.69
96	12321 Magnolia Ave, Ste E	Riverside	Office	1,300	$0.69
97	12321 Magnolia Ave, Ste C	Riverside	Industrial	1,100	$0.69
98	1128 E 6th St, #5	Corona	Retail	1,200	$0.70
99	268 N Lincoln Ave, #1	Corona	Office	2,173	$0.70
100	268 N Lincoln Ave, #5	Corona	Office	2,048	$0.70
101	268 N Lincoln Ave, #3	Corona	Office	2,101	$0.70
102	268 N Lincoln Ave, #4	Corona	Office	2,260	$0.70
103	300 N Main St, #400	Corona	Retail	8,000	$0.70
104	11860 Magnolia Ave, Bldg 3, Unit G2	Riverside	Office	1,060	$0.70
105	11860 Magnolia Ave, Bldg 3, Unit E2	Riverside	Office	1,060	$0.70
106	12321 Magnolia Ave, Ste I & J	Riverside	Industrial	2,900	$0.70
107	1761 California, #103	Corona	Industrial	5,440	$0.72
108	1251 Carbide Dr	Corona	Industrial	4,159	$0.73
109	1307 W Sixth Street, #140	Corona	Office	1,248	$0.75
110	110 N Washburn Circle, Unit E	Corona	Retail	8,286	$0.75
111	110 N Washburn Circle, Unit D	Corona	Retail	2,675	$0.75
112	1307 W Sixth Street, #132A	Corona	Office	1,784	$0.75
113	1307 W Sixth Street, #138	Corona	Office	1,126	$0.75
114	1307 W Sixth Street, #139	Corona	Office	1,310	$0.75
115	1307 W Sixth Street, #141	Corona	Office	1,248	$0.75
116	1307 W Sixth Street, #132A	Corona	Office	1,784	$0.75
117	710 Rimpau, #203 & 204	Corona	Office	1,800	$0.75
118	840 E Parkridge Ave, #103	Corona	Industrial	1,754	$0.75
119	850 E Parkridge Ave	Corona	Industrial	1,556	$0.75
120	355 N Sheridan St, #357-106	Corona	Industrial	890	$0.78
121	355 N Sheridan St, #357-107	Corona	Industrial	890	$0.78
122	355 N Sheridan St, #359-108	Corona	Industrial	1224	$0.78
123	355 N Sheridan St, #357-110	Corona	Industrial	1,575	$0.78
124	355 N Sheridan St, #357-131	Corona	Industrial	890	$0.78
125	355 N Sheridan St, #357-124	Corona	Industrial	1,000	$0.78
126	1141 Pomona Rd	Corona	Industrial	3,202	$0.79
127	355 N Sheridan St, #357-129	Corona	Industrial	890	$0.79
128	9512-9514 Magnolia Ave, #2	Riverside	Retail	2,025	$0.79
129	9514 Magnolia Ave	Riverside	Retail	2,025	$0.79
130	9514 Magnolia Ave	Riverside	Retail	2,025	$0.79
131	1430 A East 6th St	Corona	Industrial	1,550	$0.80
132	9036-9064 Pulsar Crt, Unit E	Corona	Office	1,738	$0.80
133	9036-9064 Pulsar Crt, Unit D	Corona	Office	1,950	$0.80
134	9036-9064 Pulsar Crt, Units C, D, E & F	Corona	Office	7,376	$0.80
135	1405 Spruce St	Riverside	Office	2,400	$0.81
136	355 N Sheridan St, #355-103	Corona	Industrial	1,495	$0.82

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
137	469 Harrison St, Ste D	Corona	Industrial	4,032	$0.82
138	400 Princeland Crt, #4	Corona	Industrial	1,560	$0.84
139	157 Radio Rd, #1	Corona	Industrial	4,327	$0.85
140	268 N Lincoln Ave, #10	Corona	Office	2,276	$0.85
141	268 N Lincoln Ave, #16	Corona	Office	3,118	$0.85
142	268 N Lincoln Ave, #8	Corona	Office	2,262	$0.85
143	355 N Sheridan St, #355-109	Corona	Industrial	870	$0.85
144	355 N Sheridan St, #355-112	Corona	Industrial	940	$0.85
145	355 N Sheridan St, #355-113	Corona	Industrial	940	$0.85
146	355 N Sheridan St, #355-116	Corona	Industrial	1,495	$0.85
147	4300 Green River Rd, #109	Corona	Retail	16,500	$0.85
148	11860 Magnolia Ave, Bldg 6, Unit B2	Riverside	Office	1,060	$0.85
149	11860 Magnolia Ave, Bldg 9, Unit B	Riverside	Office	918	$0.85
150	1351 Pomona Rd, #250	Corona	Office	5,500	$0.89
151	1701 N Delilah Street	Corona	Office	2,350	$0.89
152	9036-9064 Pulsar Crt, Units C & D	Corona	Office	3,900	$0.90
153	11860 Magnolia Ave, Bldg 2, Unit B	Riverside	Office	2,500	$0.90
154	11860 Magnolia Ave, Bldg 3, Unit A	Riverside	Office	824	$0.90
155	11860 Magnolia Ave, Bldg 1R, Unit F	Riverside	Retail	1,040	$0.90
156	11860 Magnolia Ave, Bldg 10, Unit E	Riverside	Office	1,856	$0.90
157	11860 Magnolia Ave, Bldg 10, Unit I	Riverside	Office	778	$0.90
158	6230 Van Buren Ave	Riverside	Retail	25,573	$0.92
159	1307 W Sixth Street, #209	Corona	Office	760	$0.95
160	1307 W Sixth Street, #204	Corona	Office	600	$0.95
161	1307 W Sixth Street, #210	Corona	Office	1,420	$0.95
162	1307 W Sixth Street, #118	Corona	Office	1,231	$0.95
163	1307 W Sixth Street, #206	Corona	Office	500	$0.95
164	1307 W Sixth Street, #201	Corona	Office	1,568	$0.95
165	10800 Hole Ave, 1st Floor #6	Riverside	Office	1,000	$0.95
166	11860 Magnolia Ave, Bldg 3, Unit L	Riverside	Office	824	$0.95
167	11860 Magnolia Ave, Bldg 5, Unit C	Riverside	Office	1,620	$0.95
168	11860 Magnolia Ave, Bldg 5, Unit d	Riverside	Office	1,620	$0.95
169	8151 Arlington Ave, #1	Riverside	Retail	1,665	$0.95
170	8151 Arlington Ave	Riverside	Retail	1,848	$0.95
171	8151 Arlington Ave, Unit S	Riverside	Retail	914	$0.95
172	4190 Green River Rd	Corona	Industrial	4,100	$0.99
173	4190 Green River Rd	Corona	Office	4,100	$0.99
174	4214 Green River Rd	Corona	Office	1,750	$0.99
175	1181 California, Ave, #201	Corona	Office	2,892	$1.00
176	1632 Railroad Street, #2	Corona	Industrial	3,250	$1.00
177	217 E Third St	Corona	Office	3,500	$1.00
178	2189 Sampson Ave, #101	Corona	Retail	5,120	$1.00
179	2410 Wardlow Rd, #111	Corona	Retail	3,642	$1.00
180	300 N Main St, #380B	Corona	Retail	1,200	$1.00
181	400 E Rincon St, #250	Corona	Office	6,013	$1.00
182	400 E Rincon St, #350	Corona	Office	7,085	$1.00
183	400 E Rincon St, #100	Corona	Office	16,984	$1.00
184	425 E 6th Street, #206	Corona	Retail	800	$1.00
185	430 W Foothill, First Floor	Corona	Office	54,000	$1.00
186	487 S Corona Mall, Unit C	Corona	Office	1,275	$1.00
187	80 W Grand Blvd, #122	Corona	Retail	1,500	$1.00
188	9036-9064 Pulsar Crt, Unit B	Corona	Office	1,846	$1.00
189	10051 Magnolia Ave, Unit A6	Riverside	Retail	2,030	$1.00
190	7107 Arlington Ave, Unit B	Riverside	Retail	1,080	$1.00
191	8151 Arlington Ave, Unit Z	Riverside	Retail	1,279	$1.00
192	8151 Arlington Ave, Unit R	Riverside	Retail	914	$1.00
193	1307 W Sixth Street, #117	Corona	Office	1,275	$1.05
194	1307 W Sixth Street, #221-222	Corona	Office	1,593	$1.05
195	1307 W Sixth Street, #223	Corona	Office	1,235	$1.05
196	1307 W Sixth Street, #114	Corona	Office	1,218	$1.05
197	1307 W Sixth Street, #115	Corona	Office	1,261	$1.05
198	255 N Lincoln Ave	Corona	Office	12,900	$1.05
199	11860 Magnolia Ave, Bldg 3, Unit C/D	Riverside	Office	1,624	$1.05
200	11860 Magnolia Ave, Bldg 1, Unit B	Riverside	Office	2,500	$1.05
201	11860 Magnolia Ave, Bldg 2, Unit B1	Riverside	Office	800	$1.05
202	11860 Magnolia Ave, Bldg 4, Unit C	Riverside	Office	1,078	$1.05
203	11860 Magnolia Ave, Bldg 7, Unit A	Riverside	Office	956	$1.05
204	11860 Magnolia Ave, Bldg 9, Unit K	Riverside	Office	918	$1.05

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
205	2187 Sampson Ave, #1	Corona	Retail	5,120	$1.10
206	430 N McKinley Ave	Corona	Retail	42,622	$1.10
207	10330 Hole Ave, Space 5	Riverside	Retail	1,350	$1.10
208	10330 Hole Ave, Space 6	Riverside	Retail	1,400	$1.10
209	10330 Hole Ave	Riverside	Retail	9	$1.10
210	11860 Magnolia Ave, Bldg 9, Unit J	Riverside	Office	764	$1.10
211	4230 Green River Rd	Corona	Office	6,542	$1.15
212	462 Corona Mall	Corona	Office	1,500	$1.15
213	760 Washburn Ave #8	Corona	Medical Office	3,127	$1.15
214	760 Washburn Ave #10A	Corona	Medical Office	1,044	$1.15
215	760 Washburn Ave #10B	Corona	Medical Office	1,351	$1.15
216	760 Washburn Ave #14	Corona	Medical Office	1,180	$1.15
217	760 Washburn Ave #22	Corona	Medical Office	1,164	$1.15
218	760 Washburn Ave #24	Corona	Medical Office	1,471	$1.15
219	11860 Magnolia Ave, Bldg 1, Unit C1	Riverside	Office	588	$1.15
220	11860 Magnolia Ave, Bldg 2, Unit C2	Riverside	Office	505	$1.15
221	325 N Cota St	Corona	Industrial	10,478	$1.16
222	129 N McKinley St, #103	Corona	Retail	4,750	$1.20
223	341 Corporate Terrace Circle	Corona	Office	31,811	$1.20
224	900 Main St #105	Corona	Medical Office	1,318	$1.20
225	900 Main St #201	Corona	Medical Office	3,261	$1.20
226	900 Main St #202	Corona	Medical Office	2,445	$1.20
227	900 Main St #203	Corona	Medical Office	1,599	$1.20
228	10066 Magnolia Ave	Riverside	Retail	960	$1.20
229	1307 W Sixth Street, #129	Corona	Office	1248	$1.25
230	255 E Rincon St, #112	Corona	Office	2,411	$1.25
231	2755 Wardlow Rd	Corona	Office	6,476	$1.25
232	300-490 N McKinley St, #21	Corona	Retail	2,106	$1.25
233	300-490 N McKinley St, #13	Corona	Retail	23,996	$1.25
234	430 W Foothill, First Floor	Corona	Office	27,000	$1.25
235	4300 Green River Rd, #101-104	Corona	Retail	5,508	$1.25
236	4300 Green River Rd, #106	Corona	Retail	1,200	$1.25
237	4300 Green River Rd, #108	Corona	Retail	2,161	$1.25
238	623 N Main St, D-5	Corona	Office	1,360	$1.25
239	623 N Main St, Ste D-4	Corona	Retail	1,360	$1.25
240	629 N Main St	Corona	Retail	3,575	$1.25
241	720 N Main St, #2	Corona	Retail	3,800	$1.25
242	720 N Main St, #3	Corona	Retail	2,800	$1.25
243	720 N Main St, #782	Corona	Retail	5,880	$1.25
244	720 N Main St, #762	Corona	Retail	1,800	$1.25
245	98 E Grand Blvd	Corona	Office	2,400	$1.25
246	10051 Magnolia Ave, Unit B2	Riverside	Retail	1,172	$1.25
247	10051 Magnolia Ave, Unit B3	Riverside	Retail	1,172	$1.25
248	10051 Magnolia Ave, Unit B4	Riverside	Retail	1,190	$1.25
249	10683 Magnolia Ave, Unit C	Riverside	Office	1,350	$1.25
250	11140 Magnolia Ave	Riverside	Retail	16,196	$1.25
251	11860 Magnolia Ave, Bldg 2R, Unit F	Riverside	Retail	1,198	$1.25
252	11860 Magnolia Ave, Bldg 1R, Unit UV	Riverside	Retail	3,120	$1.25
253	11860 Magnolia Ave, Bldg 8, Unit F	Riverside	Office	400	$1.25
254	4680 La Sierra Ave	Riverside	Industrial	5,597	$1.25
255	4680 La Sierra Ave	Riverside	Retail	6,273	$1.25
256	2275 S Main St, #103	Corona	Office	2,699	$1.29
257	2275 S Main St, #104	Corona	Office	2,740	$1.29
260	1307 W Sixth Street, #212D	Corona	Office	320	$1.30
261	1307 W Sixth Street, #211	Corona	Office	337	$1.30
262	1307 W Sixth Street, #212A	Corona	Office	336	$1.30
263	1307 W Sixth Street, #220D	Corona	Office	279	$1.30
264	2278 Griffin Way, #101	Corona	Industrial	11,511	$1.30
265	430 W Foothill, First Floor	Corona	Office	15,000	$1.30
266	10074 Magnolia Ave	Riverside	Retail	1,200	$1.30
267	1307 W Sixth Street, #107	Corona	Office	1,141	$1.35
268	1307 W Sixth Street, #212B	Corona	Office	388	$1.35
269	1307 W Sixth Street, #108	Corona	Office	1,605	$1.35
270	1307 W Sixth Street, #212C	Corona	Office	354	$1.35
271	1871 California Ave	Corona	Office	4,303	$1.35
272	1875 California Ave	Corona	Office	5,180	$1.35
273	1881 California Ave	Corona	Office	4,595	$1.35
274	1897 California Ave, #1	Corona	Office	12,778	$1.35

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
275	1897 California Ave, #101	Corona	Office	4,232	$1.35
276	1897 California Ave, #101/102	Corona	Office	8,337	$1.35
277	1897 California Ave, #103	Corona	Office	4,313	$1.35
278	210 West Grand Blvd, #105	Corona	Retail	1,000	$1.35
279	290 Corporate Terrace Circle	Corona	Office	3,908	$1.35
280	311 Corporate Terrace Circle	Corona	Office	3,064	$1.35
281	430 W Foothill, First Floor	Corona	Office	10,000	$1.35
282	11820 Pierce St, #100	Riverside	Office	6,700	$1.35
283	11820 Pierce St, #200	Riverside	Office	6,457	$1.35
284	1750 California Ave, #113	Corona	Industrial	1,340	$1.38
285	351 Corporate Terrace Circle	Corona	Office	3,276	$1.39
286	361 Corporate Terrace Circle	Corona	Office	3,596	$1.39
287	1307 W Sixth Street, #208	Corona	Office	516	$1.40
288	1307 W Sixth Street, #108	Corona	Office	516	$1.40
289	1351 Pomona Rd, #110	Corona	Office	2,390	$1.40
290	1351 Pomona Rd, #106	Corona	Office	2,879	$1.40
291	1351 Pomona Rd, #210	Corona	Office	2,822	$1.40
292	161 N. McKinley St, #124	Corona	Office	2,350	$1.40
293	10080 Magnolia Ave	Riverside	Retail	1,800	$1.40
294	1750 California Ave, #202	Corona	Industrial	1,050	$1.43
295	255 E Rincon St, #211A	Corona	Office	588	$1.44
296	1315 Corona Pointe Crt, #102	Corona	Office	2,003	$1.45
297	1315 Corona Pointe Crt, #202	Corona	Office	2,253	$1.45
298	2280 Wardlow Circle, #140	Corona	Office	5,467	$1.45
299	2280 Wardlow Circle #220	Corona	Office	1,535	$1.45
300	2280 Wardlow Circle #205	Corona	Office	3,256	$1.45
301	2280 Wardlow Circle #255	Corona	Office	5,389	$1.45
302	301 Corporate Terrace Cir, 1st Floor	Corona	Office	6,599	$1.45
303	513 S Smith Ave	Corona	Office	2,269	$1.45
304	555 Queensland Circle	Corona	Office	2,100	$1.45
305	1861 California Ave	Corona	Office	5,145	$1.50
306	1867 California Ave, #102	Corona	Office	3,574	$1.50
307	232 E Grand Blvd, #202	Corona	Office	1,000	$1.50
308	232 E Grand Blvd, #201	Corona	Office	1,020	$1.50
309	232 E Grand Blvd, #103	Corona	Office	1,000	$1.50
310	250 E Rincon, #101	Corona	Office	1,561	$1.50
311	250 E Rincon, #211	Corona	Office	2,050	$1.50
312	250 E Rincon, #110	Corona	Office	3,000	$1.50
313	255 E Rincon St, #300	Corona	Office	2,500	$1.50
314	255 E Rincon St, #323	Corona	Office	558	$1.50
315	255 E Rincon St, #211B	Corona	Office	666	$1.50
316	255 E Rincon St, #211	Corona	Office	1,254	$1.50
317	255 E Rincon St, #305	Corona	Office	1,490	$1.50
318	255 E Rincon St, #205	Corona	Office	1,600	$1.50
319	2748 Hamner Ave	Norco	Retail	1,400	$1.50
320	300-490 N McKinley St, #23	Corona	Retail	3,212	$1.50
321	430 W Foothill, First Floor	Corona	Office	5,000	$1.50
322	430 W Foothill, First Floor	Corona	Office	5,000	$1.50
323	490-570 Hidden Valley Pkwy	Corona	Retail	25,000	$1.50
324	529-591 North McKinley St	Corona	Retail	4,500	$1.50
325	750 S Lincoln Ave, #101	Corona	Retail	6,000	$1.50
326	80 W Grand Blvd, #115A	Corona	Retail	750	$1.50
327	80 W Grand Blvd, #120	Corona	Retail	1,000	$1.50
328	80 W Grand Blvd, #101-102	Corona	Retail	3,000	$1.50
329	10311 Hole Ave, Unit E	Riverside	Retail	800	$1.50
330	11810 Pierce St, #100	Riverside	Office	4,300	$1.50
331	1760 California Ave, #101	Corona	Industrial	3,300	$1.51
332	1760 California Ave, #201	Corona	Industrial	3,300	$1.51
333	1307 W Sixth Street, #119A	Corona	Office	506	$1.55
334	629 N Main St	Corona	Retail	1,788	$1.55
335	817 W Grand Blvd	Corona	Office	2,021	$1.59
336	129 N McKinley St, #102	Corona	Retail	1,007	$1.60
337	129 N McKinley St, #109	Corona	Retail	1,000	$1.60
338	129 N McKinley St, #111	Corona	Retail	1,000	$1.60
339	1525 E Ontario Ave, #105	Corona	Retail	2,068	$1.60
340	355 E Rincon St, #101	Corona	Office	2,397	$1.60
341	355 E Rincon St, #120	Corona	Office	5,747	$1.60
342	355 E Rincon St, #200	Corona	Office	2,654	$1.60

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
343	355 E Rincon St, #219	Corona	Office	2,630	$1.60
344	355 E Rincon St, #221	Corona	Office	1,978	$1.60
345	1750 California Ave, #201	Corona	Industrial	2,450	$1.63
346	1075 Montecito Dr	Corona	Office	6,766	$1.65
347	1353 Old Temescal	Corona	Office	2,500	$1.65
348	1525 E Ontario Ave, #101A	Corona	Retail	1,538	$1.65
349	1525 E Ontario Ave, #102	Corona	Retail	1,064	$1.65
350	1525 E Ontario Ave, #106	Corona	Retail	1,209	$1.65
351	2045 Compton Ave, #101	Corona	Office	2,097	$1.65
352	2045 Compton Ave, #102	Corona	Office	2,323	$1.65
353	2045 Compton Ave, #103	Corona	Office	1,435	$1.65
354	2045 Compton Ave, #104	Corona	Office	2,782	$1.65
355	2045 Compton Ave, 1st Floor	Corona	Office	10,000	$1.65
356	2045 Compton Ave, #203	Corona	Office	1,603	$1.65
357	2045 Compton Ave, #205	Corona	Office	1,599	$1.65
358	2045 Compton Ave, 2nd Floor	Corona	Office	3,202	$1.65
359	10311 Hole Ave, Unit E & F	Riverside	Retail	1,600	$1.65
360	5225 Canyon Crest Dr #305	Riverside	Retail	1,320	$1.65
361	5225 Canyon Crest Dr #309	Riverside	Retail	309	$1.65
362	1181 California Ave, #102	Corona	Office	4,529	$1.70
363	1181 California Ave, #	Corona	Office	4,024	$1.70
364	1181 California Ave, #	Corona	Office	9,851	$1.70
365	107 N McKinley St, #103	Corona	Retail	4,180	$1.75
366	1820 Fullerton Ave #110	Corona	Medical Office	300	$1.75
367	1820 Fullerton Ave #120	Corona	Medical	1,900	$1.75
368	1820 Fullerton Ave #140	Corona	Medical Office	5,328	$1.75
369	1820 Fullerton Ave #145	Corona	Medical Office	400	$1.75
370	1820 Fullerton Ave #150	Corona	Medical Office	1,600	$1.75
371	1820 Fullerton Ave #160	Corona	Medical Office	1,240	$1.75
372	1820 Fullerton Ave #180/190	Corona	Medical Office	5,350	$1.75
373	1820 Fullerton Ave #222	Corona	Medical Office	750	$1.75
374	1820 Fullerton Ave #230/240	Corona	Medical Office	2,500	$1.75
375	1820 Fullerton Ave #250	Corona	Medical Office	1,000	$1.75
376	1820 Fullerton Ave #270	Corona	Medical Office	2,383	$1.75
377	1820 Fullerton Ave #280	Corona	Medical Office	1,024	$1.75
378	1820 Fullerton Ave #310	Corona	Medical Office	2,500	$1.75
379	1820 Fullerton Ave #320	Corona	Medical Office	2,500	$1.75
380	1820 Fullerton Ave #330	Corona	Medical Office	1,000	$1.75
381	1820 Fullerton Ave #350	Corona	Medical Office	1,645	$1.75
382	2275 Sampson Ave, #2748	Corona	Office	2,478	$1.75
383	2275 Sampson Ave, #200	Corona	Office	11,969	$1.75
384	300-490 N McKinley St, #24	Corona	Retail	1,648	$1.75
385	300-490 N McKinley St, #46	Corona	Retail	1,400	$1.75
386	300-490 N McKinley St, #1	Corona	Retail	4,500	$1.75
387	300-490 N McKinley St, #10	Corona	Retail	4,275	$1.75
388	300-490 N McKinley St, #12	Corona	Retail	5,500	$1.75
389	300-490 N McKinley St, #54	Corona	Retail	1,470	$1.75
390	355 E Rincon St, #125	Corona	Office	4,486	$1.75
391	430 W Foothill, First Floor	Corona	Office	2,000	$1.75
392	3950 Pierce St, #D	Riverside	Retail	971	$1.75
393	1180 W 6th St, #102	Corona	Retail	3,280	$1.85
394	1180 W 6th St, #104	Corona	Retail	3,120	$1.85
395	4160 Temescal Canyon Rd, #200	Corona	Office	8,037	$1.85
396	4160 Temescal Canyon Rd, #202	Corona	Office	2,936	$1.85
397	4160 Temescal Canyon Rd, #300	Corona	Office	18,361	$1.85
398	4160 Temescal Canyon Rd, #308	Corona	Office	1,894	$1.85
399	4160 Temescal Canyon Rd, #312	Corona	Office	1,163	$1.85
400	4160 Temescal Canyon Rd, #400	Corona	Office	25,944	$1.85
401	4160 Temescal Canyon Rd, #500	Corona	Office	25,944	$1.85
402	4160 Temescal Canyon Rd, #600	Corona	Office	25,944	$1.85
403	650-750 S Lincoln Ave, #1180-102	Corona	Retail	3,280	$1.85
404	650-750 S Lincoln Ave, #1180-104	Corona	Retail	3,120	$1.85
405	5225 Canyon Crest Dr #17	Riverside	Retail	900	$1.85
406	1250 Corona Pointe Crt, #602	Corona	Office	5,065	$1.90
407	1250 Corona Pointe Crt, #404	Corona	Office	2,099	$1.90
408	1260 Corona Pointe Crt, #3	Corona	Office	9,357	$1.90
409	1260 Corona Pointe Crt, #1	Corona	Office	6,797	$1.90
410	391 N Main St, #100	Corona	Office	965	$1.90

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
411	391 N Main St, #201	Corona	Office	2,319	$1.90
412	391 N Main St, 2nd & 3rd Floor	Corona	Office	44,889	$1.90
413	2347-2363 California Ave, 2nd Floor	Corona	Retail	1,250	$1.95
414	2347-2363 California Ave, 2nd Floor	Corona	Retail	1,200	$1.95
415	300-490 N McKinley St, #5	Corona	Retail	2,125	$1.95
416	300-490 N McKinley St, #63	Corona	Retail	7,800	$1.95
417	300-490 N McKinley St, #66	Corona	Retail	1,400	$1.95
418	391 N Main St, #108	Corona	Office	1,000	$1.95
419	641 N Main St, Ste A-1	Corona	Retail	2,208	$1.95
420	3430 La Sierra Ave, Unit C	Riverside	Retail	1,920	$1.95
421	4244 Riverwalk Pkwy, #200	Riverside	Medical Office	15,350	$1.95
422	4244 Riverwalk Pkwy, #180	Riverside	Medical Office	2,914	$1.95
423	4244 Riverwalk Pkwy, #230	Riverside	Medical Office	2,333	$1.95
424	5225 Canyon Crest Dr #17C	Riverside	Retail	785	$1.95
425	1250 Corona Pointe Crt, #303	Corona	Office	1,590	$2.00
426	1250 Corona Pointe Crt, #406	Corona	Office	4,212	$2.00
427	1255 Magnolia Ave, #107	Corona	Retail	1,230	$2.00
428	1275 Magnolia Ave, #103	Corona	Retail	1,200	$2.00
429	1312 E Ontario Ave, #103	Corona	Retail	2,300	$2.00
430	161 N McKinley St	Corona	Retail	5,500	$2.00
431	161 McKinley, #108	Corona	Retail	1,100	$2.00
432	161 McKinley, #126	Corona	Retail	1,500	$2.00
433	161 McKinley, #106 & 107	Corona	Retail	2,200	$2.00
434	161 McKinley, #110	Corona	Retail	3,300	$2.00
435	2278 Griffin Way	Corona	Retail	1,600	$2.00
436	490-570 Hidden Valley Pkwy	Corona	Retail	3,000	$2.00
437	650-750 S Lincoln Ave, #650-110	Corona	Retail	1,755	$2.00
438	650-750 S Lincoln Ave, #101	Corona	Retail	1,160	$2.00
439	10060 Magnolia Ave	Riverside	Retail	434	$2.00
440	10319 Magnolia Ave	Riverside	Retail	960	$2.00
441	3610 Park Sierra Blvd	Riverside	Retail	10,000	$2.00
442	3660 Park Sierra Blvd	Riverside	Office	3,000	$2.00
443	1250 Corona Pointe Crt, #308	Corona	Office	3,377	$2.10
444	507 Queensland Circle	Corona	Office	4,659	$2.10
445	518 Queensland Circle	Corona	Office	4,003	$2.10
446	525 Queensland Circle	Corona	Office	4,067	$2.10
447	531 Queensland Circle, Bldg#7	Corona	Office	3,648	$2.10
448	549 Queensland Circle, #103	Corona	Office	1,697	$2.10
449	391 N Main St, #107	Corona	Office	2,911	$2.20
450	1112 W 6th St, #101	Corona	Retail	1,172	$2.25
451	1112 W 6th St, #106	Corona	Retail	2,010	$2.25
452	2780 Cabot Ave, #6-175	Corona	Retail	1,065	$2.25
453	2780 Cabot Ave, #4-150	Corona	Retail	1,200	$2.25
454	2780 Cabot Ave, #6-102	Corona	Retail	1,499	$2.25
455	2780 Cabot Ave, #6-180	Corona	Retail	2,510	$2.25
456	2780 Cabot Ave, #6-107	Corona	Retail	2,812	$2.25
457	2780 Cabot Ave, #6-105	Corona	Retail	2,819	$2.25
458	2780 Cabot Ave, #5-175	Corona	Retail	3,321	$2.25
459	2780 Cabot Ave, #5-160	Corona	Retail	3,755	$2.25
460	2780 Cabot Ave, #5-180	Corona	Retail	6,003	$2.25
461	2780 Cabot Ave, #4-125	Corona	Retail	1,425	$2.25
462	2780 Cabot Ave, #7-115	Corona	Retail	1,000	$2.25
463	2780 Cabot Ave, #6-101	Corona	Retail	1,675	$2.25
464	2780 Cabot Ave, #5-165	Corona	Retail	2,712	$2.25
465	2780 Cabot Ave, #7-110	Corona	Retail	3,198	$2.25
466	2780 Cabot Ave, #4-130	Corona	Retail	5,200	$2.25
467	2780 Cabot Ave, #6-160	Corona	Retail	1,065	$2.25
468	300-490 N McKinley St, #39	Corona	Retail	1,080	$2.25
469	369 Magnolia Ave, Unit G-13	Corona	Retail	2,070	$2.25
470	369 Magnolia Ave, Unit C-104	Corona	Retail	4,100	$2.25
471	369 Magnolia Ave, Unit C-102	Corona	Retail	2,000	$2.25
472	650 S Lincoln, #105	Corona	Retail	4,789	$2.25
473	6993 Hamner Ave	Corona	Retail	1,200	$2.25
474	11130 Magnolia Ave, Unit D	Riverside	Retail	1,620	$2.25
475	11140 Magnolia Ave, #3724 B	Riverside	Retail	1,407	$2.25
476	11140 Magnolia Ave, #3758 B	Riverside	Retail	1,300	$2.25
477	11140 Magnolia Ave, #3758 D	Riverside	Retail	1,507	$2.25
478	5225 Canyon Crest Dr #1	Riverside	Retail	1,560	$2.25

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
479	5225 Canyon Crest Dr #20	Riverside	Retail	1,350	$2.25
480	5225 Canyon Crest Dr #10	Riverside	Retail	2,440	$2.35
481	5225 Canyon Crest Dr #28	Riverside	Retail	800	$2.35
482	5225 Canyon Crest Dr #7B	Riverside	Retail	1,000	$2.35
483	1140 E Ontario Ave	Corona	Retail	3,300	$2.50
484	1340 El Soberante Rd	Corona	Retail	3,500	$2.50
485	2279 Eagle Glen Parkway	Corona	Retail	4,800	$2.50
486	490-570 Hidden Valley Pkwy	Corona	Retail	2,500	$2.50
487	490-570 Hidden Valley Pkwy	Corona	Retail	1,500	$2.50
488	540 Hidden Valley Pkwy	Corona	Retail	1,200	$2.50
489	650-750 S Lincoln Ave, #750-101	Corona	Retail	6,000	$2.50
490	770 Magnolia Ave, Unit H-1/1	Corona	Office	1,857	$2.50
491	10303 Magnolia Ave	Riverside	Retail	1,050	$2.50
492	11090 Magnolia Ave	Riverside	Retail	1,376	$2.50
493	3400 La Sierra Ave, Unit C	Riverside	Retail	4,346	$2.65
494	2071 Compton Ave	Corona	Office	1,700	$2.75
495	2390 Anselmo Dr, 2nd Floor	Corona	Office	21,994	$2.75
496	2390 Anselmo Dr, 1st Floor	Corona	Office	22,680	$2.75
497	2390 Anselmo Dr, 3rd Floor	Corona	Office	22,696	$2.75
498	2390 Anselmo Dr, 4th Floor	Corona	Office	22,696	$2.75
499	2390 Anselmo Dr, 5th Floor	Corona	Office	22,696	$2.75
500	2390 Anselmo Dr, 6th Floor	Corona	Office	22,696	$2.75
501	490 Hidden Valley Pkwy, #490-102	Corona	Retail	1,430	$2.75
502	490 Hidden Valley Pkwy, #490-103	Corona	Retail	3,000	$2.75
503	490 Hidden Valley Pkwy, #540-106	Corona	Retail	1 213	$2.75
504	490 Hidden Valley Pkwy, #540-101	Corona	Retail	2,173	$2.75
505	2711 Canyon Springs Pkwy	Riverside	Retail	1,300	$2.75
506	2375 Anselmo Dr, 1st Floor	Corona	Office	25,000	$2.85
507	2375 Anselmo Dr, 2nd Floor	Corona	Office	25,000	$2.85
508	2375 Anselmo Dr, 3rd Floor	Corona	Office	25,000	$2.85
509	2455 Anselmo Dr, 1st Floor	Corona	Office	25,000	$2.85
510	2455 Anselmo Dr, 2nd Floor	Corona	Office	25,000	$2.85
511	2455 Anselmo Dr, 3rd Floor	Corona	Office	25,000	$2.85
512	4204 Riverwalk Pkwy, #200	Riverside	Office	8,063	$2.85
513	4204 Riverwalk Pkwy, #300	Riverside	Office	18,545	$2.85
514	4204 Riverwalk Pkwy, 4th Floor	Riverside	Office	25,000	$2.85
515	4210 Riverwalk Pkwy, 1st Floor	Riverside	Office	25,000	$2.85
516	4210 Riverwalk Pkwy, 2nd Floor	Riverside	Office	25,000	$2.85
517	4210 Riverwalk Pkwy, 3rd Floor	Riverside	Office	25,000	$2.85
518	4210 Riverwalk Pkwy, 4th Floor	Riverside	Office	25,000	$2.85
519	2347-2363 California Ave, 1st Floor	Corona	Retail	825	$2.95
520	231 S Lincoln Ave	Corona	Retail	3,210	$3.11
521	1810 Fullerton Ave	Corona	Office	2,576	$3.49
522	19450 E Ontario Ave	Corona	Industrial	38,768	Negotiable
523	1320 E 6th St	Corona	Industrial	50,000	Negotiable
524	1345 Quarry St, 1st Floor	Corona	Industrial	5,000	Negotiable
525	1345 Quarry St, 1st Floor	Corona	Industrial	10,000	Negotiable
526	14855 Innovation Dr	Corona	Industrial	225,000	Negotiable
527	1510-1550 W 6th St	Corona	Retail	1,375	Negotiable
528	1510-1550 W 6th St	Corona	Retail	1,200	Negotiable
529	1510-1550 W 6th St	Corona	Retail	1,600	Negotiable
530	1510-1550 W 6th St	Corona	Retail	20,500	Negotiable
531	2621-2791 Green River Rd, #	Corona	Retail		Negotiable
532	2621-2791 Green River Rd, #1	Corona	Retail	950	Negotiable
533	2621-2791 Green River Rd, #2	Corona	Retail	1,061	Negotiable
534	2621-2791 Green River Rd, #3	Corona	Retail	1,200	Negotiable
535	2621-2791 Green River Rd, #4	Corona	Retail	2,055	Negotiable
536	2621-2791 Green River Rd, #5	Corona	Retail	2,438	Negotiable
537	2621-2791 Green River Rd, #6	Corona	Retail	2,450	Negotiable
538	2621-2791 Green River Rd, #7	Corona	Retail	4,551	Negotiable
539	2690 Tuscany St, #B-6a	Corona	Retail	900	Negotiable
540	2690 Tuscany St, #D9-102	Corona	Retail	1,577	Negotiable
541	2690 Tuscany St, #D13-104	Corona	Retail	804	Negotiable
542	2690 Tuscany St, #D15-101	Corona	Retail	2,359	Negotiable
543	2690 Tuscany St, #B-3f	Corona	Retail	1,604	Negotiable
544	2690 Tuscany St, #B-3c	Corona	Retail	1,995	Negotiable
545	2690 Tuscany St, #D13-103	Corona	Retail	1,525	Negotiable
546	2690 Tuscany St, #D3-101	Corona	Retail	3,904	Negotiable

Available Commercial Properties For Lease – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
547	2690 Tuscany St, #D8-104	Corona	Retail	5,000	Negotiable
548	2690 Tuscany St, #B-12A	Corona	Retail	6,043	Negotiable
549	275 & 280 Teller Avenue, #180	Corona	Retail	10,287	Negotiable
550	275 & 280 Teller Avenue, #170	Corona	Retail	4,373	Negotiable
551	275 & 280 Teller Avenue, #130	Corona	Retail	4,970	Negotiable
552	275 & 280 Teller Avenue, #110	Corona	Retail	7,000	Negotiable
553	275 & 280 Teller Avenue, #100	Corona	Retail	11,245	Negotiable
554	4300 Green River Rd, Pad A	Corona	Retail	3,000	Negotiable
555	4300 Green River Rd, Pad B	Corona	Retail	4,000	Negotiable
556	720 Magnolia Ave, #A-2	Corona	Medical Office	1,418	Negotiable
557	720 Magnolia Ave, #B-2	Corona	Medical Office	1,455	Negotiable
558	720 Magnolia Ave, #C-3	Corona	Medical Office	1,100	Negotiable
559	720 Magnolia Ave, #C-4	Corona	Medical Office	1,127	Negotiable
560	720 Magnolia Ave, #C-3/4	Corona	Medical Office	2,227	Negotiable
561	720 Magnolia Ave, #B-2/3	Corona	Medical Office	2,840	Negotiable
562	9097 Pulsar Ct, Bldg 1	Corona	Industrial	43,928	Negotiable
563	9121 Pulsar Ct, Bldg 2	Corona	Industrial	11,352	Negotiable
564	9145 Pulsar Ct, Bldg 3	Corona	Industrial	11,352	Negotiable
565	9169 Pulsar Ct, Bldg 4	Corona	Industrial	11,352	Negotiable
566	9163 Pulsar Ct, Bldg 5	Corona	Industrial	11,352	Negotiable
567	9097-9163 Pulsar Ct, Bldg 1,2,3	Corona	Industrial	89,336	Negotiable
568	10255 Magnolia Ave	Riverside	Retail	1,800	Negotiable
569	10320-10370 Arlington Ave	Riverside	Retail	1,090	Negotiable
570	10458 Magnolia Ave	Riverside	Retail	1,950	Negotiable
571	10444 Magnolia Ave	Riverside	Retail	1,457	Negotiable
572	11695 State Ave, 1st Floor	Riverside	Office	1,321	Negotiable
572	11695 State Ave, 1st Floor	Riverside	Office	1,321	Negotiable
573	11801 Pierce St, #200	Riverside	Office	2,500	Negotiable
574	4076 Flat Rock	Riverside	Industrial	19,814	Negotiable
575	4270-4294 Riverwalk Pkwy	Riverside	Retail	11,268	Negotiable
576	9516 Magnolia Ave	Riverside	Retail	5,000	Negotiable

Available Commercial Properties for Sale – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
1	5980 Jasmine St	Riverside	Land	6,098	$49,500
2	Glenwood Ave	Riverside	Land	36,154	$89,000
3	19930 Temescal Cyn	Corona	Land	12,196	$89,000
4	9653 Canal Rd	Riverside	Land	1,894,860	$97,875
5	Liberty Ave/Corona St	Corona	Land	22,215	$98,500
6	0 Cook Ave	Riverside	Land	226,947	$99,000
7	00 Bradley St	Riverside	Land	108,900	$100,000
8	0 Granite Hill	Riverside	Land	20,037	$110,000
9	6236 River Crest Dr	Riverside	Industrial	2,500	$120,000
10	551 Cota St	Corona	Land	10,890	$125,000
11	1060 6th St	Norco	Office	9,583	$139,900
12	5400 Mission	Riverside	Land	17,859	$140,000
13	10228 Clara Vista Ln	Riverside	Land	17,859	$145,000
14	14th St	Riverside	Land		$149,900
15	0 2 Bunch Palms	Desert Hot Springs	Land	46,609	$149,000
16	9493 Garfield St	Riverside	Office	2,200	$150,000
17	8891 Mission Blvd	Riverside	Industrial	900	$150,000
18	1485 Spruce St	Riverside	Office	1,584	$159,900
19	7030 Arlington Ave	Riverside	Office	1,400	$185,000
20	3698 Rubidoux	Rubidoux	Retail	1,600	$189,900
21	1405 Spruce St	Riverside	Office	2,400	$199,500
22	1070 Northgate	Riverside	Industrial	2,832	$212,400
23	1070 Northgate	Riverside	Industrial	2,864	$214,800
24	7635 Evans St	Riverside	Industrial	484	$225,000
25	4234 Riverwalk Pkwy	Riverside	Office	1,260	$226,800
26	4107 Mission Inn Ave	Riverside	Office	2,048	$235,000
27	6177 Brockton Ave	Riverside	Office	1,404	$239,900
28	832 W 6th St	Corona	Office	980	$259,900
29	S. Promenade/6th St	Corona	Land	37,461	$260,000
30	10040 Arlington	Riverside	Retail	6,000	$280,000
31	4234 Riverwalk Pkwy	Riverside	Office	1,349	$283,290
32	4234 Riverwalk Pkwy	Riverside	Office	1,423	$298,830
33	487 S Corona Mall	Corona	Office	1,275	$299,000
34	San Sevaine Way	Riverside	Land	37,897	$299,000
35	3865 Jurupa Ave	Riverside	Office	1,800	$299,900
36	Cleveland/Jefferson	Riverside	Land	16,988	$325,000
37	4228 Avon	Glen Avon	Office	700	$330,000
38	4234 Riverwalk Pkwy	Riverside	Office	1,757	$333,830
39	3669 Van Buren Blvd	Riverside	Office	780	$344,900
40	4234 Riverwalk Pkwy	Riverside	Office	1,777	$346,515
41	4050 Brockton Ave	Riverside	Office	6,000	$350,000
42	3000 Date St	Riverside	Industrial	5,000	$359,000
43	6374 Jurupa	Riverside	Office	2,797	$359,900
44	4234 Riverwalk Pkwy	Riverside	Office	1,847	$360,165
45	1911 Spruce St	Riverside	Land	50,094	$375,000
46	770 Magnolia Ave	Riverside	Office	1,800	$380,000
47	770 Magnolia Ave	Riverside	Office	1,593	$380,000
48	6685 View Park Ct	Riverside	Office	6,000	$395,000
49	5920 Jasmine St	Riverside	Office	1,400	$395,000
50	7180 Mission Blvd	Riverside	Land	43,560	$395,000
51	12785 Magnolia Ave	Corona	Industrial	3,764	$395,220
52	9286 Indiana Ave	Riverside	Land	65,340	$398,000
53	7050 Indiana	Riverside	Land	21,344	$399,000
54	4234 Riverwalk Pkwy	Riverside	Office	1,875	$403,125
55	1810 Fullerton Ave	Corona	Office	1,088	$420,000
56	9041 Magnolia Ave	Riverside	Office	1,850	$425,000
57	5527 28th St	Riverside	Industrial	1,300	$425,000
58	321 E Grand	Corona	Office	4,256	$439,000
59	4234 Riverwalk Pkwy	Riverside	Office	2,425	$448,625
60	9231 51st St	Riverside	Retail	2,748	$448,650
61	Dallas Ave	Riverside	Land	208,652	$450,000
62	Dallas Ave	Riverside	Land	208,652	$450,000
63	4055 Riverview Dr	Riverside	Retail	2,000	$450,000
64	Mission & Vernon	Riverside	Land	72,745	$450,000
65	21705 Temescal Cyn	Corona	Specialty	1,641	$450,000
66	16400 Mockingbird Cyn	Riverside	Land	183,387	$458,469
67	6411 Pedley Rd	Riverside	Retail	3,400	$460,000
68	El Rivino Rd / Hall Ave	Riverside	Land	209,959	$499,000

Available Commercial Properties for Sale – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
69	4135 Market St	Riverside	Retail	6,219	$500,000
70	1230 Dodson Way	Riverside	Industrial	4,850	$509,250
71	770 Magnolia	Corona	Office	1,857	$510,675
72	8372 Cypress Ave	Riverside	Retail	4,500	$515,000
73	1399 Parkridge Ave	Norco	Land	65,340	$525,000
74	4234 Riverwalk Pkwy	Riverside	Office	2,648	$529,600
75	9423 Magnolia Ave	Riverside	Office	5,768	$545,000
76	12785 Magnolia Ave	Corona	Industrial	5,221	$548,205
77	4900 Arlington	Riverside	Office	1,757	$549,000
78	4393 N Tyler St	Riverside	Office	6,800	$549,999
79	3657 Van Buren Blvd	Riverside	Office	1,200	$550,000
80	2818 Harrison St	Riverside	Land	283,140	$575,000
81	1209 W 6th St	Corona	Office	2,000	$575,000
82	1303 W 6th St	Corona	Office	9,350	$575,000
83	10055 Bellegrave	Riverside	Industrial	7,200	$599,000
84	3969 Sierra	Norco	Office	1,600	$599,900
85	6939 Palm Court	Riverside	Land	50,965	$600,000
86	193 N Orange St	Riverside	Land	56,192	$600,000
87	Limonite Ave/Pedley Rd	Riverside	Land	47,044	$600,000
88	518 Queensland Cr	Corona	Office	4,003	$600,450
89	1695 & 1703 Mountain	Norco	Land	87,120	$609,840
90	525 Queensland Cr	Corona	Office	4,067	$610,050
91	0 Highridge St	Riverside	Land	196,020	$620,000
92	1021 S. Main St	Corona	Office	5,350	$625,000
93	1935 Chicago Ave	Riverside	Office	3,856	$694,080
94	1935 Chicago Ave	Riverside	Office	3,769	$640,730
95	12785 Magnolia Ave	Corona	Industrial	6,126	$643,230
96	3772 Roosevelt St	Riverside	Office	4,000	$645,000
97	11810 Pierce St	Riverside	Office	4,300	$645,000
98	9300 Jurupa Rd	Mira Loma	Land	43,124	$650,000
99	17834 Nandina Ave	Riverside	Land	217,800	$650,000
100	0 Highridge St	Riverside	Land	197,762	$650,000
101	Center St	Riverside	Land	115,434	$650,000
102	9625 Rudicill St	Riverside	Industrial	14,500	$650,000
103	6240 Jurupa Ave	Riverside	Land	27,878	$650,000
104	6141 Box Springs Blvd	Riverside	Office	6,500	$660,000
105	3141 9th St	Riverside	Industrial	26,849	$675,000
106	Pulsar Ct	Corona	Land	125,888	$675,000
107	1326 Citrus St	Riverside	Land	55,321	$675,000
108	11880 Magnolia Ave	Riverside	Land	30,927	$684,000
109	5510 28th St	Riverside	Land	199,504	$690,000
110	1115 W La Cadena Dr	Riverside	Land	21,344	$695,000
111	2180 Iowa	Riverside	Land	43,560	$697,000
112	507 Queensland Cr	Corona	Office	4,659	$698,850
113	Limonite Ave/Corey St	Riverside	Land	60,112	$699,000
114	7291 Indiana Ave	Riverside	Office	2,350	$699,900
115	11850 Pierce St	Riverside	Office	5,600	$710,000
116	5860 Central Ave	Riverside	Industrial	9,286	$738,237
117	12390 Doherty	Riverside	Industrial	9,000	$749,000
118	8559 Mission Blvd	Riverside	Industrial	10,412	$749,000
119	482 Corona Mall	Corona	Office	4,000	$750,000
120	7028 Indiana Ave	Riverside	Office	6,318	$750,000
121	7726 California Ave	Riverside	Retail	4,500	$750,000
122	250 Iowa Ave	Riverside	Retail	7,000	$750,000
123	5820 Central Ave	Riverside	Industrial	9,472	$753,024
124	1540 Linden St	Riverside	Industrial	11,346	$760,182
125	6702-6706 Magnolia	Riverside	Retail	1,300	$795,000
126	18806 Van Buren	Riverside	Retail	4,800	$798,500
127	1218 Spring St	Riverside	Industrial	6,500	$799,950
128	7178 Jurupa Rd	Riverside	Land	835,045	$799,999
129	1237 W 6th St	Corona	Retail	3,796	$800,000
130	3692 Sunnyside Dr	Riverside	Retail	4,000	$800,000
131	5820 Central Ave	Riverside	Industrial	10,102	$803,109
132	Myers St	Riverside	Land	54,014	$810,216
133	7199 Old 215 Rd	Riverside	Industrial	3,953	$830,130
134	6000 Arlington Ave	Riverside	Retail	6,000	$845,000
135	3rd St/Quarry St	Corona	Land	112,820	$846,153
136	6th St	Norco	Land	46,174	$849,999

Available Commercial Properties for Sale – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
137	Van Buren/ Ridgeway	Riverside	Land	123,710	$849,000
138	Van Buren/Chicago	Riverside	Land	123,710	$850,000
139	6346 Brockton Ave	Riverside	Retail	5,000	$850,000
140	5820 Central Ave	Riverside	Industrial	10,852	$862,734
141	6452 Mission Blvd	Riverside	Land	85,377	$865,000
142	1717 3rd St	Riverside	Office	2,652	$870,000
143	4190 Chicago Ave	Riverside	Retail	9,576	$881,000
144	9535 Mission Blvd	Riverside	Land	138,956	$890,000
145	1632 Railroad St	Corona	Industrial	3,250	$895,000
146	3404 Arlington Ave	Riverside	Retail	3,400	$895,000
147	18720 Van Buren	Riverside	Retail	3,800	$899,000
148	6690 Brockton Ave	Riverside	Office	9,400	$899,000
149	5010 Pedley Rd	Riverside	Land	402,494	$900,000
150	3975 Tyler Ave	Riverside	Retail	1,500	$900,000
151	4230 Green River Rd	Corona	Office	6,542	$900,000
152	3770 Elizabeth St	Riverside	Retail	7,000	$900,000
153	1345 Quarry St	Corona	Land	43,560	$914,760
154	3746 Comer	Riverside	Retail	11,906	$925,000
155	14437 Meridian Pkwy	Riverside	Industrial	13,750	$949,000
156	1632 Railroad St	Corona	Industrial	3,250	$950,000
157	4336 Market St	Riverside	Office	5,000	$950,000
158	3888 Commerce	Riverside	Industrial	25,000	$950,000
159	350 Stephens St	Riverside	Retail	1,500	$975,000
160	1810 Fullerton Ave	Corona	Office	2,576	$975,000
161	9545 Bellegrave Ave	Riverside	Industrial	10,400	$975,000
162	521 Princeland Ct	Corona	Industrial	8,081	$985,882
163	19965 Temescal Cyn	Corona	Industrial	3,552	$990,000
164	2313 Hall St	Riverside	Industrial	7,500	$995,000
165	10800 Hole Ave	Riverside	Office	12,000	$997,500
166	1492 W 6th St	Corona	Office	5,700	$1,000,000
167	491, 453, 445 6th St	Norco	Retail	4,500	$1,000,000
168	3610 Park Sierra	Riverside	Retail	9,200	$1,000,000
169	Wood & Lurin Ave	Riverside	Land	871,200	$1,000,000
170	3667 Placentia Ln	Riverside	Land	261,360	$1,000,000
171	1308-1338 6th St	Norco	Land	89,298	$1,000,595
172	692 Parkridge Ave	Norco	Industrial	8,011	$1,001,375
173	684 Parkridge Ave	Norco	Industrial	8,089	$1,011,125
174	682 Parkridge Ave	Norco	Industrial	8,089	$1,011,125
175	3333 Central Ave	Riverside	Office	7,036	$1,025,000
176	387 W La Cadena Dr	Riverside	Industrial	6,440	$1,025,000
177	7197 Old 215 Rd	Riverside	Industrial	4,894	$1,027,740
178	320 Bonnie Cr	Corona	Office	6,900	$1,035,000
179	7167 Old 215 Rd	Riverside	Industrial	4,932	$1,035,720
180	2187 Compton	Corona	Land	43,560	$1,089,000
181	3743 Jefferson St	Riverside	Land	69,696	$1,099,999
182	2809-2889 Orange St	Riverside	Land	65,340	$1,100,000
183	1237 W 6th St	Corona	Retail	3,000	$1,100,000
184	6210 Industrial Ave	Riverside	Industrial	14,699	$1,100,000
185	5695 Glenhaven	Riverside	Land	229,561	$1,150,000
186	139 Radio Rd	Corona	Industrial	11,086	$1,165,000
187	9196 Stellar Ct	Corona	Industrial	10,560	$1,182,720
188	2780 Rubidoux Blvd	Riverside	Land	160,300	$1,200,000
189	18000 Van Buren Blvd	Riverside	Land	121,397	$1,200,000
190	12893 Temescal Cyn	Corona	Land	135,036	$1,200,000
191	13345 Estelle St	Corona	Industrial	10,944	$1,203,840
192	3050 Myers St	Riverside	Industrial	16,074	$1,245,735
193	3996 Hamner Ave	Norco	Land	14,374	$1,250,000
194	3999 Hamner Ave	Norco	Land	37,026	$1,250,000
195	Dominion Ave	Riverside	Land	163,350	$1,250,000
196	60 Fwy / Pedley Rd	Riverside	Land	546,678	$1,300,000
197	9407 Magnolia Ave	Riverside	Retail	2,500	$1,300,000
198	2018 2nd St	Norco	Industrial	11,008	$1,309,952
199	141 Enterprise Ct	Corona	Industrial	11,026	$1,356,198
200	Sycamore Cyn Blvd	Riverside	Land	107,593	$1,398,709
201	3404 Niki Way	Riverside	Industrial	14,552	$1,411,544
202	9169 Pulsar Ct	Corona	Industrial	11,352	$1,419,000
203	12370 Doherty St	Riverside	Industrial	12,000	$1,428,000
204	5786 Mission Blvd	Riverside	Retail	3,300	$1,450,000

Available Commercial Properties for Sale – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
205	4350 La Sierra	Riverside	Land	163,786	$1,450,000
206	549 Queensland Cr	Corona	Office	9,800	$1,470,000
207	3030 Myers St	Riverside	Industrial	21,126	$1,473,538
208	6020 20th St	Riverside	Land	141,570	$1,486,485
209	232 E Grand Blvd	Corona	Office	7,415	$1,500,000
210	7715, 7725, 7735 Indiana	Riverside	Land	29,620	$1,500,000
211	1893 Brown Ave	Riverside	Industrial	2,000	$1,500,000
212	10567 Orange Grove	Riverside	Land	130,680	$1,500,000
213	7500 Hellman	Corona	Land	140,263	$1,541,458
214	12785 Magnolia Ave	Corona	Industrial	15,111	$1,548,878
215	24020 Lawson Rd	Corona	Retail	75,359	$1,582,535
216	3404 Niki Way	Riverside	Industrial	14,552	$1,586,168
217	255 Glider Cr	Corona	Industrial	17,727	$1,595,253
218	5330 Mission	Riverside	Land	46,609	$1,500,000
219	Marlborough / Rustin	Riverside	Land	206,474	$1,599,000
220	6570 Magnolia Ave	Riverside	Retail	9,964	$1,600,000
221	2552 Hamner Ave	Norco	Retail		$1,600,000
222	2518 Hamner Ave	Norco	Land	39,639	$1,600,000
223	5820 Central Ave	Riverside	Industrial	20,324	$1,615,758
224	255 Glider Cr	Corona	Industrial	17,727	$1,595,253
225	Marlborough / Rustin	Riverside	Land	206,474	$1,599,000
226	6570 Magnolia Ave	Riverside	Retail	9,964	$1,600,000
227	2552 Hamner Ave	Norco	Retail		$1,600,000
228	2518 Hamner Ave	Norco	Land	39,639	$1,600,000
229	5820 Central Ave	Riverside	Industrial	20,324	$1,615,758
230	Rudicill St	Riverside	Land	108,464	$1,626,966
231	1350 Citrus St	Riverside	Industrial	24,940	$1,658,510
232	531 Queensland Cr	Corona	Office	7,061	$1,659,335
233	7121 Magnolia Ave	Riverside	Office	7,500	$1,690,000
234	2693 Rubidoux Blvd	Riverside	Industrial	8,750	$1,700,000
235	Fourth St & Hamner	Norco	Land	106,722	$1,707,552
236	9145 Pulsar Ct	Corona	Industrial	11,352	$1,759,560
237	9169 Pulsar Ct	Corona	Industrial	11,352	$1,759,560
238	9163 Pulsar Ct	Corona	Industrial	11,352	$1,759,560
239	9121 Pulsar Ct	Corona	Industrial	11,352	$1,759,560
240	950 El Sobrante Rd	Corona	Industrial	20,000	$1,795,000
241	5900 Sycamore Cyn	Riverside	Retail	89,999	$1,800,000
242	2800-2810 Rubidoux	Riverside	Industrial	16,310	$1,800,000
243	2876 Main St	Riverside	Land	65,340	$1,800,000
244	1866 W 6th St	Corona	Land	87,120	$1,800,000
245	255 N Lincoln Ave	Corona	Office	12,900	$1,806,000
246	3071 Rubidoux Blvd	Riverside	Retail	1,500	$1,850,000
247	Knabe Rd & Bedford	Corona	Land	108,900	$1,875,000
248	2929 Kansas Ave	Riverside	Industrial	32,633	$1,892,714
249	1325 Hamner Ave	Norco	Retail	2,455	$1,892,714
250	2951 Doherty St	Corona	Industrial	25,000	$1,900,000
251	11820 Pierce St	Riverside	Office	13,157	$1,907,765
252	9185 Magnolia	Riverside	Retail	32,584	$1,950,000
253	21709 Retreat Pkwy	Corona	Land	600,256	$1,950,000
254	1550 University Ave	Riverside	Land	47,044	$1,950,000
255	3850 Wallace St	Riverside	Special Purpose	7,500	$1,989,000
256	241 Corporate Terrace	Corona	Industrial	17,373	$1,997,895
257	8423 Indiana Ave	Riverside	Retail	8,215	$2,000,000
258	Hamner	Norco	Land	94,960	$2,000,000
259	Lakepointe Dr.	Riverside	Land	4,356,000	$2,000,000
260	13375 Estelle St	Corona	Industrial	23,040	$2,050,560
261	2440 Railroad St	Corona	Industrial	21,991	$2,089,145
262	3070 Myers St	Riverside	Industrial	30,064	$2,096,964
263	458 Alcoa Cr	Corona	Industrial	21,247	$2,103,453
264	4300 Latham St	Riverside	Office	12,481	$2,150,000
265	5804 Mission Blvd	Riverside	Retail	3,090	$2,150,000
266	1353 Old Temescal	Corona	Office	9,487	$2,182,010
267	5750 Division St	Riverside	Office	24,328	$2,190,000
268	12101 Madera Way	Riverside	Industrial	26,737	$2,192,434
269	3870 Garner Rd	Riverside	Industrial	22,393	$2,239,300
270	3050 Myers St	Riverside	Industrial	30,933	$2,242,642
271	Rubidoux & 26th St	Riverside	Land	280,962	$2,247,696

Available Commercial Properties for Sale – July 2011					
No.	**Address**	**City**	**Use**	**Sq Ft**	**Price**
272	4181 Latham St	Riverside	Industrial	27,720	$2,273,040
273	680 Main St	Riverside	Industrial	21,911	$2,278,744
274	6030 Sycamore Cyn	Riverside	Land	177,724	$2,310,422
275	1106 W 6th St	Corona	Retail	7,109	$2,330,000
276	6267 Palm Ave	Riverside	Land	129,808	$2,380,000
277	1690 Delilah St	Corona	Industrial	28,175	$2,394,875
278	Hamner Ave/Acre St	Norco	Land	87,120	$2,400,000
279	4850 Felspar St	Riverside	Industrial	44,000	$2,400,000
280	6261 Box Springs Blvd	Riverside	Industrial	53,580	$2,411,100
281	1391 Dodson Way	Riverside	Industrial	27,298	$2,456,820
282	4622 Plaza Ln	Riverside	Land	324,086	$2,480,000
283	3345 Madison	Riverside	Office	1,775	$2,500,000
284	1551 E. Ontario Ave	Corona	Retail	8,175	$2,500,000
285	1535 E. Ontario Ave	Corona	Retail	8,112	$2,500,000
286	0 Hamner St	Norco	Land	94,961	$2,500,000
287	4991 Riverview	Riverside	Land	847,678	$2,500,000
288	1155 W La Cadena	Riverside	Land	88,862	$2,500,000
289	4991 Riverview	Riverside	Land	845,935	$2,500,000
290	Sierra Ave	Riverside	Land	108,900	$2,500,000
291	4059 Flat Rock Dr	Riverside	Industrial	28,750	$2,501,250
292	416 W 6th St	Corona	Retail	11,726	$2,580,000
293	1148 California St	Corona	Industrial	17,840	$2,586,000
294	4620 Pine	Riverside	Office	19,500	$2,900,000
295	2646 Alessandro	Riverside	Retail	9,000	$3,750,000

3.5 Utilities/Emergency Services

3.5.1 Affected Environment

This section is based on a review of the existing utility and emergency service providers and facilities in the study area and the *Project Report* (September 2011), *SR-91 CIP Express Lanes-Toll System Description Report* (April 2009), and the December 2010 CIA.

The study area for utilities and emergency service providers is the general project study area shown earlier on Figure 1-2.

3.5.1.1 Utilities

The following service providers have utility facilities that either cross the project segments of or are within the State right-of-way for SR-91 in the study area:

- SCG (underground natural gas lines)
- SCE (underground and overhead electric lines)
- SCE electric substation south of SR-91 and west of South Sherman Avenue in the City of Corona; 33-kilovolt (kV) distribution voltage is stepped down (i.e., reduced) to 12 kV distribution voltage at this station; and combined 66 kV and 12 kV SCE overhead electrical lines cross SR-91 at South Sherman Avenue and along the west side of Lincoln Avenue in the City of Corona
- City of Corona (underground potable water and sanitary sewer lines)
- AT&T/Pacific Bell (underground and overhead telephone lines)
- Comcast Cable (cable television)
- Sprint (underground and overhead telephone lines)
- Time Warner Cable (cable television)
- Questar (Four Corners Pipe Line Company) (underground oil lines)
- Level 3 Communications (telemeter cable lines)
- Temescal Valley Regional Interceptor (underground sanitary sewer line)
- City of Riverside (underground potable water)
- Santa Ana Watershed Project Authority (underground sanitary sewer)
- Western Riverside Regional Wastewater (underground sanitary sewer)
- Metropolitan Water District of Southern California (underground potable water pipelines)

There are no utility facilities within the State right-of-way for I-15 that would be affected by the project.

3.5.1.2 Law Enforcement Services

Law enforcement services in the project study area are provided by the Cities of Anaheim, Brea (for the City of Yorba Linda), Corona, and Riverside Police Departments. The Orange County Sheriff's Department (OCSD) provides law enforcement services for unincorporated areas in Orange County. The Riverside County Sheriff's Department (RCSD) provides law enforcement services for the City of Norco and unincorporated areas in Riverside County. The police and sheriff's stations near the project study area are listed in Table 3.5.1.

Table 3.5.1 Police and Sheriff's Stations in the Study Area

Police Department	Service Area	Station and Address
Anaheim Police Department	City of Anaheim	East District Station 8201 East Santa Ana Canyon Road Anaheim, CA 92808
Orange County Sheriff's Department	Unincorporated areas in Orange County	North Patrol Station 550 North Flower Street Santa Ana, CA 92703
Brea Police Department	City of Yorba Linda	1 Civic Center Circle Brea, CA 92821
Corona Police Department	City of Corona	849 West Sixth Street Corona, CA 92882
Riverside County Sheriff's Department	City of Norco and unincorporated areas in Riverside County	Riverside County Sheriff's Department 2870 Clark Avenue Norco, CA 92860
Riverside Police Department	City of Riverside	10540 Magnolia Avenue Riverside CA 92505

Source: *Community Impact Assessment* (December 2010).

California Highway Patrol

The project segments of SR-91 and I-15 are in the jurisdictions of the CHP Border and Inland Divisions. The west part of the study area is served by CHP Santa Ana Area Office No. 675 at 2031 East Santa Clara Avenue in Santa Ana, and the east, north, and south parts of the study area are served by CHP Riverside Area Office No. 840 at 8118 Lincoln Avenue in Riverside.

There are existing CHP enforcement refuge areas in the median (i.e., center) of SR-91 in the study area in both Orange and Riverside Counties. A refuge area is a space in the median where vehicles can safely stop outside travel lanes in response to law enforcement directions or in the event a vehicle must leave the travel lanes. In Orange County, there are two median refuge areas, one eastbound and one westbound on

SR-91, east of the Gypsum Canyon undercrossing at Post Mile (PM) ORA-91-17.0 and PM ORA-91-18.0. In Riverside County, there are two median refuge areas, one eastbound and one westbound on SR-91 at PM RIV-91-3.4 and PM RIV-91-9.7, respectively.

The CHP and emergency services providers currently use the Coal Canyon crossing of SR-91 for emergency access across and to SR-91. This crossing is not available for any public access.

3.5.1.3 Fire Protection and Emergency Medical Services

Fire protection and emergency medical services in the project study area are provided by the Cities of Anaheim, Corona, Norco, and Riverside Fire Departments. The Orange County Fire Authority (OCFA) provides fire and emergency medical services for the City of Yorba Linda and the unincorporated areas in Orange County. The Riverside County Fire Department (RCFD) provides fire and emergency medical services for unincorporated areas in Riverside County. The City of Norco provides fire and emergency medical services in Norco. The fire stations in the study area are listed in Table 3.5.2.

The California Department of Forestry and Fire Protection (CAL FIRE) is an emergency response and resource protection department. CAL FIRE protects people, property, and natural resources from fire, responds to emergencies of all types, and protects and preserves timberlands, wildlands, and urban forests. The CAL FIRE Southern Region Riverside Unit provides services in the study area from local fire stations. CAL FIRE has a Cooperative Fire Protection Agreement with Riverside County and a Wildland Fire Protection Agreement with the City of Anaheim. Riverside County fire stations that also provide CAL FIRE services in the study area are listed in Table 3.5.2.

Emergency service providers access areas north and south of SR-91 and east and west of I-15 in the study area via local arterial and secondary roads at their crossings of these freeways.

3.5.1.4 Emergency Medical Facilities

Table 3.5.3 summarizes the hospital and medical centers in the study area.

Table 3.5.2 Local Fire Stations in the Study Area

Fire Department and Service Area	Station Number and Address	
Anaheim Fire Department, City of Anaheim	East District Weir Canyon Station 10 8270 East Monte Vista Anaheim, CA 92808	
Orange County Fire Authority, City of Yorba Linda	Station 32 20990 Yorba Linda Boulevard Yorba Linda, CA 92887	Station 53 25415 La Palma Avenue Yorba Linda, CA 92887
Corona Fire Department, City of Corona	Station 1 540 Magnolia Avenue Corona, CA 92879 Station 2 225 East Harrison Street Corona, CA 92879 Station 3 790 South Smith Street Corona, CA 92882	Station 4 915 North McKinley Street Corona, CA 92879 Station 5 1200 Canyon Crest Corona, CA 92882 Temescal Public Safety Facility Station 7 3777 Bedford Canyon Corona, CA 92883
Norco Fire Department, City of Norco	Station 21 3367 Corydon Avenue Norco, CA 92860	Station 22 3902 Hillside Avenue Norco, CA 92860
Riverside Fire Department, City of Riverside	Station 3 (Magnolia Center) 6395 Riverside Avenue Riverside, CA 92506 Station 5 (Airport) 5883 Arlington Avenue Riverside, CA 92504	Station 12 (La Sierra South) 10692 Indiana Avenue Riverside, CA 92503
Riverside County Fire Department and CAL FIRE stations, in unincorporated Riverside County	Station 13 Home Gardens (CAL FIRE) 3777 South Neece Street Corona, CA 92879 Northwest Division Station 13 3770 Blair Street Corona, CA 92879	Station 14 Corona (CAL FIRE) 1511 Hamner Avenue Norco, CA 92860 Station 15 El Cerrito (CAL FIRE) 20320 Temescal Canyon Road Corona, CA 92881

Sources: *Community Impact Assessment* (December 2010) and www.fire.ca.gov, accessed August 2009.
CAL FIRE = California Department of Forestry and Fire Protection

Table 3.5.3 Hospitals and Medical Facilities in the Study Area

Hospitals and Medical Facilities	Service Area	Address
Kaiser Foundation Hospital	City of Anaheim	441 North Lakeview Avenue Anaheim, CA 92807
Placentia-Linda Hospital	Cities of Placentia and Yorba Linda	1301 North Rose Drive Placentia, CA 92870
Corona Regional Medical Center	City of Corona	800 South Main Street Corona, CA 92882
Corona Regional Medical Center Rehabilitation Hospital	Cities of Corona and Norco, and unincorporated areas in Riverside County	730 Magnolia Avenue Corona, CA 92879
Kaiser Permanente Riverside Medical Center	City of Riverside and unincorporated areas in Riverside County	10800 Magnolia Avenue Riverside, CA 92505

Source: Riverside County Transportation Commission (2010).

3.5.2 Environmental Consequences

3.5.2.1 Summary of Impacts

Alternative 1 and all its design variations and Alternative 2 with design variations 2a, 2b, 2e, and 2f would not result in permanent adverse impacts related to utilities and emergency service providers. Alternative 2 with design variations 2c, 2d, 2g, and 2h would result in the acquisition of the property occupied by the SCE substation and permanent relocation of the SCE substation, but would not adversely affect the long-term operations of that substation.

Both Alternatives 1 and 2 and all their design variations include additional CHP enforcement areas on SR-91.

Alternatives 1 and 2 and their design variations would result in no long-term change in the configuration of the Coal Canyon crossing of SR-91 or the ability of the CHP and emergency services providers to use that crossing.

During construction, both Alternatives 1 and 2 and all their design variations would result in the relocation, removal, or protection in-place of the following:

- 24 SCG natural gas lines (includes 5 high-risk lines)
- 30 SCE overhead and underground electric lines
- 1 private electric line
- 2 water wells in Corona
- 25 potable water lines in Corona and 6 in Riverside
- 1 reclaimed water line in Corona
- 20 sanitary sewer lines in Corona
- 13 AT&T underground and overhead telephone lines
- 6 Time Warner and 2 Comcast cable television cables
- Level 3 Communications ducts
- 3 high-risk Questar oil pipelines
- 2 Metropolitan Water District of Southern California water pipelines

Alternative 2 and all its design variations would result in the following additional affected utilities during construction:

- 4 SCG natural gas lines (includes 2 high-risk lines)
- 4 SCE overhead and underground electric lines (includes 1 high-risk line)
- 1 potable water line in Corona

- 1 sanitary sewer line in Corona
- 2 AT&T underground and overhead telephone lines
- 1 Comcast cable television cable

Alternative 1 with design variations 1a, 1b, 1c, and 1d, and Alternative 2 with design variations 2a, 2b, 2e, and 2f would require the use of 0.018 ac of land from the SCE property for use as a TCE during construction.

Alternative 2 with design variations 2c, 2d, 2g, and 2h could result in temporary service disruptions during the relocation of the SCE substation.

Appendix J, Utility Relocations, provides detailed information on the utility relocation and/or encasement effects on individual utility facilities by the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations. For example, Appendix J includes information on utility effects of the Initial Phase and Ultimate Project for Alternative 2f.

During construction of both Alternatives 1 and 2 and their design variations, the ability of emergency service providers to meet response times could be impaired as a result of temporary traffic delays, road, lane, and/or ramp closures, or detours. Alternatives 1 and 2 and their design variations would require construction at the Coal Canyon crossing of SR-91. Project construction activities at that crossing could potentially delay or affect the ability of the CHP and emergency services providers to use the crossing.

The Build Alternatives do not include the construction of any residential or nonresidential uses and were determined not to influence growth. Therefore, Alternatives 1 and 2 and their design variations (including Alternative 2f) would not increase the population or increase the demand for public services or utilities in the study area in the long term.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase and Ultimate Project under Alternative 2f would not result in permanent adverse impacts related to utilities and emergency services providers. Impacts related to the relocation, removal, or protection in-place of utilities in the Initial Phase and Ultimate Project of Alternative 2f are the same as described above for Alternative 2 with design variation f.

Alternative 2f would require the use of 0.018 ac of land from the SCE property for use as a TCE during construction.

During construction of the Initial Phase and Ultimate Project under Alternative 2f, the ability of emergency services providers to meet response times could be impaired as a result of temporary traffic delays, road, lane, and/or ramp closures or detours. Construction of the Initial Phase and Ultimate Project under Alternative 2f at the Coal Canyon crossing of SR-91 could potentially delay or affect the ability of the CHP and emergency services providers to use the crossing. At the completion of construction of the Initial Phase and Ultimate Project under Alternative 2f, the CHP and emergency services providers would be able to use the Coal Canyon crossing of SR-91 just as they do under existing conditions.

The Initial Phase and Ultimate Project for Alternative 2f will provide additional CHP enforcement areas on SR-91. The express lane configuration under Alternative 2f would include a continuous 10 ft wide median shoulder that would provide emergency refuge.

During construction of the Initial Phase and Ultimate Project under Alternative 2f, there is a potential for fires associated with operating construction equipment, vehicles, and the presence of construction personnel in construction areas.

3.5.2.2 Permanent Impacts

Utilities

There would be no construction outside the State right-of-way along I-15 under both Alternatives 1 and 2. Therefore, both Alternatives 1 and 2 and all their design variations, including Alternative 2f, would not result in permanent impacts to utilities along the project segment of I-15.

Alternative 1

Along SR-91, on completion of construction, including any project-related utility relocations, removals, and protection in-place, no permanent impacts to utility providers and facilities would occur under Alternative 1 and its design variations.

Alternative 2

The existing SCE electric substation located south of SR-91 and west of South Sherman Avenue in the City of Corona would be permanently relocated under the Initial Phase of Alternative 2 with design variations 2c, 2d, 2g, and 2h. The Initial Phase of Alternative 2 with these design variations would create a conflict with the

substation operations and, as a result, would require relocation of the substation facilities. The substation would be permanently relocated to a vacant site west of and adjoining the existing substation property. That site is within the environmental footprint evaluated for Alternative 2 with the four noted design variations. A BMP water quality basin, described in Chapter 2, Project Alternatives, would be constructed on this vacant parcel. There appears to be enough space to accommodate both the BMP water quality basin and the relocated substation, if necessary. The substation relocation would require placement of new transformers, steel racks, and switch gear on the new substation site. In addition, minor modifications of the existing overhead electric conductors would be required on the east edge of the existing substation site along South Sherman Avenue.

No impacts to the substation are expected as a result of the relocation, and the relocated substation is expected to operate essentially the same as the existing substation. The physical relocation of the substation and the preparation and processing of any needed environmental documentation for that relocation are within the purview of SCE only and would not be within the purview of either the RCTC or the Department to assess or implement. As a result, the assessment in this section acknowledges that Alternative 2 with design variation 2c, 2d, 2g, or 2h would require the relocation of the substation and further acknowledges potential service disruption impacts during that relocation, but any further analysis of and identification of mitigation for adverse effects would be addressed by SCE in its independent environmental documentation for the relocation. Refer also to Measure HW-17 in Section 3.13.4, Avoidance, Minimization, and/or Mitigation Measures, which indicates RCTC would coordinate with SCE to request that SCE prepare environmental documentation for the relocation of the substation if Alternative 2 with design variation 2c, 2d, 2g, or 2h is selected for implementation.

Construction of the relocated substation would not affect any schools, parks or residential uses because the relocation site is a vacant site just west of the existing substation, and no sensitive uses are located near that site.

Once the relocation of the substation is completed, no additional permanent impacts to this facility would occur under Alternative 2 with design variations 2c, 2d, 2g, and 2h.

Along SR-91, on completion of construction, including any project-related utility relocations, removals, and protection in-place, no permanent impacts to utility

providers and facilities would occur under Alternative 2 and its design variations (including Alternative 2f) other than the permanent relocation of the SCE substation described above.

No Build Alternative

The No Build Alternative does not propose any improvements and, therefore, would not result in any permanent impacts to utility facilities.

Law Enforcement, Fire, and Emergency Medical Services

Alternative 1

Alternative 1 and its design variations would improve traffic throughput and travel times, and reduce delays for travelers on the project segments of SR-91 and I-15. These improvements would have beneficial effects for law enforcement, fire protection, and emergency service providers because Alternative 1 and its design variations may improve response times for emergency services using the project segments of SR-91 and I-15. In addition, emergency service providers would be able to use the HOV lanes in Alternative 1 when the other travel lanes are experiencing heavy traffic volumes and slow travel speeds.

Alternative 1 and its design variations include additional CHP enforcement areas at the new ramp meter installations on SR-91. The existing westbound median refuge area on SR-91 from approximately PM 17.3 to 17.9 would remain under Alternative 1. The existing CHP median refuge areas listed earlier in Section 3.5.1.2 would also remain under Alternative 1.

At the completion of construction of Alternative 1 and its design variations, the CHP and emergency services providers would be able to use the Coal Canyon crossing of SR-91 just as they do under existing conditions. There would be no long-term change in the configuration of the crossing or the ability of the CHP and emergency services providers to use that crossing.

Alternative 2

The beneficial effects on emergency services under Alternative 2 and its design variations, including Alternative 2f, would be the same as under Alternative 1. In addition, emergency service providers would be able to use the express lanes in Alternative 2 when the other travel lanes are experiencing heavy traffic volumes and slow travel speeds. The existing median refuge areas for CHP enforcement would be reconfigured under Alternative 2, and additional enforcement areas would be

provided on both sides of SR-91 in Orange County at PM ORA-91-17.5 and in Riverside County at PM RIV-91-6.8.

The new express lane configuration under Alternative 2 and its design variations, including Alternative 2f, would include a continuous 10 ft wide median shoulder that would provide emergency refuge. Currently, there is little to no median shoulder in many locations along SR-91. In addition, parking areas constructed adjacent to the toll portals under Alternative 2 and its design variations, including Alternative 2f, may also be used as CHP enforcement areas.

At the completion of construction of Alternative 2 and its design variations (including Alternative 2f), the CHP and emergency services providers would be able to use the Coal Canyon crossing of SR-91 just as they do under existing conditions. There would be no long-term change in the configuration of the crossing or the ability of the CHP and emergency services providers to use that crossing.

No Build Alternative

The No Build Alternative does not propose any project improvements and, therefore, would not provide benefits to police, fire, and emergency services. Continued congestion on the project segments of SR-91 and I-15 under the No Build Alternative would potentially result in increased delays and increased response times for emergency service providers in the future.

3.5.2.3 Temporary Impacts

Utilities

There would be no construction outside the State right-of-way along I-15 under both Alternatives 1 and 2, including Alternative 2f. Therefore, both Alternatives 1 and 2 and all their design variations (including Alternative 2f) would not result in temporary impacts to utilities along the project segment of I-15.

California Public Utilities Commission (CPUC) General Order 131-D addresses the special permitting and environmental review requirements for major relocations of privately owned (CPUC-regulated) power lines and substations at voltages in excess of 50 kV. Relocations of power lines operating at and above 50 kV must be reviewed under CEQA at both the project planning phase and at the relocation plan approval stage, in compliance with Section IX.B of the General Order. The Department and RCTC are complying with General Order 131-D by coordinating with the utility owners and the CPUC during this project planning phase and environmental review.

Appendix J, Utility Relocations, provides detailed information on the utility relocation and/or encasement effects on individual utility facilities by the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations. For example, Appendix J includes information on utility effects of the Initial Phase and Ultimate Project for Alternative 2f.

Alternative 1

Impacts to utility facilities would occur within the State right-of-way for SR-91. Utility facility relocations, removals, and/or protection in-place would be necessary in areas where project construction would occur. As a result, utility services could be temporarily interrupted or facilities damaged. Table 3.5.4 summarizes the anticipated utility relocations, removals, and protection in-place that would occur under Alternatives 1 and 2 and their design variations. Table 3.5.4 also indicates whether the project effects would occur for the Initial Phases or Ultimate Projects under Alternatives 1 and 2. The decision on relocation, removal, or protection in-place would be made during final design in consultation with the owner of each affected utility.

As shown in Table 3.5.4, all the utility effects described in the table would occur under Alternatives 1 and 2 with the exception of a few effects that would occur in the Ultimate Projects but not in the Initial Phases of the Alternatives. Those exceptions are noted in Table 3.5.4. All utility relocations discussed here and shown in Table 3.5.4 would occur within the construction disturbance limits for Alternatives 1 and 2 and within the public right-of-way for SR-91.

The Department has mandatory standards and procedures for the placement and protection of underground utility facilities within State highway rights-of-way. Several of the utilities in Table 3.5.4 have been identified as “high risk” under the *Policy on High and Low Risk Underground Facilities within the Highway Rights-of-Way* (Caltrans *Right-of-Way Manual,* January 1997). This Policy provides for a safe environment for Department employees, construction contractors and workers, and the traveling public. The Policy states that facilities transporting the following, whether encased or not, are considered high-risk facilities:

- Petroleum products
- Oxygen
- Chlorine
- Toxic or flammable gases

Table 3.5.4 Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Southern California Gas Company: Underground Gas Lines		
Relocate a 4-inch-diameter gas line along the realigned Green River Road, north of SR-91	●	
Bore, jack encasement and relocate a 3-inch-diameter gas line crossing SR-91 at Sta. 109+50	●	
Relocate a 6-inch-diameter gas line along Auto Center Drive (lowered profile)	●	
Relocate a 3-inch-diameter gas line along Maple Street, north of SR-91	●	
Extend casing and line of a 4-inch-diameter gas line crossing SR-91 at Sta. 237+50	●	
Relocate a 6-inch-diameter gas line along the realigned Pomona Road, north of SR-91	●	
Relocate 6-inch-diameter and 2-inch-diameter gas lines along the realigned Pomona Road north of SR-91 from Sta. 238+00 to 242+00	●	
Relocate a 2-inch-diameter gas line along the realigned Pomona Road north of SR-91 (west of Sherman Avenue)	●	
Extend casing on a 6-inch-diameter gas line crossing SR-91 at Sherman Avenue at Sta. 268+70 on each side of SR-91	●	
Relocate a 2-inch-diameter gas line along the realigned Pomona Road north of SR-91 (east of Sherman Avenue)	●	
Relocate a 2-inch-diameter gas line along the realigned Sofia Lane south of SR-91 west of Lincoln Avenue	●	
Relocate a 4-inch-diameter gas line along Buena Vista Avenue (lowered profile)	●	
Extend the casing and line of a 3-inch-diameter gas line along Vicentia Avenue, north and south of SR-91	●	
Relocate a 3-inch-diameter gas line along the realigned Second Street, south of SR-91 (east of Vicentia Avenue)	●	
Extend the casing and line of a 3-inch-diameter gas line south of SR-91 (northwest corner of Second Street and Grand Boulevard)	●	
Relocate a 4-inch-diameter gas line along the realigned West Frontage Road north of SR-91 (between School Street and Grand Boulevard)	●	
Extend the casing and line of a 4-inch-diameter gas line north and south of SR-91, for the crossing west of Belle Avenue	●	
Extend the casing and line of a 3-inch-diameter gas line north and south of SR-91, for the crossing east of Belle Avenue	●	
Extend the casing and line of a 2-inch-diameter gas line north and south of SR-91, for the crossing at Sta. 347+10	●	
Relocate a 2-inch-diameter gas line from Joy Street to the alley west of Joy Street due to the removal of Second Street south of SR-91	●	
Relocate an 8-inch-diameter gas line north of SR-91 from Sta. 351+00 to 352+70	●	
Relocate a 2-inch-diameter gas line along realigned Pearl Street, north of SR-91	●	
Relocate a Gas Regulation Station to a new location at the intersection of East Grand Boulevard and Pearl Street	●	
Relocate an 8-inch-diameter gas line along East Grand Boulevard (lowered profile)	●	
Southern California Edison: Underground and Overhead Electric Lines		
Relocate an overhead 12 kV distribution line along realigned Green River Road, north of SR-91	●	
Relocate overhead 12 kV distribution poles for the overhead line that crosses SR-91 at Sta. 23+30	●	
Relocate overhead 12 kV distribution poles and the underground system along Prado Road, north of SR-91	●	
Relocate an underground 12 kV distribution line along Auto Center Drive (lowered profile, requires an interim relocation)	●	
Relocate an overhead 12 kV distribution line crossing Auto Center Drive, south of SR-91	●	
Relocate an overhead 12 kV distribution line west of Via Josefa on the south side of SR-91	●	
Relocate an overhead 12 kV distribution system along Via Josefa on the south side of SR-91	●	
Relocate an overhead 12 kV distribution system crossing SR-91 at Sta. 215+50	●	
Relocate an overhead 12 kV distribution line along Maple Street, north of SR-91 at Sta. 222+00	●	
Relocate an underground 12 kV distribution line along Maple Street, north of SR-91 at Sta. 222+00	●	
Relocate an overhead 12 kV distribution line over the realigned Frontage Road, south of SR-91 and west of Paseo Grande Road	●	
Relocate an overhead 12 kV distribution line along realigned Pomona Road north of SR-91	●	

Table 3.5.4 Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Relocate an overhead 12 kV distribution pole that crosses SR-91 at Sherman Avenue, on the north side of SR-91	●	
Relocate an overhead 66 kV, 12 kV and communication pole that crosses the north side of SR-91 at Sherman Avenue	●	
Relocate an overhead 66 kV, 12 kV and communication lines along the west side of Lincoln Avenue	●	
Relocate an overhead 12 kV distribution line over the realigned Sofia Lane, south of SR-91 (west of Lincoln Avenue)	●	
Relocate overhead and underground 12 kV distribution lines north of the realigned westbound off-ramp to Lincoln Avenue, north of SR-91	●	
Relocate an underground 12 kV distribution line along the new Frontage Road south of SR-91 (east of Lincoln Avenue–extension of West D Street)	●	
Relocate an overhead 12 kV distribution line along Vicentia Avenue, south of SR-91	●	
Place a new overhead 12 kV distribution pole at the northeast corner of School Street and West Frontage Road, north of SR-91	●	
In-line relocation of an overhead line north and south of SR-91 for crossing at Sta. 324+20	●	
Relocate two overhead 12 kV distribution poles and lines in the alley south of SR-91 for the system west of Belle Avenue	●	
Relocate an overhead 12 kV distribution line north of SR-91 from Sta. 328+00 to 332+00	●	
Reconnect a 1-inch-diameter underground line to signals along Main Street	●	
Extend the casing, and remove and replace the wire of an underground 12 kV distribution line north and south of SR-91 for the crossing at Sta. 341+50	●	
Relocate new poles of an overhead line for the crossing on SR-91 at Sta. 345+30	●	
Relocate a portion of an overhead line to accommodate the realignment of Pearl Street north of SR-91	●	
Relocate an overhead 12 kV distribution line with aerial and underground systems for crossing of SR-91 at Sta. 368+25	●	
Relocate an overhead 12 kV distribution line with aerial and underground systems for crossing of SR-91 at Sta. 368+25	●	
Relocate an underground 12 kV distribution line on the north side of SR-91, back of shopping center (west of McKinley Street) (this facility relocation does not occur in the Initial Phase)		●
Relocate a portion of an overhead 12 kV distribution line to accommodate realignment of the SR-91 westbound off-ramp to Pierce Street, south of SR-91 from Sta. 564+00 to 573+00 (this facility relocation does not occur in the Initial Phase)		●
Private Electric Line		
Relocate line within the motor home park	●	
City of Corona: Water Well		
Reconstruct Water Well No. 15 at Sta. 284+20	●	
Replace Water Well No. 24 at Sta. 332+00	●	
City of Corona: Potable Water (water suitable for human consumption) Lines		
Relocate a 12-inch-diameter PVC water line along the realigned Green River Road, north of SR-91	●	
Replace a 12-inch-diameter ACP water line with a new 14-inch-diameter line along Auto Center Drive lowered profile	●	
Relocate a 10-inch-diameter ACP water line along the realigned Frontage Road south of SR-91 from Sta. 193+00 to 215+00	●	
Relocate and extend casing of a 12-inch-diameter water line to the north and south on the line that crosses SR-91 at Sta. 228+75	●	
Relocate and extend casing of a 10-inch-diameter water line to the north and south on the line that crosses SR-91 at Sta. 237+60	●	
Relocate a 10-inch-diameter water line along realigned Pomona Road north of SR-91	●	
Bore, jack encasement and relocate a 6-inch-diameter water line crossing SR-91 at Sta. 250+42	●	
Relocate a 10-inch-diameter water line along realigned Pomona Road north of SR-91 from Sta. 258+00 to 284+00	●	
Bore, jack encasement and relocate an 8-inch-diameter ACP water line crossing SR-91 at Sta. 268+90 (Sherman Avenue)	●	
Bore, jack encasement and relocate a 6-inch-diameter water line crossing SR-91 at Sta. 285+25	●	
Bore, jack encasement and relocate a 14-inch-diameter water line crossing SR-91 at Sta. 285+30	●	

Table 3.5.4 Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Relocate a water line along the realigned Sofia Lane, south of SR-91 (west of Lincoln Avenue)	●	
Relocate a 10-inch-diameter ACP water line along Buena Vista Avenue (lowered profile)	●	
Bore, jack encasement and relocate a 6-inch-diameter water line crossing SR-91 at Sta. 310+35	●	
Bore, jack encasement and relocate a 6-inch-diameter water line crossing SR-91 at Sta. 318+85	●	
Bore, jack encasement and relocate an 18-inch-diameter water line crossing SR-91 at Sta. 326+10	●	
Relocate a 10-inch-diameter water line along the realigned Second Street, south of SR-91 (west of Grand Boulevard)	●	
Relocate a 10-inch-diameter ACP water line along Main Street (lowered profile)	●	
Relocate an 8-inch-diameter ACP water line and increase to a 12-inch-diameter line due to the removal of Second Street, south of SR-91 (between Victoria Avenue and Grand Boulevard)	●	
Relocate an 8-inch-diameter water line along realigned Pearl Street, north of SR-91	●	
Relocate a 16-inch-diameter steel water line along East Grand Boulevard (lowered profile)	●	
Relocate a water line south of SR-91 from Sta. 369+50 to 372+00	●	
Bore, jack encasement and relocate a 24-inch-diameter water line crossing SR-91 at Sta. 437+70 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 24-inch-diameter water line crossing SR-91 at Sta. 505+90 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 12-inch-diameter water line crossing SR-91 at Sta. 535+50 (this facility relocation does not occur in the Initial Phase)		●
City of Corona: Reclaimed Water Lines		
Protect in-place a 24-inch-diameter DIP water line and extend 36-inch steel casing 100 feet north and 100 feet south along Auto Center Drive (lowered profile) at Sta. 192+00	●	
City of Corona: Sanitary Sewer Lines		
Protect in place and encase in concrete a 15-inch-diameter DIP line at Sta. 192+00	●	
Relocate a part of an 8-inch-diameter VCP line that crosses SR-91 at Sta. 225+20	●	
Relocate a part of an 8-inch-diameter line along Yorba Street crossing SR-91 at Sta. 236+40	●	
Relocate a 12-inch-diameter VCP line along the new Frontage Road south of SR-91 (east of Lincoln Avenue–extension of West D Street)	●	
Relocate and encase an 8-inch-diameter VCP line along Vicentia Avenue, north and south of SR-91	●	
Bore, jack encasement and relocate an 8-inch-dianeter VCP line crossing SR-91 at Sta. 318+95	●	
Bore, jack encasement and relocate an 8-inch-dianeter VCP line crossing SR-91 at Sta. 324+25	●	
Extend casing of an 18-inch-diameter line north of SR-91 for crossing at Sheridan Street at Sta. 326+10	●	
Bore, jack encasement and relocate a 6-inch-diameter VCP line crossing SR-91 for crossing at Sta. 328+05	●	
Relocate an 8-inch-diameter VCP line along the realigned Second Street, south of SR-91 (west of Grand Boulevard)	●	
Bore, jack encasement and relocate an 8-inch-diameter VCP line crossing SR-91 at Sta. 347+00	●	
Relocate an 6-inch-diameter VCP line along south side of SR-91 from Sta. 347+00 to 361+00	●	
Relocate an 8-inch-diameter VCP line due to the removal of Second Street, south of SR-91	●	
Relocate a 10-inch-diameter VCP line crossing East Grand Boulevard at Pearl Street	●	
Relocate a 15-inch-diameter VCP line along the new eastbound SR-91 on-ramp from Main Street south of SR-91 from Sta. 355+00 to 365+00	●	
Relocate 400 linear feet of a 21-inch-diameter VCP line crossing SR-91 at Sta. 370+50 to miss Bent No. 3 of the northbound I-15/southbound I-15 to the westbound SR-91 connector	●	
Relocate 1100 linear feet of a 21-inch-diameter DIP line to the right of Sta. 374+50 to miss Bent No. 7 of the eastbound SR-91 to the northbound I-15/southbound I-15 connector	●	
Extend casing of a 10-inch-diameter VCP line on the north side of SR-91 at Sta. 437+55 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 10-inch-diameter VCP line crossing SR-91 at Sta. 506+05 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 10-inch-diameter VCP line crossing SR-91 at Sta. 535+55 (this facility relocation does not occur in the Initial Phase)		●

Table 3.5.4 Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
City of Riverside: Potable Water Line		
Bore, jack encasement and relocate a 24-inch-diameter water line crossing SR-91 at Sta. 544+10 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate an 8-inch-diameter water line crossing SR-91 at Sta. 544+20 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 4-inch-diameter water line crossing SR-91 at Sta. 545+30 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 15-inch-diameter water line crossing SR-91 at Sta. 558+35 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 12-inch-diameter water line crossing SR-91 at Sta. 558+42 (this facility relocation does not occur in the Initial Phase)		●
Bore, jack encasement and relocate a 36-inch-diameter water line crossing SR-91 at Sta. 558+50 (this facility relocation does not occur in the Initial Phase)		●
AT&T: Underground and Overhead Telephone Lines		
Relocate an underground line along realigned Green River Road, north of SR-91	●	
Bore, jack encasement and install new underground cable crossing SR-91 at Sta. 21+60	●	
Relocate overhead lines and poles and the underground system along Prado Road, north of the SR-91	●	
Bore, jack encasement and install new underground cable line crossing SR-91 at Sta. 70+50	●	
Relocate an underground line along the south side of SR-91 from Sta. 169+00 to 189+00 west of Auto Center Drive	●	
Relocate an underground line along Auto Center Drive (lowered profile)	●	
Relocate six 4-inch-diameter underground lines along Auto Center Drive (lowered profile, requires an interim relocation)	●	
Relocate two underground lines along the realigned Frontage Road south of SR-91 from Sta. 193+00 to 226+00	●	
Bore, jack encasement and install a new underground cable line crossing SR-91 at Sta. 236+30	●	
Relocate an underground line along realigned Pomona Road, north of SR-91 (east of Sherman Avenue)	●	
Relocate a 2-inch-diameter TRD underground line along Buena Vista Avenue (lowered profile)	●	
Relocate an underground line along realigned West Frontage Road north of SR-91 (between School Street and Grand Boulevard)	●	
Relocate an underground line to East Grand Boulevard	●	
Time Warner: Cable Television		
Relocate six 2-inch-diameter cable lines along Main Street (lowered profile) at Sta. 337+92	●	
Comcast Cable: Cable Television		
Relocate an overhead cable line along realigned Pomona Road, north of SR-91 (west of Sherman Avenue)	●	
Relocate an overhead cable line along the west side of Lincoln Avenue	●	
Level 3 Communications		
Relocate ducts along Main Street at Sta. 337+85 (lowered profile)	●	
Questar (Four Corners Pipe Line Co.) Oil Lines		
Protect in-place a 16-inch-diameter, high-pressure oil line in a 20-inch steel casing crossing SR-91 at Sta. 19+09 (extend 20-inch steel casing to northwest)	●	
Relocate 210 linear feet of a 16-inch-diameter, high-pressure oil line (2 locations) crossing SR-91 at Sta. 60+29 (to miss footing at westbound off ramp to Green River and footing at West Prado)	●	
Protect in-place a 16-inch-diameter, high-pressure oil line in a 20-inch sleeve crossing SR-91 at Sta. 149+85 (extend 20-inch sleeve to 120 feet northeast and 100 feet southwest)	●	

Table 3.5.4 Utility Relocations, Removals, and Protection In-place under Both Alternatives 1 and 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Metropolitan Water District of Southern California: Underground Potable Water Pipelines		
Protect in-place a 109-inch-diameter steel lower feeder pipeline, crossing under SR-91 in Prado Road	●	
Protect in-place a 108-inch-diameter concrete pipeline, crossing I-15 south of El Cerrito Road	●	

Source: *Project Report* (September 2011).
Note: All utility effects described in this table would occur under Alternatives 1 and 2. However, some of the utility relocations would not occur in the Initial Phases of Alternatives 1 and 2 but would occur by 2035 under the completed alternative. The utility relocations that would not occur in the Initial Phases are noted in the table as "(this utility relocation does not occur in the Initial Phase)."
[1] Highlighted cells (●) indicate high-risk locations.

ACP = asbestos cement pipe
DIP = ductile iron pipe
I-15 = Interstate 15
kV = kilovolts
PVC = polyvinyl chloride
SR-91 = State Route 91
Sta. = Station
TRD = tile duct
VCP = vitrified clay pipe

The following additional types of utility facilities are also considered high risk:

- Natural gas in pipelines with a greater than 6-inch (in) pipe diameter or in pipelines with normal operating pressures greater than 60 pounds per square inch gauge (psig)
- Underground electric supply lines, conductors, or cables with potential to ground more than 300 volts, either directly buried or induct or conduit, which do not have concentric grounded or other effectively grounded metal shields or sheaths

As shown in Table 3.5.4, several high-risk underground gas facilities within the freeway and local street rights-of-way have been identified for the Build Alternatives. High-risk utilities along Alternative 1 are identified in Table 3.5.4 with ●.

Digging, potholing, or other acceptable methods would be used to locate existing utility facilities that cross the freeway segments or which are in the freeway and local street rights-of-way under Alternative 1. The only acceptable method of locating high-risk utilities is hand excavation, and would only be allowed once permission to access those high-risk facilities has been received from the utility owners.

During final design, final determinations would be made as to whether the utility facilities affected by Alternative 1 would be relocated, removed, or protected in-place. That assessment would be conducted in consultation with the owner of each affected utility facility. Detailed plans for the utility relocations, removals, and protection in-place under Alternative 1 would be developed as part of the final project design.

Alternatives 1a, 1b, 1c, and 1d would require the use of 0.018 ac of land from the SCE property for use as a TCE. The area that would be used as a TCE is currently paved with asphalt.

Alternative 2

As discussed under Alternative 1, any utility relocation, removal, and protection in-place for Alternative 2, including Alternative 2f, would occur within the State right-of-way for SR-91. All utility relocations, removals, and protection in-place effects listed in Table 3.5.4 would occur under Alternative 2 with the design variations, including Alternative 2f. Utility facilities that would be impacted by the Alternative 2 Ultimate Project but not by the Initial Phase of Alternative 2 are also noted in Table 3.5.4. Potential utility relocations that would occur under Alternative 2 (including the design variations) but not under Alternative 1 are shown in Table 3.5.5.

Table 3.5.5 Additional Utility Relocations Under Alternative 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Southern California Gas Company: Underground Gas Lines		
Relocate a 3-inch-diameter gas line along the realigned Wardlow Road, north of SR-91 (for all Alternative 2 design variations)	●	
Relocate part of a 6-inch-diameter gas line at the Smith Avenue/Pomona Road intersection north of SR-91 (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	
Relocate part of a 1-inch-diameter gas line at the Smith Avenue/Pomona Road intersection north of SR-91 (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	
Relocate part of a 6-inch-diameter gas line along Smith Avenue south of SR-91 to Pleasant View Avenue (only for the Initial Phase of Alternative 2 and design variations 2c, 2d, 2g, and 2h)	●	
Southern California Edison: Underground and Overhead Electric Lines		
Relocate an underground 12 kV distribution line along the realigned Wardlow Road, north of SR-91 (for all Alternative 2 design variations)	●	
Relocate an underground 12 kV distribution line from the west side of Smith Avenue to the east side of Smith Avenue (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	
Relocate an overhead 12 kV distribution line west of Smith Avenue along the south side of SR-91 (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	
Relocate the Edison Substation to an adjacent position on the south side of SR-91 at Sta. 268+00 (overhead lines would also be relocated) (only for the Initial Phase of Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	
City of Corona: Potable Water		
Relocate a 12-inch- to 14–inch-diameter water line along the realigned Wardlow Road, north of SR-91 (for all Alternative 2 design variations)	●	
City of Corona: Sanitary Sewer		
Relocate an 18-inch-diameter VCP line along the realigned Wardlow Road, north of SR-91 (for all Alternative 2 design variations)'	●	
AT&T: Underground and Overhead Telephone Lines		
Relocate an underground line along the realigned Wardlow Road, north of SR-91 (for all Alternative 2 design variations)	●	
Relocate an underground line from the west side of Smith Avenue to the east side of Smith Avenue (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	

Table 3.5.5 Additional Utility Relocations Under Alternative 2

Utilities and Project Area	Initial Phase[1]	Ultimate Project[1]
Comcast Cable: Cable Television		
Relocate line from the west side of Smith Avenue to the east side of Smith Avenue (only for the Alternative 2 design variations 2c, 2d, 2g, and 2h)	●	

Source: *Project Report* (September 2011).
Note: The relocations listed in this table would occur under Alternative 2 only. Additional utility effects that would occur under both Alternatives 1 and 2 are shown in Table 3.5.4.
[1] Highlighted cells (●) indicate high-risk locations.
kV = kilovolts
SR-91 = State Route 91
VCP = vitrified clay pipe

Nine of those would occur only with design variations 2c, 2d, 2g or 2h under Alternative 2 as shown in Table 3.5.5. All utility relocations discussed here and shown in Tables 3.5.4 and 3.5.5 would occur within the construction disturbance limits for Alternatives 1 and 2 and within the public right-of-way of SR-91.

In addition to the effects shown in Tables 3.5.4 and 3.5.5, the existing SCE substation would be permanently relocated as part of the Initial Phase of Alternative 2 with design variations 2c, 2d, 2g, or 2h. That relocation could result in temporary service disruptions during the actual relocation. However, these temporary service disruptions would be minor and short term. This permanent impact was discussed in detail earlier in Section 3.5.2.2, Permanent Impacts.

The additional high-risk utilities that would be impacted by Alternative 2 and its design variations, including Alternative 2f, but not by Alternative 1 are identified in Table 3.5.5 with ●.

Similar to Alternative 1, during final design, final determinations would be made as to which of the utility facilities affected under Alternative 2 and its design variations, including Alternative 2f, would be relocated, removed, or protected in-place in consultation with the owner of each affected utility facility. Detailed plans for the utility relocations, removals, and protection in-place under Alternative 2 and its design variations, including Alternative 2f, would be developed as part of the final project design.

Like Alternative 1, Alternatives 2a, 2b, 2e, and 2f would require the use of 0.018 ac of land from the SCE property for a TCE.

No Build Alternative

The No Build Alternative would not result in the construction of any project improvements on SR-91 and I-15. Therefore, the No Build Alternative would not result in temporary impacts to utility facilities.

Law Enforcement, and Fire and Emergency Medical Services, and Medical Facilities

Alternatives 1 and 2

Construction of both Alternatives 1 and 2 and all their design variations, including Alternative 2f, could result in temporary traffic delays, road closures, lane closures, or detours that may impair the ability of law enforcement, fire, and other emergency service providers to meet response time goals.

Non-fire-related medical emergencies could temporarily increase with the presence of construction workers and heavy machinery in the construction area during construction of both Alternatives 1 and 2 and their design variations, including Alternative 2f.

Construction of both Alternatives 1 and 2 and their design variations, including Alternative 2f, is anticipated to require temporary weekend, nighttime, and extended daily closures of the SR-91 eastbound and westbound auxiliary lanes, connectors, and on- and off-ramps. Improvements to these features would be scheduled in phases to minimize temporary impacts to freeway users, which would include emergency service providers. No construction-related ramp closures are planned on I-15.

Alternatives 1 and 2 and their design variations, including Alternative 2f, would require construction at the Coal Canyon crossing of SR-91. That crossing is currently used only by CHP and emergency services providers. Project construction activities at that crossing could potentially delay or affect the ability of the CHP and emergency services providers to use the crossing.

Both Alternatives 1 and 2 and their design variations include a TMP that would facilitate coordination with law enforcement, CHP, fire protection, emergency service providers, and the public during the design phase and prior to and during project construction activities, including weekend, nighttime, and extended closures on SR-91. The TMP would also address the specific requirements for maintaining access to/through the Coal Canyon crossing for CHP and emergency services providers during all project construction activities in the area. Key elements of the TMP include a public awareness campaign, motorist information strategies, and alternate route

strategies. Temporary construction-related impacts on emergency service providers would be addressed in the TMP to minimize localized congestion and travel delays. Section 3.6.5, Avoidance, Minimization, and/or Mitigation Measures, provides Measure T-1, which describes the TMP in detail.

Each ramp closure scheduled for more than 10 consecutive days would require a Ramp Closure Study. Section 3.6.5 provides Measure T-2, which describes the requirements for Ramp Closure Studies during construction of Alternatives 1 and 2 and their design variations, including Alternative 2f.

There is potential for fires to be started in construction areas, associated with operating construction equipment, vehicles, and the presence of construction personnel during the construction of Alternatives 1 and 2 and their design variations, including Alternative 2f.

No Build Alternative

The No Build Alternative would not result in the construction of project improvements on SR-91 and I-15 and, therefore, would not result in temporary impacts to law enforcement, CHP, fire protection, or emergency service providers. No delays to emergency service providers due to detours or closures would occur under the No Build Alternative.

3.5.3 Avoidance, Minimization, and/or Mitigation Measures

Both Alternatives 1 and 2 and all their design variations, including Alternative 2f, would not result in permanent adverse impacts related to utilities and emergency service providers; therefore, no mitigation is required.

Temporary construction-related impacts on emergency services under Alternatives 1 and 2 and their design variations would be addressed through a TMP implemented during construction to minimize temporary localized congestion and travel delays. Refer to Section 3.6.4, Avoidance, Minimization, and/or Mitigation Measures, for Measure T-1, which describes the TMP in detail.

Each ramp closure of more than 10 days would require a Ramp Closure Study. Refer to Measure T-2 in Section 3.6.4 for the Ramp Closure Study requirements under Alternatives 1 and 2.

Measures UES-1, UES-2, and UES-3, provided below, would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives. These measures address the temporary construction-related impacts under both Alternatives 1 and 2 and all their design variations on utility facilities and emergency service providers.

UES-1 **Utilities.** During final design, RCTC's Project Engineer will prepare utility relocation plans in consultation with the affected utility providers/owners for those utility facilities that will need to be relocated, removed, or protected in-place. If relocation is necessary, the final design will focus on relocating utilities within the State right-of-way or other existing public rights-of-way and/or easements. If relocation outside of existing or the additional public rights-of-way and/or easements required for the project is necessary, the final design will focus on relocating those facilities to minimize environmental impacts as a result of project construction and ongoing maintenance and repair activities. The utility relocation plans will be included in the project specifications.

Prior to and during construction, the RCTC Resident Engineer will ensure that the components of the utility relocation plans provided in the project specifications are properly implemented by the design/build contractor.

UES-2 **Law Enforcement, Fire Protection, and Emergency Medical Service Providers.** Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to coordinate all temporary ramp and lane closures and detour plans with law enforcement, fire protection, and emergency medical service providers to minimize temporary delays in emergency response times as part of the Final TMP and *Final Ramp Closure Study* required in Measures T-1 and T-2, including the identification of alternative routes and routes across the construction areas for emergency vehicles developed in coordination with the affected agencies.

UES-3 **Fire Prevention During Construction.** Prior to and during any construction activities, the RCTC Project Engineer will require the design/build contractor to implement the following to minimize the risk of fires during construction:

- Coordinate with the applicable local fire department to identify and maintain defensible spaces around active construction areas.
- Coordinate with the applicable local fire department to identify and maintain firefighting equipment (extinguishers, shovels, water tankers) in active construction areas.
- Prohibit the use of mechanized equipment or equipment that could throw off sparks in areas adjacent to open space or undeveloped land, including areas adjacent to CHSP.
- Post emergency services phone numbers (fire, emergency medical, police) in visible locations in all active construction areas.

UES-4 **Fire Prevention Adjacent to CHSP.** The final design of the SR-91 CIP Build Alternatives will include closing gaps so there is the equivalent of a continuous barrier 30 to 36 inches high on the edge of the shoulder on both westbound and eastbound SR-91 from SR-71 to SR-241, as follows:

- **Initial Phase:** the 36-inch high concrete barrier on westbound SR-91 between SR-71 and Green River Road already included in the design alternatives will meet the requirements for this barrier;
- **Ultimate Project:** close gaps to provide an equivalent continuous barrier 30 to 36 inches high on the edge of shoulder on SR-91 in both directions between Green River Road and SR-241 meeting Department standards applicable at the time.

3.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

3.6.1 Regulatory Setting

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR part 27) implementing Section 504 of the Rehabilitation Act (29 USC 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to Federal-aid projects, including Transportation Enhancement Activities.

3.6.2 Affected Environment

The information in this section is based on the *Traffic Study Report* (July 2010), the *Final Ramp Closure Study* (February 2010), and the *Final Preliminary Transportation Management Plan* (May 2010). The traffic study area for the project focuses on an approximately 14 mi long segment of SR-91, extending from SR-241 in the Cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County. The approximately 6 mi project segment on I-15 extends from Hidden Valley Parkway in the Cities of Norco and Corona to Cajalco Road in the City of Corona in Riverside County.

The traffic study area for the project was defined as consisting of 18 full interchanges on these freeways: 13 on SR-91 and 5 on I-15. Of these interchanges, 3 are freeway-to-freeway interchanges with direct connectors and 15 are freeway-to-arterial interchanges. The locations of these interchanges in the traffic study area are shown on Figure 2-1.

Road operations are determined through examination of freeway, ramp, and intersection LOS. There are six LOS, designated A through F, with A representing the best traffic operations and F indicating failure where the traffic volumes exceed the capacity of the road system.

3.6.2.1 Definition of Freeway Mainline Levels of Service

The LOS on freeway mainline segments are determined by traffic density. Table 3.6.1[1] presents the correlation between LOS and traffic density in terms of pc/mi/ln for freeway mainline and ramp segments. A graphic depiction of freeway LOS is provided in Figure 1-3. LOS A through F represent the range of conditions from free flow to congested conditions, respectively. Highway Capacity Software (HCS), which incorporates methodology consistent with the guidelines of the 2000 HCM, was used to evaluate traffic conditions and determine the existing LOS for each freeway segment and ramp on the project segments of SR-91 and I-15.

3.6.2.2 Definition of Freeway Ramp Levels of Service

Ramp LOS specifically address the merge and diverge areas on freeways and do not necessarily reflect ramp LOS, but rather merge and diverge LOS, which is based on several factors. According to the 2000 HCM, merge and diverge areas focus on an influence area approximately 1,500 ft long, which includes the acceleration or deceleration lane and the adjacent freeway lanes. The methodology to identify ramp LOS has three basic steps:

- Determination of the traffic entering the freeway lanes upstream of the merge or at the beginning of the deceleration lane at the diverge
- Determination of the capacity for the segment
- Determination of the density of flow within the ramp influence area and its corresponding LOS

Table 3.6.1 shows the relationship between freeway ramp LOS and density expressed as pc/mi/ln.

3.6.2.3 Definition of Intersection LOS

Intersection LOS were analyzed using methods in the 2000 HCM to calculate delay, capacity utilization, and LOS for intersections. Table 3.6.2 summarizes the delay associated with each LOS for signalized and stop-controlled intersections.

[1] Tables 3.6.1 through 3.6.35 are provided following the last page of text in this section to minimize disruptions to the reader.

For this traffic analysis, freeway mainline segments and ramps were considered to be deficient when operating at LOS F. Generally, the LOS objective for intersections in the traffic study area for the project is LOS D; however, LOS E is permitted at the following 12 ramp intersections per the City of Corona *Traffic Impact Study Guidelines* (July 2006):

- SR-91 westbound ramps/Pomona Road
- Lincoln Avenue/SR-91 eastbound ramps
- Main Street/SR-91 westbound ramps
- Main Street/SR-91 eastbound ramps
- McKinley Street/SR-91 westbound on-ramp
- McKinley Street/SR-91 eastbound off-ramp
- I-15 southbound off-ramp/Hidden Valley Parkway
- I-15 southbound on-ramp/Hidden Valley Parkway
- I-15 northbound on-ramp/Hidden Valley Parkway
- I-15 northbound off-ramp/Hidden Valley Parkway
- I-15 southbound ramps/Cajalco Road
- I-15 northbound ramps/Cajalco Road

In addition, the City of Corona has acknowledged that LOS E will be considered acceptable for the project-related, peak-hour intersection analysis at the Green River Road ramp intersections.

3.6.2.4 Baseline Traffic Conditions

Existing (2007) Traffic Volumes

Existing traffic count data for the traffic study area were collected in fall 2007. Baseline traffic conditions for Baseline/Existing (2007), 2015, and Design Year 2035 were analyzed to determine LOS without the project. The regional analysis was conducted using the RCTC regional traffic forecasting model. That model was developed by combining attributes of the 2008 RTP model and OCTAM.

The California Court of Appeal granted a peremptory writ of mandate in December 2010 in *Sunnyvale West Neighborhood Association, et al. versus City of Sunnyvale City Council*. The Court indicated that traffic studies for environmental analyses must use baseline conditions defined as the existing "...on the ground..." conditions at the time the NOP is published or the environmental analyses are initiated if no NOP is published. The Baseline/Existing (2007) traffic conditions were used to represent the existing conditions because they more closely represent normal conditions. The 2007 traffic conditions are approximately 5 percent higher than the 2008 conditions and are

a more accurate estimate of the existing setting for comparative analysis than the 2008. The 2007 was selected as the Baseline/Existing analysis year because those traffic volumes were considered to more accurately reflect demand in the SR-91 corridor because historically (2000–2007) traffic numbers/volumes have steadily increased and the approximate 5 percent less difference from 2008 is negligible. The variation between the 2007 and 2008 is considered negligible because the difference in the peak hour volumes has minimal effect on the operating conditions (LOS) between those years. Also according to the Interim Guidance on the Application of Travel and Land Use Forecasting in NEPA (FHWA, March 2010), the "Base model year" (the calibration year for the travel model) and the "Base project year" (an updated base year that is validated and is as close as possible to the current year) do not necessarily need to be the same.

2015 and 2035 Traffic Volumes

2015 was identified as representing the year the project improvements in the Initial Phases of Alternatives 1 and 2 would be operational.

Design Year 2035 represents the year the completed project improvements under Alternatives 1 and 2 (the Ultimate Projects) would be operational. The 2030 forecast volumes from the RCTC regional model were adjusted to reflect Design Year 2035 conditions prior to post-processing. To develop 2035 forecast volumes from 2030 model forecast volumes, demographic data were obtained from Orange and Riverside Counties. Demographics (including housing, population, and employment) are the basis for development of travel activity and future forecasts beyond the model horizon year. Based on the demographic growth trends for Orange and Riverside Counties, the 2030 model forecast that SR-91 volumes would increase by 2 percent to account for travel demand beyond the model horizon year of 2030 to 2035. Key projects identified in the constrained 2008 RTP that are included in the background assumptions for the Design Year 2035 traffic forecasts are:

- Corridor A – Coded consistent with the Riverside County/Orange County MIS with the exception of coding as a toll facility;
- SR-241/SR-91 toll-to-toll direct connectors;
- I-15 HOV/Express Lanes – Two additional median lanes in each direction from SR-74 to the San Bernardino County line;
- SR-71 Widening – One additional GP lane in each direction; and
- MCP – A proposed new east-west transportation corridor between the Cities of San Jacinto and Perris in western Riverside County.

The Baseline/Existing (2007), 2015, and Design Year 2035 baseline conditions for the freeway corridor, mainline segments, freeway ramps, and intersections in the traffic study area are described in the following sections and are shown in Tables 3.6.3 through 3.6.7. Baseline as used in this analysis refers to traffic conditions at a given time without the addition of the project, defined as No Build conditions.

Per the Supplemental Request for 20-year Period Design Exception approved by the Department on January 26, 2012, forecast volumes for 2017 were estimated based on existing traffic counts for 2010. Because 2010 traffic counts are approximately 4 percent lower than 2007 traffic counts, 2017 forecast volumes will be generally lower than the 2015 forecast volumes used for the analysis of the SR-91 CIP. Because the opening year traffic volumes analyzed for 2015 are more conservative when compared to those for 2017, updating the traffic analysis for an opening year of 2017 was not necessary. Therefore, the opening year traffic analysis discussed in Sections 1.3.1.5, 2015 Traffic Projections – No Build, and in Section 3.6, Traffic and Transportation/Bicycle and Pedestrian Facilities, uses the original analysis of the 2015 opening year conditions. In addition, there have not been any regional or local transportation improvement projects implemented that would have an effect on the opening year traffic analysis. The SR-241/SR-91 Direct Connector Project being sponsored by the TCA is currently planned for an opening year of 2018. In addition, the County of Riverside's Cajalco Road Widening Project from Temescal Canyon Road to I-215 is currently planned for an opening year of 2019.

The opening year for the SR-91 CIP is now scheduled for 2017. A 2035 horizon year was used as the basis for the traffic analysis in the *Traffic Study Report*. Horizon years are usually provided in 5-year increments so providing a 20-year horizon year from the 2017 opening year would likely target a 2040 horizon year. As explained above, the forecasted traffic volumes assumed growth rates that have not materialized. If new projections of traffic volumes were modeled today, it is expected that even the 2040 forecasted volumes would be slightly lower than the 2035 forecasted volumes included in the SR-91 CIP traffic analysis. Preliminary estimated 2040 traffic volumes on four segments of SR-91 are approximately 2 to 3 percent lower than the 2035 volumes for the same road segments. Therefore, using the current 2035 horizon year forecasted volumes is more conservative even though it is only an 18-year horizon.

3.6.2.5 Freeway Corridor Daily VMT, VHT, VHD, and Peak-Hour Travel Time

VMT is a key transportation indicator that represents total miles traveled by vehicles across a particular study area or region. VHT represents total hours traveled by vehicles considering system-wide traffic congestion in a given study area. Vehicle hours of delay (VHD) represent system-wide delay experienced by vehicles. Table 3.6.3 presents summaries of VMT, VHT, and VHD by vehicle type within the limits of the project corridor and the remainder of the study area for each facility type under Baseline/Existing (2007), 2015, and Design Year 2035 baseline conditions.

Table 3.6.4 presents a summary of travel time and speed through the SR-91 corridor from I-15 to SR-241 under Baseline/Existing (2007), 2015, and Design Year 2035 baseline conditions for both the a.m. and p.m. peak hours.

Baseline/Existing (2007)

As shown in Table 3.6.3, the SR-91 study corridor generated 11,003,152 VMT, 334,688 VHT, and 100,723 VHD in 2007. The remainder of the region generated 394,186,327 VMT, 12,246,929 VHT, and 2,546,404 VHD in 2007.

As shown in Table 3.6.4, the westbound travel time and speed through the SR-91 corridor in the a.m. peak hour were 28.5 minutes and 24.2 mph for GP-lane vehicles, and 12.1 minutes and 56.8 mph for HOV/express lane vehicles. In the p.m. peak hour, the eastbound travel time and speed were 44.0 minutes and 15.7 mph for GP-lane vehicles, and 30.0 minutes and 23.0 mph for HOV/express lane vehicles.

2015

As shown in Table 3.6.3, the SR-91 study corridor is forecast to generate 13,671,088 VMT, 446,546 VHT, and 148,584 VHD in 2015. Compared to Baseline/Existing (2007) conditions, the SR-91 corridor would experience a 24 percent increase in VMT, a 33 percent increase in VHT, and a 48 percent increase in VHD. The remainder of the region is forecast to generate 461,645,968 VMT, 14,940,416 VHT, and 3,692,804 VHD. This represents a 17 percent increase in VMT, a 22 percent increase in VHT, and a 45 percent increase in VHD from Baseline/Existing (2007) conditions.

As shown in Table 3.6.4, the 2015 westbound travel time would increase by 7.6 minutes and the travel speed would decrease by 5.1 mph in the a.m. peak hour for GP-lane vehicles compared to Baseline/Existing (2007) conditions. For HOV/express lane vehicles, the a.m. peak-hour westbound travel time would increase by 6.3

minutes and the travel speed would decrease by 19.3 mph. The 2015 eastbound travel time would increase by 35.1 minutes and the travel speed would decrease by 7.0 mph in the p.m. peak hour for GP-lane vehicles compared to Baseline/Existing (2007) conditions. For HOV/express lane vehicles, the p.m. peak-hour eastbound travel time would increase by 9.7 minutes and the travel speed would decrease by 5.6 mph.

Design Year 2035

As shown in Table 3.6.3, the SR-91 study corridor is forecast to generate 16,824,059 VMT, 583,945 VHT, and 224,091 VHD. Compared to Baseline/Existing (2007) conditions, the SR-91 corridor would experience a 53 percent increase in VMT, a 74 percent increase in VHT, and a 122 percent increase in VHD. The remainder of the region generates 541,651,597 VMT, 19,406,426 VHT, and 6,250,531 VHD. This represents a 37 percent increase in VMT, a 58 percent increase in VHT, and a 145 percent increase in VHD from Baseline/Existing (2007) conditions.

As shown in Table 3.6.4, the Design Year 2035 westbound travel time would increase by 14.7 minutes and the travel speed would decrease by 8.2 mph in the a.m. peak hour for GP-lane vehicles compared to Baseline/Existing (2007) conditions. For HOV/express lane vehicles, the a.m. peak-hour westbound travel time would increase by 13.8 minutes and the travel speed would decrease by 30.2 mph. The Design Year 2035 eastbound travel time would increase by 42.4 minutes and the travel speed would decrease by 7.7 mph in the p.m. peak hour for GP-lane vehicles compared to Baseline/Existing (2007) conditions. For HOV/express lane vehicles, the p.m. peak-hour eastbound travel time would increase by 17.0 minutes and the travel speed would decrease by 8.3 mph.

3.6.2.6 Freeway Mainline LOS

Table 3.6.5 presents the baseline traffic conditions for the Baseline/Existing (2007), 2015, and Design Year 2035 freeway mainline LOS. The table includes peak-hour analysis of traffic densities for the GP lanes and their corresponding LOS by direction. HCS, which incorporates methodology consistent with the HCM, was utilized to determine the LOS for each freeway mainline segment on SR-91 and I-15. The v/c ratio was computed for segments with a density in excess of 45 pc/mi/ln to quantify LOS F. HCS does not compute a density if the density is greater than 45 pc/mi/ln, which defines LOS F conditions. As a result, where density exceeds LOS F, a planning level v/c analysis was performed to identify the relationship between existing demand, available capacity, and the resulting LOS. The baseline conditions for 2007, 2015, and 2035 are discussed below.

Baseline/Existing (2007)

As shown in Table 3.6.5, nine GP segments on SR-91 operated deficiently under Baseline/Existing (2007) conditions, with five segments operating at LOS F for both peak directions of travel. More than half the study segments on SR-91 operated deficiently in the westbound direction, which is the peak direction of travel during the a.m. peak-hour period. The segments adjacent to the SR-71 interchange were among those LOS F interchanges that experienced the highest traffic densities in 2007. All the toll/HOV segments on SR-91 operated at acceptable LOS in 2007.

All segments on I-15 operated at acceptable LOS during both peak hours, with the exception of two southbound segments that operated deficiently during the p.m. peak hour.

2015

As shown in Table 3.6.5, all westbound SR-91 GP segments are forecast to operate at LOS F in 2015 during the a.m. peak hour, with the exception of the segments from Grand Boulevard to Main Street and I-15 to McKinley Street. The segments from SR-71 to Auto Center Drive and McKinley Street to Pierce Street experience the highest v/c ratio at 1.37. No eastbound GP segments are forecast to operate deficiently during the a.m. peak hour. In the p.m. peak hour, two mainline GP segments on eastbound SR-91 are forecast to operate at an acceptable LOS. All other segments are forecast to operate deficiently, with the highest v/c ratio of 1.37 on the two segments between Auto Center Drive and Lincoln Avenue. The westbound GP segments are forecast to operate at an acceptable LOS in the p.m. peak hour. The toll/HOV segments on SR-91 are forecast to operate at acceptable LOS in the 2015 baseline condition, with the exception of Green River Road to Auto Center Drive, which is forecast to operate at LOS F in the eastbound direction during the p.m. peak hour.

Two northbound GP mainline segments on I-15 are forecast to operate at LOS F during the a.m. peak hour, and two southbound GP segments are anticipated to operate at LOS F during the p.m. peak hour.

Design Year 2035

As shown in Table 3.6.5, all westbound SR-91 GP segments are forecast to operate at LOS F in 2035 during the a.m. peak hour, with the segment from SR-71 to Auto Center Drive experiencing the highest v/c ratio at 1.57. No eastbound GP segments are forecast to operate deficiently during the a.m. peak hour. In the p.m. peak hour, only one mainline GP segment on eastbound SR-91 is forecast to operate at an

acceptable LOS. All other segments are forecast to operate deficiently, with the highest v/c ratio of 1.72 on the McKinley Street to Pierce Street segment. The westbound GP segments are forecast to experience little or no congestion in the p.m. peak hour. The toll/HOV segment on SR-91 between Green River Road and Auto Center Drive is forecast to operate at LOS F in the westbound direction during the a.m. peak hour and in the eastbound direction during the p.m. peak hour.

All northbound GP mainline segments on I-15 are forecast to operate at LOS F during the a.m. peak hour, and four of the seven segments are anticipated to operate deficiently during the p.m. peak hour. The most substantial congestion is forecast on the two GP segments between Ontario Avenue and Cajalco Road in the a.m. peak hour, where the v/c ratios are forecast to be 1.61 and 1.79, respectively. The southbound I-15 mainline GP segments are all forecast to operate deficiently at LOS F during the p.m. peak hour, with the segment between El Cerrito Road and Cajalco Road having the highest v/c ratio at 1.80. Four southbound GP mainline segments are forecast to operate deficiently in the a.m. peak hour. All the toll/HOV segments on I-15 are forecast to operate with acceptable LOS in the 2035 No Build condition.

3.6.2.7 Freeway Ramp Level of Service

Table 3.6.6 presents the baseline conditions for Baseline/Existing (2007), 2015, and Design Year 2035 for the merge and diverge areas at the study area on- and off-ramps for each interchange by corridor and direction.

Baseline/Existing (2007)

As shown in Table 3.6.6, the occurrence of deficiencies in Baseline/Existing (2007) conditions was more frequent during the a.m. peak direction of travel than in the p.m. peak hour in 2007. At six SR-91 interchanges (one west of the Orange/Riverside County line, three east of the Orange/Riverside County line, and two east of I-15), the westbound off- and on-ramps all operated at LOS F in the a.m. peak hour in 2007. All the eastbound ramps operated at LOS E or better during the a.m. peak hour. The LOS analysis of SR-91 ramps in the p.m. peak hour indicated acceptable traffic movements through all interchanges with the exception of some eastbound ramps at Auto Center Drive, Maple Street, McKinley Street, Pierce Street, and the Magnolia Avenue interchanges.

Five freeway-to-freeway connectors operated at LOS F in the a.m. peak hour in 2007, with three of those deficient locations at the SR-91/I-15 interchange. In the p.m. peak

hour, one SR-91 ramp connection to SR-71 and two SR-91 ramps connecting to I-15 operated deficiently in 2007.

2015

As shown in Table 3.6.6, all the westbound ramps on the project segments of SR-91 are forecast to operate deficiently during the a.m. peak hour in 2015, with the exception of the westbound off-ramp at Main Street and the westbound on-ramp at McKinley Street. During the p.m. peak hour, all the SR-91 eastbound ramps are forecast to operate at LOS F, with the exception of the Gypsum Canyon Road and Green River Road on-ramps.

In the a.m. peak hour, six freeway-to-freeway connectors are forecast to operate at LOS F in 2015, with three of those deficient locations at the SR-91/I-15 interchange. In the p.m. peak hour, one SR-91 ramp connection to SR-241, one SR-91 ramp connection to SR-71, and two SR-91 ramps connecting to I-15 are forecast to operate deficiently.

On I-15, five study area ramps are forecast to operate at LOS F during the a.m. peak hour in 2015. Of these, two are at the El Cerrito Road interchange. In the p.m. peak hour, four study area ramps are forecast to operate at LOS F. Two of these deficient ramps are at the Cajalco Road interchange.

Design Year 2035

As shown in Table 3.6.6, all the westbound ramps on the project segment of SR-91 are forecast to operate deficiently during the a.m. peak hour in Design Year 2035 due to the high westbound mainline peak-hour volumes and the vehicles that use the westbound on- and off-ramps. During the p.m. peak hour, all the SR-91 eastbound ramps, with the exception of the Green River Road on-ramp, are forecast to operate at LOS F.

In the a.m. peak hour, seven freeway-to-freeway connectors are forecast to operate at LOS F in Design Year 2035, with four of those deficient locations at the SR-91/I-15 interchange. In the p.m. peak hour, one SR-91 ramp connection to SR-241, two SR-91 ramp connections to SR-71, and three SR-91 ramps connecting to I-15 operate deficiently.

On I-15, 16 study area ramps are forecast to operate deficiently in Design Year 2035 during the a.m. peak hour. Of these, 4 are at the Hidden Valley Parkway interchange and 4 are at the Magnolia Avenue interchange. These are the two interchanges on

I-15 closest to the SR-91/I-15 freeway-to-freeway interchange. Of the study area ramps on I-15, 11 are forecast to operate deficiently during both the a.m. and p.m. peak hours in Design Year 2035.

3.6.2.8 Intersection LOS Analysis

Table 3.6.7 presents the intersection delay and LOS for the study area intersections for Baseline/Existing (2007), 2015, and Design Year 2035 conditions.

Baseline/Existing (2007)

As shown in Table 3.6.7, Baseline/Existing (2007) traffic conditions were characterized by generally acceptable LOS in the a.m. peak hour with the exception of a few intersections. Most of the ramp-termini intersections near the SR-91 interchanges were observed to operate at acceptable LOS during both peak hours. However, many intersections near the I-15 interchanges operated deficiently in 2007, with increased delays and consequently reduced LOS in the p.m. peak hour.

2015

As shown in Table 3.6.7, two intersections in the a.m. peak hour and nine intersections in the p.m. peak hour are forecast to operate deficiently under 2015 conditions. Intersections near the SR-91 and I-15 interchanges are forecast to experience increased delays and consequently reduced LOS in the p.m. peak hour. However, compared to the Baseline/Existing (2007) conditions, fewer intersections are forecast to be deficient in 2015 due to intersection geometric configuration improvements that are expected to occur prior to 2015. Improvements are planned for the following intersections:

- Green River Road/SR-91 westbound ramps (2015)
- Maple Street/SR-91 westbound ramps (2015)
- Vicentia Avenue/SR-91 eastbound off-ramp (2015 and 2035)
- I-15 northbound ramps/Second Street (2035)
- I-15 southbound ramps/Magnolia Avenue (2015)
- I-15 northbound ramps/Magnolia Avenue (2015)
- Compton Avenue/El Camino Avenue/Magnolia Avenue (2015)
- I-15 southbound ramps/Ontario Avenue (2015)
- I-15 northbound ramps/Ontario Avenue (2015)
- Bedford Canyon (I-15 southbound off-ramp)/El Cerrito Road (2035)
- I-15 northbound ramps/El Cerrito Road (2015)

- I-15 southbound ramps/Cajalco Road (2015 and 2035)
- I-15 northbound ramps/Cajalco Road (2015 and 2035)

Design Year 2035

As shown in Table 3.6.7, 12 intersections in the a.m. peak hour and 16 intersections in the p.m. peak hour are forecast to operate deficiently under Design Year 2035 conditions. Many intersections near the SR-91 and I-15 interchanges are forecast to experience increased delays and consequently reduced LOS in the p.m. peak hour. Compared to the Baseline/Existing (2007) conditions, the intersection LOS in Design Year 2035 is forecast to deteriorate as more intersections on SR-91 and I-15 are forecast to be deficient in 2035 due to increases in regional and local traffic volumes.

3.6.2.9 Pedestrian and Bicycle Facilities

Pedestrian and Handicap Access Facilities

There are no sidewalks or other pedestrian facilities on the freeway mainline or ramp facilities. Sidewalks are currently provided on most of the local streets crossing over or under the project segments of SR-91 and I-15 and other local streets in the vicinity of SR-91 and I-15. The sidewalks vary from 4 to 11.5 ft wide. Table 3.6.8 summarizes the existing pedestrian facilities on local streets crossing the project segments of SR-91 and I-15. Table 3.6.8 also indicates whether those facilities cross over the freeways (on overcrossings), under the freeways (in undercrossings), or do not cross the freeways. In addition to these sidewalks, the Santa Ana River Trail/Bike Lane on the north side of SR-91 between Featherly Regional Park and the Green River Golf Club is available for pedestrians as well as bicyclists.

Many local streets cross under SR-91 and I-15. As shown later in Table 3.6.32, the lengths of the existing crossings under the SR-91 and I-15 facilities generally range from 100 to 210 ft, depending on the individual crossing and the freeway structures at the crossing. Pedestrians crossing these freeways at those locations walk through undercrossings. Lighting is typically provided in the undercrossings to provide sufficient light for pedestrians in evening/night hours when no natural light is available at the undercrossing openings.

Handicap access ramps (ADA access ramps) are provided on the sidewalks at many of the intersections of the local streets with the freeway ramp facilities on the project segments of SR-91 and I-15 as shown in Table 3.6.8. Handicap access ramps are also provided on the sidewalks at many of the local street intersections in the vicinity of SR-91 and I-15.

Bicycle Facilities

Bicyclists can cross the project segments of SR-91 and I-15 using the vehicle travel lanes on the local streets crossing these freeways. As shown in Table 3.6.8, the majority of the cross sections of the local streets crossing over or under the freeways do not currently have designated bicycle lanes separate from the vehicle travel lanes.

A Class I bicycle facility provides a paved path for bicyclists separate from any street or highway. A Class II bicycle facility is designated as a striped and signed lane within the street right-of-way and adjacent to vehicle travel lanes. Class III bicycle facilities are designated bicycle routes in road rights-of-way that are noted by signs but without separate striping.

There are existing and planned bicycle facilities designated by the Cities of Anaheim, Corona, and Riverside, and Orange and Riverside Counties in the vicinity of the project segments of SR-91 and I-15, as described in the following sections. As noted above, most of the local streets crossing these freeways do not currently have designated bicycle facilities. The Cities of Norco and Yorba Linda have not identified any existing or planned bicycle facilities in the project area.

County of Orange

The County of Orange General Plan Transportation Element identifies the existing Santa Ana River Trail/Bike Lane as a Class I bikeway from the Orange/Riverside County line to the Pacific Ocean. The Trail/Bike Lane is generally adjacent to the north side of SR-91, east of and in Featherly Regional Park.

County of Riverside

The County of Riverside General Plan Circulation Element identifies the existing Santa Ana River Trail/Bike Lane as a Class I bikeway along Buchanan Street in the project area.

City of Anaheim

The City of Anaheim Bicycle Master Plan identifies the existing Santa Ana River Trail/Bike Lane as a Class I bikeway on the north side of SR-91, east of and in Featherly Regional Park. The City's Bicycle Master Plan also identifies an existing Class II bikeway on the south side of SR-91.

The City's Bicycle Master Plan identifies the following proposed bicycle facilities adjacent to SR-91:

- A proposed top priority Class II bikeway beginning west of SR-241 and extending northeast, crossing SR-241 and then north where it crosses SR-91, and terminating just north of SR-91
- A proposed off-road trail beginning in the southernmost area of SR-241 extending north, crossing SR-91, and terminating in a similar location as the proposed top priority Class II bikeway discussed above
- A proposed off-road trail beginning north of SR-91 and extending south toward SR-91, where, when it reaches SR-91, it is aligned eastbound adjacent to SR-91, eventually crossing SR-91 and traveling south into the CNF
- A proposed third priority Class II bikeway beginning west of SR-241 and south of SR-91

City of Corona

The City of Corona General Plan identifies existing and/or proposed Class I, II, and III bikeways in the City. The General Plan identifies the existing Santa Ana River Trail/Bike Lane as a Class I bikeway within the City boundary. There is an existing Class II bicycle route along Green River Road as described in Table 3.6.8.

Proposed bikeways in the City of Corona include a Class I bicycle trail connecting to an existing Class I bicycle trail that would extend east to west adjacent to SR-91, and Class II, II/III, or III facilities that would cross SR-91 at Serfas Club Drive, Maple Street, Smith Avenue, Main Street, Grand Boulevard, and Buena Vista Avenue. A planned Class II/III bicycle route would extend from Serfas Club Drive just south of SR-91 along Sixth Street, where it would pass into the study area again where it would cross I-15. Proposed Class II, II/III, and III bicycle routes are also planned on Magnolia Avenue, Ontario Avenue, El Cerrito Road, and Cajalco Road, all of which cross I-15.

City of Riverside

The City of Riverside General Plan identifies an existing Class I bikeway along Pierce Street and there is a primary equestrian, bicycle, and pedestrian trail that begins just south of Fillmore Street, as described in Table 3.6.8.

3.6.3 Environmental Consequences

3.6.3.1 Summary of Impacts

In Design Year 2035, Alternatives 1 and 2 would maintain or slightly improve VHT, VHD, and LOS on the SR-91 mainline when compared to 2035 No Build conditions. Under Alternative 1 in Design Year 2035, there would be a 2 percent reduction in

VHT, a decrease of 13,000 hours in VHD, and three freeway segments on SR-91 would be improved from LOS F to LOS D or E when compared to 2035 No Build conditions. On I-15, one segment would worsen from LOS E to LOS F and one segment would improve from LOS F to LOS E under Alternative 1 when compared to 2035 No Build conditions.

In Design Year 2035, under Alternative 2, there would be a 4 percent reduction in VHT, a decrease of 23,000 hours in VHD, and six segments on the SR-91 mainline would improve from LOS F to LOS D or E when compared to 2035 No Build conditions. On I-15, two segments would improve from LOS F to LOS E and one segment would worsen to LOS F under Alternative 2 when compared to 2035 No Build conditions.

When the Alternative 1 and 2 Ultimate Projects are applied to Baseline/Existing (2007) conditions, travel times on the SR-91 GP lanes and HOV/express lanes are expected to be greatly reduced while travel speeds in the SR-91 GP lanes and HOV/express lanes are expected to be improved throughout the corridor.

The Initial Phases of the Build Alternatives provide the ultimate improvements at all local interchanges except at Green River Road and McKinley Avenue. Local frontage roads will be improved to ultimate widths and locations in the Initial Phases of Alternatives 1 and 2. Auxiliary lanes between local interchanges in Alternatives 1 and 2 will be provided in the Initial Phases.

When the Initial Phases of Alternatives 1 and 2 are applied to Baseline/Existing (2007) conditions, travel times on the SR-91 GP lanes and HOV/tolled express lanes would have the same results within the limits of the Initial Phase. West of SR-71, the HOV/tolled express lanes will provide improved travel times even with the deferral of the GP lanes to the Ultimate Project. Deferral of the GP lanes west of SR-71 and east of I-15 to the Ultimate Project will not cause bottlenecks along the corridor because the lane drops where the Initial Phase improvements would be converted to join the existing conditions occur at freeway-to-freeway interchanges.

Alternatives 1 and 2 would result in permanent impacts to some intersections, but these impacts would not be adverse based on implementation of Measure T-3. Measure T-3, provided later in Section 3.6.4, identifies the intersections that would be affected, the improvements that would be provided at the affected intersections, and the operational characteristics of the affected intersections after implementation of those improvements.

In Design Year 2035, Alternatives 1 and 2 would provide an overall positive improvement to pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. A segment of the Santa Ana River Trail/Bike Lane in the City of Corona would be relocated to the north and farther away from SR-91, which would improve the bicycling experience in that area. Each local street overcrossing and undercrossing affected by the project would include sidewalks; no sidewalks or bicycle lanes/paths would be removed under Alternatives 1 and 2.

On the local streets that cross under SR-91 and I-15, the widened freeway bridge structures would result in widened undercrossings, which would increase the length of those roads and sidewalks that are in the undercrossings. As shown later on Table 3.6.32, the lengths of the crossings under the widened freeways would range from 145 to 519 ft, depending on the individual crossing and the freeway structures at the crossing, and the Build Alternative and the design variation. As a result of the widened mainline and modified ramp structures, the lengths of the crossings under the widened freeway under Alternatives 1 and 2 would be longer than the crossings under the existing freeway facilities. The new parts of the undercrossings would include lighting consistent with local standards for both vehicles and pedestrians. However, the segments of those roads under the existing overcrossings could experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4 addresses lighting in the undercrossings during final design, including the provision of appropriate lighting in the new parts of the undercrossings and the provision of additional lighting in the existing parts of the undercrossings if determined to be necessary. In addition, Measure V-1, provided in Section 3.7, Visual/Aesthetics, provides for textured and site-specific aesthetic features on the paved slopes in areas with bicyclist and pedestrian viewers such as the areas in the undercrossings.

Construction of Alternatives 1 and 2 would require closure of ramps and/or connectors for periods of time or on weekends. Preliminary staging plans, which would be finalized during final design, were developed to ensure that the closure durations are minimized and every effort is made to prevent concurrent multiple closures. For longer closures that may occur during construction of Alternatives 1 and 2, appropriate detour routes would be provided. The temporary adverse impacts to traffic during construction of Alternatives 1 and 2 would be minimized with the implementation of Measures T-1 and T-2.

Temporary sidewalk closures at certain crossings would occur during construction. These closures may temporarily impact ADA-compliant accessibility in the project limits. On-street bicycle facilities along the Green River Road and Magnolia Avenue crossings at SR-91 may also be closed temporarily. Depending on the types of construction activities and the length of those activities, some sidewalk and bicycle lanes could be closed for months or longer. For all closures longer than 1 day, the design/build contractor will be required to provide pedestrian/bicycle facility detours and/or temporary pathways. These types of temporary detour facilities will be developed and implemented as part of the TMP described later in Measure T-1.

It is possible that a short segment of the Santa Ana River Trail/Bike Lane west of Green River Golf Club and east of Featherly Regional Park may be closed temporarily for very limited periods (hours/days) during construction for the safety of the Trail/Bike Lane users and construction personnel. Alternate routes would be provided. The temporary adverse impacts to pedestrian and bicycle facilities under Alternatives 1 and 2 would be minimized based on implementation of Measure T-1.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Alternative 2f Ultimate Project would result in improvements in VHT, VHD, and LOS on the SR-91 mainline when compared to 2035 No Build conditions. In Design Year 2035, there would be a 4 percent reduction in VHT and a decrease of 23,000 hours in VHD, and six segments on the SR-91 mainline would improve under the Alternative 2f Ultimate Project from LOS F to LOS D or E when compared to 2035 No Build conditions. On I-15, two segments would improve from LOS F to LOS E and one segment would worsen to LOS F under the Alternative 2 Ultimate Project when compared to 2035 No Build conditions. For the Initial Phase of Alternative 2f, the same results would occur within the limits of the Initial Phase.

The Alternative 2f Initial Phase and Ultimate Project would improve pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. On the local streets that cross under SR-91 and I-15, the widened freeway bridge structures under the Alternative 2f Initial Phase and Ultimate Project would also result in widened undercrossings, which would increase the length of those roads and sidewalks that are in the undercrossings. The new parts of the affected undercrossings would include lighting consistent with local standards for both vehicles and pedestrians.

Construction of the Alternative 2f Initial Phase and Ultimate Project would also require closure of ramps and/or connectors for periods of time or on weekends; the durations of those closures would be minimized. The temporary adverse impacts to traffic during construction of the Alternative 2f Initial Phase and Ultimate Project would be minimized with the implementation of Measures T-1 and T-2.

During construction of the Alternative 2f Initial Phase and Ultimate Project, there may be temporary closures of sidewalks at certain crossings. These closures may temporarily impact ADA-compliant accessibility in the project limits. On-street bicycle facilities along the Green River Road and Magnolia Avenue crossings at SR-91 may also be closed temporarily. It is possible that a short segment of the Santa Ana River Trail/Bike Lane west of the Green River Golf Club and east of Featherly Regional Park may be closed temporarily for very limited periods (hours/days) during construction for the safety of the Trail/Bike Lane users and construction personnel. Alternate routes would be provided. The temporary adverse impacts to pedestrian and bicycle facilities under the Alternative 2f Initial Phase and Ultimate Project would be minimized based on implementation of Measure T-1.

3.6.3.2 Permanent Impacts

Initial Phases of Alternatives 1 and 2 (2015)

Each of the alternatives would add one GP lane on SR-91 in each direction. These additions would be continuous throughout the project limits. Both Alternatives 1 and 2 would also provide auxiliary lanes or collector-distributor roads at traffic interchanges and would modify interchange geometrics to improve traffic operations. Local access from all current interchanges is expected to be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Therefore, the project would improve traffic patterns for residents and businesses.

For the 2015 traffic analysis, the Initial Phases of Alternatives 1 and 2 are considered to be the same and would result in similar design features and comparable traffic impacts. The 2015 analysis considered the project improvements in the Initial Phase of Alternative 2. The 2015 Initial Phase of Alternative 2 SR-91 corridor daily VMT, VHT, VHD, and peak-hour travel time are described below. The LOS for the study area freeway mainline segments, ramps, and intersections were analyzed for 2015 with the Initial Phase of Alternative 2 as discussed in the following sections.

Freeway Corridor Daily VMT, VHT, VHD, and Peak-Hour Travel Time

The 2015 Initial Phase of Alternative 2 daily VMT, VHT, and VHD are shown in Table 3.6.9. As shown, the total daily freeway non-toll VMT is forecast to increase marginally through the SR-91 corridor when compared to 2015 No Build conditions. Correspondingly, the VHT and VHD are forecast to decrease by 2.3 percent and 5.2 percent, respectively, through the SR-91 corridor.

Table 3.6.10 shows the travel times and speeds through the SR-91 corridor from I-15 to SR-241 for the 2015 Initial Phase of Alternative 2. As shown, the westbound travel time is forecast to decrease by 3.5 minutes and the travel speed is forecast to increase by 2.1 mph in the a.m. peak hour for GP-lane vehicles compared to 2015 No Build conditions. For HOV/express lane vehicles, the a.m. peak-hour westbound travel time is forecast to decrease by 6.4 minutes and the travel speed is forecast to increase by 19.8 mph. The eastbound travel time is forecast to decrease by 8.5 minutes and the travel speed is forecast to increase by 1.1 mph in the p.m. peak hour for GP-lane vehicles compared to 2015 No Build conditions. For HOV/express lane vehicles, the p.m. peak-hour eastbound travel time is forecast to decrease by 27.2 minutes and the travel speed is forecast to increase by 37.6 mph.

With substantial traffic growth from 2007 to 2015, as shown in Table 3.6.9, traffic under 2015 No Build conditions is forecast to be more congested than Baseline/ Existing (2007) conditions. The Initial Phases of the Build Alternatives are forecast to improve regionwide traffic under 2015 conditions; therefore, the project would have similar benefits to the Baseline/Existing (2007) conditions with reductions in VHT and VHD by approximately 2 and 5 percent, respectively. In addition, with less regionwide traffic and local traffic under Baseline/Existing (2007) conditions compared to 2015 No Build conditions, when the Initial Phases of the Build Alternatives are applied to Baseline/Existing (2007) conditions, travel times on the SR-91 GP lanes and HOV/express lanes within the limits of the Initial Phase are expected to be greatly reduced while travel speeds in the SR-91 GP lanes and HOV/ express lanes are expected to be improved.

Freeway Segment LOS

The 2015 Initial Phase of Alternative 2 LOS for each freeway segment is shown in Table 3.6.11. As shown, all SR-91 eastbound freeway segments are forecast to operate at acceptable LOS in 2015 in the a.m. peak hour; however, the segment between Gypsum Canyon Road and Green River Road is forecast to be deficient during the p.m. peak hour. This is because the Initial Phase of Alternative 2 does not

include the additional GP lane, which is included in Alternative 2 in 2035. In the a.m. peak hour, 3 SR-91 westbound segments are forecast to operate at LOS F compared to 10 deficient segments under the No Build condition.

When the 2015 Initial Phase of Alternative 2 LOS are compared to the 2015 No Build Alternative LOS, 15 freeway segments on SR-91 would be improved from LOS F to LOS E or better with the project. On I-15, the 2015 Initial Phase of Alternative 2 freeway segments are generally consistent with the 2015 No Build Alternative.

As shown in Table 3.6.11, when the Initial Phase of Alternative 2 is compared to Baseline/Existing (2007) conditions, the traffic congestion on SR-91 is also expected to be relieved. Based on the project benefits derived from comparing the 2015 Build Alternatives and No Build conditions, most of the deficient segments on SR-91 westbound in the a.m. peak hour and eastbound in the p.m. peak hour would be improved to operate at acceptable LOS under Baseline/Existing (2007) conditions. However, the SR-91 GP lanes from SR-241 to Green River Road and from I-15 to Pierce Street will remain deficient as these segments are not forecast to be improved under the 2015 Initial Phases of the Build Alternatives and therefore are not forecast to be improved under Baseline/Existing (2007) conditions.

Freeway Ramp LOS

Table 3.6.12 shows the freeway ramp LOS in 2015 with the Initial Phase of Alternative 2. When compared to the No Build Alternative, fewer ramps are forecast to operate at LOS F, especially in the vicinity of the Lincoln Avenue and Main Street interchanges on SR-91 under the Initial Phase of Alternative 2. In 2015 with the Initial Phase of Alternative 2, 17 ramps in the a.m. peak hour and 10 ramps in the p.m. peak hour would operate at LOS F, respectively. As shown in Table 3.6.12, the Initial Phase of Alternative 2 improves freeway ramp operations at many locations, and approximately 10 freeway ramp deficiencies along SR-91 are expected to be improved to operate at acceptable LOS when compared to Baseline/Existing (2007) conditions.

Intersection LOS

Table 3.6.13 shows the LOS for the study area intersections in 2015 with the Initial Phase of Alternative 2. As shown, five intersections in the a.m. peak hour and five intersections in the p.m. peak hour would operate with unacceptable LOS E or F. Fewer intersections under the Initial Phase of Alternative 2 would operate at

unacceptable LOS in the p.m. peak hour compared to the 2015 No Build Alternative. Recommended intersection improvements are discussed in subsequent sections.

Analysis of the intersection LOS with the design variations at Auto Center Drive/Maple Street, Lincoln Avenue, and Mid-City Access was prepared using the forecast traffic volumes for the Initial Phase of Alternative 2. The traffic analysis of those design variations is described in the following paragraphs.

- **Auto Center Drive/Maple Street:** In the 2015 Initial Phase of Alternative 2, one of the eight intersections affected by this design variation is forecast to operate at LOS F, as shown in Table 3.6.14. With this design variation, the Maple Street/ SR-91 eastbound ramp intersection would deteriorate from LOS D to LOS F.
- **Lincoln Avenue:** In the 2015 Initial Phase of Alternative 2, two of the six intersections affected by this design variation are forecast to operate at LOS F, as shown in Table 3.6.15. With this design variation, one deficient intersection (Lincoln Avenue/SR-91 eastbound ramps) would be removed and a new intersection would be added (SR-91 eastbound ramps/D Street), which would operate at LOS F. The intersection of Lincoln Avenue/D Street would deteriorate from LOS C to F with this design variation.
- **Mid-City Access:** The Mid-City Access at Smith Avenue would serve as an access point to the SR-91 westbound express lane and an egress point from the SR-91 eastbound express lane to Smith Avenue. Four design alternatives at this location were evaluated: (1) with the base assumptions at Maple Street and Lincoln Avenue, (2) with the Maple Street design variation only, (3) with the Lincoln Avenue design variation only, and (4) with both the Maple Street and Lincoln Avenue design variations. The 13 intersections associated with the Maple Street, Smith Avenue, and Lincoln Avenue interchanges were evaluated. In the 2015 base condition (Alternative 2 without Mid-City Access), 2 of the 13 intersections are forecast to operate at unacceptable LOS E or F. When Mid-City Access is evaluated without the Maple Street or Lincoln Avenue design variations, two intersections would operate at LOS E or F, as shown in Table 3.6.16. With Mid-City Access and the Maple Street design variation only, three intersections would operate at unacceptable LOS E or F, as shown in Table 3.6.17. When Mid-City Access is evaluated with only the Lincoln Avenue design variation, two intersections would operate at unacceptable LOS E or F, and SR-91 eastbound ramps/D Street would improve from LOS F to E, as shown in Table 3.6.18. With Mid-City Access and the design variations at Maple Street and Lincoln Avenue, three intersections would operate at unacceptable LOS E or F,

and SR-91 eastbound ramps/D Street would improve from LOS F to E, as shown in Table 3.6.19.

As shown in Table 3.6.13, the intersection LOS under the 2015 Initial Phase of Alternative 2 are generally improved when compared to 2015 No Build conditions within the limits of the Initial Phase. The intersections that are deficient under both Baseline/Existing (2007) and 2015 No Build conditions are improved under the 2015 Initial Phase of Alternative 2 compared to Baseline/Existing (2007) conditions. However, the LOS at the intersection of Lincoln Avenue and the SR-91 eastbound ramps may deteriorate due to the elimination of the West Grand Boulevard ramp and the reconfiguration of the Lincoln Avenue ramps proposed in the Initial Phase of Alternative 2.

Pedestrian and Bicycle Facilities

The Initial Phases of Alternatives 1 and 2 include the relocation of a segment of the Santa Ana River Trail/Bike Lane farther and away from SR-91, which will improve the bicycling experience in that area.

Refer to the discussion of pedestrian and bicycle facilities in the following section for other benefits and impacts for Alternatives 1 and 2 in Design Year 2035. The benefits and impacts of Alternatives 1 and 2 in 2035 would also apply to the Initial Phases of Alternatives 1 and 2 when those phases include modifications to the local streets or bicycle/trail facilities crossing SR-91 and I-15, including appropriate modifications to sidewalks, bicycle facilities, and lighting in the undercrossings and on the overcrossings.

Alternatives 1 and 2 (Design Year 2035)

Each of the alternatives would add one GP lane on SR-91 in each direction. These additions would be continuous throughout the project limits. Both Alternatives 1 and 2 would also provide auxiliary lanes or collector-distributor roads at traffic interchanges and would modify interchange geometrics to improve traffic operations. Local access from all current interchanges is expected to be maintained except at West Grand Boulevard, where the existing nonstandard half-diamond interchange ramps would be removed and replaced with improved local connectivity to the Lincoln Avenue interchange. Therefore, the project would improve traffic patterns for residents and businesses.

The Design Year 2035 Alternative 1 and 2 SR-91 corridor daily VMT, VHT, VHD, and peak-hour travel times are described below. The LOS for the study area freeway

mainline, ramps, and intersections were analyzed for Alternatives 1 and 2 for Design Year 2035 as discussed in the following sections. As noted earlier, Design Year 2035 represents conditions with Alternatives 1 and 2. A design variation sensitivity analysis was also prepared for the intersections affected by each design variation. The intersection LOS for each design variation was calculated using the forecasted traffic volumes for Alternative 2 and are discussed in the Intersection LOS section below.

Freeway Corridor Daily VMT, VHT, VHD, and Peak-Hour Travel Time

The Design Year 2035 Alternative 1 and 2 daily VMT, VHT, and VHD are shown in Table 3.6.20. As shown, a slight increase in VMT (i.e., less than 1 percent) is forecast over 2035 No Build conditions due to additional traffic demand for the SR-91 corridor under Alternatives 1 and 2. The increased capacity along the SR-91 corridor (i.e., the addition of one GP lane in each direction) would result in a 2 percent reduction in VHT for Alternative 1 and a 4 percent reduction in VHT for Alternative 2 when compared to No Build conditions. Approximately 13,000 VHD and 23,000 VHD are saved for Alternatives 1 and 2, respectively, when compared to Design Year 2035 No Build Conditions.

When Alternative 1 and 2 conditions are compared to Baseline/Existing (2007) conditions, the capacity increase of the SR-91 GP lanes and HOV/express lanes will attract more traffic from local streets, which may result in slightly higher VMT. However, with local traffic being diverted to the freeway, congestion on local arterials and intersections will be partially relieved. Based on the project benefits shown in the comparison between 2035 No Build and 2035 Alternative 1 and 2 conditions in Table 3.6.20, the Build Alternatives will reduce VHT and VHD on SR-91 by 5 to 10 percent when compared to the Baseline/Existing (2007) conditions.

Table 3.6.21 shows the travel times and speeds through the SR-91 corridor from I-15 to SR-241 for Design Year 2035 with Alternatives 1 and 2. As shown, Alternative 1 westbound travel time is forecast to decrease by 6.6 minutes and the travel speed is forecast to increase by 2.9 mph in the a.m. peak hour for GP-lane vehicles compared to Design Year 2035 No Build conditions. For HOV/express lane vehicles, the a.m. peak-hour westbound travel time is forecast to decrease by 2.4 minutes and the travel speed is forecast to increase by 2.8 mph. The eastbound travel time is forecast to decrease by 13.1 minutes and the travel speed is forecast to increase by 1.4 mph in the p.m. peak hour for GP-lane vehicles compared to Design Year 2035 No Build conditions. For HOV/express lane vehicles, the p.m. peak-hour eastbound travel time

is forecast to increase by 1.1 minutes and the travel speed is forecast to decrease by 0.3 mph.

As shown in Table 3.6.21, Alternative 2 westbound travel time is forecast to decrease by 5.9 minutes and the travel speed is forecast to increase by 2.5 mph in the a.m. peak hour for GP-lane vehicles compared to Design Year 2035 No Build conditions. For HOV/express lane vehicles, the a.m. peak-hour westbound travel time is forecast to decrease by 13.3 minutes and the travel speed is forecast to increase by 28.4 mph. The eastbound travel time is forecast to decrease by 12.7 minutes and the travel speed is forecast to increase by 1.4 mph in the p.m. peak hour for GP-lane vehicles compared to Design Year 2035 No Build conditions. For HOV/express lane vehicles, the p.m. peak-hour eastbound travel time is forecast to decrease by 33.2 minutes and the travel speed is forecast to increase by 35.3 mph.

When 2035 No Build conditions are compared to the Baseline/Existing (2007) conditions shown in Table 3.6.10, travel time on SR-91westbound in the a.m. peak hour and SR-91 eastbound in the p.m. peak hour is forecast to increase by 50 percent. As mentioned above, travel time and travel speed on SR-91 are expected to be substantially improved when the Build Alternatives are compared to 2035 No Build conditions. The Build Alternatives will greatly relieve the existing traffic congestion on SR-91 as well as result in a substantial reduction in travel time and an increase in travel speed.

Freeway Segment LOS

The Design Year 2035 LOS for each freeway segment under Alternatives 1 and 2 are shown in Table 3.6.22. As shown, under Alternative 1, 18 freeway segments in the a.m. peak hour and 23 freeway segments in the p.m. peak hour are forecast to operate at LOS F. Under Alternative 2, 17 freeway segments in the a.m. peak hour and 19 freeway segments in the p.m. peak hour are forecast to operate at LOS F. Under Alternatives 1 and 2, the segments on SR-91 are congested westbound during the a.m. peak hour and eastbound during the p.m. peak hour. Most segments on I-15 are forecast to be congested during both the a.m. and p.m. peak hours under Alternatives 1 and 2.

When the Design Year 2035 Alternative 1 LOS is compared to the 2035 No Build Alternative LOS, three freeway segments on SR-91 would be improved from LOS F to LOS D or E under Alternative 1. On I-15, one segment would worsen from LOS E to F, and one segment would improve from LOS F to LOS E. Under Alternative 2 in Design Year 2035, six segments on SR-91 would improve from LOS F to LOS D or

E, and on I-15, two segments would improve from LOS F to LOS E and one segment would worsen to LOS F compared to the No Build Alternative in 2035.

Because traffic is less congested under the Baseline/Existing (2007) conditions than under the 2035 No Build conditions, the SR-91 segments would generally operate better with reductions in traffic densities when the Ultimate Projects of the Build Alternatives are applied to Baseline/Existing (2007) conditions. Comparing Alternative 1 to Baseline/Existing (2007) conditions, two currently deficient segments on SR-91 will be improved to LOS D or better. Comparing Alternative 2 to the Baseline/Existing (2007) conditions shown in Table 3.6.11, three segments on SR-91 that are currently deficient will be improved to an acceptable LOS.

Freeway Ramp LOS

Table 3.6.23 shows the freeway ramp LOS in Design Year 2035 for Alternatives 1 and 2. As shown, fewer ramps operate at LOS F under Alternative 2, especially in the vicinity of the Lincoln Avenue and Main Street interchanges on SR-91. In the Design Year 2035 No Build Alternative, 43 ramps in the a.m. peak hour and 41 ramps in the p.m. peak hour would operate at LOS F. In 2035 with Alternative 1, 34 ramps and 40 ramps would operate at LOS F in the a.m. and p.m. peak hours, respectively. Under Alternative 2, 33 and 36 ramps would operate at LOS F in the a.m. and p.m. peak hours, respectively. Alternatives 1 and 2 would both result in fewer ramps operating at LOS F than under the No Build Alternative. Because background traffic is expected to grow substantially from 2015 to 2035, the project benefits of Alternatives 1 and 2 to the study freeway ramps are not as substantial as that under 2015 conditions. In addition, with additional capacity on SR-91 under the Ultimate Projects of the Build Alternatives, more local traffic is forecast to shift to the freeway, which will potentially deteriorate the operations at freeway ramps. When the LOS benefits of Alternatives 1 and 2 associated with ramp reconfigurations are applied to the Baseline/Existing (2007) conditions shown in Table 3.6.12, the deficient SR-91 ramps at Auto Center Drive and Maple Street will be improved to operate at acceptable LOSs.

Intersection LOS

Table 3.6.24 shows the LOS for the study area intersections in Design Year 2035 under Alternatives 1 and 2. As shown, the same intersections would operate at unacceptable LOS E or F under Alternatives 1 and 2. In the Design Year 2035 No Build Alternative, 12 intersections in the a.m. peak hour and 14 intersections in the p.m. peak hour would operate with unacceptable LOS E or F. Under Alternative 1, 12 intersections in the a.m. peak hour and 13 intersections in the p.m. peak hour

would operate at LOS E or F. Under Alternative 2, 13 intersections in both the a.m. and p.m. peak hours would operate at LOS E or F. However, with Alternative 1, the LOS at two intersections would worsen when compared to the Design Year 2035 Baseline. Four intersections would worsen with implementation of Alternative 2. Alternatives 1 and 2 would result in fewer intersections operating at unacceptable LOS in the p.m. peak hour than under the No Build Alternative. Recommended intersection improvements are discussed in subsequent sections.

The Design Year 2035 analysis of the intersection LOS with the design variations at Auto Center Drive/Maple Street, Lincoln Avenue, and Mid-City Access was prepared using the forecast Alternative 2 traffic volumes. The traffic analysis of those design variations is described below and summarized in Tables 3.6.25 through 3.6.30.

- **Auto Center Drive/Maple Street:** In the Design Year 2035 with Alternative 2, four of the eight intersections affected by this design variation are forecast to operate at LOS E or F, as shown in Table 3.6.25. With this design variation, the Maple Street/SR-91 eastbound ramp intersection would deteriorate from LOS D to F. The Paseo Grande (SR-91 eastbound on-ramp)/Sixth Street intersection would deteriorate from LOS D to E.
- **Lincoln Avenue:** In the Design Year 2035 with Alternative 2, two of the six intersections affected by this design variation are forecast to operate at LOS E or F, as shown in Table 3.6.26. With this design variation, one deficient intersection (Lincoln Avenue/SR-91 eastbound ramps) would be removed and a new intersection would be added (SR-91 eastbound ramps/D Street) that would operate at LOS F. The intersection of Lincoln Avenue/D Street would deteriorate from LOS C to F with this design variation.
- **Mid-City Access:** The Mid-City Access at Smith Avenue would serve as an access point to the SR-91 westbound express lane and an egress point from the SR-91 eastbound express lane to Smith Avenue. Four design alternatives have been evaluated: (1) with the base assumptions at Maple Street and Lincoln Avenue, (2) with the Maple Street design variation only, (3) with the Lincoln Avenue design variation only, and (4) with both the Maple Street and Lincoln Avenue design variations. The 13 intersections associated with the Maple Street, Smith Avenue, and Lincoln Avenue interchanges were evaluated under 2035 conditions. In the 2035 base condition (Alternative 2 without Mid-City Access), 4 of the 13 intersections are forecast to operate at unacceptable LOS E or F. When Mid-City Access is evaluated without the Maple Street or Lincoln Avenue design

variations, 4 intersections would operate at LOS E or F, as shown in Table 3.6.27. Smith Avenue/Railroad Street would deteriorate from LOS D to E, and Lincoln Avenue/SR-91 westbound ramps would improve from LOS F to E. With Mid-City Access and the Maple Street design variation only, 6 intersections would operate at unacceptable LOS E or F, as shown in Table 3.6.28. Smith Avenue/Railroad Street would deteriorate from LOS D to E, and Lincoln Avenue/SR-91 westbound ramps would improve from LOS F to E. When Mid-City Access is evaluated with only the Lincoln Avenue design variation, 5 intersections would operate at unacceptable LOS E or F, and SR-91 eastbound ramps/D Street would deteriorate from LOS D to E, as shown in Table 3.6.29. With Mid-City Access and the design variations at Maple Street and Lincoln Avenue, 7 intersections would operate at unacceptable LOS E or F, and Smith Avenue/Railroad Street would deteriorate from LOS D to E, as shown in Table 3.6.30.

The intersection performance under 2035 Alternatives 1 and 2 is slightly improved when compared to 2035 No Build conditions. However, due to substantial growth in the background traffic under the 2035 No Build conditions, the additional capacity on SR-91 under the Alternative 1 and 2 conditions provides less improvement to the SR-91 corridor intersections when compared to the project impacts under 2015 conditions. When the Ultimate Projects of the Build Alternatives along with the ramp reconfigurations are applied to the Baseline/Existing (2007) conditions shown in Table 3.6.13, several intersections that are currently deficient will be improved to acceptable LOSs. The ramp reconfigurations at Maple Street will improve the currently deficient intersections along Maple Street to operate at LOS D or better, while the proposed elimination of the West Grand Boulevard ramps will result in local traffic accessing the freeway via the Lincoln Avenue ramps. Hence, the performance of the ramp termini at Lincoln Avenue may deteriorate when the Ultimate Projects of the Build Alternatives are compared to Baseline/Existing (2007) conditions.

Pedestrian and Bicycle Facilities

The project would provide an overall positive improvement to pedestrian and bicycle facilities within the project limits with improved sidewalks on the arterials crossing SR-91. The majority of the sidewalks replaced under Alternatives 1 and 2 would be ADA compliant. Table 3.6.31 provides details of the improvements to pedestrian and bicycle facilities included in Alternatives 1 and 2.

Existing bicycle facilities at crossings on SR-91 would be replaced in kind to maintain existing bicycle access or designed to allow for improved bicycle access as shown in Table 3.6.31. All improvements to pedestrian and bicycle facilities would be designed and constructed to the local jurisdiction's applicable code.

On the local streets that cross under SR-91 and I-15, the widened freeway would result in widened bridges, and the lengths of those roads and sidewalks that are in undercrossings as they cross under the freeways would be increased. The new parts of the overcrossings would include lighting consistent with local standards for both vehicles and pedestrians. However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Table 3.6.32 identifies the individual undercrossings that would be lengthened under the Build Alternatives. The changes in the lengths of the undercrossings would vary under Alternatives 1 and 2. Table 3.6.32 shows the maximum widths of the widened overcrossings under Alternatives 1 and 2 and their design variations, including Alternative 2f. Measure T-4 addresses lighting in the undercrossings during final design, including the provision of appropriate lighting in the new parts of the undercrossings and the provision of additional lighting in the existing parts of the undercrossings if determined to be necessary. In addition, Measure V-1 provides for textured and site-specific aesthetic features on paved slopes in areas with bicyclist and pedestrian viewers, such as the areas in the undercrossings, to improve views of the freeway structures in the undercrossings.

As shown in Table 3.6-33, several streets cross over the freeways on overcrossing structures. When the mainline freeways are widened under Alternatives 1 and 2, the lengths of the overcrossings would increase to span the wider freeway. As a result, the amount of time pedestrians and bicyclists spend on the overcrossings would increase compared to existing conditions because of the longer overcrossing structures. As a result, some pedestrians and bicyclists may perceive the longer overcrossings as negatively affecting their experiences as they cross the freeways.

In summary, although Alternatives 1 and 2 would generally result in improved pedestrian and bicycle facilities at the crossings of SR-91 and I-15, some users may perceive the longer undercrossings and overcrossings as adversely affecting their experiences as they cross the freeways. Some pedestrians and bicyclists may consider the longer overcrossings and undercrossings as sufficiently negative to discourage travel across the freeways at those locations.

Because the specific alignments and cross sections of proposed bicycle facilities in the study area are not known at this time and right-of-way has not been identified or reserved for those facilities, it is not possible to identify the potential for the SR-91 Build Alternatives to impact those facilities. However, if any of these proposed facilities are constructed prior to the construction of Alternatives 1 or 2, potential project effects to those facilities would be similar to the effects described above for the existing facilities in the project area.

No Build Alternative

The No Build Alternative would not provide any road improvements in the traffic study area. As a result, traffic congestion would continue to increase on the project segments of SR-91 and I-15, and at the ramps on those freeway segments. LOS would continue to deteriorate due to forecasted increases in traffic volumes among the Baseline/Existing (2007), 2015, and Design Year 2035 conditions. The traffic conditions under the No Build Alternative are shown in Tables 3.6.3 through 3.6.7 for the freeway corridor, mainline segments, freeway ramps, and intersections.

3.6.3.3 Temporary Impacts

Temporary Closures Under Alternatives 1 and 2

As part of the widening of SR-91 under Alternatives 1 and 2, some freeway ramps and connectors would require major reconstruction or realignment. Complete closure of the ramps or connectors would be required for certain periods of time or on weekends during construction of Alternatives 1 and 2. Ramp closure scenarios were evaluated to ensure minimal inconvenience to the traveling public. Preliminary construction staging plans were developed to ensure that the closure durations would be minimized and, if at all possible, that there would be no concurrent multiple closures.

The ramp or connector closures, which are required on SR-91 in each construction stage, were evaluated using the macroscopic simulation software FREQ. This software was used to simulate the mainline freeway operation on SR-91 for different ramp closure scenarios and durations to ensure that the numbers of closures and the duration of each closure would be minimized and that the freeway operations would not be substantially affected.

Table 3.6.34 provides a summary of the additional travel time and delays along SR-91 that would be associated with the connector closures considered to have a high impact on both directions along the SR-91 mainline. Table 3.6.35 provides a summary of the additional travel time and delays along SR-91 that would be

associated with the ramp closures. The additional travel time and delays reported in these tables are compared to free-flow conditions.

Table 3.6.36 summarizes the ramp and freeway connector closures during construction of the Initial Phases of Alternatives 1 and 2 and Alternatives 1 and 2 on SR-91, as well as the additional travel time along temporary detour routes that would result from each closure. As shown on Table 3.6.35, closures would range from as short a period as one weekend to as long as 12 months. Many of those closures would occur on both weekdays and weekends. As a result, particularly for the longer closures, travelers in the areas near the closures would be substantially affected and would need to use detour routes, which are described in the following sections, to complete their trips in those areas.

The closures would occur as construction occurs on each ramp or connector in the Initial Phases of Alternatives 1 and 2, or Alternatives 1 and 2.

The project will not require any ramp or connector closures on I-15. Therefore, no ramp closure analysis was conducted for the project segment of I-15.

Temporary Detours Under Alternatives 1 and 2

Preliminary primary detour routes were identified in the *Final Ramp Closure Study* for each ramp or connector closure. The detours were developed by evaluating the circulation system and identifying the most likely and simplest detours the public would use. For some major freeway ramps and connectors, multiple primary detour routes were identified.

Field driving surveys were conducted on January 6 and 7, 2009, under non-peak-hour or free-flow conditions between 9:00 a.m. and 3:00 p.m. for the primary detour routes to determine whether unreasonable inconvenience would occur as a result of the detours. The estimated travel time delay analysis indicated that a 1- to 6-minute delay occurred when comparing the travel times of the existing routes to the travel times on the primary detour routes under non-peak-hour conditions. The travel times for the following detour routes may experience additional delays due to the at-grade railroad crossings in these areas:

- Eastbound SR-91 at the McKinley Street northbound on-ramp and the Buchanan Avenue northbound overpass
- Westbound SR-91 at the McKinley Street northbound off-ramp and the Buchanan Avenue southbound overpass

Table 3.6.35 provides a summary of the LOS that would be experienced at the signalized intersections along the temporary detour routes with the various ramp closure scenarios.

The temporary detours would apply to the Initial Phases of Alternatives 1 and 2 and to Alternatives 1 and 2, as needed, as the ramp and connector closures described above occur.

Temporary Impacts to Pedestrian and Bicycle Facilities Under Alternatives 1 and 2

During construction of Alternatives 1 and 2, the existing cross sections on local streets crossing the project segments of SR-91 and I-15 may be narrowed or reduced to accommodate the temporary construction activities. As a result, sidewalks may be temporarily closed at these crossings. In addition, the on-street bicycle facilities on local streets at their crossings of SR-91 may be temporarily closed so that the reduced street cross section can provide sufficient vehicle travel lanes to accommodate vehicle traffic. As a result, pedestrian and bicycle access on local streets across the project segments of SR-91 and I-15 may be temporarily disrupted during construction.

As shown in Table 3.6.31, there are pedestrian facilities on the local streets crossing the project alignment, many of which provide ADA-compliant accessibility. Because many of those local streets would be closed temporarily during project construction, ADA accessibility would also be affected during those closures.

It is possible that short segments of the Santa Ana River Trail/Bike Lane west of the Green River Golf Club and east of Featherly Regional Park may be closed temporarily during construction for the safety of users of the trail and the construction personnel. These closures are anticipated to be of very limited durations (e.g., hours and days) and alternate routes would be provided.

No Build Alternative

Under the No Build Alternative, there would be no project improvements. Therefore, no temporary traffic impacts associated with construction would occur on the project segments of SR-91 and I-15 under the No Build Alternative.

3.6.4 Avoidance, Minimization, and/or Mitigation Measures

Measures T-1 and T-2, which would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives, address short-term adverse traffic impacts during construction.

T-1 **Transportation Management Plan.** A Preliminary TMP (May 2010) was prepared during the development of the preliminary engineering for the project. The purpose of the TMP is to address the short-term traffic impacts during construction of the project. The objectives of the TMP are to:

- Maintain traffic safety during construction
- Effectively maintain an acceptable level of traffic flow throughout the transportation system during construction
- Minimize traffic delays and facilitate reduction of overall duration of construction activities
- Minimize detours and impacts to pedestrians and bicyclists
- Foster public awareness of the project and related impacts
- Achieve public acceptance of construction of the project and the Final TMP measures.

During final design, the RCTC Project Engineer will direct a qualified traffic engineer to prepare the Final TMP, based on the Preliminary TMP prepared during the preliminary engineering. RCTC will submit the Final TMP to the Department for review and approval during final design and prior to any construction activities.

The existing Preliminary TMP contains the following elements intended to reduce traveler delay and enhance traveler safety. These elements will be refined during final design and incorporated in the Final TMP for implementation during project construction:

- **Public Information/Public Awareness Campaign (PAC).** The primary goal of the PAC is to educate motorists, business owners/ operators, residents, elected officials, and government agencies about construction activities and associated impacts. The PAC is an important tool for reaching target audiences with important construction project information and will include, but not be limited to:

  - Rideshare information
  - Brochures and mailers
  - Media releases

- Paid advertising
- Public meetings
- Broadcast fax and email services
- Telephone hotline
- Notification to targeted groups
- Commercial traffic reporters/feeds
- Project website
- Visual information
- Local cable television and news
- Internet postings

- **Traveler Information Strategies.** The effective implementation of a traveler information system during construction is crucial for enabling motorists to make informed decisions about their travel plans and options with real-time traffic information. That real-time traffic information will include information on lane closures, detours, delays, access to adjacent land uses, "businesses are open" signing, and other signing and information to assist travelers in navigating through and in construction areas. Key components of this system will include, but not be limited to:

  - Fixed changeable message signs
  - Portable changeable message signs
  - Ground-mounted signs
  - Automated work zone information systems
  - Highway advisory radio
  - Lane closure website
  - Department highway information network
  - Bicycle and pedestrian information
  - Commute Smart website

- **Incident Management.** Effective incident management will ensure that incidents in construction areas are cleared quickly and do not lead to substantial delays for the traveling public through work zones. Incident management includes, but is not limited to:

- COZEEP
- Freeway service patrol for construction
- Traffic surveillance stations
- Transportation Management Center Unit 370
- Traffic management team
- Towing services

- **Construction Strategies.** The Final TMP will include procedures to lessen the effect of typical construction activities and will include, but not be limited to, consideration of the following:

  - Conflicts with other projects and special events
  - Construction staging alternatives
  - Mainline lane closures
  - Local road closures
  - Ramp/connector closures
  - Pedestrian and bicycle detours and facility closures (detours provided for all closures longer than 1 day)
  - Traffic control improvements
  - Coordination with other projects
  - Project phasing
  - Traffic screens
  - Truck traffic restrictions

- **Demand Management.** Temporarily reducing the overall traffic volumes on the project segments of SR-91 and I-15 could reduce the short-term adverse effects of construction on traffic operations. The Final TMP will include, but not be limited to, the following strategies that could reduce vehicular demand in the study area during project construction:

  - Rideshare incentives
  - Transit services
  - Shuttle services
  - Variable work hours/telecommuting
  - HOV lanes/ramps
  - Park-and-ride lots

- **Alternate Route Strategies.** The Final TMP will provide strategies for notifying motorists, pedestrians, and bicyclists, especially interregional commuters, of planned construction activities. This notification will allow travelers to make informed decisions about their travel plans, including the consideration of possible alternate routes. The Final TMP will consider the development of alternate routes for motorists to address the following:

  - Mainline lane closures
  - Ramp/connector closures
  - Local road closures
  - Temporary highway or shoulder use
  - Local street improvements
  - Temporary detours and closures of bicycle and pedestrian facilities
  - Traffic signal coordination

RCTC's Resident Engineer will ensure that the measures in the Final TMP are properly implemented by the design/build contractor prior to and during construction.

T-2 **Management of Ramp Closures.** A *Draft Ramp Closure Study* (January 2010) was prepared during the development of the preliminary engineering for the project. During final design, RCTC's Project Engineer will direct a qualified traffic engineer to develop the *Final Ramp Closure Plan* for implementation during construction based on the *Draft Ramp Closure Study*, to address specific short-term impacts associated with ramp closures longer than 10 days during construction. The objectives of the *Final Ramp Closure Plan* will be to:

- Minimize inconvenience to the traveling public
- Minimize closures
- Avoid or minimize concurrently multiple closures
- Coordinate closures with other projects and activities

Prior to and during construction, RCTC's Resident Engineer will ensure that the measures included in the *Final Ramp Closure Plan* are properly implemented by the design/build contractor.

Measures T-3 and T-4, which would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives, address long-term impacts related to area intersections and undercrossings.

T-3 **Fair Share Contributions.** RCTC's Project Manager will ensure that RCTC pays the fair share contribution for the project-related impacts at area intersections. Those fair shares are shown by intersection in Table T-3.1. The recommended improvements include additional turn and through lanes. Summaries of the improved intersection delays and LOS are provided in Tables T-3.2, T-3.3, and T-3.4 for 2015 with the Initial Phase of Alternative 2, Design Year 2035 with Alternative 1, and Design Year 2035 with Alternative 2 conditions, respectively.

T-4 During final design, the RCTC Project Engineer will ensure that the final design and project specifications for the widened areas in the undercrossings on SR-91 and I-15 include appropriate lighting for vehicles and pedestrians. The RCTC Project Engineer will also assess the need for additional lighting in the original parts of the undercrossings in the event the longer undercrossings result in the need for additional lighting in those areas. That additional lighting, if any, will also be shown in the project specifications.

The RCTC Project Engineer will have any lighting considered at Coal Canyon reviewed and approved by the Project Biologist prior to incorporation in the project specifications to ensure the lighting does not affect the use of Coal Canyon as a wildlife crossing.

During construction, the RCTC Resident Engineer will require the design/build contractor to implement the lighting in undercrossings as shown in the project specifications.

In addition, Measure V-1 provides for textured and site-specific aesthetic features on paved slopes in areas with bicyclist and pedestrian viewers, such as the areas in the undercrossings, to improve views of the freeway structures in the undercrossings.

Measure T-3:
Table T-3.1 Fair-Share Analysis for Intersection Deficiencies in 2015 and Design Year 2035

Intersection	Recommended Improvements	Fair-Share (%)		
		2015 Alt 1	2015 Initial Phase of Alt 2	Design Year 2035 Alt 2
Green River Road/SR-91 WB ramps	Add WBL	0%	76%	0%
Green River Road/SR-91 EB ramps	Restripe shared EBL-T to shared EBT-R and add EBL	12%	23%	36%
Auto Center Drive/SR-91 WB ramps	Add 2nd NBL	0%	No mitigation required	0%
Maple Street/Pomona Road	Add 2nd SBT	0%	No mitigation required	0%
Lincoln Avenue/SR-91 WB ramps	Add 2nd NBL; Add 3rd SBT	74%	60%	68%
Lincoln Avenue/SR-91 EB ramps	Restripe shared NBT-R to 2nd NBT and add 3rd NBT and exclusive NBR; Add 2nd SBL	92%	86%	94%
Main Street/North Grand Boulevard	Restripe shared NBT-R to NBT, Add NBR, Add 2nd SBL	63%	38%	96%
Main Street/SR-91 WB ramps	Add 3rd NBT; Restripe SBR to shared SBT-R and add 4th SBT	0%	0%	0%
Main Street/SR-91 EB ramps	Add shared NBT-R; Add 3rd SBT	100%	100%	100%
Main Street/Third Street	Add 3rd NBT; Add 3rd SBT	43%	69%	100%
McKinley Street/Griffin Way	Restripe shared EBT-R to 1st EBT and add 2nd EBR	20%	No mitigation required	16%
McKinley Street/Sampson Avenue	Add 3rd NBT	27%	No mitigation required	48%
Pierce Street/Magnolia Avenue	Add 2nd SBT; Add 2nd EBL and 3rd EBT	0%	0%	0%
Hamner Avenue/Second Street	Add 3rd NBT; Restripe exclusive SBR to shared SBT-R	0%	No mitigation required	1%
Hamner Avenue/Hidden Valley Parkway	Add 3rd NBT and 2nd NBR; Add 2nd SBL and restripe exclusive SBR to shared SBT-R; Add 2nd WBL and restripe shared WBL-T to 2nd WBT	4%	11%	17%
Rimpau Avenue/Magnolia Avenue	Add 2nd NBT; Add 2nd SBT; Restripe shared EBT-R to 3rd EBT and add EBR	0%	No mitigation required	0%
El Sobrante /Magnolia Avenue	Restripe shared NBT-R to 1st NBT and add NBR; Restripe share WBT-R to 2nd WBT, add 3rd WBT and WBR	0%	No mitigation required	0%
I-15 SB ramps/Magnolia Avenue	2035: Restripe shared SBL-T to shared SBL-T-R; Restripe 3rd WBT to 2nd WBL	0%	No mitigation required	0%
I-15 SB ramps/Ontario Avenue	2015: Add 3rd WBT	0%	6%	22%
	2035: Add 2nd EBR; Add 3rd WBT	0%	NA	0%
Bedford Canyon Road/Cajalco Road	Add 2nd SBL; Add 3rd WBT	0%	6%	5%

Source: Riverside County Transportation Commission (2010).

Alt = Alternative
EB = eastbound
EBL = eastbound left
EBL-T = eastbound left-through
EBR = eastbound right
EBT = eastbound through
EBT-R = eastbound through-right
NB = northbound
NBL = northbound left
NBR = northbound right
NBT = northbound through
NBT-R = northbound through-right
SB = southbound
SBL = southbound left
SBL-T = southbound left-through
SBL-T-R = southbound left-through-right
SBR = southbound right
SBT = southbound through
SBT = southbound through
SBT-R = southbound through-right
WB = westbound
WBL = westbound left
WBL-T = westbound left-through
WBR = westbound right
WBT = westbound through
WBT-R = westbound through-right

Measure T-3:
Table T-3.2 2015 Initial Phase of Alternative 2 Recommended Intersection Improvements

Intersection	2015 No Build				2015 Initial Phase of Alt 2				2015 Initial Phase of Alt 2 With Improvements				Recommended Improvements[1]
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	62.6	E	26.2	C	68.9	**E**	31.8	C	60.6	**E**	24.9	C	Add westbound left
Green River Road / SR-91 EB ramps	29.7	C	96.6	**F**	29.5	C	114.9	**F**	31.8	C	35.0	C	Restripe shared EB left-through to shared EB through-right and add EB left
Lincoln Avenue / SR-91 WB ramps[2]	–	–	–	–	18.5	B	14.2	B	17.0	B	13.2	B	***Add 2nd NB left; add 3rd SB through***
Lincoln Avenue / SR-91 EB ramps[2]	24.9	C	141.9	**F**	93.5	**F**	104.3	**F**	13.4	B	28.4	C	***Restripe shared NB through-right to 2nd NB through, add 3rd NB through and NB right; add 2nd SB left***
Main Street / North Grand Boulevard	32.3	C	71.7	**E**	30.9	C	74.3	**E**	28.3	C	67.3	**E**	***Add exclusive NB right; add 2nd SB left***
Main Street / SR-91 WB ramps[3]	29.3	C	87.9	**F**	24.4	C	73.5	E	20.0	B	49.7	D	***Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through***
Main Street / SR-91 EB ramps[3]	14.5	B	20.0	B	16.9	B	33.7	C	15.0	B	23.7	C	***Add shared NB through-right; add 3rd SB through***
Main Street / Third Street	45.7	D	29.9	C	60.5	**E**	41.0	D	38.9	D	29.4	C	***Add 3rd NB through; add 3rd SB through***
Pierce Street / Magnolia Avenue	33.1	C	61.9	**E**	31.1	C	57.1	**E**	30.7	C	47.4	D	Add 2nd SB through; add 3rd EB through
Hamner Avenue / Hidden Valley Parkway	39.3	D	85.5	**F**	40.8	D	90.6	**F**	28.9	C	44.5	D	Add 3rd NB through and 2nd NB right; restripe shared WB left-through to 2nd WB left
I-15 SB ramps / Ontario Avenue	79.1	**E**	38.1	D	81.7	**F**	47.2	D	38.7	D	47.1	D	Add 3rd WB through

Source: Synchro as presented in the *Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

[1] Bold italic type denotes improvement measures that differ from 2015 No Build conditions.

[2] The geometrics for Alternative 2 represent a diamond configuration.

[3] The geometrics for Alternative 2 are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative
EB = eastbound
I-15 = Interstate 15
LOS = level of service
NB = northbound
SB = southbound
sec = seconds
SR-91 = State Route 91
WB = westbound

Measure T-3:
Table T-3.3 Design Year 2035 Alternative 1 Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 1				Design Year 2035 Alt 1 With Improvements				Recommended Improvements[1]
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	85.0	F	31.6	C	73.8	E	31.7	C	69.1	E	23.3	C	***Add WB left***
Green River Road / SR-91 EB ramps	42.6	D	158.4	F	38.7	D	163.1	F	39.2	D	53.9	D	Restripe shared EB left-through to shared EB through-right and add EB left
Auto Center Drive / SR-91 WB ramps[2]	82.2	F	19.2	B	63.6	E	14.0	B	20.3	C	13.9	B	Add 2nd NB left
Maple Street / Pomona Road	79.1	E	49.8	D	76.0	E	50.9	D	43.0	D	45.8	D	Add 2nd SB through
Lincoln Avenue / SR-91 WB ramps[3]	–	–	–	–	96.6	F	33.7	C	15.9	B	15.3	B	***Add 2nd NB left; add 3rd SB through***
Lincoln Avenue / SR-91 EB ramps[3]	35.8	D	66.5	E	183.1	F	123.2	F	17.2	B	14.2	B	***Restripe shared NB through-right to 2nd NB through; add 3rd NB through and NB right; add 2nd SB left***
Main Street / Grand Boulevard	36.9	D	97.6	F	42.0	D	81.0	F	37.8	D	70.6	E	***Restripe shared NB through-right to 2nd NB through and add exclusive NB right; add 2nd SB left***
Main Street / SR-91 WB ramps[4]	25.5	C	137.9	F	43.0	D	119.1	F	31.0	C	78.6	E	***Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through***
Main Street / SR-91 EB ramps[4]	20.7	C	25.3	C	44.9	D	38.4	D	21.7	C	30.4	C	***Add shared NB through-right; add 3rd SB through***
Main Street / Third Street	65.4	E	62.5	E	76.6	E	61.9	E	50.7	D	34.6	C	Add 3rd NB through; ***add 3rd SB through***
McKinley Street / Griffin Way	29.3	C	63.7	E	31.1	D	69.0	E	28.7	C	42.9	D	Restripe shared EB through-right to 1st EB through and add 2nd EB right
McKinley Street / Sampson Avenue	38.2	D	53.1	D	40.3	D	56.5	E	41.4	D	44.1	D	Add 3rd NB through; restripe shared WB through-right to WB right
Pierce Street / Magnolia Avenue	56.5	E	143.0	F	46.6	D	116.4	F	39.5	D	53.9	D	Add 2nd SB through; add 2nd EB left and 3rd EB through
Hamner Avenue / Hidden Valley Parkway	257.1	F	184.0	F	225.6	F	181.4	F	56.2	E	50.9	D	Add 3rd NB through and 2nd NB right; add 2nd SB left and restripe SB right to shared SB through-right; add 2nd WB left and restripe shared WB left-through to 2nd WB through

Measure T-3:
Table T-3.3 Design Year 2035 Alternative 1 Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 1				Design Year 2035 Alt 1 With Improvements				Recommended Improvements[1]
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Rimpau Avenue / Magnolia Avenue	87.1	**F**	85.2	**F**	84.6	**F**	83.1	**F**	40.2	D	37.5	D	Add 2nd NB through; add 2nd SB through; restripe shared EB through-right to 3rd EB through and add EB right
El Sobrante Road / Magnolia Avenue	67.6	**E**	97.2	**F**	58.6	**E**	68.7	**E**	34.3	C	50.8	D	Restripe shared WB through-right to 3rd WB through; add exclusive WB right
I-15 SB ramps / Magnolia Avenue	87.4	**F**	104.1	**F**	81.3	**F**	93.1	**F**	44.8	D	51.6	D	Restripe shared SB left-through to shared SB left-through-right
I-15 SB ramps / Ontario Avenue	75.0	**E**	44.2	D	62.2	**E**	37.4	D	24.5	C	29.6	C	Add 2nd EB right; add 3rd WB through
Bedford Canyon Road / Cajalco Road	21.2	C	183.3	**F**	23.2	C	167.8	**F**	17.3	B	27.9	C	Add 2nd SB left; add 3rd WB through

Source: Synchro as presented in the *Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

[1] Bold italic type denotes the improvement measures in addition to 2035 No Build conditions.
[2] EB braids and WB split diamond configuration are assumed as Alternative 1 conditions.
[3] The geometrics for Alternative 1 represent a diamond configuration.
[4] The geometrics for Alternative 1 are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative
EB = eastbound
I-15 = Interstate 15
LOS = level of service
NB = northbound
SB = southbound
sec = seconds
SR-91 = State Route 91
WB = westbound

Measure T-3:
Table T-3.4 Design Year 2035 Alternative 2 Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 2				Design Year 2035 Alt 2 With Improvements				Recommended Improvements[1]
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Green River Road / SR-91 WB ramps	85.0	**F**	31.6	C	79.1	**E**	33.3	C	73.5	**E**	20.6	C	***Add WB left***
Green River Road / SR-91 EB ramps	42.6	D	158.4	R	41.3	D	144.2	F	42.1	D	50.1	D	Restripe shared EB left-through to shared EB through-right and add EB left
Auto Center Drive / SR-91 WB ramps[2]	82.2	**F**	19.2	B	59.3	**E**	13.6	B	19.0	B	11.7	B	Add 2nd NB left
Maple Street / Pomona Road	79.1	**E**	49.8	D	70.6	**E**	46.7	D	46.4	D	39.6	D	Add 2nd SB through
Lincoln Avenue / SR-91 WB ramps[3]	–	–	–	–	82.4	**F**	32.9	C	15.1	B	17.2	B	***Add 2nd NB left; add 3rd SB through***
Lincoln Avenue / SR-91 EB ramps[3]	35.8	D	66.5	E	168.3	**F**	135.0	**F**	16.2	B	12.4	B	***Restripe shared NB through-right to 2nd NB through; add 3rd NB through and NB right; add 2nd SB left***
Main Street / Grand Boulevard	36.9	D	97.6	**E**	39.5	D	79.0	**E**	32.1	C	64.6	**E**	***Restripe shared NB through-right to 2nd NB through and add exclusive NB right; add 2nd SB left***
Main Street / SR-91 WB ramps[4]	25.5	C	137.9	**F**	27.9	C	107.7	**F**	25.0	C	69.5	E	***Add 3rd NB through; restripe SB right to shared SB through-right and add 4th SB through***
Main Street / SR-91 EB ramps[4]	20.7	C	25.3	C	22.8	C	51.6	D	19.0	B	30.8	C	***Add shared NB through-right; add 3rd SB through***
Main Street / Third Street	65.4	**E**	62.5	**E**	108.1	**F**	54.9	D	66.6	**E**	35.1	D	Add 3rd NB through; ***add 3rd SB through***
McKinley Street / Griffin Way	29.3	C	63.7	E	30.9	C	68.0	E	30.6	C	40.8	D	Restripe shared EB through-right to 1st EB through and add 2nd EB right
McKinley Street / Sampson Avenue	38.2	D	53.1	D	36.3	D	57.2	E	29.9	C	48.6	D	Add 3rd NB through; restripe shared WB through-right to WB right
Pierce Street / Magnolia Avenue	56.5	**E**	143.0	**F**	49.7	D	114.4	**F**	41.6	D	52.0	D	Add 2nd SB through; add 2nd EB left and 3rd EB through
Hamner Avenue / Hidden Valley Parkway	257.1	**F**	184.0	**F**	229.7	**F**	178.5	**F**	61.5	**E**	49.1	D	Add 3rd NB through and 2nd NB right; add 2nd SB left and restripe SB right to shared SB through-right; add 2nd WB left and restripe shared WB left-through to 2nd WB through

Measure T-3:
Table T-3.4 Design Year 2035 Alternative 2 Recommended Intersection Improvements

Intersection	Design Year 2035 No Build				Design Year 2035 Alt 2				Design Year 2035 Alt 2 With Improvements				Recommended Improvements[1]
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	
Rimpau Avenue / Magnolia Avenue	87.1	**F**	85.2	**F**	85.3	**F**	80.5	**F**	40.5	D	37.2	D	Add 2nd NB through; add 2nd SB through; restripe shared EB through-right to 3rd EB through and add EB right
El Sobrante Road / Magnolia Avenue	67.6	**E**	97.2	**F**	55.6	**E**	78.9	**E**	33.2	C	51.3	D	Restripe shared WB through-right to 3rd WB through; add exclusive WB right
I-15 SB ramps / Magnolia Avenue	87.4	**F**	104.1	**F**	74.6	**E**	90.3	**F**	40.5	D	52.1	D	Restripe shared SB left-through to shared SB left-through-right
I-15 SB ramps / Ontario Avenue	75.0	**E**	44.2	D	60.2	**E**	31.5	C	28.9	C	27.9	C	Add 2nd EB right; add 3rd WB through
Bedford Canyon Road / Cajalco Road	21.2	C	183.3	**F**	23.7	C	191.0	**F**	17.8	B	29.1	C	Add 2nd SB left; add 3rd WB through

Source: Synchro as presented in the *Traffic Study Report* (July 2010).

Note: A black box (**F**) represents a deficient segment.

[1] Bold italic type denotes the improvement measures in addition to 2035 No Build conditions.
[2] EB braids and WB split diamond configuration are assumed as Alternative 2 conditions.
[3] The geometrics for Alternative 2 represent a diamond configuration.
[4] The geometrics for Alternative 2 are the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 to exit at Main Street.

Alt = Alternative
EB = eastbound
I-15 = Interstate 15
LOS = level of service
NB = northbound
SB = southbound
sec = seconds
SR-91 = State Route 91
WB = westbound

Table 3.6.1 Freeway Levels of Service

Levels of Service	Basic Freeway Mainline Density (pc/mi/ln)	Freeway Ramp Density (pc/mi/ln)
A	0–11.0	≤ 10.0
B	11.0–18.0	> 10.0 and ≤ 20.0
C	18.0–26.0	> 20.0 and ≤ 28.0
D	26.0–35.0	> 28.0 and ≤ 35.0
E	35.0–45.0	> 35.0
F	> 45.0	Exceeds Capacity

Source: *Highway Capacity Manual* (2000).
pc/mi/ln = passenger cars per mile per lane

Table 3.6.2 Stop-Controlled Intersection Levels of Service

Levels of Service	Control Delay Per Vehicle (in seconds)	
	Signalized Intersections	Stop-Controlled Intersections
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Source: *Highway Capacity Manual* (2000).

Table 3.6.3 Summary of Baseline/Existing (2007) and 2015 and 2035 No Build Daily VMT, VHT, and VHD

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
SR-91 Corridor						
Vehicle Miles Traveled	Baseline/Existing (2007)	352,459	6,593,112	526,828	3,530,753	11,003,152
	2015 No Build	771,324	8,029,911	677,873	4,191,980	13,671,088
	Design Year 2035 No Build	2,268,016	8,791,080	809,551	4,955,412	16,824,059
Vehicle Hours Traveled	Baseline/Existing (2007)	5,844	185,177	13,093	130,574	334,688
	2015 No Build	13,781	253,876	18,362	160,527	446,546
	Design Year 2035 No Build	59,412	301,707	24,448	198,378	583,945
Vehicle Hours of Delay	Baseline/Existing (2007)	209	79,689	5,002	15,823	100,723
	2015 No Build	1,918	116,853	7,949	21,864	148,584
	Design Year 2035 No Build	24,527	152,424	12,005	35,135	224,091
Remainder of Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,317,992	208,815,843	12,198,974	170,853,518	394,186,327
	2015 No Build	2,748,036	239,260,166	20,837,074	198,800,692	461,645,968
	Design Year 2035 No Build	4,530,729	272,409,609	30,710,949	234,000,304	541,651,597
Vehicle Hours Traveled	Baseline/Existing (2007)	41,781	5,213,597	254,996	6,736,555	12,246,929
	2015 No Build	48,564	6,333,621	511,405	8,046,826	14,940,416
	Design Year 2035 No Build	81,186	8,268,888	904,155	10,152,197	19,406,426
Vehicle Hours of Delay	Baseline/Existing (2007)	4,498	1,832,605	67,773	641,528	2,546,404
	2015 No Build	4,215	2,473,536	192,994	1,022,059	3,692,804
	Design Year 2035 No Build	9,366	3,887,982	435,322	1,917,861	6,250,531
Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,670,451	215,408,955	12,725,802	174,384,271	405,189,479
	2015 No Build	3,519,360	247,290,077	21,514,947	202,992,672	475,317,065
	Design Year 2035 No Build	6,798,745	281,200,689	31,520,500	238,955,716	558,475,650
Vehicle Hours Traveled	Baseline/Existing (2007)	47,625	5,398,774	268,089	6,867,129	12,581,617
	2015 No Build	62,345	6,587,497	529,767	8,207,353	15,386,962
	Design Year 2035 No Build	140,598	8,570,595	928,603	10,350,575	19,990,371
Vehicle Hours of Delay	Baseline/Existing (2007)	4,707	1,912,294	72,775	657,351	2,647,127
	2015 No Build	6,133	2,590,389	200,943	1,043,923	3,841,388
	Design Year 2035 No Build	33,893	4,040,406	447,327	1,952,996	6,474,622

Source: RCTC Model (2010) as presented in the *Traffic Study Report* (July 2010).
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission
SR-91 = State Route 91
VHD = vehicle hours of delay
VHT = vehicle hours traveled
VMT = vehicle miles traveled

Table 3.6.4 Baseline/Existing (2007) and 2015 and 2035 No Build Peak-Hour Corridor Travel Time Summary

Direction	Lanes	Baseline/Existing (2007)	2015 No Build	Design Year 2035 No Build
AM Peak-Hour Travel Time (min)				
Westbound	General Purpose	28.5	36.1	43.2
	HOV/Express	12.1	18.4	25.9
AM Peak-Hour Travel Speed (mph)				
Westbound	General Purpose	24.2	19.1	16.0
	HOV/Express	56.8	37.5	26.6
PM Peak-Hour Travel Time (min)				
Eastbound	General Purpose	44.0	79.1	86.4
	HOV/Express	30.0	39.7	47.0
PM Peak-Hour Travel Speed (mph)				
Eastbound	General Purpose	15.7	8.7	8.0
	HOV/Express	23.0	17.4	14.7

Source: Speed Surveys, RCTC Model (2010).
min = minutes
mph = miles per hour
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission

This page intentionally left blank

Table 3.6.5 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Mainline Peak-Hour Levels of Service

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						Design Year 2035 No Build					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	General Purpose	20.7	C	-	25.4	C	-	21.1	C	-	39.1	E	-	21.1	C	-	> 45	F	1.21
		Gypsum Canyon Road to Green River Road		25.4	C	-	43.5	E	-	22.4	C	-	> 45.0	F	1.05	20.1	C	-	> 45	F	1.30
		Green River Road to SR-71		19.6	C	-	30.9	D	-	17.0	B	-	28.5	D	-	17.0	B	-	37.0	E	-
		SR-71 to Auto Center Drive		25.9	C	-	> 45	F	1.04	27.9	D	-	> 45.0	F	1.28	26.2	D	-	> 45	F	1.53
		Auto Center Drive to Maple Street		23.9	C	-	> 45	F	1.08	27.0	D	-	> 45.0	F	1.37	26.1	D	-	> 45	F	1.54
		Maple Street to Lincoln Avenue		21.3	C	-	41.7	E	-	24.1	C	-	> 45.0	F	1.37	23.7	C	-	> 45	F	1.48
		Lincoln Avenue to Grand Boulevard		22.4	C	-	40.6	E	-	27.0	D	-	> 45.0	F	1.23	28.6	D	-	> 45	F	1.47
		Grand Boulevard to Main Street		21.3	C	-	36.1	E	-	24.6	C	-	> 45.0	F	1.14	27.0	D	-	> 45	F	1.38
		Main Street to I-15		23.8	C	-	> 45	F	1.05	26.1	D	-	> 45.0	F	1.23	29.2	D	-	> 45	F	1.50
		I-15 to McKinley Street		18.4	C	-	34.2	D	-	17.8	B	-	> 45.0	F	1.06	23.5	C	-	> 45	F	1.35
		McKinley Street to Pierce Street		24.6	C	-	> 45	F	1.19	22.3	C	-	> 45.0	F	1.33	31.5	D	-	> 45	F	1.72
		Pierce Street to Magnolia Avenue		23.6	C	-	> 45	F	1.03	20.6	C	-	> 45.0	F	1.15	28.8	D	-	> 45	F	1.55
		SR-241 to Green River Road	Toll/HOV	6.0	A	-	27.5	D	-	8.3	A	-	37.4	E	-	14.2	B	-	29.6	D	-
		Green River Road to Auto Center Drive		13.9	B	-	33.7	D	-	15.6	B	-	> 45.0	F	1.26	24.2	C	-	> 45	F	1.57
		Auto Center Drive to Lincoln Avenue		15.6	B	-	27.7	D	-	17.3	B	-	35.3	E	-	24.2	C	-	38.3	E	-
		Lincoln Avenue to Main Street		16.2	B	-	27.7	D	-	16.2	B	-	33.8	D	-	23.5	C	-	29.8	D	-
		Main Street to I-15		13.9	B	-	18.9	B	-	13.9	B	-	32.7	D	-	17.3	B	-	28.6	D	-
		I-15 to Pierce Street		13.7	B	-	18.3	B	-	17.3	B	-	30.5	D	-	22.5	C	-	35.3	E	-
		Pierce Street to Magnolia Avenue		11.1	A	-	15.1	B	-	15.6	B	-	28.6	D	-	20.8	C	-	30.5	D	-
	Westbound	SR-241 to Gypsum Canyon Road	General Purpose	> 45	F	1.10	27.1	D	-	> 45.0	F	1.28	27.5	D	-	> 45	F	1.41	25.2	C	-
		Gypsum Canyon Road to Green River Road		> 45	F	1.31	23.8	C	-	> 45.0	F	1.24	25.9	C	-	> 45	F	1.36	23.5	C	-
		Green River Road to SR-71		> 45	F	1.25	33.1	D	-	> 45.0	F	1.36	37.5	E	-	> 45	F	1.54	33.2	D	-
		SR-71 to Auto Center Drive		> 45	F	1.23	30.2	D	-	> 45.0	F	1.37	36.8	E	-	> 45	F	1.57	32.2	D	-
		Auto Center Drive to Maple Street		> 45	F	1.12	31.0	D	-	> 45.0	F	1.25	39.2	E	-	> 45	F	1.44	34.2	D	-
		Maple Street to Lincoln Avenue		> 45	F	1.04	31.1	D	-	> 45.0	F	1.09	37.0	E	-	> 45	F	1.28	32.0	D	-
		Lincoln Avenue to Grand Boulevard		44.3	E	-	31.7	D	-	> 45.0	F	1.06	37.9	E	-	> 45	F	1.24	32.4	D	-
		Grand Boulevard to Main Street		39.6	E	-	29.3	D	-	43.8	E	-	32.2	D	-	> 45	F	1.18	29.1	D	-
		Main Street to I-15		> 45	F	1.01	30.0	D	-	> 45.0	F	1.04	34.2	D	-	> 45	F	1.19	29.6	D	-
		I-15 to McKinley Street		43.0	E	-	23.2	C	-	43.7	E	-	24.4	C	-	> 45	F	1.19	22.9	C	-
		McKinley Street to Pierce Street		> 45	F	1.34	30.7	D	-	> 45.0	F	1.37	34.5	D	-	> 45	F	1.56	29.2	D	-
		Pierce Street to Magnolia Avenue		> 45	F	1.22	27.9	D	-	> 45.0	F	1.23	29.1	D	-	> 45	F	1.36	25.4	C	-
		SR-241 to Green River Road	Toll/HOV	19.6	C	-	8.9	A	-	23.4	C	-	12.5	B	-	29.6	D	-	16.7	B	-
		Green River Road to Auto Center Drive		31.6	D	-	19.6	C	-	35.3	E	-	22.5	C	-	> 45	F	1.09	29.6	D	-
		Auto Center Drive to Grand Boulevard		31.8	D	-	17.8	B	-	32.7	D	-	20.8	C	-	38.3	E	-	26.0	C	-
		Grand Boulevard to I-15		16.3	B	-	15.1	B	-	20.1	C	-	17.3	B	-	28.6	D	-	22.5	C	-
		I-15 to Pierce Street		15.4	B	-	13.5	B	-	18.5	B	-	15.6	B	-	23.5	C	-	20.8	C	-
		Pierce Street to Magnolia Avenue		13.3	B	-	11.6	B	-	16.8	B	-	15.6	B	-	26.9	D	-	19.0	B	-
Interstate 15	Northbound	North of Hidden Valley Parkway	General Purpose	22.3	C	-	24.9	C	-	26.6	D	-	30.3	D	-	> 45	F	1.30	> 45	F	1.00
		Hidden Valley Parkway to SR-91		21.3	C	-	23.8	C	-	26.9	D	-	30.2	D	-	> 45	F	1.17	43.9	E	-
		SR-91 to Magnolia Avenue		21.9	C	-	26.7	D	-	28.3	D	-	35.4	E	-	> 45	F	1.11	> 45	F	1.03
		Magnolia Avenue to Ontario Avenue		24.4	C	-	22.9	C	-	31.3	D	-	28.7	D	-	> 45	F	1.20	38.2	E	-
		Ontario Avenue to El Cerrito Road		38.6	E	-	29.8	D	-	> 45.0	F	1.16	40.1	E	-	> 45	F	1.61	> 45	F	1.17
		El Cerrito Road to Cajalco Road		35.4	E	-	29.1	D	-	> 45.0	F	1.12	35.6	E	-	> 45	F	1.79	> 45	F	1.18
		South of Cajalco Road		30.0	D	-	35.5	E	-	39.5	E	-	33.9	D	-	> 45	F	1.07	44.9	E	-
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	-	-	-	-	-	-	15.3	B	-	4.8	A	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	25.9	C	-	8.0	A	-
		South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	10.1	A	-	2.3	A	-

Table 3.6.5 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Mainline Peak-Hour Levels of Service

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						Design Year 2035 No Build					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
Interstate 15	Southbound	North of Hidden Valley Parkway	General Purpose	26.9	D	-	28.7	D	-	30.0	D	-	34.6	D	-	> 45	F	1.14	> 45	F	1.40
		Hidden Valley Parkway to SR-91		24.2	C	-	27.2	D	-	27.6	D	-	34.2	D	-	> 45	F	1.05	> 45	F	1.29
		SR-91 to Magnolia Avenue		27.7	D	-	31.8	D	-	36.1	E	-	42.5	E	-	> 45	F	1.02	> 45	F	1.31
		Magnolia Avenue to Ontario Avenue		21.7	C	-	28.3	D	-	26.0	C	-	35.3	E	-	32.1	D	-	> 45	F	1.21
		Ontario Avenue to El Cerrito Road		19.7	C	-	28.6	D	-	23.5	C	-	37.3	E	-	27.6	D	-	> 45	F	1.24
		El Cerrito Road to Cajalco Road		26.1	D	-	> 45	F	1.03	33.4	D	-	> 45.0	F	1.24	> 45	F	1.04	> 45	F	1.80
		South of Cajalco Road		24.0	C	-	> 45	F	1.06	26.2	D	-	> 45.0	F	1.17	27.9	D	-	> 45	F	1.21
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	-	-	-	-	-	-	4.8	A	-	14.5	B	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	7.2	A	-	21.7	C	-
		South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	2.3	A	-	9.3	A	-

Source: *Traffic Study Report* (July 2010).
Note: A black box (F) represents a deficient segment.
Dir = Direction
Fwy = Freeway
HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = level of service
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
V/C = volume-to-capacity ratio

Table 3.6.6 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Ramp Peak-Hour Levels of Service

Baseline/Existing (2007)								2015 No Build								Design Year 2035 No Build							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Gypsum Canyon Road Interchange on SR-91								**Gypsum Canyon Road Interchange on SR-91**								**Gypsum Canyon Road Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,690	190	B	6,960	280	D	SR-91 EB loop on-ramp	Merge	4,000	210	B	8,480	340	C	SR-91 EB loop on-ramp	Merge	3,590	250	B	10,710	550	F
SR-91 WB loop on-ramp	Merge	10,610	70	F	6,720	40	C	SR-91 WB loop on-ramp	Merge	12,390	120	F	7,010	50	D	SR-91 WB loop on-ramp	Merge	13,220	150	F	6,390	50	C
SR-91 EB on-ramp	Merge	5,630	190	C	7,990	290	D	SR-91 EB on-ramp	Merge	6,290	310	C	10,230	670	F	SR-91 EB on-ramp	Merge	5,770	330	C	12,090	1,410	F
SR-91 WB on-ramp	Merge	8,970	160	F	6,020	110	C	SR-91 WB on-ramp	Merge	10,440	180	F	6,080	120	C	SR-91 WB on-ramp	Merge	11,490	180	F	5,630	130	C
SR-91 EB off-ramp	Diverge	3,800	110	B	7,000	40	D	SR-91 EB off-ramp	Diverge	4,210	210	B	8,590	110	F	SR-91 EB off-ramp	Diverge	3,780	190	B	11,120	410	F
SR-91 WB off-ramp	Diverge	10,830	220	F	6,990	270	C	SR-91 WB off-ramp	Diverge	12,900	510	F	7,500	490	D	SR-91 WB off-ramp	Diverge	14,100	880	F	6,900	510	C
Green River Road Interchange on SR-91								**Green River Road Interchange on SR-91**								**Green River Road Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,640	250	B	6,950	200	C	SR-91 EB on-ramp	Merge	5,040	30	B	8,320	10	C	SR-91 EB on-ramp	Merge	5,030	40	B	9,720	30	D
SR-91 WB on-ramp	Merge	10,200	1,270	F	6,600	330	C	SR-91 WB on-ramp	Merge	10,990	2,810	F	6,890	810	C	SR-91 WB on-ramp	Merge	12,390	2,810	F	6,280	920	C
SR-91 EB off-ramp	Diverge	5,820	180	C	8,280	1,330	E	SR-91 EB off-ramp	Diverge	6,600	420	C	10,900	2,270	F	SR-91 EB off-ramp	Diverge	6,100	440	C	13,500	2,390	F
SR-91 WB off-ramp	Diverge	10,400	200	F	7,040	440	D	SR-91 WB off-ramp	Diverge	11,250	260	F	7,530	640	E	SR-91 WB off-ramp	Diverge	12,730	340	F	7,060	780	E
Auto Center Drive Interchange on SR-91								**Auto Center Drive Interchange on SR-91**								**Auto Center Drive Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,400	480	C	8,120	560	F	SR-91 EB on-ramp	Merge	5,540	580	C	10,060	730	F	SR-91 EB on-ramp	Merge	5,220	630	C	11,810	770	F
SR-91 WB on-ramp	Merge	9,090	1,080	F	6,320	560	D	SR-91 WB on-ramp	Merge	10,050	1,290	F	6,930	660	D	SR-91 WB on-ramp	Merge	11,560	1,490	F	6,360	710	D
SR-91 EB off-ramp	Diverge	5,980	580	D	8,631	510	F	SR-91 EB off-ramp	Diverge	6,320	780	D	10,650	590	F	SR-91 EB off-ramp	Diverge	6,020	800	D	12,720	910	F
SR-91 WB off-ramp	Diverge	9,300	210	F	6,680	360	D	SR-91 WB off-ramp	Diverge	10,360	310	F	7,630	700	E	SR-91 WB off-ramp	Diverge	11,920	360	F	7,110	750	E
Maple Street Interchange on SR-91								**Maple Street Interchange on SR-91**								**Maple Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,500	330	C	7,810	250	D	SR-91 EB on-ramp	Merge	5,070	370	C	10,020	420	F	SR-91 EB on-ramp	Merge	4,940	400	C	11,520	450	F
SR-91 WB loop on-ramp	Merge	8,440	1,130	F	6,310	590	D	SR-91 WB loop on-ramp	Merge	8,810	1,450	F	6,820	810	D	SR-91 WB loop on-ramp	Merge	10,410	1,510	F	6,210	1,000	D
SR-91 EB off-ramp	Diverge	5,390	890	D	8,970	1,160	F	SR-91 EB off-ramp	Diverge	6,020	950	D	11,390	1,370	F	SR-91 EB off-ramp	Diverge	5,850	910	D	12,780	1,260	F
SR-91 WB off-ramp	Diverge	8,640	200	F	6,690	380	D	SR-91 WB off-ramp	Diverge	9,030	220	F	7,420	600	E	SR-91 WB off-ramp	Diverge	10,650	240	F	6,820	610	D
Lincoln Avenue Interchange on SR-91								**Lincoln Avenue Interchange on SR-91**								**Lincoln Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,510	560	C	7,320	640	D	SR-91 EB on-ramp	Merge	4,880	1,030	D	9,220	840	F	SR-91 EB on-ramp	Merge	4,840	1,360	D	11,130	970	F
SR-91 WB on-ramp	Merge	7,900	880	F	6,170	390	D	SR-91 WB on-ramp	Merge	8,310	1,020	F	6,860	460	D	SR-91 WB on-ramp	Merge	9,800	1,050	F	6,170	550	D
SR-91 EB loop off-ramp	Diverge	4,810	300	C	8,090	770	E	SR-91 EB loop off-ramp	Diverge	5,440	560	C	10,340	1,120	F	SR-91 EB loop off-ramp	Diverge	5,340	500	C	12,270	1,140	F
SR-91 WB off-ramp	Diverge	8,290	390	E	6,780	610	D	SR-91 WB off-ramp	Diverge	8,760	450	F	7,510	650	E	SR-91 WB off-ramp	Diverge	10,270	470	F	6,870	700	D
Grand Boulevard Interchange on SR-91								**Grand Boulevard Interchange on SR-91**								**Grand Boulevard Interchange on SR-91**							
SR-91 WB on-ramp	Merge	7,905	510	D	6,420	400	D	SR-91 WB on-ramp	Merge	8,250	710	F	6,850	660	D	SR-91 WB on-ramp	Merge	9,750	720	F	6,380	690	D
SR-91 EB off-ramp	Diverge	5,070	250	C	8,000	430	E	SR-91 EB off-ramp	Diverge	6,010	480	D	10,160	710	F	SR-91 EB off-ramp	Diverge	6,300	280	D	12,200	740	F
Main Street Interchange on SR-91								**Main Street Interchange on SR-91**								**Main Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,530	740	C	7,250	1,010	D	SR-91 EB on-ramp	Merge	4,620	1,120	D	8,620	1,570	F	SR-91 EB on-ramp	Merge	4,890	1,200	D	10,580	1,820	F
SR-91 WB on-ramp	Merge	7,560	700	D	5,650	800	D	SR-91 WB on-ramp	Merge	7,540	910	E	5,970	1,080	D	SR-91 WB on-ramp	Merge	8,670	1,080	F	5,070	1,310	D
SR-91 EB off-ramp	Diverge	4,820	290	C	7,570	320	D	SR-91 EB off-ramp	Diverge	5,530	910	D	9,450	830	F	SR-91 EB off-ramp	Diverge	6,020	1,130	D	11,460	880	F
SR-91 WB off-ramp	Diverge	8,400	840	B	6,530	880	A	SR-91 WB off-ramp	Diverge	8,630	1,090	F	7,110	1,140	B	SR-91 WB off-ramp	Diverge	9,880	1,210	F	6,470	1,400	B
McKinley Street Interchange on SR-91								**McKinley Street Interchange on SR-91**								**McKinley Street Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,180	610	C	6,130	810	F	SR-91 EB loop on-ramp	Merge	2,800	660	C	7,250	820	F	SR-91 EB loop on-ramp	Merge	3,990	830	D	9,460	930	F
SR-91 EB on-ramp	Merge	3,780	380	C	6,790	590	F	SR-91 EB on-ramp	Merge	3,260	530	C	7,670	620	F	SR-91 EB on-ramp	Merge	4,520	550	D	9,990	680	F
SR-91 WB on-ramp	Merge	7,385	860	D	4,110	1,250	D	SR-91 WB on-ramp	Merge	7,140	1,160	E	4,230	1,370	D	SR-91 WB on-ramp	Merge	8,480	1,360	F	3,690	1,610	D
SR-91 EB off-ramp	Diverge	4,270	1,090	A	7,440	1,310	B	SR-91 EB off-ramp	Diverge	4,130	1,330	A	8,770	1,520	F	SR-91 EB off-ramp	Diverge	5,410	1,420	B	11,160	1,700	F
SR-91 WB loop off-ramp	Diverge	7,610	480	F	4,160	200	C	SR-91 WB loop off-ramp	Diverge	7,660	820	F	4,440	360	D	SR-91 WB loop off-ramp	Diverge	8,880	850	F	3,860	420	C
SR-91 WB off-ramp	Diverge	8,350	740	F	4,990	830	D	SR-91 WB off-ramp	Diverge	8,530	870	F	5,360	920	D	SR-91 WB off-ramp	Diverge	9,710	830	F	4,800	940	D
Pierce Street Interchange on SR-91								**Pierce Street Interchange on SR-91**								**Pierce Street Interchange on SR-91**							
SR-91 WB on-ramp	Merge	7,590	890	F	4,260	840	D	SR-91 WB on-ramp	Merge	7,660	970	F	4,440	920	D	SR-91 WB on-ramp	Merge	8,440	1,070	F	3,880	1,020	D
SR-91 EB off-ramp	Diverge	4,160	710	C	7,380	1,140	F	SR-91 EB off-ramp	Diverge	3,790	750	C	8,290	1,220	F	SR-91 EB off-ramp	Diverge	5,070	780	D	10,670	1,250	F
Magnolia Avenue Interchange on SR-91								**Magnolia Avenue Interchange on SR-91**								**Magnolia Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	3,440	590	C	6,240	760	F	SR-91 EB on-ramp	Merge	2,900	640	C	6,870	820	F	SR-91 EB on-ramp	Merge	4,140	760	D	9,300	890	F
SR-91 WB on-ramp	Merge	7,430	160	F	4,010	250	C	SR-91 WB on-ramp	Merge	7,360	300	F	4,080	360	C	SR-91 WB on-ramp	Merge	8,130	310	F	3,450	430	C
SR-91 EB loop off-ramp	Diverge	3,600	160	C	6,430	190	F	SR-91 EB loop off-ramp	Diverge	3,140	240	C	7,170	300	F	SR-91 EB loop off-ramp	Diverge	4,390	250	C	9,620	320	F
SR-91 WB loop off-ramp	Diverge	7,940	510	F	4,440	430	D	SR-91 WB loop off-ramp	Diverge	7,920	560	F	4,550	470	D	SR-91 WB loop off-ramp	Diverge	8,710	580	F	3,920	470	C
Second Street Interchange on I-15								**Second Street Interchange on I-15**								**Second Street Interchange on I-15**							
I-15 NB off-ramp	Diverge	4,780	1,090	C	5,310	640	C	I-15 NB off-ramp	Diverge	5,630	1,130	D	6,230	710	D	I-15 NB off-ramp	Diverge	10,220	1,220	F	7,890	870	F
I-15 SB on-ramp	Merge	5,250	430	C	5,360	630	D	I-15 SB on-ramp	Merge	5,680	510	D	6,070	710	D	I-15 SB on-ramp	Merge	8,160	770	F	10,100	950	F

Table 3.6.6 Baseline/Existing (2007) and 2015 and 2035 No Build Freeway Ramp Peak-Hour Levels of Service

Baseline/Existing (2007)								2015 No Build								Design Year 2035 No Build							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Hidden Valley Parkway Interchange on I-15								**Hidden Valley Parkway Interchange on I-15**								**Hidden Valley Parkway Interchange on I-15**							
I-15 NB on-ramp	Merge	4,080	700	C	4,550	760	C	I-15 NB on-ramp	Merge	4,870	760	C	5,350	880	D	I-15 NB on-ramp	Merge	7,890	1,030	F	6,480	1,010	E
I-15 SB on-ramp	Merge	4,890	400	C	5,290	540	C	I-15 SB on-ramp	Merge	5,290	610	C	6,040	770	D	I-15 SB on-ramp	Merge	7,750	780	F	10,090	960	F
I-15 NB off-ramp	Diverge	4,680	600	C	5,210	660	C	I-15 NB off-ramp	Diverge	5,790	920	D	6,300	950	D	I-15 NB off-ramp	Diverge	9,210	1,320	F	7,650	1,170	E
I-15 SB off-ramp	Diverge	5,680	790	D	5,990	700	D	I-15 SB off-ramp	Diverge	6,190	900	D	6,780	740	E	I-15 SB off-ramp	Diverge	8,930	1,180	F	11,050	960	F
Magnolia Avenue Interchange on I-15								**Magnolia Avenue Interchange on I-15**								**Magnolia Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	4,440	580	C	4,750	1,280	D	I-15 NB on-ramp	Merge	6,090	230	C	6,920	430	D	I-15 NB on-ramp	Merge	9,020	330	F	8,020	640	F
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,430	660	C	5,880	1,040	D	I-15 NB loop on-ramp	Merge	8,320	700	F	6,940	1,080	E
I-15 SB on-ramp	Merge	4,610	480	C	5,550	880	D	I-15 SB on-ramp	Merge	5,480	520	C	6,240	1,160	D	I-15 SB on-ramp	Merge	6,200	800	D	9,020	1,180	F
I-15 NB off-ramp	Diverge	5,690	1,250	D	5,360	610	C	I-15 NB off-ramp	Diverge	6,900	1,470	E	6,500	620	D	I-15 NB off-ramp	Diverge	10,100	1,780	F	7,700	760	E
I-15 SB off-ramp	Diverge	6,220	1,610	E	6,890	1,340	E	I-15 SB off-ramp	Diverge	7,420	1,940	F	8,010	1,770	F	I-15 SB off-ramp	Diverge	8,560	2,360	F	10,980	1,960	F
Ontario Avenue Interchange on I-15								**Ontario Avenue Interchange on I-15**								**Ontario Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	4,930	760	C	5,560	800	D	I-15 NB on-ramp	Merge	6,110	790	D	5,480	1,020	D	I-15 NB on-ramp	Merge	9,050	1,050	F	6,460	1,240	E
I-15 SB on-ramp	Merge	3,970	530	C	5,540	840	D	I-15 SB on-ramp	Merge	4,780	600	C	6,470	1,080	D	I-15 SB on-ramp	Merge	6,570	630	D	9,290	1,130	F
I-15 NB off-ramp	Diverge	5,890	960	D	5,020	460	D	I-15 NB off-ramp	Diverge	7,290	1,180	F	6,000	520	D	I-15 NB off-ramp	Diverge	10,160	1,110	F	7,380	920	F
I-15 SB off-ramp	Diverge	5,090	1,120	C	6,430	890	D	I-15 SB off-ramp	Diverge	6,000	1,220	D	7,400	930	E	I-15 SB off-ramp	Diverge	7,000	1,430	E	10,200	910	F
El Cerrito Road Interchange on I-15								**El Cerrito Road Interchange on I-15**								**El Cerrito Road Interchange on I-15**							
I-15 NB on-ramp	Merge	5,370	520	D	4,700	320	D	I-15 NB on-ramp	Merge	6,650	640	F	5,410	590	E	I-15 NB on-ramp	Merge	11,260	800	F	7,420	660	F
I-15 SB on-ramp	Merge	4,280	220	C	5,800	690	F	I-15 SB on-ramp	Merge	5,140	300	D	6,910	910	F	I-15 SB on-ramp	NA	NA	NA	NA	NA	NA	NA
I-15 NB off-ramp	Diverge	5,630	260	D	4,940	240	D	I-15 NB off-ramp	Diverge	7,040	390	F	5,650	250	D	I-15 NB off-ramp	NA	NA	NA	NA	NA	NA	NA
I-15 SB off-ramp	Diverge	4,500	220	C	6,380	580	D	I-15 SB off-ramp	Diverge	5,380	240	C	7,550	640	E	I-15 SB off-ramp	Diverge	6,200	270	D	10,420	710	F
Cajalco Road Interchange on I-15								**Cajalco Road Interchange on I-15**								**Cajalco Road Interchange on I-15**							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,150	620	D	4,340	480	D	I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA
I-15 NB on-ramp	Merge	4,840	790	D	4,280	660	D	I-15 NB on-ramp	Merge	5,770	1,270	F	4,820	830	D	I-15 NB loop on-ramp	Merge	9,820	1,440	F	6,410	1,010	F
I-15 SB loop on-ramp	Merge	4,020	140	C	5,870	790	F	I-15 SB loop on-ramp	Merge	4,360	150	C	6,200	1,140	F	I-15 SB on-ramp	Merge	5,530	450	D	9,720	870	F
I-15 NB off-ramp	Diverge	5,050	210	D	4,640	360	D	I-15 NB off-ramp	Diverge	5,960	810	D	5,490	1,150	D	I-15 NB off-ramp	Diverge	10,390	570	F	7,550	1,140	F
I-15 SB off-ramp	Diverge	4,500	480	C	6,490	610	F	I-15 SB off-ramp	Diverge	5,440	1,080	D	7,820	1,620	F	I-15 SB off-ramp	Diverge	6,530	1,000	F	11,310	1,590	F
SR-91/SR-241 Connectors								**SR-91/SR-241 Connectors**								**SR-91/SR-241 Connectors**							
SR-91 WB to SR-241 SB	Diverge	10,830	1,710	F	6,990	740	B	SR-91 WB to SR-241 SB	Diverge	12,900	2,070	F	7,500	980	C	SR-91 WB to SR-241 SB	Diverge	14,100	1,880	F	6,900	810	B
SR-241 NB to SR-91 EB	Merge	5,070	750	B	6,530	1,750	C	SR-241 NB to SR-91 EB	Merge	5,190	1,410	B	8,820	2,080	F	SR-241 NB to SR-91 EB	Merge	5,270	830	B	11,570	1,930	F
SR-91 WB Express to SR-241 SB Express	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB Express to SR-241 SB Express	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB Express to SR-241 SB Express	Diverge	3,600	2,300	C	2,000	1,100	A
SR-241 NB Express to SR-91 EB Express	Merge	NA	NA	NA	NA	NA	NA	SR-241 NB Express to SR-91 EB Express	Merge	NA	NA	NA	NA	NA	NA	SR-241 NB Express to SR-91 EB Express	Merge	900	800	B	1,400	2,200	C
SR-91/SR-71 Connectors								**SR-91/SR-71 Connectors**								**SR-91/SR-71 Connectors**							
SR-71 SB to SR-91 EB	Merge	4,900	670	B	7,300	1,520	F	SR-71 SB to SR-91 EB	Merge	5,070	1,250	C	8,330	1,920	D	SR-71 SB to SR-91 EB	Merge	5,070	1,050	B	9,750	1,670	F
SR-71 SB to SR-91 WB	Merge	8,990	1,210	F	5,930	1,210	D	SR-71 SB to SR-91 WB	Merge	9,480	1,770	F	5,960	1,570	D	SR-71 SB to SR-91 WB	Merge	10.95	1,780	F	7,060	1,610	D
SR-91 EB to SR-71 NB	Diverge	5,810	910	C	8,780	1,480	E	SR-91 EB to SR-71 NB	Diverge	6,180	1,620	D	8,630	1,940	F	SR-91 EB to SR-71 NB	Diverge	5,660	1,500	D	11,110	1,890	F
SR-91 WB to SR-71 NB	Diverge	10,180	1,260	C	6,880	950	B	SR-91 WB to SR-71 NB	Diverge	11,340	1,660	F	7,490	1,430	B	SR-91 WB to SR-71 NB	Diverge	13,050	1,700	F	6,970	1,420	B
SR-91/I-15 Connectors								**SR-91/I-15 Connectors**								**SR-91/I-15 Connectors**							
I-15 NB to SR-91 EB	Merge	2,740	1,530	D	6,110	1,330	F	I-15 NB to SR-91 EB	Merge	2,450	1,680	D	7,350	1,420	F	I-15 NB to SR-91 EB	Merge	3,730	1,680	E	9,700	1,460	F
I-15 NB to SR-91 WB	Merge	6,610	1,830	E	4,380	2,150	E	I-15 NB to SR-91 WB	Merge	6,360	2,270	F	4,620	2,490	E	I-15 NB to SR-91 WB	Merge	7,060	2,820	F	3,760	2,710	E
I-15 SB to SR-91 EB	Merge	1,810	910	B	4,915	1,010	E	I-15 SB to SR-91 EB	Merge	1,450	1,000	B	4,870	1,110	E	I-15 SB to SR-91 EB	Merge	2,120	1,610	C	7,670	1,930	F
I-15 SB to SR-91 WB	Merge	5,495	1,450	F	2,650	1,780	C	I-15 SB to SR-91 WB	Merge	5,110	1,650	F	2,830	2,040	D	I-15 SB to SR-91 WB	Merge	5,770	2,040	F	2,320	1,790	C
SR-91 EB to I-15 NB/SB	Diverge	5,370	3,560	F	8,715	3,560	F	SR-91 EB to I-15 NB/SB	Diverge	5,840	4,390	F	10,190	4,450	F	SR-91 EB to I-15 NB/SB	Diverge	6,390	4,270	F	12,400	4,730	F
SR-91 WB to I-15 NB/SB	Diverge	8,245	2,750	F	5,360	2,710	C	SR-91 WB to I-15 NB/SB	Diverge	8,300	3,190	D	5,600	2,770	C	SR-91 WB to I-15 NB/SB	Diverge	9,840	4,070	F	5,300	2,980	C

Source: *Traffic Study Report* (July 2010).
Note: A black box (F) represents a deficient segment.
EB = eastbound
I-15 = Interstate 15
LOS = level of service
NA = not applicable
NB = northbound
SB = southbound
SR-91 = State Route 91
WB = westbound

Table 3.6.7 Baseline/Existing (2007) and 2015 and 2035 No Build Intersection Peak-Hour Levels of Service

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				Design Year 2035 No Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Road	Gypsum Canyon Road/SR-91 WB off-ramp	11.4	B	12.9	B	15.5	B	31.4	C	18.1	B	14.7	B
	Gypsum Canyon Road/SR-91 EB off-ramp	10.1	B	9.2	A	15.0	C	10.6	B	15.6	C	13.7	B
Green River Road	Green River Road/SR-91 WB ramps	172.1	F	12.3	B	62.6	E	25.8	C	85.0	F	31.2	C
	Green River Road/SR-91 EB ramps	12.1	B	14.6	B	29.7	C	96.6	F	42.6	D	158.4	F
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	15.5	B	19.4	B	21.1	C	19.4	B
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	31.9	C	18.6	B	82.2	F	19.2	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	20.1	C	17.1	B	36.4	D	42.8	D
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	14.9	B	19.3	B	17.4	B	37.1	D
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	33.4	C	41.4	D	79.1	E	49.8	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	21.9	C	30.0	C	21.0	C	31.3	C
	Maple Street/SR-91 EB ramps	21.9	C	137.4	F	23.9	C	87.0	F	27.2	C	94.8	F
	Paseo Grande Road/Maple Street	27.5	C	104.5	F	32.4	C	41.6	D	34.9	C	63	E
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	F	26.4	C	36.6	D	33.4	C	36.6	D	21.7	C
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	27.1	C	22.3	C	22.5	C	28.5	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	F	24.9	C	141.9	F	35.8	D	66.5	E
	Lincoln Avenue/D Street	14.1	B	18.7	B	20.2	C	24.9	C	30.2	C	46.6	D
West Grand Boulevard	Vicentia Avenue/SR-91 EB off-ramp	14.4	B	30.0	D	28.0	D	91.1	F	15.5	C	73.2	F
	West Grand Boulevard/Frontage Road	11.4	B	31.9	D	19.3	C	216.6	F	14.1	B	336	F
	West Grand Boulevard/Second Street	9.0	A	13.5	B	11.8	B	15.8	B	9.5	A	15.1	B
Main Street	Main Street/Grand Boulevard	-	-	-	-	32.3	C	71.7	E	36.9	D	97.6	F
	Main Street/SR-91 WB ramps	36.9	D	41.5	D	29.3	C	87.9	F	25.5	C	137.9	F
	Main Street/SR-91 EB ramps	10.2	B	18.0	B	14.5	B	20.0	B	20.7	C	25.3	C
	Main Street/Third Street	22.4	C	27.3	C	45.7	D	29.9	C	65.4	E	62.5	E
McKinley Street	McKinley Street/Griffin Way	36.0	D	174.9	F	26.6	C	48.4	D	29.3	C	63.7	E
	McKinley Street/SR-91 WB on-ramp	11.7	B	13.4	B	21.0	C	13.8	B	44.4	D	24.0	C
	McKinley Street/SR-91 EB off-ramp	18.0	B	24.2	C	16.2	B	21.7	C	20.0	B	36.4	D
	McKinley Street/Sampson Avenue	28.7	C	93.8	F	35.4	D	40.2	D	38.2	D	53.1	D
Pierce Street	Pierce Street/SR-91 WB on-ramp	14.4	B	14.7	B	14.6	B	12.1	B	18.5	B	16.5	B
	Pierce Street/SR-91 EB off-ramp	10.5	B	13.8	B	9.7	A	18.8	B	10.4	B	17.5	B
	Pierce Street/Magnolia Avenue	32.2	C	105.5	F	33.1	C	61.9	E	56.5	E	143.0	F
Second Street	Hamner Avenue/Second Street	49.6	D	73.6	E	34.0	C	30.4	C	52.7	D	73.9	E
	I-15 SB ramps/Second Street	11.5	B	10.9	B	12.4	B	8.8	A	15.8	B	23.0	C
	I-15 NB ramps/Second Street	77.6	E	175.7	F	35.5	D	38.9	D	51.2	D	51.0	D

Table 3.6.7 Baseline/Existing (2007) and 2015 and 2035 No Build Intersection Peak-Hour Levels of Service

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				Design Year 2035 No Build			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Hidden Valley Parkway	Hamner Avenue/Hidden Valley Parkway	63.5	E	145.3	F	39.3	D	85.5	F	257.1	F	184.0	F
	I-15 SB off-ramp/Hidden Valley Parkway	44.5	D	154.4	F	31.9	C	27.3	C	58.5	E	60.1	E
	I-15 SB on-ramp/Hidden Valley Parkway	2.4	A	7.7	A	4.7	A	7.6	A	4.7	A	30.7	C
	I-15 NB on-ramp/Hidden Valley Parkway	5.2	A	7.0	A	3.4	A	11.3	B	4.5	A	14.8	B
	I-15 NB off-ramp/Hidden Valley Parkway	59.5	E	18.1	B	26.8	C	23.6	C	92.0	F	32.3	C
	Garland Way/Hidden Valley Parkway	102.2	F	87.3	F	20.3	C	26.2	C	68.8	E	25.1	C
Magnolia Avenue	Rimpau Avenue/Magnolia Avenue	97.4	F	84.3	F	44.0	D	47.1	D	87.1	F	85.2	F
	El Sobrante Road/Magnolia Avenue	168.0	F	65.4	E	26.2	C	28.9	C	67.6	E	97.2	F
	I-15 SB ramps/Magnolia Avenue	63.9	E	64.3	E	31.2	C	54.9	D	87.4	F	104.1	F
	I-15 NB ramps/Magnolia Avenue	36.4	D	43.9	D	14.5	B	9.8	A	30.9	C	11.2	B
	Compton Avenue/El Camino Avenue/Magnolia Avenue	55.0	D	22.5	C	19.8	B	48.6	D	23.6	C	32.8	C
Ontario Avenue	Compton Avenue/Ontario Avenue	4.1	A	6.0	A	7.3	A	12.5	B	12.4	B	12.0	B
	I-15 SB ramps/Ontario Avenue	35.6	D	29.1	C	79.1	E	38.1	D	75.0	E	44.2	D
	I-15 NB ramps/Ontario Avenue	32.1	C	41.5	D	48.9	D	16.2	B	44.2	D	20.4	C
El Cerrito Road	Bedford Canyon Road/El Cerrito Road	13.3	B	53.2	D	16.5	B	29.6	C	16.6	B	38.4	D
	I-15 NB ramps/El Cerrito Road	14.2	B	10.7	B	19.9	B	23.2	C	10.3	B	6.3	A
	I-15 SB ramps/El Cerrito Road	7.3	A	11.7	B	8.8	A	11.1	B	NA	NA	NA	NA
Cajalco Road	Bedford Canyon Road/Cajalco Road	9.8	A	72.2	E	11.3	B	47.9	D	21.2	C	183.3	F
	I-15 SB ramps/Cajalco Road	14.3	B	243.2	F	15.4	B	23.6	C	24.2	C	24.7	C
	I-15 NB ramps/Cajalco Road	48.1	D	71.7	E	6.0	A	10.3	B	57.5	E	47.5	D
	Grand Oaks/Cajalco Road	13.6	B	112.9	F	21.9	C	16.6	B	20.3	C	13.7	B

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (F) represents a deficient segment.
Note 2: Per the City of Corona *Traffic Impact Study Guidelines*, LOS E is permitted at several ramp intersections.
EB = eastbound
I-15 = Interstate 15
LOS = level of service
NA = not applicable
NB = northbound
SB = southbound
sec = seconds
SR-91 = State Route 91
WB = westbound

Table 3.6.8 Existing Bicycle and Pedestrian Facilities

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
Facilities Along SR-91 (West to East)				
Santa Ana River Trail/Bike Lane in the Cities of Anaheim and Corona	None	None	Off-street paved 12 ft wide asphalt Trail/Bike Lane.	Does not cross SR-91
Existing Class II bikeway in the City of Anaheim	None	None	On-street (on the westbound side only) paved bikeway on the south side of SR-91 begins approximately 0.25 mi east of SR-241, and extends west towards and ends at Nohl Ranch Road in the City of Orange.	Does not cross SR-91
Gypsum Canyon Road in the City of Anaheim	None	None	No bicycle facilities.	Crosses under SR-91
Coal Canyon Road in the City of Anaheim	None	None	No bicycle facilities, unpaved road	Crosses under SR-91
Green River Road in the City of Corona	4 ft 10 in wide sidewalk on the west side only	Yes	7 ft 9 in wide bicycle lanes on the west and east sides	Crosses over SR-91
Existing Class II bikeway (on-street) in the City of Corona	None	None	Bikeway extends on Green River Road north of SR-91, crosses SR-91, and splits to continue on either Green River Road or Palisades Drive.	Crosses over SR-91 on Green River Road
Prado Road and the BNSF railroad tracks in the City of Corona	None	None	None	Cross under SR-91. Prado Road is adjacent to CHSP. The BNSF right-of-way is not open for use by pedestrians or bicyclists.
Auto Center Drive/Serfas Club Drive in the City of Corona	Sidewalk on the west side only, 4 ft 7 in wide	Yes	None	Crosses under SR-91.
Maple Street in the City of Corona	Sidewalks on the west and east sides, 5 ft wide	Yes	None	Crosses over SR-91
Smith Avenue in the City of Corona	Sidewalks on the west and east sides, 5 ft wide	Yes	None	Crosses over SR-91
Wardlow Road in the City of Corona	Sidewalk on north side only, 8 ft wide	Yes	None	Adjacent to the north side of SR-91 but does not cross SR-91
Frontage Road/Sixth Street in the City of Corona and unincorporated Riverside County	5 ft wide sidewalks vary throughout this area	Yes	None	Does not cross SR-91; but is included in the Maple Avenue improvements at SR-91.
Pomona Road in the City of Corona	None	None	None	Does not cross SR-91
Lincoln Avenue in the City of Corona	4 ft 10 in wide sidewalks on the west and east sides	Yes	None	Crosses over SR-91

Table 3.6.8 Existing Bicycle and Pedestrian Facilities

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
Buena Vista Avenue in the City of Corona	4 ft wide sidewalks on west and east sides	Yes	None	Crosses under SR-91
West and East Grand Boulevard in the City of Corona	5 ft wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
Main Street in the City of Corona	9 ft 9 in wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
Promenade Avenue in the City of Corona	5 ft wide sidewalks on the west and east sides	Yes	5 ft wide bicycle lanes on the west and east sides.	Crosses over SR-91
McKinley Street in the City of Corona	4 ft wide sidewalk on the east side only	Yes	No bicycle facilities.	Crosses under SR-91
Existing primary equestrian, bicycle, and pedestrian trail in the City of Riverside	None	None	Trail begins just south of Fillmore Street on the south side of SR-91, travels southwest on Indiana Avenue, north along Buchanan Street, and crosses SR-91 on Buchanan Street, where it connects to other trails in Corona and Norco.	Crosses over SR-91
Existing Class I Bikeway (separate right-of-way) in the City of Riverside	None	None	Bikeway extends along Pierce Street to Indiana Avenue on the south side of SR-91, crosses SR-91, and terminates at Collett Avenue on the north side of SR-91.	Crosses under SR-91 at Pierce Street
Buchanan Street in the City of Riverside	5 ft wide sidewalks on west and east sides	Yes	None	Crosses over SR-91
Riverwalk Parkway/Pierce Street in the City of Riverside	5 ft wide sidewalks on the west and east sides	Yes	None	Crosses under SR-91
Facilities Along I-15 (North to South)				
Old Temescal Road in the City of Corona	No sidewalks	No	None	Crosses under I-15
Ontario Avenue in the City of Corona	5 ft wide sidewalk on the south side only	No	None	Crosses under I-15
El Cerrito Road in the Riverside County	5 ft wide sidewalks on the north and south sides	Yes	None	Crosses under I-15
Hidden Valley Parkway in the City of Norco	5 ft wide sidewalks on the north and south sides	Yes	No bicycle facilities but this newer bridge has approximately 30 ft wide shoulders on both sides	Crosses over I-15
Parkridge Avenue in the City of Corona	6 ft wide sidewalks on the north and south sides	Yes	5 ft wide bicycle facilities on the north and south side	Crosses under I-15
East Sixth Street in the City of Corona	5 ft wide sidewalks on the north and south sides	Yes	4 ft wide bicycle facilities on north and south side	Crosses under I-15

Table 3.6.8 Existing Bicycle and Pedestrian Facilities

Interchange and Jurisdiction	Existing Sidewalks	Existing ADA Access Ramps	Existing Bicycle Facilities	Relationship to Freeway
Magnolia Avenue in the City of Corona	4 ft 11 in wide sidewalk on the north side only; the south side is signed “No Pedestrian Crossing”	Yes, on north side sidewalk only	4 ft 8 in wide bicycle facilities on north and south sides	Crosses over I-15

Source: Riverside County Transportation Commission (2009 and 2011).
ADA = Americans with Disabilities Act
BNSF = Burlington Northern Santa Fe
CHSP – Chino Hills State Park
ft = feet
I-15 = Interstate 15
in = inches
mi = miles
SR-91 = State Route 91
SR-241 = State Route 241

Table 3.6.9 Baseline/Existing (2007), 2015 No Build and 2015 Initial Phase of Alternative 2 Daily VMT, VHT, and VHD

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
SR-91 Corridor						
Vehicle Miles Traveled	Baseline/Existing (2007)	352,459	6,593,112	526,828	3,530,753	11,003,152
	2015 No Build	771,324	8,029,911	677,873	4,191,980	13,671,088
	2015 Initial Phase of Alt 2	1,263,821	8,067,793	236,936	4,094,104	13,662,654
Vehicle Hours Traveled	Baseline/Existing (2007)	5,844	185,177	13,093	130,574	334,688
	2015 No Build	13,781	253,876	18,362	160,527	446,546
	2015 Initial Phase of Alt 2	26,458	247,961	5,035	153,698	433,152
Vehicle Hours of Delay	Baseline/Existing (2007)	209	79,689	5,002	15,823	100,723
	2015 No Build	1,918	116,853	7,949	21,864	148,584
	2015 Initial Phase of Alt 2	7,006	110,732	1,400	18,370	137,508
Remainder of Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,317,992	208,815,843	12,198,974	170,853,518	394,186,327
	2015 No Build	2,748,036	239,260,166	20,837,074	198,800,692	461,645,968
	2015 Initial Phase of Alt 2	2,754,044	239,234,728	20,913,238	198,626,447	461,528,417
Vehicle Hours Traveled	Baseline/Existing (2007)	41,781	5,213,597	254,996	6,736,555	12,246,929
	2015 No Build	48,564	6,333,621	511,405	8,046,826	14,940,416
	2015 Initial Phase of Alt 2	48,769	6,357,619	508,752	8,036,683	14,951,823
Vehicle Hours of Delay	Baseline/Existing (2007)	4,498	1,832,605	67,773	641,528	2,546,404
	2015 No Build	4,215	2,473,536	192,994	1,022,059	3,692,804
	2015 Initial Phase of Alt 2	4,314	2,497,390	189,230	1,017,573	3,708,507
Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,670,451	215,408,955	12,725,802	174,384,271	405,189,479
	2015 No Build	3,519,360	247,290,077	21,514,947	202,992,672	475,317,065
	2015 Initial Phase of Alt 2	4,017,825	247,302,521	21,150,174	202,720,551	475,191,071
Vehicle Hours Traveled	Baseline/Existing (2007)	47,625	5,398,774	268,089	6,867,129	12,581,617
	2015 No Build	62,345	6,587,497	529,767	8,207,353	15,386,962
	2015 Initial Phase of Alt 2	75,227	6,605,580	513,787	8,190,381	15,384,975
Vehicle Hours of Delay	Baseline/Existing (2007)	4,707	1,912,294	72,775	657,351	2,647,127
	2015 No Build	6,133	2,590,389	200,943	1,043,923	3,841,388
	2015 Initial Phase of Alt 2	11,320	2,608,122	190,630	1,035,943	3,846,015

Source: RCTC Model (2010) as presented in the *Traffic Study Report* (July 2010).
Alt = Alternative
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission
SR-91 = State Route 91
VHD = vehicle hours of delay
VHT = vehicle hours traveled
VMT = vehicle miles traveled

Table 3.6.10 Baseline/Existing (2007), 2015 No Build, and 2015 Initial Phase of Alternative 2 Peak-Hour Corridor Travel Time Summary

Direction	Lanes	Baseline/Existing (2007)	2015 No Build	2015 Initial Phase of Alt 2
AM Peak-Hour Travel Time (min)				
Westbound	General Purpose	28.5	36.1	32.6
	HOV/Express	12.1	18.4	12.0
AM Peak-Hour Travel Speed (mph)				
Westbound	General Purpose	24.2	19.1	21.2
	HOV/Express	56.8	37.5	57.3
PM Peak-Hour Travel Time (min)				
Eastbound	General Purpose	44.0	79.1	70.6
	HOV/Express	30.0	39.7	12.5
PM Peak-Hour Travel Speed (mph)				
Eastbound	General Purpose	15.7	8.7	9.8
	HOV/Express	23.0	17.4	55.0

Source: Speed Surveys, RCTC Model (2010).
Alt = Alternative
min = minutes
mph = miles per hour
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission

This page intentionally left blank

Table 3.6.11 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						2015 Initial Phase of Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	General Purpose	20.7	C	-	25.4	C	-	21.1	C	-	39.1	E	-	14.1	B	-	26.9	D	-
		Gypsum Canyon Road to Green River Road		25.4	C	-	43.5	E	-	22.4	C	-	> 45.0	**F**	1.05	20.3	C	-	> 45.0	**F**	1.06
		Green River Road to SR-71		19.6	C	-	30.9	D	-	17.0	B	-	28.5	D	-	18.6	C	-	25.9	C	-
		SR-71 to Auto Center Drive		25.9	C	-	> 45		1.04	27.9	D	-	> 45.0	**F**	1.28	18.6	C	-	35	D	-
		Auto Center Drive to Maple Street		23.9	C	-	> 45		1.08	27.0	D	-	> 45.0	**F**	1.37	18.6	C	-	36	E	-
		Maple Street to Lincoln Avenue		21.3	C	-	41.7	E	-	24.1	C	-	> 45.0	**F**	1.37	16.6	B	-	30.4	D	-
		Lincoln Avenue to Grand Boulevard		22.4	C	-	40.6	E	-	27.0	D	-	> 45.0	**F**	1.23	17.6	B	-	28.2	D	-
		Grand Boulevard to Main Street		21.3	C	-	36.1	E	-	-	-	-	-	-	-	-	-	-	-	-	-
		Main Street to I-15		23.8	C	-	> 45		1.05	26.1	D	-	> 45.0	**F**	1.23	13.7	B	-	22.1	C	-
		I-15 to McKinley Street		18.4	C	-	34.2	D	-	17.8	B	-	> 45.0	**F**	1.06	16.2	B	-	27.9	D	-
		McKinley Street to Pierce Street		24.6	C	-	> 45		1.19	22.3	C	-	> 45.0	**F**	1.33	19.1	C	-	32.5	D	-
		Pierce Street to Magnolia Avenue		23.6	C	-	> 45		1.03	20.6	C	-	> 45.0	**F**	1.15	24.2	C	-	42.2	E	-
		SR-241 to Green River Road	Toll/HOV	6.0	A	-	27.5	D	-	8.3	A	-	37.4	E	-	8.0	A	-	34.9	D	-
		Green River Road to Auto Center Drive		13.9	B	-	33.7	D	-	-	-	-	-	-	-	-	-	-	-	-	-
		Auto Center Drive to Lincoln Avenue		15.6	B	-	27.7	D	-	-	-	-	-	-	-	-	-	-	-	-	-
		Lincoln Avenue to Main Street		16.2	B	-	27.7	D	-	-	-	-	-	-	-	-	-	-	-	-	-
		Main Street to I-15		13.9	B	-	18.9	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		I-15 to Pierce Street		13.7	B	-	18.3	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		Pierce Street to Magnolia Avenue		11.1	A	-	15.1	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		Green River Road to Main Street		-	-	-	-	-	-	-	-	-	-	-	-	12.1	B	-	36.4	E	-
		Main Street to McKinley Street		-	-	-	-	-	-	-	-	-	-	-	-	14.8	B	-	18.0	B	-
		McKinley Street to Pierce Street		-	-	-	-	-	-	-	-	-	-	-	-	16.4	B	-	27.3	D	-
	Westbound	SR-241 to Gypsum Canyon Road	General Purpose	> 45		1.10	27.1	D	-	> 45.0	**F**	1.28	27.5	D	-	> 45.0	**F**	1.08	21.7	C	-
		Gypsum Canyon Road to Green River Road		> 45		1.31	23.8	C	-	> 45.0	**F**	1.24	25.9	C	-	> 45.0	**F**	1.32	26.8	D	-
		Green River Road to SR-71		> 45		1.25	33.1	D	-	> 45.0	**F**	1.36	37.5	E	-	42.3	E	-	24.4	C	-
		SR-71 to Auto Center Drive		> 45		1.23	30.2	D	-	> 45.0	**F**	1.37	36.8	E	-	42.4	E	-	23.6	C	-
		Auto Center Drive to Maple Street		> 45		1.12	31.0	D	-	> 45.0	**F**	1.25	39.2	E	-	25.4	C	-	18.8	C	-
		Maple Street to Lincoln Avenue		> 45		1.04	31.1	D	-	> 45.0	**F**	1.09	37.0	E	-	27.3	D	-	23.3	C	-
		Lincoln Avenue to Grand Boulevard		44.3	E	-	31.7	D	-	> 45.0	**F**	1.06	37.9	E	-	23.9	C	-	23.5	C	-
		Grand Boulevard to Main Street		39.6	E	-	29.3	D	-	-	-	-	-	-	-	-	-	-	-	-	-
		Main Street to I-15		> 45		1.01	30.0	D	-	> 45.0	**F**	1.04	34.2	D	-	19.0	C	-	18.4	C	-
		I-15 to McKinley Street		43.0	E	-	23.2	C	-	43.7	E	-	24.4	C	-	25.5	C	-	18.1	C	-
		McKinley Street to Pierce Street		> 45		1.34	30.7	D	-	> 45.0	**F**	1.37	34.5	D	-	39.6	E	-	21.3	C	-
		Pierce Street to Magnolia Avenue		> 45		1.22	27.9	D	-	> 45.0	**F**	1.23	29.1	D	-	> 45.0	**F**	1.09	26.3	D	-
		SR-241 to Green River Road	Toll/HOV	19.6	C	-	8.9	A	-	23.4	C	-	12.5	B	-	23.4	C	-	11.2	B	-
		Green River Road to Auto Center Drive		31.6	D	-	19.6	C	-	-	-	-	-	-	-	-	-	-	-	-	-
		Auto Center Drive to Grand Boulevard		31.8	D	-	17.8	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		Grand Boulevard to I-15		16.3	B	-	15.1	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		I-15 to Pierce Street		15.4	B	-	13.5	B	-	-	-	-	-	-	-	-	-	-	-	-	-
		Pierce Street to Magnolia Avenue		13.3	B	-	11.6	B	-	16.8	B	-	15.6	B	-	15.9	B	-	19.7	C	-
		Green River Road to Main Street		-	-	-	-	-	-	-	-	-	-	-	-	32.1	D	-	16.1	B	-
		Main Street to Pierce Street		-	-	-	-	-	-	-	-	-	-	-	-	9.9	A	-	18.1	C	-

Table 3.6.11 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						2015 No Build						2015 Initial Phase of Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
Interstate 15	Northbound	North of Hidden Valley Parkway	General Purpose	22.3	C	-	24.9	C	-	26.6	D	-	30.3	D	-	31.0	D	-	27.1	D	-
		Hidden Valley Parkway to SR-91		21.3	C	-	23.8	C	-	26.9	D	-	30.2	D	-	31.6	D	-	26.9	D	-
		SR-91 to Magnolia Avenue		21.9	C	-	26.7	D	-	28.3	D	-	35.4	E	-	26.1	D	-	30.0	D	-
		Magnolia Avenue to Ontario Avenue		24.4	C	-	22.9	C	-	31.3	D	-	28.7	D	-	28.7	D	-	24.9	C	-
		Ontario Avenue to El Cerrito Road		38.6	E	-	29.8	D	-	> 45.0	**F**	1.16	40.1	E	-	> 45.0	**F**	1.38	36.0	E	-
		El Cerrito Road to Cajalco Road		35.4	E	-	29.1	D	-	> 45.0	**F**	1.12	35.6	E	-	> 45.0	**F**	1.33	32.6	D	-
		South of Cajalco Road		30.0	D	-	35.5	E	-	39.5	E	-	33.9	D	-	> 45.0	**F**	1.16	31.0	D	-
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Ontario Avenue to SR-91		-	-	-	-	-	-	-	-	-	-	-	-	40.6	E	-	7.1	A	-
	Southbound	North of Hidden Valley Parkway	General Purpose	26.9	D	-	28.7	D	-	30.0	D	-	34.6	D	-	33.2	D	-	28.1	D	-
		Hidden Valley Parkway to SR-91		24.2	C	-	27.2	D	-	27.6	D	-	34.2	D	-	30.5	D	-	27.8	D	-
		SR-91 to Magnolia Avenue		27.7	D	-	31.8	D	-	36.1	E	-	42.5	E	-	28.2	D	-	28.2	D	-
		Magnolia Avenue to Ontario Avenue		21.7	C	-	28.3	D	-	26.0	C	-	35.3	E	-	20.9	C	-	24.5	C	-
		Ontario Avenue to El Cerrito Road		19.7	C	-	28.6	D	-	23.5	C	-	37.3	E	-	19.4	C	-	39.6	E	-
		El Cerrito Road to Cajalco Road		26.1	D	-	> 45		1.03	33.4	D	-	> 45.0	**F**	1.24	26.2	D	-	> 45.0	**F**	1.28
		South of Cajalco Road		24.0	C	-	> 45		1.06	26.2	D	-	> 45.0	**F**	1.17	20.9	C	-	> 45.0	**F**	1.20
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		South of El Cerrito Road		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Ontario Avenue to SR-91		-	-	-	-	-	-	-	-	-	-	-	-	4.8	A	-	35.8	E	-

Source: *Traffic Study Report* (July 2010).
Note: A black box (**F**) represents a deficient segment.
Dir = Direction
Fwy = Freeway
HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = level of service
SR-71 = State Route 71
SR-91 = State Route 91
SR-241 = State Route 241
V/C = volume-to-capacity ratio

Table 3.6.12 Freeway Ramp Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Baseline/Existing (2007)								2015 No Build								2015 Initial Phase of Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Gypsum Canyon Road Interchange on SR-91								**Gypsum Canyon Road Interchange on SR-91**								**Gypsum Canyon Road Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,690	190	B	6,960	280	D	SR-91 EB loop on-ramp	Merge	4,000	210	B	8,480	340	C	SR-91 EB loop on-ramp	Merge	3,380	210	B	8,450	350	C
SR-91 WB loop on-ramp	Merge	10,610	70	**F**	6,720	40	C	SR-91 WB loop on-ramp	Merge	12,390	120	**F**	7,010	50	D	SR-91 WB loop on-ramp	Merge	13,090	120	**F**	7,210	50	C
SR-91 EB on-ramp	Merge	5,630	190	C	7,990	290	D	SR-91 EB on-ramp	Merge	6,290	310	C	10,230	670	**F**	SR-91 EB on-ramp	Merge	5,690	310	B	10,310	690	**F**
SR-91 WB on-ramp	Merge	8,970	160	**F**	6,020	110	C	SR-91 WB on-ramp	Merge	10,440	180	**F**	6,080	120	C	SR-91 WB on-ramp	Merge	13,210	180	**F**	7,260	130	C
SR-91 EB off-ramp	Diverge	3,800	110	B	7,000	40	D	SR-91 EB off-ramp	Diverge	4,210	210	B	8,590	110	**F**	SR-91 EB off-ramp	Diverge	3,590	210	B	8,550	100	D
SR-91 WB off-ramp	Diverge	10,830	220	**F**	6,990	270	C	SR-91 WB off-ramp	Diverge	12,900	510	**F**	7,500	490	D	SR-91 WB off-ramp	Diverge	13,700	610	**F**	7,700	490	D
Green River Road Interchange on SR-91								**Green River Road Interchange on SR-91**								**Green River Road Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,640	250	B	6,950	200	C	SR-91 EB on-ramp	Merge	5,040	30	B	8,320	10	C	SR-91 EB on-ramp	Merge	5,560	440	C	8,670	260	C
SR-91 WB on-ramp	Merge	10,200	1,270	**F**	6,600	330	C	SR-91 WB on-ramp	Merge	10,990	2,810	**F**	6,890	810	C	SR-91 WB on-ramp	Merge	10,080	2,720	**F**	6,310	790	C
SR-91 EB off-ramp	Diverge	5,820	180	C	8,280	1,330	E	SR-91 EB off-ramp	Diverge	6,600	420	C	10,900	2,270	**F**	SR-91 EB off-ramp	Diverge	6,000	440	C	11,000	2,330	**F**
SR-91 WB off-ramp	Diverge	10,400	200	**F**	7,040	440	D	SR-91 WB off-ramp	Diverge	11,250	260	**F**	7,530	640	E	SR-91 WB off-ramp	Diverge	10,310	230	E	7,120	810	D
Auto Center Drive Interchange on SR-91								**Auto Center Drive Interchange on SR-91**								**Auto Center Drive Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,400	480	C	8,120	560	**F**	SR-91 EB on-ramp	Merge	5,540	580	C	10,060	730	**F**	SR-91 EB on-ramp	Merge	4,770	600	B	8,910	680	D
SR-91 WB on-ramp	Merge	9,090	1,080	**F**	6,320	560	D	SR-91 WB on-ramp	Merge	10,050	1,290	**F**	6,930	660	D	SR-91 WB on-ramp	Merge	9,000	1,360	E	6,290	700	C
SR-91 EB off-ramp	Diverge	5,980	580	D	8,631	510	**F**	SR-91 EB off-ramp	Diverge	6,320	780	D	10,650	590	**F**	SR-91 EB off-ramp	Diverge	5,570	800	C	9,490	580	E
SR-91 WB off-ramp	Diverge	9,300	210	**F**	6,680	360	D	SR-91 WB off-ramp	NA	NA	NA	NA	NA	NA	NA	SR-91 WB off-ramp	NA	NA	NA	NA	NA	NA	NA
Maple Street Interchange on SR-91								**Maple Street Interchange on SR-91**								**Maple Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,500	330	C	7,810	250	D	SR-91 EB on-ramp	Merge	5,070	370	C	10,020	420	**F**	SR-91 EB on-ramp	Merge	4,420	380	B	8,160	430	C
SR-91 WB loop on-ramp	Merge	8,440	1,130	**F**	6,310	590	D	SR-91 WB loop on-ramp	NA	NA	NA	NA	NA	NA	NA	SR-91 WB loop on-ramp	NA	NA	NA	NA	NA	NA	NA
SR-91 WB on-ramp	Merge	NA	NA	NA	NA	NA	NA	SR-91 WB on-ramp	Merge	8,810	1,450	**F**	6,820	810	D	SR-91 WB on-ramp	Merge	7,490	1,510	D	5,430	860	C
SR-91 EB off-ramp	Diverge	5,390	890	D	8,970	1,160	**F**	SR-91 EB off-ramp	Diverge	6,020	950	D	11,390	1,370	**F**	SR-91 EB off-ramp	Diverge	5,370	950	C	9,590	1,430	E
SR-91 WB off-ramp	Diverge	8,640	200	**F**	6,690	380	D	SR-91 WB off-ramp	Diverge	9,030	220	**F**	7,420	600	E	SR-91 WB off-ramp	Diverge	7,940	450	D	6,710	1,280	D
Lincoln Avenue Interchange on SR-91								**Lincoln Avenue Interchange on SR-91**								**Lincoln Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,510	560	C	7,320	640	D	SR-91 EB on-ramp	Merge	4,880	1,030	D	9,220	840	**F**	SR-91 EB on-ramp	Merge	4,040	1,050	C	7,220	930	D
SR-91 WB on-ramp	Merge	7,900	880	**F**	6,170	390	D	SR-91 WB on-ramp	Merge	8,310	1,020	**F**	6,860	460	D	SR-91 WB on-ramp	Merge	6,640	1,300	D	6,000	710	C
SR-91 EB loop off-ramp	Diverge	4,810	300	C	8,090	770	E	SR-91 EB loop off-ramp	Diverge	5,440	560	C	10,340	1,120	**F**	SR-91 EB loop off-ramp	Diverge	4,800	760	C	8,590	1,370	E
SR-91 WB off-ramp	Diverge	8,290	390	E	6,780	610	D	SR-91 WB off-ramp	Diverge	8,760	450	**F**	7,510	650	E	SR-91 WB off-ramp	Diverge	7,090	450	C	6,770	770	C
Grand Boulevard Interchange on SR-91								**Grand Boulevard Interchange on SR-91**								**Grand Boulevard Interchange on SR-91**							
SR-91 WB on-ramp	Merge	7,905	510	D	6,420	400	D	SR-91 WB on-ramp	Merge	NA	NA	NA	NA	NA	NA	SR-91 WB on-ramp	Merge	NA	NA	NA	NA	NA	NA
SR-91 EB off-ramp	Diverge	5,070	250	C	8,000	430	E	SR-91 EB off-ramp	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB off-ramp	Diverge	NA	NA	NA	NA	NA	NA
Main Street Interchange on SR-91								**Main Street Interchange on SR-91**								**Main Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,530	740	C	7,250	1,010	D	SR-91 EB on-ramp	Merge	4,620	1,120	D	8,620	1,570	**F**	SR-91 EB on-ramp	Merge	5,670	1,420	D	5,300	1,470	D
SR-91 WB on-ramp	Merge	7,560	700	D	5,650	800	D	SR-91 WB on-ramp	Merge	7,540	910	E	5,970	1,080	D	SR-91 WB on-ramp	Merge	5,090	1,120	C	6,590	1,560	D
SR-91 EB off-ramp	Diverge	4,820	290	C	7,570	320	D	SR-91 EB off-ramp	Diverge	5,530	910	D	9,450	830	**F**	SR-91 EB off-ramp	Diverge	1,510	920	B	3,900	1,160	C
SR-91 WB off-ramp	Diverge	8,400	840	B	6,530	880	A	SR-91 WB off-ramp	Diverge	8,630	1,090	**F**	7,110	1,140	B	SR-91 WB off-ramp	Diverge	4,410	680	C	2,130	660	B
McKinley Street Interchange on SR-91								**McKinley Street Interchange on SR-91**								**McKinley Street Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,180	610	C	6,130	810	**F**	SR-91 EB loop on-ramp	Merge	2,800	660	C	7,250	820	**F**	SR-91 EB loop on-ramp	Merge	3,270	690	C	6,210	890	D
SR-91 EB on-ramp	Merge	3,780	380	C	6,790	590	**F**	SR-91 EB on-ramp	Merge	3,260	530	C	7,670	620	**F**	SR-91 EB on-ramp	Merge	3,860	570	C	6,530	660	D
SR-91 WB on-ramp	Merge	7,385	860	D	4,110	1,250	D	SR-91 WB on-ramp	Merge	7,140	1,160	E	4,230	1,370	D	SR-91 WB on-ramp	Merge	6,340	1,290	D	3,760	1,590	C
SR-91 EB off-ramp	Diverge	4,270	1,090	A	7,440	1,310	B	SR-91 EB off-ramp	Diverge	4,130	1,330	A	8,770	1,520	**F**	SR-91 EB off-ramp	Diverge	4,790	1,520	A	8,190	1,980	B
SR-91 WB loop off-ramp	Diverge	7,610	480	**F**	4,160	200	C	SR-91 WB loop off-ramp	Diverge	7,660	820	**F**	4,440	360	D	SR-91 WB loop off-ramp	Diverge	7,090	850	D	4,040	380	B
SR-91 WB off-ramp	Diverge	8,350	740	**F**	4,990	830	D	SR-91 WB off-ramp	Diverge	8,530	870	**F**	5,360	920	D	SR-91 WB off-ramp	Diverge	7,970	880	E	4,920	880	C
Pierce Street Interchange on SR-91								**Pierce Street Interchange on SR-91**								**Pierce Street Interchange on SR-91**							
SR-91 WB on-ramp	Merge	7,590	890	**F**	4,260	840	D	SR-91 WB on-ramp	Merge	7,660	970	**F**	4,440	920	D	SR-91 WB on-ramp	Merge	6,770	920	**F**	4,202	900	D
SR-91 EB off-ramp	Diverge	4,160	710	C	7,380	1,140	**F**	SR-91 EB off-ramp	Diverge	3,790	750	C	8,290	1,220	**F**	SR-91 EB off-ramp	Diverge	4,430	740	C	7,190	1,280	E
Magnolia Avenue Interchange on SR-91								**Magnolia Avenue Interchange on SR-91**								**Magnolia Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	3,440	590	C	6,240	760	**F**	SR-91 EB on-ramp	Merge	2,900	640	C	6,870	820	**F**	SR-91 EB on-ramp	Merge	3,340	650	C	5,520	840	**F**
SR-91 WB on-ramp	Merge	7,430	160	**F**	4,010	250	C	SR-91 WB on-ramp	Merge	7,360	300	**F**	4,080	360	C	SR-91 WB on-ramp	Merge	6,450	320	**F**	3,590	430	C
SR-91 EB loop off-ramp	Diverge	3,600	160	C	6,430	190	**F**	SR-91 EB loop off-ramp	Diverge	3,140	240	C	7,170	300	**F**	SR-91 EB loop off-ramp	Diverge	3,690	350	C	5,910	390	D
SR-91 WB loop off-ramp	Diverge	7,940	510	**F**	4,440	430	D	SR-91 WB loop off-ramp	Diverge	7,920	560	**F**	4,550	470	D	SR-91 WB loop off-ramp	Diverge	7,010	560	**F**	4,060	470	C
Second Street Interchange on I-15								**Second Street Interchange on I-15**								**Second Street Interchange on I-15**							
I-15 NB off-ramp	Diverge	4,780	1,090	C	5,310	640	C	I-15 NB off-ramp	Diverge	5,630	1,130	D	6,230	710	D	I-15 NB off-ramp	Diverge	6,340	1,130	E	5,730	710	D
I-15 SB on-ramp	Merge	5,250	430	C	5,360	630	D	I-15 SB on-ramp	Merge	5,680	510	D	6,070	710	D	I-15 SB on-ramp	Merge	6,120	510	D	5,190	710	C

Table 3.6.12 Freeway Ramp Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Baseline/Existing (2007)								2015 No Build								2015 Initial Phase of Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Hidden Valley Parkway Interchange on I-15								**Hidden Valley Parkway Interchange on I-15**								**Hidden Valley Parkway Interchange on I-15**							
I-15 NB on-ramp	Merge	4,080	700	C	4,550	760	C	I-15 NB on-ramp	Merge	4,870	760	C	5,350	880	D	I-15 NB on-ramp	Merge	5,580	760	D	4,840	890	D
I-15 SB on-ramp	Merge	4,890	400	C	5,290	540	C	I-15 SB on-ramp	Merge	5,290	610	C	6,040	770	D	I-15 SB on-ramp	Merge	5,730	610	C	5,160	780	D
I-15 NB off-ramp	Diverge	4,680	600	C	5,210	660	C	I-15 NB off-ramp	Diverge	5,790	920	D	6,300	950	D	I-15 NB off-ramp	Diverge	6,500	920	D	5,790	950	D
I-15 SB off-ramp	Diverge	5,680	790	D	5,990	700	D	I-15 SB off-ramp	Diverge	6,190	900	D	6,780	740	E	I-15 SB off-ramp	Diverge	6,630	900	E	5,900	740	D
Magnolia Avenue Interchange on I-15								**Magnolia Avenue Interchange on I-15**								**Magnolia Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	4,440	580	C	4,750	1,280	D	I-15 NB on-ramp	Merge	6,090	230	C	6,920	430	D	I-15 NB on-ramp	Merge	5,690	240	C	6,180	430	D
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,430	660	C	5,880	1,040	D	I-15 NB loop on-ramp	Merge	5,030	660	C	5,140	1,040	D
I-15 SB on-ramp	Merge	4,610	480	C	5,550	880	D	I-15 SB on-ramp	Merge	5,480	520	C	6,240	1,160	D	I-15 SB on-ramp	Merge	4,370	530	C	4,530	1,170	D
I-15 NB off-ramp	Diverge	5,690	1,250	D	5,360	610	C	I-15 NB off-ramp	Diverge	6,900	1,470	E	6,500	620	D	I-15 NB off-ramp	Diverge	6,500	1,470	E	5,800	660	D
I-15 SB off-ramp	Diverge	6,220	1,610	E	6,890	1,340	E	I-15 SB off-ramp	Diverge	7,420	1,940	**F**	8,010	1,770	**F**	I-15 SB off-ramp	Diverge	6,310	1,940	**F**	6,310	1,780	**F**
Ontario Avenue Interchange on I-15								**Ontario Avenue Interchange on I-15**								**Ontario Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	4,930	760	C	5,560	800	D	I-15 NB on-ramp	Merge	6,110	790	D	5,480	1,020	D	I-15 NB on-ramp	Merge	7,530	1,100	**F**	5,160	1,070	D
I-15 SB on-ramp	Merge	3,970	530	C	5,540	840	D	I-15 SB on-ramp	Merge	4,780	600	C	6,470	1,080	D	I-15 SB on-ramp	Merge	3,540	610	C	4,670	1,100	D
I-15 NB off-ramp	Diverge	5,890	960	D	5,020	460	D	I-15 NB off-ramp	Diverge	7,290	1,180	**F**	6,000	520	D	I-15 NB off-ramp	Diverge	8,700	1,170	**F**	5,680	520	D
I-15 SB off-ramp	Diverge	5,090	1,120	C	6,430	890	D	I-15 SB off-ramp	Diverge	6,000	1,220	D	7,400	930	E	I-15 SB off-ramp	Diverge	4,900	1,360	D	5,700	1,030	D
El Cerrito Road Interchange on I-15								**El Cerrito Road Interchange on I-15**								**El Cerrito Road Interchange on I-15**							
I-15 NB on-ramp	Merge	5,370	520	D	4,700	320	D	I-15 NB on-ramp	Merge	6,650	640	**F**	5,410	590	E	I-15 NB on-ramp	Merge	8,000	700	**F**	5,120	560	D
I-15 SB on-ramp	Merge	4,280	220	C	5,800	690	**F**	I-15 SB on-ramp	Merge	5,140	300	D	6,910	910	**F**	I-15 SB on-ramp	Merge	4,210	310	C	7,170	910	**F**
I-15 NB off-ramp	Diverge	5,630	260	D	4,940	240	D	I-15 NB off-ramp	Diverge	7,040	390	**F**	5,650	250	D	I-15 NB off-ramp	Diverge	8,410	410	**F**	5,360	240	D
I-15 SB off-ramp	Diverge	4,500	220	C	6,380	580	D	I-15 SB off-ramp	Diverge	5,380	240	C	7,550	640	E	I-15 SB off-ramp	Diverge	4,440	230	C	7,770	600	E
Cajalco Road Interchange on I-15								**Cajalco Road Interchange on I-15**								**Cajalco Road Interchange on I-15**							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	5,150	620	D	4,340	480	D	I-15 NB loop on-ramp	Merge	6,520	630	**F**	4,050	490	C
I-15 NB on-ramp	Merge	4,840	790	D	4,280	660	D	I-15 NB on-ramp	Merge	5,770	1,270	**F**	4,820	830	D	I-15 NB on-ramp	Merge	7,300	1,260	**F**	4,540	820	D
I-15 SB loop on-ramp	Merge	4,020	140	C	5,870	790	**F**	I-15 SB loop on-ramp	Merge	4,360	150	C	6,200	1,140	**F**	I-15 SB loop on-ramp	Merge	3,450	160	C	6,470	1,120	**F**
I-15 NB off-ramp	Diverge	5,050	210	D	4,640	360	D	I-15 NB off-ramp	Diverge	5,960	810	D	5,490	1,150	D	I-15 NB off-ramp	Diverge	7,300	780	**F**	5,170	1,120	D
I-15 SB off-ramp	Diverge	4,500	480	C	6,490	610	**F**	I-15 SB off-ramp	Diverge	5,440	1,080	D	7,820	1,620	**F**	I-15 SB off-ramp	Diverge	4,520	1,070	D	8,080	1,610	**F**
SR-91/SR-241 Connectors								**SR-91/SR-241 Connectors**								**SR-91/SR-241 Connectors**							
SR-91 WB to SR-241 SB	Diverge	10,830	1,710	**F**	6,990	740	B	SR-91 WB to SR-241 SB	Diverge	12,900	2,070	**F**	7,500	980	C	SR-91 WB to SR-241 SB	Diverge	13,700	2,220	**F**	7,700	980	C
SR-241 NB to SR-91 EB	Merge	5,070	750	B	6,530	1,750	C	SR-241 NB to SR-91 EB	Merge	5,190	1,410	B	8,820	2,080	**F**	SR-241 NB to SR-91 EB	Merge	4,490	1,510	C	8,900	2,100	**F**
SR-91/SR-71 Connectors								**SR-91/SR-71 Connectors**								**SR-91/SR-71 Connectors**							
SR-71 SB to SR-91 EB	Merge	4,900	670	B	7,300	1,520	**F**	SR-71 SB to SR-91 EB	Merge	5,070	1,250	C	8,330	1,920	D	SR-71 SB to SR-91 EB	Merge	4,300	1,270	B	7,450	2,040	D
SR-71 SB to SR-91 WB	Merge	8,990	1,210	**F**	5,930	1,210	D	SR-71 SB to SR-91 WB	Merge	9,480	1,770	**F**	5,960	1,570	D	SR-71 SB to SR-91 WB	Merge	8,610	1,700	E	5,580	1,540	D
SR-91 EB to SR-71 NB	Diverge	5,810	910	C	8,780	1,480	E	SR-91 EB to SR-71 NB	Diverge	6,180	1,620	D	8,630	1,940	**F**	SR-91 EB to SR-71 NB	Diverge	3,100	1,200	C	6,070	1,380	D
SR-91 WB to SR-71 NB	Diverge	10,180	1,260	C	6,880	950	B	SR-91 WB to SR-71 NB	Diverge	11,340	1,660	**F**	7,490	1,430	B	SR-91 WB to SR-71 NB	Diverge	10,360	1,750	C	6,990	1,410	B
SR-91/I-15 Connectors								**SR-91/I-15 Connectors**								**SR-91/I-15 Connectors**							
I-15 NB to SR-91 EB	Merge	2,740	1,530	D	6,110	1,330	**F**	I-15 NB to SR-91 EB	Merge	2,450	1,680	D	7,350	1,420	**F**	I-15 NB to SR-91 EB	Merge	2,990	2,680	D	1,500	3,800	D
I-15 NB to SR-91 WB	Merge	6,610	1,830	E	4,380	2,150	E	I-15 NB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 NB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA
I-15 SB to SR-91 EB	Merge	1,810	910	B	4,915	1,010	E	I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA
I-15 SB to SR-91 WB	Merge	5,495	1,450	**F**	2,650	1,780	C	I-15 SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA
I-15 NB/SB to SR-91 WB	Merge	NA	NA	NA	NA	NA	NA	I-15 NB/SB to SR-91 WB	Merge	6,360	2,270	**F**	4,620	2,490	E	I-15 NB/SB to SR-91 WB	Merge	4,060	1,630	D	7,830	1,490	**F**
I-15 SB to SR-91 EB	Merge	NA	NA	NA	NA	NA	NA	I-15 SB to SR-91 EB	Merge	1,450	1,000	B	4,870	1,110	E	I-15 SB to SR-91 EB	Merge	3,060	1,000	C	6,720	1,110	E
SR-91 EB to I-15 NB/SB	Diverge	5,370	3,560	**F**	8,715	3,560	**F**	SR-91 EB to I-15 NB/SB	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB to I-15 NB/SB	Diverge	3,970	2,460	B	6,590	2,690	C
SR-91 WB to I-15 NB/SB	Diverge	8,245	2,750	**F**	5,360	2,710	C	SR-91 WB to I-15 NB/SB	Diverge	NA	NA	NA	NA	NA	NA	SR-91 WB to I-15 NB/SB	Diverge	7,630	3,220	D	5,350	3,220	C
I-15 NB Toll to SR-91 WB Toll	Merge	NA	NA	NA	NA	NA	NA	I-15 NB Toll to SR-91 WB Toll	Merge	NA	NA	NA	NA	NA	NA	I-15 NB Toll to SR-91 WB Toll	Merge	1,770	2,130	**F**	1,570	430	D
SR-91 EB Toll to I-15 SB Toll	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB Toll to I-15 SB Toll	Diverge	NA	NA	NA	NA	NA	NA	SR-91 EB Toll to I-15 SB Toll	Diverge	1,500	290	B	4,200	2,000	**F**

Source: *Traffic Study Report* (July 2010).
Note: A black box (**F**) represents a deficient segment.

EB = eastbound
I-15 = Interstate 15
LOS = levels of service
NB = northbound
SB = southbound
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
WB = westbound

Table 3.6.13 Intersection Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				2015 Initial Phase of Alternative 2			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Road	Gypsum Canyon Road/SR-91 WB off-ramp	11.4	B	12.9	B	15.5	B	31.4	C	22.6	C	28.9	C
	Gypsum Canyon Road/SR-91 EB off-ramp	10.1	B	9.2	A	15.0	C	10.6	B	14.9	C	10.6	B
Green River Road	Green River Road/SR-91 WB ramps	172.1	**F**	12.3	B	62.6	**E**	25.8	C	68.9	**E**	31.8	C
	Green River Road/SR-91 EB ramps	12.1	B	14.6	B	29.7	C	96.6	**F**	29.5	C	114.9	**F**
Auto Center Drive[1]	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	15.5	B	19.4	B	17.2	B	20.7	C
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	31.9	C	18.6	B	30.2	C	16.6	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	20.1	C	17.1	B	22.4	C	14.5	B
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	14.9	B	19.3	B	17.0	B	18.9	B
Maple Street[1]	Maple Street/Pomona Road	9.3	A	9.6	A	33.4	C	41.4	D	46.0	D	39.4	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	21.9	C	30.0	C	17.6	B	15.8	B
	Maple Street/SR-91 EB ramps	21.9	C	137.4	**F**	23.9	C	87.0	**F**	21.6	C	37.4	D
	Paseo Grande Road/Maple Street	27.5	C	104.5	**F**	32.4	C	41.6	D	29.1	C	47.1	D
Lincoln Avenue[2]	SR-91 WB ramps/Pomona Road	220.6	**F**	26.4	C	-	-	-	-	-	-	-	-
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	27.1	C	22.3	C	70.3	**E**	24.3	C
	Lincoln Avenue/SR-91 WB ramps	-	-	-	-	36.6	D	34.4	C	18.5	B	14.2	B
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	**F**	24.9	C	141.9	**F**	93.5	**F**	104.3	**F**
	Lincoln Avenue/Hotel Access	-	-	-	-	-	-	-	-	12.8	B	17.8	B
	Lincoln Avenue/D Street	14.1	B	18.7	B	20.2	C	24.9	C	21.1	C	23.2	C
Main Street[3]	Main Street/Grand Boulevard	-	-	-	-	32.3	C	71.7	**E**	30.9	C	74.3	**E**
	Main Street/SR-91 WB ramps	36.9	D	41.5	D	29.3	C	87.9	**F**	24.4	C	73.5	E
	Main Street/SR-91 EB ramps	10.2	B	18.0	B	14.5	B	20.0	B	16.9	B	33.7	C
	Main Street/Third Street	22.4	C	27.3	C	45.7	D	29.9	C	60.5	**E**	41.0	D
McKinley Street	McKinley Street/Griffin Way	36.0	D	174.9	**F**	26.6	C	48.4	D	29.1	C	53.2	D
	McKinley Street/SR-91 WB on-ramp	11.7	B	13.4	B	21.0	C	13.8	B	28.2	C	13.3	B
	McKinley Street/SR-91 EB off-ramp	18.0	B	24.2	C	16.2	B	21.7	C	12.9	B	21.9	C
	McKinley Street/Sampson Avenue	28.7	C	93.8	**F**	35.4	D	40.2	D	25.3	C	39.2	D
Pierce Street	Pierce Street/SR-91 WB on-ramp	14.4	B	14.7	B	14.6	B	12.1	B	13.3	B	11.3	B
	Pierce Street/SR-91 EB off-ramp	10.5	B	13.8	B	9.7	A	18.8	B	9.4	A	17.3	B
	Pierce Street/Magnolia Avenue	32.2	C	105.5	**F**	33.1	C	61.9	E	31.1	C	57.1	**E**
Second Street	Hamner Avenue/Second Street	49.6	D	73.6	E	34.0	C	30.4	C	34.0	C	30.4	C
	I-15 SB ramps/Second Street	11.5	B	10.9	B	12.4	B	8.8	A	12.6	B	8.8	A
	I-15 NB ramps/Second Street	77.6	E	175.7	**F**	35.5	D	38.9	D	35.7	D	38.9	D
Hidden Valley Parkway	Hamner Avenue/Hidden Valley Parkway	63.5	E	145.3	**F**	39.3	D	85.5	**F**	40.8	D	90.6	**F**
	I-15 SB off-ramp/Hidden Valley Parkway	44.5	D	154.4	**F**	31.9	C	27.3	C	27.9	C	28.2	C
	I-15 SB on-ramp/Hidden Valley Parkway	2.4	A	7.7	A	4.7	A	7.6	A	5.0	A	9.0	A
	I-15 NB on-ramp/Hidden Valley Parkway	5.2	A	7.0	A	3.4	A	11.3	B	5.6	A	11.2	B
	I-15 NB off-ramp/Hidden Valley Parkway	59.5	E	18.1	B	26.8	C	23.6	C	22.2	C	25.5	C
	Garland Way/Hidden Valley Parkway	102.2	**F**	87.3	**F**	20.3	C	26.2	C	19.3	B	24.1	C
Magnolia Avenue	Rimpau Avenue/Magnolia Avenue	97.4	**F**	84.3	**F**	44.0	D	47.1	D	39.5	D	44.1	D
	El Sobrante Road/Magnolia Avenue	168.0	**F**	65.4	E	26.2	C	28.9	C	20.4	C	29.5	C
	I-15 SB ramps/Magnolia Avenue	63.9	E	64.3	E	31.2	C	54.9	D	34.8	C	53.0	D
	I-15 NB ramps/Magnolia Avenue	36.4	D	43.9	D	14.5	B	9.8	A	16.8	B	8.0	A
	Compton Avenue/El Camino Avenue/Magnolia Avenue	55.0	D	22.5	C	19.8	B	48.6	D	24.1	C	23.5	C

Table 3.6.13 Intersection Peak-Hour Levels of Service for Baseline/Existing (2007), 2015 No Build, and the 2015 Initial Phase of Alternative 2

Arterial	Intersection	Baseline/Existing (2007)				2015 No Build				2015 Initial Phase of Alternative 2			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Ontario Avenue	Compton Avenue/Ontario Avenue	4.1	A	6.0	A	7.3	A	12.5	B	8.9	A	13.0	B
	I-15 SB ramps/Ontario Avenue	35.6	D	29.1	C	79.1	**E**	38.1	D	81.7	**F**	47.2	D
	I-15 NB ramps/Ontario Avenue	32.1	C	41.5	D	48.9	D	16.2	B	48.1	D	16.0	B
El Cerrito Road	Bedford Canyon Road/El Cerrito Road	13.3	B	53.2	D	16.5	B	29.6	C	16.0	B	30.7	C
	I-15 NB ramps/El Cerrito Road	14.2	B	10.7	B	19.9	B	23.2	C	20.1	C	24.3	C
	I-15 SB ramps/El Cerrito Road	7.3	A	11.7	B	8.8	A	11.1	B	9.1	A	12.0	B
Cajalco Road	Bedford Canyon Road/Cajalco Road	9.8	A	72.2	E	11.3	B	47.9	D	13.7	B	45.0	D
	I-15 SB ramps/Cajalco Road	14.3	B	243.2	**F**	15.4	B	23.6	C	18.4	B	26.6	C
	I-15 NB ramps/Cajalco Road	48.1	D	71.7	E	6.0	A	10.3	B	6.4	A	8.5	A
	Grand Oaks/Cajalco Road	13.6	B	112.9	**F**	21.9	C	16.6	B	20.3	C	18.8	B

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per the City of Corona *Traffic Impact Study Guidelines*, LOS E is permitted at several ramp intersections.
[1] Geometric assumptions represent EB braids and WB split-diamond configuration.
[2] Geometric assumptions represent diamond configuration.
[3] Geometric assumptions represent the configuration of a WB slip-ramp from the SR-91 mainline into the collector-distributor facility for the I-15 NB and SB connectors to WB SR-91 for vehicles exiting at Main Street.
EB = eastbound
I-15 = Interstate 15
LOS = levels of service
NB = northbound
SB = southbound
sec = seconds
SR-91 = State Route 91
WB = westbound

Table 3.6.14 Auto Center Drive/Maple Street Design Variation 2015 Intersection Analysis

Arterial	Intersection	Baseline/Existing (2007)				2015 Base Condition (Diamond)				2015 Design Variation (Connector)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	18.1	B	20.7	C	17.5	B	19.0	B
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	36.4	D	16.2	B	40.0	D	17.6	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	25.2	C	14.4	B	24.5	C	14.6	B
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	16.9	B	18.6	B	16.3	B	19.0	B
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	46.3	D	37.2	D	41.3	D	36.9	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	11.2	B	25.8	C	8.4	A	32.8	C
	Maple Street/SR-91 EB ramps (and WB on-ramp)	21.9	C	137.4	**F**	22.5	C	37.4	D	28.0	C	82.7	**F**
	Paseo Grande (SR-91 EB on-ramp)/Maple Street	27.5	C	104.5	**F**	29.3	C	49.8	D	26.5	C	49.3	D

Source: *Traffic Study Report* (July 2010).
Note: A black box (**F**) represents a deficient segment.
EB = eastbound SR-91 = State Route 91
LOS = level of service WB = westbound
sec = seconds

Table 3.6.15 Lincoln Avenue Design Variation 2015 Intersection Analysis

Arterial	Intersection	Baseline/Existing (2007)				2015 Base Condition (Diamond)				2015 Design Variation (Hook)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	**F**	26.4	C	NA				NA			
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	18.9	B	13.5	B	20.9	C	14.6	B
	Lincoln Avenue/SR-91 WB ramps	NA				70.0	E	28.0	C	60.1	E	29.6	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	**F**	92.6	**F**	105.5	**F**	NA			
	Lincoln Avenue/Hotel Access	NA				12.8	B	17.9	C	9.7	A	11.3	B
	Lincoln Avenue/D Street	14.1	B	18.7	B	23.1	C	28.0	C	83.5	**F**	206.3	**F**
	SR-91 EB ramps/D Street	NA				NA				23.1	C	88.0	**F**

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.16 2015 Alternative 2 Mid-City Access Design Variation with Base Assumptions at Maple Street and Lincoln Avenue Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	46.3	D	37.2	D	41.2	D	37.3	D
	Maple Street/SR-91 WB ramps	11.2	B	25.8	C	11.8	B	25.6	C
	Maple Street/SR-91 EB ramps	22.5	C	37.4	D	19.3	B	37.2	D
	Sixth Street/Paseo Grande	30.7	C	49.8	D	27.6	C	51.1	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	A	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	**F**	59.8	**E**	84.8	**F**
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.9	B	13.5	B	19.2	B	13.9	B
	Lincoln Avenue/SR-91 WB ramps	70.0	E	28.0	C	56.3	E	24.8	C
	Lincoln Avenue/SR-91 EB ramps	92.6	**F**	105.5	**F**	79.9	E	88.5	**F**
	Lincoln Avenue/Hotel Access	12.8	B	17.9	C	12.8	B	17.0	C
	Lincoln Avenue/D Street	23.1	C	28.0	C	21.9	C	22.5	C

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.17 2015 Alternative 2 Mid-City Access Design Variation with Maple Street Design Variation and Base Assumptions at Lincoln Avenue Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	41.1	D	36.9	D	37.9	D	36.8	D
	Maple Street/SR-91 WB ramps	8.4	A	32.8	C	8.1	B	31.5	C
	Maple Street/SR-91 EB ramps	28.2	C	82.7	**F**	23.1	C	67.2	**E**
	Sixth Street/Paseo Grande	27.0	C	49.3	D	24.6	C	49.0	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	**F**	59.8	**E**	84.8	**F**
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.9	B	13.5	B	19.2	B	13.9	B
	Lincoln Avenue/SR-91 WB ramps	70.0	E	28.0	C	56.3	E	24.8	C
	Lincoln Avenue/SR-91 EB ramps	92.6	**F**	105.5	**F**	79.7	E	88.5	**F**
	Lincoln Avenue/Hotel Access	12.8	B	17.9	C	12.8	B	17.0	C
	Lincoln Avenue/D Street	23.1	C	28.0	C	21.9	C	22.5	C

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.18 2015 Alternative 2 Mid-City Access Design Variation with Base Assumption at Maple Street and Lincoln Avenue Design Variation Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	46.3	D	37.2	D	41.2	D	37.3	D
	Maple Street/SR-91 WB ramps	11.2	B	25.8	C	11.8	B	25.6	C
	Maple Street/SR-91 EB ramps	22.5	C	37.4	D	19.3	B	37.2	D
	Sixth Street/Paseo Grande	29.3	C	49.8	D	27.6	C	51.1	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	**F**	59.8	**E**	84.8	**F**
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.9	C	14.6	B	21.3	C	13.6	B
	Lincoln Avenue/SR-91 WB ramps	60.1	E	29.6	C	48.1	D	28.6	C
	Lincoln Avenue/Hotel Access	9.7	A	11.3	A	9.7	A	11.0	B
	Lincoln Avenue/D Street	83.5	**F**	206.3	**F**	37.2	D	188.4	**F**
	SR-91 EB ramps/D Street	23.1	C	93.1	**F**	23.1	C	75.7	E

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.19 2015 Alternative 2 Mid-City Access Design Variation with Maple Street and Lincoln Avenue Design Variation Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	41.1	D	36.9	D	37.9	D	36.8	D
	Maple Street/SR-91 WB ramps	8.4	A	32.8	C	8.1	B	31.5	C
	Maple Street/SR-91 EB ramps	28.2	C	82.7	**F**	23.1	C	67.2	**E**
	Sixth Street/Paseo Grande	27.0	C	49.3	D	24.6	C	49.0	D
Smith Avenue	Smith Avenue/Railroad Street	51.2	D	35.9	D	50.1	D	36.4	D
	Smith Avenue/Pomona Road	26.7	C	28.6	C	28.3	C	29.4	C
	Smith Avenue/SR-91 Drop Ramp	NA				10.2	B	15.7	B
	Smith Avenue/Sixth Street	54.6	D	107.5	**F**	59.8	**E**	84.8	**F**
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.9	C	14.6	B	21.3	C	13.6	B
	Lincoln Avenue/SR-91 WB ramps	60.1	E	29.6	C	48.1	D	28.6	C
	Lincoln Avenue/Hotel Access	9.7	A	11.3	A	9.7	A	11.0	A
	Lincoln Avenue/D Street	83.5	**F**	206.3	**F**	37.2	D	188.4	**F**
	SR-91 EB ramps/D Street	23.1	C	93.1	**F**	23.1	C	75.7	E

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.20 Baseline/Existing (2007), 2035 No Build, and 2035 Alternative 1 and 2 Daily VMT, VHT, and VHD

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
SR-91 Corridor						
Vehicle Miles Traveled	Baseline/Existing (2007)	352,459	6,593,112	526,828	3,530,753	11,003,152
	Design Year 2035 No Build	2,268,016	8,791,080	809,551	4,955,412	16,824,059
	Design Year 2035 Alt 1	2,254,001	8,984,463	800,456	4,889,419	16,928,339
	Design Year 2035 Alt 2	2,841,632	9,080,879	206,531	4,855,904	16,984,946
Vehicle Hours Traveled	Baseline/Existing (2007)	5,844	185,177	13,093	130,574	334,688
	Design Year 2035 No Build	59,412	301,707	24,448	198,378	583,945
	Design Year 2035 Alt 1	57,327	300,277	22,233	192,082	571,919
	Design Year 2035 Alt 2	70,315	299,697	4,286	188,497	562,795
Vehicle Hours of Delay	Baseline/Existing (2007)	209	79,689	5,002	15,823	100,723
	Design Year 2035 No Build	24,527	152,424	12,005	35,135	224,091
	Design Year 2035 Alt 1	22,669	147,098	9,935	31,143	210,845
	Design Year 2035 Alt 2	26,610	144,976	1,130	28,702	201,418
Remainder of Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,317,992	208,815,843	12,198,974	170,853,518	394,186,327
	Design Year 2035 No Build	4,530,720	272,409,609	30,710,949	234,000,304	541,651,597
	Design Year 2035 Alt 1	4,574,690	272,221,085	30,729,835	233,745,301	541,270,911
	Design Year 2035 Alt 2	4,594,468	272,257,932	30,786,381	233,785,857	541,424,638
Vehicle Hours Traveled	Baseline/Existing (2007)	41,781	5,213,597	254,996	6,736,555	12,246,929
	Design Year 2035 No Build	81,186	8,268,888	904,155	10,152,197	19,406,426
	Design Year 2035 Alt 1	81,694	8,257,049	909,831	10,084,771	19,333,345
	Design Year 2035 Alt 2	82,153	8,229,504	916,211	10,113,773	19,341,641
Vehicle Hours of Delay	Baseline/Existing (2007)	4,498	1,832,605	67,773	641,528	2,546,404
	Design Year 2035 No Build	9,366	3,887,982	435,322	1,917,861	6,250,531
	Design Year 2035 Alt 1	9,203	3,879,373	440,758	1,861,539	6,190,873
	Design Year 2035 Alt 2	9,356	3,851,243	446,300	1,887,601	6,194,500
Region						
Vehicle Miles Traveled	Baseline/Existing (2007)	2,670,451	215,408,955	12,725,802	174,384,271	405,189,479
	Design Year 2035 No Build	6,798,745	281,200,689	31,520,500	238,955,716	558,475,650
	Design Year 2035 Alt 1	6,828,691	281,205,548	31,530,291	238,634,720	558,199,250
	Design Year 2035 Alt 2	7,436,100	281,338,811	30,992,912	238,641,761	558,409,584
Vehicle Hours Traveled	Baseline/Existing (2007)	47,625	5,398,774	268,089	6,867,129	12,581,617
	Design Year 2035 No Build	140,598	8,570,595	928,603	10,350,575	19,990,371
	Design Year 2035 Alt 1	139,021	8,557,326	932,064	10,276,853	19,905,264
	Design Year 2035 Alt 2	152,468	8,529,201	920,497	10,302,270	19,904,436

Table 3.6.20 Baseline/Existing (2007), 2035 No Build, and 2035 Alternative 1 and 2 Daily VMT, VHT, and VHD

Variable	Alternative	Toll	Freeway Non-Toll	HOV	Arterial	Total
Vehicle Hours of Delay	Baseline/Existing (2007)	4,707	1,912,294	72,775	657,351	2,647,127
	Design Year 2035 No Build	33,893	4,040,406	447,327	1,952,996	6,474,622
	Design Year 2035 Alt 1	31,872	4,026,471	450,693	1,892,682	6,401,718
	Design Year 2035 Alt 2	35,966	3,996,219	447,430	1,916,303	6,395,918

Source: RCTC Model (2010) as presented in the *Traffic Study Report* (July 2010).
Alt = Alternative
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission
SR-91 = State Route 91
VHD = vehicle hours of delay
VHT = vehicle hours traveled
VMT = vehicle miles traveled

Table 3.6.21 Baseline/Existing (2007), 2035 No Build, and 2035 Alternative 1 and 2 Peak-Hour Corridor Travel Time Summary

Direction	Lanes	Baseline/ Existing (2007)	Design Year 2035 No Build	Design Year 2035 Alt 1	Design Year 2035 Alt 2
AM Peak-Hour Travel Time (min)					
Westbound	General Purpose	28.5	43.2	36.6	37.3
	HOV/Express	12.1	25.9	23.5	12.6
AM Peak-Hour Travel Speed (mph)					
Westbound	General Purpose	24.2	16.0	18.9	18.5
	HOV/Express	56.8	26.6	29.4	55.0
PM Peak-Hour Travel Time (min)					
Eastbound	General Purpose	44.0	86.4	73.3	73.7
	HOV/Express	30.0	47.0	48.1	13.8
PM Peak-Hour Travel Speed (mph)					
Eastbound	General Purpose	15.7	8.0	9.4	9.4
	HOV/Express	23.0	14.7	14.4	50.0

Source: Speed Surveys, RCTC Model (2010).
Alt = Alternative
min = minutes
mph = miles per hour
HOV = high-occupancy vehicle
RCTC = Riverside County Transportation Commission

Table 3.6.22 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2035 No Build, and Design Year 2035 with Alternatives 1 and 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
State Route 91	Eastbound	SR-241 to Gypsum Canyon Road	General Purpose	20.7	C	-	25.4	C	-	21.1	C	-	> 45	F	1.21	17.2	B	-	> 45	F	1.02	19.0	C	-	41.3	E	1.09
		Gypsum Canyon Road to Green River Road		25.4	C	-	43.5	E	-	20.1	C	-	> 45	F	1.30	17.8	B	-	> 45	F	1.13	19.2	C	-	> 45	F	1.16
		Green River Road to SR-71		19.6	C	-	30.9	D	-	17.0	B	-	37.0	E	-	16.9	B	-	42.3	E	-	17.3	B	-	41.7	E	-
		SR-71 to Auto Center Drive		25.9	C	-	> 45	F	1.04	26.2	D	-	> 45	F	1.53	20.1	C	-	> 45	F	1.30	20.8	C	-	> 45	F	1.15
		Auto Center Drive to Maple Street		23.9	C	-	> 45	F	1.08	26.1	D	-	> 45	F	1.54	20.5	C	-	> 45	F	1.29	21.0	C	-	> 45	F	1.13
		Maple Street to Lincoln Avenue		21.3	C	-	41.7	E	-	23.7	C	-	> 45	F	1.48	18.9	C	-	> 45	F	1.22	19.1	C	-	> 45	F	1.05
		Lincoln Avenue to Grand Boulevard		22.4	C	-	40.6	E	-	28.6	D	-	> 45	F	1.47	21.8	C	-	> 45	F	1.21	21.6	C	-	> 45	F	1.02
		Grand Boulevard to Main Street		21.3	C	-	36.1	E	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Main Street to I-15		23.8	C	-	> 45	F	1.05	29.2	D	-	> 45	F	1.50	17.8	B	-	> 45	F	1.08	17.4	B	-	32.7	D	-
		I-15 to McKinley Street		18.4	C	-	34.2	D	-	23.5	C	-	> 45	F	1.35	18.1	C	-	> 45	F	1.06	21.9	C	-	> 45	F	1.11
		McKinley Street to Pierce Street		24.6	C	-	> 45	F	1.19	31.5	D	-	> 45	F	1.72	21.0	C	-	> 45	F	1.26	23.2	C	-	> 45	F	1.30
		Pierce Street to Magnolia Avenue		23.6	C	-	> 45	F	1.03	28.8	D	-	> 45	F	1.55	19.8	C	-	> 45	F	1.11	21.7	C	-	> 45	F	1.15
		SR-241 to Green River Road	Alt. 1 Toll/HOV	6.0	A	-	27.5	D	-	14.2	B	-	29.6	D	-	12.9	B	-	27.7	D	-	-	-	-	-	-	-
		Green River Road to Auto Center Drive		13.9	B	-	33.7	D	-	24.2	C	-	> 45	F	1.57	23.0	C	-	> 45	F	1.52	-	-	-	-	-	-
		Auto Center Drive to Lincoln Avenue		15.6	B	-	27.7	D	-	24.2	C	-	38.3	E	-	23.0	C	-	31.4	D	-	-	-	-	-	-	-
		Lincoln Avenue to Main Street		16.2	B	-	27.7	D	-	23.5	C	-	29.8	D	-	18.8	B	-	28.3	D	-	-	-	-	-	-	-
		Main Street to I-15		13.9	B	-	18.9	B	-	17.3	B	-	28.6	D	-	16.4	B	-	25.6	C	-	-	-	-	-	-	-
		I-15 to Pierce Street		13.7	B	-	18.3	B	-	22.5	C	-	35.3	E	-	23.0	C	-	25.6	C	-	-	-	-	-	-	-
		Pierce Street to Magnolia Avenue		11.1	A	-	15.1	B	-	20.8	C	-	30.5	D	-	21.4	C	-	25.6	C	-	-	-	-	-	-	-
		SR-241 to Green River Road	Alt. 2 Toll/HOV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.9	B	-	26.8	D	-
		Green River Road to Main Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.7	B	-	30.9	D	-
		Main Street to McKinley Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	A	-	6.4	A	-
		McKinley Street to Pierce Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4	A	-	12.5	B	-
	Westbound	SR-241 to Gypsum Canyon Road	General Purpose	> 45	F	1.10	27.1	D	-	> 45	F	1.41	25.2	C	-	> 45	F	1.24	21.3	C	-	> 45	F	1.28	22.7	C	-
		Gypsum Canyon Road to Green River Road		> 45	F	1.31	23.8	C	-	> 45	F	1.36	23.5	C	-	> 45	F	1.23	21.2	C	-	> 45	F	1.27	22.3	C	-
		Green River Road to SR-71		> 45	F	1.25	33.1	D	-	> 45	F	1.54	33.2	D	-	> 45	F	1.41	25.7	C	-	> 45	F	1.24	26.4	D	-
		SR-71 to Auto Center Drive		> 45	F	1.23	30.2	D	-	> 45	F	1.57	32.2	D	-	> 45	F	1.44	25.5	C	-	> 45	F	1.27	25.5	C	-
		Auto Center Drive to Maple Street		> 45	F	1.12	31.0	D	-	> 45	F	1.44	34.2	D	-	> 45	F	1.32	26.8	D	-	> 45	F	1.06	20.2	C	-
		Maple Street to Lincoln Avenue		> 45	F	1.04	31.1	D	-	> 45	F	1.28	32.0	D	-	> 45	F	1.20	25.3	C	-	> 45	F	1.03	25.3	C	-
		Lincoln Avenue to Grand Boulevard		44.3	E	-	31.7	D	-	> 45	F	1.24	32.4	D	-	> 45	F	1.15	26.1	C	-	39.1	E	-	26.1	D	-
		Grand Boulevard to Main Street		39.6	E	-	29.3	D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Main Street to I-15		> 45	F	1.01	30.0	D	-	> 45	F	1.19	29.6	D	-	42.4	E	-	20.1	C	-	29.0	D	-	20.1	C	-
		I-15 to McKinley Street		43.0	E	-	23.2	C	-	> 45	F	1.19	22.9	C	-	32.6	D	-	16.1	B	-	37.7	E	-	19.2	C	-
		McKinley Street to Pierce Street		> 45	F	1.34	30.7	D	-	> 45	F	1.56	29.2	D	-	> 45	F	1.05	18.6	C	-	> 45	F	1.20	23.4	C	-
		Pierce Street to Magnolia Avenue		> 45	F	1.22	27.9	D	-	> 45	F	1.36	25.4	C	-	36.7	E	-	16.1	B	-	39.7	E	-	19.5	C	-
		SR-241 to Green River Road	Alt. 1 Toll/HOV	19.6	C	-	8.9	A	-	23.4	D	-	16.7	B	-	30.9	D	-	15.3	B	-	-	-	-	-	-	-
		Green River Road to Auto Center Drive		31.6	D	-	19.6	C	-	35.3	F	1.09	29.6	D	-	37.0	E	-	30.5	D	-	-	-	-	-	-	-
		Auto Center Drive to Grand Boulevard		31.8	D	-	17.8	B	-	32.7	E	-	26.0	C	-	37.0	E	-	24.7	C	-	-	-	-	-	-	-
		Grand Boulevard to I-15		16.3	B	-	15.1	B	-	20.1	D	-	22.5	C	-	27.3	D	-	21.4	C	-	-	-	-	-	-	-
		I-15 to Pierce Street		15.4	B	-	13.5	B	-	18.5	C	-	20.8	C	-	27.3	D	-	24.7	C	-	-	-	-	-	-	-
		Pierce Street to Magnolia Avenue		13.3	B	-	11.6	B	-	16.8	D	-	19.0	B	-	31.4	D	-	23.0	C	-	-	-	-	-	-	-
		SR-241 to Green River Road	Alt. 2 Toll/HOV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.7	D	-	16.9	B	-
		Green River Road to Main Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36.4	E	-	18.5	B	-
		Main Street to Pierce Street		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	A	-	7.2	A	-
		Pierce Street to Magnolia Avenue		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0	B	-	9.6	A	-
Interstate 15	Northbound	North of Hidden Valley Parkway	General Purpose	22.3	C	-	24.9	C	-	> 45	F	1.30	> 45	F	1.00	> 45	F	1.42	> 45	F	1.00	> 45	F	1.36	42.5	E	-
		Hidden Valley Parkway to SR-91		21.3	C	-	23.8	C	-	> 45	F	1.17	43.9	E	-	> 45	F	1.32	43.1	E	-	> 45	F	1.32	34.9	D	-
		SR-91 to Magnolia Avenue		21.9	C	-	26.7	D	-	> 45	F	1.11	> 45	F	1.03	> 45	F	1.16	> 45	F	1.06	> 45	F	1.16	> 45	F	1.04
		Magnolia Avenue to Ontario Avenue		24.4	C	-	22.9	C	-	> 45	F	1.20	38.2	E	-	> 45	F	1.25	40.4	E	-	> 45	F	1.24	38.2	E	-
		Ontario Avenue to El Cerrito Road		38.6	E	-	29.8	D	-	> 45	F	1.61	> 45	F	1.17	> 45	F	1.68	> 45	F	1.19	> 45	F	1.67	> 45	F	1.16
		El Cerrito Road to Cajalco Road		35.4	E	-	29.1	D	-	> 45	F	1.79	> 45	F	1.18	> 45	F	1.93	> 45	F	1.27	> 45	F	1.93	> 45	F	1.26
		South of Cajalco Road		30.0	D	-	35.5	E	-	> 45	F	1.07	44.9	E	-	> 45	F	1.19	> 45	F	1.08	> 45	F	1.20	> 45	F	1.08
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	15.3	B	-	4.8	A	-	12.9	B	-	4.8	A	-	17.7	B	-	10.4	A	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	25.9	C	-	8.0	A	-	33.7	D	-	8.8	A	-	35.3	E	-	11.2	B	-
		South of El Cerrito Road		-	-	-	-	-	-	10.1	A	-	2.3	A	-	11.7	B	-	2.3	A	-	11.7	B	-	0.8	A	-

Table 3.6.22 Freeway Mainline Peak-Hour Levels of Service for Baseline/Existing (2007), 2035 No Build, and Design Year 2035 with Alternatives 1 and 2

Fwy	Dir	Segment	Lane Type	Baseline/Existing (2007)						Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C	Density	LOS	V/C
Interstate 15	Southbound	North of Hidden Valley Parkway	General Purpose	26.9	D	-	28.7	D	-	> 45	F	1.14	> 45	F	1.40	> 45	F	1.23	> 45	F	1.40	> 45	F	1.19	> 45	F	1.44
		Hidden Valley Parkway to SR-91		24.2	C	-	27.2	D	-	> 45	F	1.05	> 45	F	1.29	> 45	F	1.15	> 45	F	1.34	> 45	F	1.06	> 45	F	1.40
		SR-91 to Magnolia Avenue		27.7	D	-	31.8	D	-	> 45	F	1.02	> 45	F	1.31	42.8	E	-	> 45	F	1.30	41.9	E	-	> 45	F	1.26
		Magnolia Avenue to Ontario Avenue		21.7	C	-	28.3	D	-	32.1	D	-	> 45	F	1.21	29.4	D	-	> 45	F	1.20	28.7	D	-	> 45	F	1.18
		Ontario Avenue to El Cerrito Road		19.7	C	-	28.6	D	-	27.6	D	-	> 45	F	1.24	25.7	C	-	> 45	F	1.23	25.3	C	-	> 45	F	1.19
		El Cerrito Road to Cajalco Road		26.1	D	-	> 45	F	1.03	> 45	F	1.04	> 45	F	1.80	> 45	F	1.03	> 45	F	1.86	> 45	F	1.03	> 45	F	1.90
		South of Cajalco Road		24.0	C	-	> 45	F	1.06	27.9	D	-	> 45	F	1.21	28.4	D	-	> 45	F	1.21	28.2	D	-	> 45	F	1.24
		North of Hidden Valley Parkway	Toll/ HOV	-	-	-	-	-	-	4.8	A	-	14.5	B	-	4.8	A	-	12.9	B	-	9.6	A	-	19.3	C	-
		El Cerrito Road to Hidden Valley Parkway		-	-	-	-	-	-	7.2	A	-	21.7	C	-	8.8	A	-	25.0	C	-	9.6	A	-	32.4	D	-
		South of El Cerrito Road		-	-	-	-	-	-	2.3	A	-	9.3	A	-	1.6	A	-	10.1	A	-	1.6	A	-	10.1	A	-

Source: *Traffic Study Report* (July 2010).
Note: A black box (F) represents a deficient segment.
Dir = Direction
Fwy = Freeway
HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = level of service
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
V/C = volume-to-capacity ratio

Table 3.6.23 Freeway Ramp Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2

Design Year 2035 No Build								Design Year 2035 with Alternative 1								Design Year 2035 with Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
Gypsum Canyon Road Interchange on SR-91								**Gypsum Canyon Road Interchange on SR-91**								**Gypsum Canyon Road Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,590	250	B	10,710	550	**F**	SR-91 EB loop on-ramp	Merge	3,820	220	B	11,230	590	**F**	SR-91 EB loop on-ramp	Merge	4,320	220	B	10,860	560	**F**
SR-91 WB loop on-ramp	Merge	13,220	150	**F**	6,390	50	C	SR-91 WB loop on-ramp	Merge	14,350	160	**F**	6,930	50	C	SR-91 WB loop on-ramp	Merge	14,780	150	**F**	7,330	50	C
SR-91 EB on-ramp	Merge	5,770	330	C	12,090	1,410	**F**	SR-91 EB on-ramp	Merge	5,970	330	C	12,650	1,450	**F**	SR-91 EB on-ramp	Merge	6,470	330	C	13,150	1,250	**F**
SR-91 WB on-ramp	Merge	11,490	180	**F**	5,630	130	C	SR-91 WB on-ramp	Merge	12,630	170	**F**	6,170	120	B	SR-91 WB on-ramp	Merge	13,050	170	**F**	6,570	120	C
SR-91 EB off-ramp	Diverge	3,780	190	B	11,120	410	**F**	SR-91 EB off-ramp	Diverge	4,000	180	B	11,670	440	**F**	SR-91 EB off-ramp	Diverge	4,510	190	B	11,310	450	**F**
SR-91 WB off-ramp	Diverge	14,100	880	**F**	6,900	510	C	SR-91 WB off-ramp	Diverge	15,300	950	**F**	7,500	570	D	SR-91 WB off-ramp	Diverge	15,800	1,020	**F**	7,900	570	D
Green River Road Interchange on SR-91								**Green River Road Interchange on SR-91**								**Green River Road Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,030	40	B	9,720	30	D	SR-91 EB on-ramp	Merge	5,010	40	B	10,310	30	D	SR-91 EB on-ramp	Merge	5,110	40	B	10,250	30	D
SR-91 WB on-ramp	Merge	12,390	2,810	**F**	6,280	920	C	SR-91 WB on-ramp	Merge	14,280	2,720	**F**	6,670	930	C	SR-91 WB on-ramp	Merge	12,450	2,750	**F**	6,740	880	C
SR-91 EB off-ramp	Diverge	6,100	440	C	13,500	2,390	**F**	SR-91 EB off-ramp	Diverge	6,300	470	C	14,100	2,420	**F**	SR-91 EB off-ramp	Diverge	6,800	470	C	14,400	2,310	**F**
SR-91 WB off-ramp	Diverge	12,730	340	**F**	7,060	780	E	SR-91 WB off-ramp	Diverge	14,660	380	**F**	7,460	790	D	SR-91 WB off-ramp	Diverge	12,850	400	**F**	7,620	800	D
Auto Center Drive Interchange on SR-91								**Auto Center Drive Interchange on SR-91**								**Auto Center Drive Interchange on SR-91**							
SR-91 EB on-ramp	Merge	5,220	630	C	11,810	770	**F**	SR-91 EB on-ramp	Merge	5,270	640	C	12,530	780	**F**	SR-91 EB on-ramp	Merge	5,420	640	C	10,950	810	**F**
SR-91 WB on-ramp	Merge	11,560	1,490	**F**	6,360	710	D	SR-91 WB on-ramp	Merge	13,360	1,450	**F**	6,810	750	C	SR-91 WB on-ramp	Merge	11,700	1,420	**F**	6,800	660	C
SR-91 EB off-ramp	Diverge	6,020	800	D	12,720	910	**F**	SR-91 EB off-ramp	Diverge	6,010	740	C	13,510	980	**F**	SR-91 EB off-ramp	Diverge	6,220	800	C	11,950	1,000	**F**
Maple Street Interchange on SR-91								**Maple Street Interchange on SR-91**								**Maple Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,940	400	C	11,520	450	**F**	SR-91 EB on-ramp	Merge	4,950	410	B	12,180	480	**F**	SR-91 EB on-ramp	Merge	4,940	410	B	10,450	480	**F**
SR-91 WB loop on-ramp	Merge	10,410	1,510	**F**	6,210	1,000	D	SR-91 WB loop on-ramp	Merge	11,760	1,600	**F**	5,760	1,050	D	SR-91 WB loop on-ramp	Merge	10,150	1,550	**F**	5,840	960	C
SR-91 EB off-ramp	Diverge	5,850	910	D	12,780	1,260	**F**	SR-91 EB off-ramp	Diverge	5,910	960	C	13,410	1,230	**F**	SR-91 EB off-ramp	Diverge	6,060	950	C	11,760	1,310	**F**
SR-91 WB off-ramp	Diverge	10,650	240	**F**	6,820	610	D	SR-91 WB off-ramp	Diverge	12,410	550	**F**	7,230	1,370	D	SR-91 WB off-ramp	Diverge	10,700	550	**F**	7,240	1,400	D
Lincoln Avenue Interchange on SR-91								**Lincoln Avenue Interchange on SR-91**								**Lincoln Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,840	1,360	D	11,130	970	**F**	SR-91 EB on-ramp	Merge	4,630	1,460	D	11,330	1,040	**F**	SR-91 EB on-ramp	Merge	4,720	1,510	D	9,510	1,060	E
SR-91 WB on-ramp	Merge	9,800	1,050	**F**	6,170	550	D	SR-91 WB on-ramp	Merge	11,410	1,300	**F**	6,580	750	C	SR-91 WB on-ramp	Merge	9,430	1,270	**F**	6,550	690	C
SR-91 EB loop off-ramp	Diverge	5,340	500	C	12,270	1,140	**F**	SR-91 EB loop off-ramp	Diverge	5,460	830	C	12,660	1,330	**F**	SR-91 EB loop off-ramp	Diverge	5,520	800	C	10,930	1,420	**F**
SR-91 WB off-ramp	Diverge	10,270	470	**F**	6,870	700	D	SR-91 WB off-ramp	Diverge	11,910	500	**F**	7,430	850	D	SR-91 WB off-ramp	Diverge	9,900	470	E	7,420	870	D
Main Street Interchange on SR-91								**Main Street Interchange on SR-91**								**Main Street Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,890	1,200	D	10,580	1,820	**F**	SR-91 EB on-ramp	Merge	1,920	1,000	B	8,230	1,260	**F**	SR-91 EB on-ramp	Merge	2,870	980	C	7,640	1,250	**F**
SR-91 WB on-ramp	Merge	8,670	1,080	**F**	5,070	1,310	D	SR-91 WB on-ramp	Merge	10,250	1,660	**F**	5,810	1,620	D	SR-91 WB on-ramp	Merge	9,560	1,240	C	7,230	1,420	B
SR-91 EB off-ramp	Diverge	6,020	1,130	D	11,460	880	**F**	SR-91 EB off-ramp	Diverge	6,290	1,250	D	12,570	1,500	**F**	SR-91 EB off-ramp	Diverge	6,230	1,200	D	10,570	1,560	E
SR-91 WB off-ramp	Diverge	9,880	1,210	**F**	6,470	1,400	B	SR-91 WB off-ramp	Diverge	5,000	730	C	1,780	790	B	SR-91 WB off-ramp	Diverge	5,660	780	D	2,720	800	B
McKinley Street Interchange on SR-91								**McKinley Street Interchange on SR-91**								**McKinley Street Interchange on SR-91**							
SR-91 EB loop on-ramp	Merge	3,990	830	D	9,460	930	**F**	SR-91 EB loop on-ramp	Merge	3,860	920	C	9,140	990	**F**	SR-91 EB loop on-ramp	Merge	4,970	930	D	9,710	1,060	**F**
SR-91 EB on-ramp	Merge	4,520	550	D	9,990	680	**F**	SR-91 EB on-ramp	Merge	4,280	570	C	9,730	740	**F**	SR-91 EB on-ramp	Merge	4,770	580	C	9,990	770	**F**
SR-91 WB on-ramp	Merge	8,480	1,360	**F**	3,690	1,610	D	SR-91 WB on-ramp	Merge	7,580	1,510	D	3,060	1,700	C	SR-91 WB on-ramp	Merge	8,270	1,540	E	3,940	1,740	D
SR-91 EB off-ramp	Diverge	5,410	1,420	B	11,160	1,700	**F**	SR-91 EB off-ramp	Diverge	5,360	1,500	B	10,960	1,820	**F**	SR-91 EB off-ramp	Diverge	6,460	1,490	B	11,540	1,830	**F**
SR-91 WB loop off-ramp	Diverge	8,880	850	**F**	3,860	420	C	SR-91 WB loop off-ramp	Diverge	7,940	860	E	3,250	490	B	SR-91 WB loop off-ramp	Diverge	9,140	870	**F**	4,430	490	C
SR-91 WB off-ramp	Diverge	9,710	830	**F**	4,800	940	D	SR-91 WB off-ramp	Diverge	8,690	750	**F**	4,310	1,060	C	SR-91 WB off-ramp	Diverge	9,950	810	**F**	5,400	970	D
Pierce Street Interchange on SR-91								**Pierce Street Interchange on SR-91**								**Pierce Street Interchange on SR-91**							
SR-91 WB on-ramp	Merge	8,440	1,070	**F**	3,880	1,020	D	SR-91 WB on-ramp	Merge	7,390	1,100	**F**	3,370	1,040	C	SR-91 WB on-ramp	Merge	7,720	1,110	**F**	4,080	1,020	C
SR-91 EB off-ramp	Diverge	5,070	780	D	10,670	1,250	**F**	SR-91 EB off-ramp	Diverge	4,850	810	C	10,470	1,250	**F**	SR-91 EB off-ramp	Diverge	5,350	810	C	10,760	1,250	**F**
Magnolia Avenue Interchange on SR-91								**Magnolia Avenue Interchange on SR-91**								**Magnolia Avenue Interchange on SR-91**							
SR-91 EB on-ramp	Merge	4,140	760	D	9,300	890	**F**	SR-91 EB on-ramp	Merge	3,720	780	C	8,730	900	**F**	SR-91 EB on-ramp	Merge	4,130	730	C	9,050	960	**F**
SR-91 WB on-ramp	Merge	8,130	310	**F**	3,450	430	C	SR-91 WB on-ramp	Merge	6,940	450	D	2,820	550	B	SR-91 WB on-ramp	Merge	7,320	400	D	3,540	540	B
SR-91 EB loop off-ramp	Diverge	4,390	250	C	9,620	320	**F**	SR-91 EB loop off-ramp	Diverge	4,140	420	C	9,220	490	**F**	SR-91 EB loop off-ramp	Diverge	4,540	410	C	9,510	460	**F**
SR-91 WB loop off-ramp	Diverge	8,710	580	**F**	3,920	470	C	SR-91 WB loop off-ramp	Diverge	7,500	560	D	3,290	470	B	SR-91 WB loop off-ramp	Diverge	7,880	560	E	4,010	470	B
Second Street Interchange on I-15								**Second Street Interchange on I-15**								**Second Street Interchange on I-15**							
I-15 NB off-ramp	Diverge	10,220	1,220	**F**	7,890	870	**F**	I-15 NB off-ramp	Diverge	11,190	1,220	**F**	7,880	870	**F**	I-15 NB off-ramp	Diverge	10,710	1,270	**F**	7,500	900	E
I-15 SB on-ramp	Merge	8,160	770	**F**	10,100	950	**F**	I-15 SB on-ramp	Merge	8,930	770	**F**	10,010	950	**F**	I-15 SB on-ramp	Merge	8,470	890	**F**	10,320	1,010	**F**
Hidden Valley Parkway Interchange on I-15								**Hidden Valley Parkway Interchange on I-15**								**Hidden Valley Parkway Interchange on I-15**							
I-15 NB on-ramp	Merge	7,890	1,030	**F**	6,480	1,010	E	I-15 NB on-ramp	Merge	9,050	1,060	**F**	6,420	1,070	E	I-15 NB on-ramp	Merge	9,080	1,080	**F**	5,740	1,060	D
I-15 SB on-ramp	Merge	7,750	780	**F**	10,090	960	**F**	I-15 SB on-ramp	Merge	8,640	760	**F**	10,080	950	**F**	I-15 SB on-ramp	Merge	8,290	790	**F**	10,420	980	**F**
I-15 NB off-ramp	Diverge	9,210	1,320	**F**	7,650	1,170	E	I-15 NB off-ramp	Diverge	10,350	1,300	**F**	7,590	1,170	E	I-15 NB off-ramp	Diverge	10,380	1,300	**F**	6,890	1,150	E
I-15 SB off-ramp	Diverge	8,930	1,180	**F**	11,050	960	**F**	I-15 SB off-ramp	Diverge	9,700	1,060	**F**	10,980	900	**F**	I-15 SB off-ramp	Diverge	9,360	1,070	**F**	11,330	910	**F**
Magnolia Avenue Interchange on I-15								**Magnolia Avenue Interchange on I-15**								**Magnolia Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	9,020	330	**F**	8,020	640	**F**	I-15 NB on-ramp	Merge	9,470	300	**F**	8,230	670	**F**	I-15 NB on-ramp	Merge	9,400	340	**F**	8,060	670	**F**
I-15 NB loop on-ramp	Merge	8,320	700	**F**	6,940	1,080	E	I-15 NB loop on-ramp	Merge	8,710	760	**F**	7,180	1,050	**E**	I-15 NB loop on-ramp	Merge	8,600	800	F	6,980	1,080	**E**

Table 3.6.23 Freeway Ramp Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2

Design Year 2035 No Build								Design Year 2035 with Alternative 1								Design Year 2035 with Alternative 2							
Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour			Ramp	Type of Analysis	AM Peak Hour			PM Peak Hour		
		Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS			Mainline Volume	Ramp Volume	LOS	Mainline Volume	Ramp Volume	LOS
I-15 SB on-ramp	Merge	6,200	800	D	9,020	1,180	**F**	I-15 SB on-ramp	Merge	5,700	900	D	8,990	1,110	**F**	I-15 SB on-ramp	Merge	5,650	850	D	8,700	1,200	**F**
I-15 NB off-ramp	Diverge	10,100	1,780	**F**	7,700	760	E	I-15 NB off-ramp	Diverge	10,500	1,790	**F**	7,900	720	E	I-15 NB off-ramp	Diverge	10,400	1,800	**F**	7,700	720	E
I-15 SB off-ramp	Diverge	8,560	2,360	**F**	10,980	1,960	**F**	I-15 SB off-ramp	Diverge	8,030	2,330	**F**	10,880	1,890	**F**	I-15 SB off-ramp	Diverge	7,960	2,310	**F**	10,600	1,900	**F**
Ontario Avenue Interchange on I-15								**Ontario Avenue Interchange on I-15**								**Ontario Avenue Interchange on I-15**							
I-15 NB on-ramp	Merge	9,050	1,050	**F**	6,460	1,240	E	I-15 NB on-ramp	Merge	9,500	1,000	**F**	6,620	1,280	D	I-15 NB on-ramp	Merge	9,410	990	**F**	6,420	1,280	D
I-15 SB on-ramp	Merge	6,570	630	D	9,290	1,130	**F**	I-15 SB on-ramp	Merge	5,200	650	C	9,210	1,100	**F**	I-15 SB on-ramp	Merge	5,110	640	C	9,010	1,020	**F**
I-15 NB off-ramp	Diverge	10,160	1,110	**F**	7,380	920	**F**	I-15 NB off-ramp	Diverge	10,570	1,070	**F**	7,520	900	**F**	I-15 NB off-ramp	Diverge	10,500	1,090	**F**	7,300	880	**F**
I-15 SB off-ramp	Diverge	7,000	1,430	E	10,200	910	**F**	I-15 SB off-ramp	Diverge	6,600	1,400	E	10,100	890	**F**	I-15 SB off-ramp	Diverge	6,500	1,390	E	9,900	890	**F**
El Cerrito Road Interchange on I-15								**El Cerrito Road Interchange on I-15**								**El Cerrito Road Interchange on I-15**							
I-15 NB on-ramp	Merge	11,260	800	**F**	7,420	660	**F**	I-15 NB on-ramp	Merge	12,130	840	**F**	7,980	340	**F**	I-15 NB on-ramp	Merge	12,170	830	**F**	7,930	670	**F**
I-15 SB off-ramp	Diverge	6,200	270	D	10,420	710	**F**	I-15 SB off-ramp	Diverge	5,850	240	C	10,310	420	**F**	I-15 SB off-ramp	Diverge	5,750	260	C	10,030	540	**F**
Cajalco Road Interchange on I-15								**Cajalco Road Interchange on I-15**								**Cajalco Road Interchange on I-15**							
I-15 NB loop on-ramp	Merge	NA	NA	NA	NA	NA	NA	I-15 NB loop on-ramp	Merge	10,660	1,470	**F**	6,940	1,040	**F**	I-15 NB loop on-ramp	Merge	10,710	1,460	**F**	6,990	960	**F**
I-15 SB on-ramp	Merge	5,530	450	D	9,720	870	**F**	I-15 SB on-ramp	Merge	5,460	510	D	9,950	920	**F**	I-15 SB on-ramp	Merge	5,430	520	D	10,410	880	**F**
I-15 NB off-ramp	Diverge	10,390	570	**F**	7,550	1,140	**F**	I-15 NB off-ramp	Diverge	11,260	600	**F**	8,080	1,140	**F**	I-15 NB off-ramp	Diverge	11,300	590	**F**	8,110	1,140	**F**
I-15 SB off-ramp	Diverge	6,530	1,000	**F**	11,310	1,590	**F**	I-15 SB off-ramp	Diverge	6,510	1,050	**F**	11,690	1,740	**F**	I-15 SB off-ramp	Diverge	6,490	1,060	**F**	11,990	1,580	**F**
SR-91/SR-241 Connectors								**SR-91/SR-241 Connectors**								**SR-91/SR-241 Connectors**							
SR-91 WB to SR-241 SB	Diverge	14,100	1,880	**F**	6,900	810	B	SR-91 WB to SR-241 SB	Diverge	15,300	1,880	**F**	7,500	810	C	SR-91 WB to SR-241 SB	Diverge	15,800	1,880	**F**	7,900	810	C
SR-241 NB to SR-91 EB	Merge	5,270	830	B	11,570	1,930	**F**	SR-241 NB to SR-91 EB	Merge	5,470	830	B	12,170	1,930	**F**	SR-241 NB to SR-91 EB	Merge	5,970	830	B	11,570	1,930	**F**
SR-91 WB Express to SR-241 SB Express	Diverge	3,600	2,300	C	2,000	1,100	A	SR-91 WB Express to SR-241 SB Express	Diverge	3,800	2,400	C	1,900	700	A	SR-91 WB Express to SR-241 SB Express	Diverge	3,600	1,900	B	2,100	800	A
SR-241 NB Express to SR-91 EB Express	Merge	900	800	B	1,400	2,200	C	SR-241 NB Express to SR-91 EB Express	Merge	1,000	600	B	1,400	2,100	C	SR-241 NB Express to SR-91 EB Express	Merge	700	900	B	1,700	1,700	C
SR-91/SR-71 Connectors								**SR-91/SR-71 Connectors**								**SR-91/SR-71 Connectors**							
SR-71 SB to SR-91 EB	Merge	5,070	1,050	B	9,750	1,670	**F**	SR-71 SB to SR-91 EB	Merge	5,050	1,060	B	10,340	1,670	**F**	SR-71 SB to SR-91 EB	Merge	5,150	1,070	B	10,280	1,670	**F**
SR-71 SB to SR-91 WB	Merge	10.95	1,780	**F**	7,060	1,610	D	SR-71 SB to SR-91 WB	Merge	13,190	1,570	**F**	5,850	1,610	D	SR-71 SB to SR-91 WB	Merge	11,360	1,490	**F**	5,990	1,630	D
SR-91 EB to SR-71 NB	Diverge	5,660	1,500	D	11,110	1,890	**F**	SR-91 EB to SR-71 NB	Diverge	5,830	1,620	D	11,680	1,860	**F**	SR-91 EB to SR-71 NB	Diverge	6,330	1,640	D	12,090	1,930	**F**
SR-91 WB to SR-71 NB	Diverge	13,050	1,700	**F**	6,970	1,420	B	SR-91 WB to SR-71 NB	Diverge	14,910	1,720	**F**	7,560	1,410	B	SR-91 WB to SR-71 NB	Diverge	13,120	1,760	**F**	7,460	1,470	B
SR-91/I-15 Connectors								**SR-91/I-15 Connectors**								**SR-91/I-15 Connectors**							
I-15 NB to SR-91 EB	Merge	3,730	1,680	E	9,700	1,460	**F**	I-15 NB to SR-91 EB	Merge	3,680	1,680	D	9,520	1,440	**F**	I-15 NB to SR-91 EB	Merge	4,780	1,680	D	10,080	1,460	**F**
I-15 NB/SB to SR-91 WB	-	-	-	-	-	-	-	I-15 NB/SB to SR-91 WB	Merge	5,460	4,790	**F**	1,620	4,190	E	I-15 NB/SB to SR-91 WB	Merge	5,340	2,980	E	2,540	3,270	D
I-15 SB to SR-91 EB	Merge	2,120	1,610	C	7,670	1,930	**F**	I-15 SB to SR-91 EB	Merge	2,190	1,490	C	8,250	1,270	**F**	I-15 SB to SR-91 EB	Merge	3,190	1,590	C	3,190	1,800	D
SR-91 EB to I-15 NB/SB	Diverge	6,390	4,270	**F**	12,400	4,730	**F**	SR-91 EB to I-15 NB/SB	Diverge	5,140	3,220	C	11,170	2,940	**F**	SR-91 EB to I-15 NB/SB	Diverge	5,030	2,160	B	9,010	1,370	B
SR-91 WB to I-15 NB/SB	Diverge	9,840	4,070	**F**	5,300	2,980	C	SR-91 WB to I-15 NB/SB	Diverge	9,090	4,090	**F**	4,760	2,980	C	SR-91 WB to I-15 NB/SB	Diverge	9,810	4,150	**F**	5,680	2,960	C
I-15 NB Express to SR-91 WB HOV	Merge	-	-	-	-	-	-	I-15 NB Express to SR-91 WB HOV	Merge	480	1,220	C	1,190	110	C	I-15 NB Toll to SR-91 WB Toll	Merge	680	3,520	**F**	900	1,400	C
SR-91 EB HOV to I-15 SB Express	Diverge	-	-	-	-	-	-	SR-91 EB HOV to I-15 SB Express	Diverge	1,000	110	A	1,600	1,000	B	SR-91 EB Toll to I-15 SB Toll	Diverge	1,700	1,530	B	3,800	2,980	**F**

Source: *Traffic Study Report* (July 2010).
Note: A black box (**F**) represents a deficient segment.
[1] Refer to Table 3.6.6 for Baseline/Existing (2007) freeway ramp peak-hour information.
EB = eastbound
HOV = high-occupancy vehicle
I-15 = Interstate 15
LOS = level of service
NA = not applicable
NB = northbound
SB = southbound
SR-91 = State Route 91
SR-241 = State Route 241
WB = westbound

Table 3.6.24 Intersection Peak-Hour Levels of Service for Design Year 2035 No Build and Design Year 2035 with Alternatives 1 and 2[1]

Design Year 2035 No Build						Design Year 2035 with Alternative 1						Design Year 2035 with Alternative 2					
Arterial	Intersection	AM Peak		PM Peak		Arterial	Intersection	AM Peak		PM Peak		Arterial	Intersection	AM Peak		PM Peak	
		Delay (sec)	LOS	Delay (sec)	LOS			Delay (sec)	LOS	Delay (sec)	LOS			Delay (sec)	LOS	Delay (sec)	LOS
Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	18.1	B	14.7	B	Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	19.3	B	16.1	B	Gypsum Canyon Rd	Gypsum Canyon Rd/SR-91 WB off-ramp	20.1	C	16.1	B
	Gypsum Canyon Rd/SR-91 EB off-ramp	15.6	C	13.7	B		Gypsum Canyon Rd/SR-91 EB off-ramp	22.4	C	15.4	C		Gypsum Canyon Rd/SR-91 EB off-ramp	28.7	D	16.7	C
Green River Rd	Green River Rd/SR-91 WB ramps	85.0	F	31.2	C	Green River Rd	Green River Rd/SR-91 WB ramps	73.8	E	31.7	C	Green River Rd	Green River Rd/SR-91 WB ramps	79.1	E	33.3	C
	Green River Rd/SR-91 EB ramps	42.6	D	158.4	F		Green River Rd/SR-91 EB ramps	38.7	D	163.1	F		Green River Rd/SR-91 EB ramps	41.3	D	144.2	F
Auto Center Dr	Auto Center Dr/Wardlow Rd	21.1	C	19.4	B	Auto Center Dr	Auto Center Dr/Wardlow Rd	21.4	C	22.7	C	Auto Center Dr	Auto Center Dr/Wardlow Rd	21.9	C	18.2	B
	Auto Center Dr/SR-91 WB ramps	82.2	F	19.2	B		Auto Center Dr/SR-91 WB ramps	63.6	E	14	B		Auto Center Dr/SR-91 WB ramps	59.3	E	13.6	B
	Auto Center Dr/SR-91 EB ramps	36.4	D	42.8	D		Auto Center Dr/SR-91 EB ramps	29.1	C	36.3	D		Auto Center Dr/SR-91 EB ramps	45.2	D	37.5	D
	Auto Center Dr/Frontage Rd	17.4	B	37.1	D		Auto Center Dr/Frontage Rd	16.8	B	47.2	D		Auto Center Dr/Frontage Rd	16.3	B	50.9	D
Maple St	Maple St/Pomona Rd	79.1	E	49.8	D	Maple St	Maple St/Pomona Rd	76.0	E	50.9	D	Maple St	Maple St/Pomona Rd	70.6	E	46.7	D
	Maple St/SR-91 WB ramps	21.0	C	31.3	C		Maple St/SR-91 WB ramps	12.6	B	29.1	C		Maple St/SR-91 WB ramps	12.7	B	23.4	C
	Maple St/SR-91 EB ramps	27.2	C	94.8	F		Maple St/SR-91 EB ramps	27.8	C	39.4	D		Maple St/SR-91 EB ramps	23.3	C	39.1	D
	Paseo Grande Rd/Maple St	34.9	C	63	E		Paseo Grande Rd/Maple St	37.7	D	42.6	D		Paseo Grande Rd/Maple St	36.0	D	52.9	D
Lincoln Ave	SR-91 WB ramps/Pomona Rd	36.6	D	21.7	C	Lincoln Ave	SR-91 WB ramps/Pomona Rd	17.9	B	14	B	Lincoln Ave	SR-91 WB ramps/Pomona Rd	18.1	B	13.4	B
	Lincoln Ave/Pomona Rd	22.5	C	28.5	C		Lincoln Ave/SR-91 WB ramps	96.6	F	33.7	C		Lincoln Ave/Pomona Rd	82.4	F	32.9	C
	Lincoln Ave/SR-91 EB ramps	35.8	D	66.5	E		Lincoln Ave/SR-91 EB ramps	183.1	F	123.2	F		Lincoln Ave/SR-91 EB ramps	168.3	F	135.0	F
	Lincoln Ave/Hotel Access	-	-	-	-		Lincoln Ave/Hotel Access	12.7	B	18.7	C		Lincoln Ave/Hotel Access	12.7	B	28.0	D
	Lincoln Ave/D St	30.2	C	46.6	D		Lincoln Ave/D St	27.6	C	29.8	C		Lincoln Ave/D St	25.9	C	32.6	C
Main St	Main St/Grand Blvd	36.9	D	97.6	F	Main St	Main St/Grand Blvd	42.0	D	81.0	F	Main St	Main St/Grand Blvd	39.5	D	79.0	E
	Main St/SR-91 WB ramps	25.5	C	137.9	F		Main St/SR-91 WB ramps	43.0	D	119.1	F		Main St/SR-91 WB ramps	27.9	C	107.7	F
	Main St/SR-91 EB ramps	20.7	C	25.3	C		Main St/SR-91 EB ramps	44.9	D	38.4	D		Main St/SR-91 EB ramps	22.8	C	51.6	D
	Main St/Third St	65.4	E	62.5	E		Main St/Third St	76.6	E	61.9	E		Main St/Third St	108.1	F	54.9	D
McKinley St	McKinley St/Griffin Way	29.3	C	63.7	E	McKinley St	McKinley St/Griffin Way	31.1	C	69.0	E	McKinley St	McKinley St/Griffin Way	30.9	C	68.0	E
	McKinley St/SR-91 WB on-ramp	44.4	D	24.0	C		McKinley St/SR-91 WB on-ramp	36.5	D	23.4	C		McKinley St/SR-91 WB on-ramp	41.5	D	21.8	C
	McKinley St/SR-91 EB off-ramp	20.0	B	36.4	D		McKinley St/SR-91 EB off-ramp	17.7	B	25.1	C		McKinley St/SR-91 EB off-ramp	15.7	B	26.7	C
	McKinley St/Sampson Ave	38.2	D	53.1	D		McKinley St/Sampson Ave	40.3	D	56.5	E		McKinley St/Sampson Ave	36.3	D	57.2	E
Pierce St	Pierce St/SR-91 WB on-ramp	18.5	B	16.5	B	Pierce St	Pierce St/SR-91 WB on-ramp	16.6	B	16.6	B	Pierce St	Pierce St/SR-91 WB on-ramp	16.5	B	16.2	B
	Pierce St/SR-91 EB off-ramp	10.4	B	17.5	B		Pierce St/SR-91 EB off-ramp	10.3	B	19.4	B		Pierce St/SR-91 EB off-ramp	10.2	B	19.3	B
	Pierce St/Magnolia Ave	56.5	E	143.0	F		Pierce St/Magnolia Ave	46.6	D	116.4	F		Pierce St/Magnolia Ave	49.7	D	114.4	F
Second St	Hamner Ave/Second St	52.7	D	73.9	E	Second St	Hamner Ave/Second St	54.3	D	73.9	E	Second St	Hamner Ave/Second St	58.7	E	74.1	E
	I-15 SB ramps/Second St	15.8	B	23.0	C		I-15 SB ramps/Second St	16.9	B	19.6	B		I-15 SB ramps/Second St	17.4	B	20.8	C
	I-15 NB ramps/Second St	51.2	D	51.0	D		I-15 NB ramps/Second St	51.6	D	50.8	D		I-15 NB ramps/Second St	54.9	D	54.0	D
Hidden Valley Pkwy	Hamner Ave/Hidden Valley Pkwy	257.1	F	184.0	F	Hidden Valley Pkwy	Hamner Ave/Hidden Valley Pkwy	225.6	F	181.4	F	Hidden Valley Pkwy	Hamner Ave/Hidden Valley Pkwy	229.7	F	178.5	F
	I-15 SB off-ramp/Hidden Valley Pkwy	58.5	E	60.1	E		I-15 SB off-ramp/Hidden Valley Pkwy	45.1	D	58.7	E		I-15 SB off-ramp/Hidden Valley Pkwy	44.6	D	54.6	D
	I-15 SB on-ramp/Hidden Valley Pkwy	4.7	A	30.7	C		I-15 SB on-ramp/Hidden Valley Pkwy	4.9	A	33.0	C		I-15 SB on-ramp/Hidden Valley Pkwy	5.0	A	37.1	D
	I-15 NB on-ramp/Hidden Valley Pkwy	4.5	A	14.8	B		I-15 NB on-ramp/Hidden Valley Pkwy	6.1	A	15.0	B		I-15 NB on-ramp/Hidden Valley Pkwy	6.1	A	14.2	B
	I-15 NB off-ramp/Hidden Valley Pkwy	92.0	F	32.3	C		I-15 NB off-ramp/Hidden Valley Pkwy	88.9	F	34.0	C		I-15 NB off-ramp/Hidden Valley Pkwy	91.4	F	35.3	D
	Garland Way/Hidden Valley Pkwy	68.8	E	25.1	C		Garland Way/Hidden Valley Pkwy	50.0	D	24.7	C		Garland Way/Hidden Valley Pkwy	54.7	D	24.0	C
Magnolia Ave	Rimpau Ave/Magnolia Ave	87.1	F	85.2	F	Magnolia Ave	Rimpau Ave/Magnolia Ave	84.6	F	83.1	F	Magnolia Ave	Rimpau Ave/Magnolia Ave	85.3	F	80.5	F
	El Sobrante Rd/Magnolia Ave	67.6	E	97.2	F		El Sobrante Rd/Magnolia Ave	58.6	E	68.7	E		El Sobrante Rd/Magnolia Ave	55.6	E	78.9	E
	I-15 SB ramps/Magnolia Ave	87.4	F	104.1	F		I-15 SB ramps/Magnolia Ave	81.3	F	93.1	F		I-15 SB ramps/Magnolia Ave	74.6	E	90.3	F
	I-15 NB ramps/Magnolia Ave	30.9	C	11.2	B		I-15 NB ramps/Magnolia Ave	30.2	C	11.2	B		I-15 NB ramps/Magnolia Ave	29.9	C	11.4	B
	Compton Ave/El Camino Ave/Magnolia Ave	23.6	C	32.8	C		Compton Ave/El Camino Ave/Magnolia Ave	26.1	C	31.1	C		Compton Ave/El Camino Ave/Magnolia Ave	26.6	C	30.8	C
Ontario Ave	Compton Ave/Ontario Ave	12.4	B	12.0	B	Ontario Ave	Compton Ave/Ontario Ave	6.5	A	13.9	B	Ontario Ave	Compton Ave/Ontario Ave	7.6	A	14.6	B
	I-15 SB ramps/Ontario Ave	75.0	E	44.2	D		I-15 SB ramps/Ontario Ave	62.2	E	37.4	D		I-15 SB ramps/Ontario Ave	60.2	E	31.5	C
	I-15 NB ramps/Ontario Ave	44.2	D	20.4	C		I-15 NB ramps/Ontario Ave	51.6	D	23.3	C		I-15 NB ramps/Ontario Ave	41.6	D	24.2	C
El Cerrito Rd	Bedford Canyon Rd/El Cerrito Rd	16.6	B	38.4	D	El Cerrito Rd	Bedford Canyon Rd/El Cerrito Rd	16.3	B	20.7	C	El Cerrito Rd	Bedford Canyon Rd/El Cerrito Rd	17.0	B	37.7	D
	I-15 NB ramps/El Cerrito Rd	10.3	B	6.3	A		I-15 NB ramps/El Cerrito Rd	10.4	B	5.3	A		I-15 NB ramps/El Cerrito Rd	10.1	B	6.7	A
Cajalco Rd	Bedford Canyon Rd/Cajalco Rd	21.2	C	183.3	F	Cajalco Rd	Bedford Canyon Rd/Cajalco Rd	27.5	C	185.3	F	Cajalco Rd	Bedford Canyon Rd/Cajalco Rd	23.7	C	191.0	F
	I-15 SB ramps/Cajalco Rd	24.2	C	24.7	C		I-15 SB ramps/Cajalco Rd	22.6	C	27.2	C		I-15 SB ramps/Cajalco Rd	25.2	C	24.8	C
	I-15 NB ramps/Cajalco Rd	57.5	E	47.5	D		I-15 NB ramps/Cajalco Rd	59.6	E	46.9	D		I-15 NB ramps/Cajalco Rd	59.7	E	45.2	D
	Grand Oaks/Cajalco Rd	20.3	C	13.7	B		Grand Oaks/Cajalco Rd	23.3	C	14.3	B		Grand Oaks/Cajalco Rd	20.3	C	14.2	B

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (F) represents a deficient segment.
Note 2: Per the City of Corona *Traffic Impact Study Guidelines*, LOS E is permitted at several ramp intersections.
[1] Refer to Table 3.6.7 for Baseline/Existing (2007) intersection peak-hour information.
EB = eastbound SB = southbound
I-15 = Interstate 15 sec = seconds
LOS = level of service SR-91 = State Route 91
NB = northbound WB = westbound

This page intentionally left blank

Table 3.6.25 Auto Center Drive/Maple Street Design Variation 2035 Intersection Analysis

Arterial	Intersection	Baseline/Existing (2007)				2035 Base Condition (Diamond)				2035 Design Variation (Connector)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Auto Center Drive	Auto Center Drive/Wardlow Road	13.4	B	21.5	C	21.9	C	18.2	B	21.5	C	21.6	C
	Auto Center Drive/SR-91 WB ramps	34.9	C	13.6	B	59.3	**E**	13.6	B	59.3	**E**	13.2	B
	Auto Center Drive/SR-91 EB ramps	27.9	C	18.6	B	45.2	D	37.5	D	45.4	D	36.2	D
	Auto Center Drive/Frontage Road	5.5	A	7.2	A	16.3	B	50.9	D	16.2	B	51.5	D
Maple Street	Maple Street/Pomona Road	9.3	A	9.6	A	70.6	**E**	46.7	D	77.2	**E**	45.0	D
	Maple Street/SR-91 WB ramps	13.6	B	17.6	B	12.7	B	23.4	C	8.5	A	23.1	C
	Maple Street/SR-91 EB ramps (and WB on-ramp)	21.9	C	137.4	**F**	23.3	C	39.1	D	38.8	D	91.3	**F**
	Paseo Grande (SR-91 EB on-ramp)/Sixth Street	27.5	C	104.5	**F**	36.0	D	52.9	D	25.8	C	63.7	**E**

Source: *Traffic Study Report* (July 2010).
Note: A black box (**F**) represents a deficient segment.
EB = eastbound SR-91 = State Route 91
LOS = level of service WB = westbound
sec = seconds

Table 3.6.26 Lincoln Avenue Design Variation 2035 Intersection Analysis

Arterial	Intersection	Baseline/Existing (2007)				2035 Base Condition (Diamond)				2035 Design Variation (Hook)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Lincoln Avenue	SR-91 WB ramps/Pomona Road	220.6	**F**	26.4	C	NA				NA			
	Lincoln Avenue/Pomona Road	16.4	B	13.9	B	18.1	B	13.4	B	20.2	C	15.3	B
	Lincoln Avenue/SR-91 WB ramps	NA				82.4	**F**	32.9	C	69.7	E	33.0	C
	Lincoln Avenue/SR-91 EB ramps	22.1	C	243.1	**F**	168.3	**F**	135.0	**F**	NA			
	Lincoln Avenue/Hotel Access	NA				12.7	B	28.0	D	10.1	B	12.2	B
	Lincoln Avenue/D Street	14.1	B	18.7	B	25.9	C	32.6	C	121.8	**F**	255.3	**F**
	SR-91 EB ramps/D Street	NA				NA				43.5	D	118.1	**F**

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound sec = seconds
LOS = level of service SR-91 = State Route 91
NA = not applicable WB = westbound

Table 3.6.27 2035 Alternative 2 Mid-City Access Design Variation with Base Assumptions at Maple Street and Lincoln Avenue Intersection Analysis

Arterial	Intersection	2035 Alternative 2							
		No Smith Avenue Access				With Smith Avenue Access			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	70.6	**E**	46.7	D	83.2	**F**	46.4	D
	Maple Street/SR-91 WB ramps	12.7	B	23.4	C	11.9	B	24.0	C
	Maple Street/SR-91 EB ramps	23.3	C	39.1	D	18.5	B	39.4	D
	Sixth Street/Paseo Grande	36.0	D	52.9	D	30.7	C	45.7	D
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	**E**	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	**E**	106.6	**F**	83.5	**F**	88.5	**F**
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.1	B	13.4	B	19.0	B	12.8	B
	Lincoln Avenue/SR-91 WB ramps	82.4	**F**	32.9	C	67.8	E	30.1	C
	Lincoln Avenue/SR-91 EB ramps	168.3	**F**	135.0	**F**	153.0	**F**	120.9	**F**
	Lincoln Avenue/Hotel Access	12.7	B	28.0	C	12.7	B	18.6	C
	Lincoln Avenue/D Street	25.9	C	32.6	C	27.0	C	26.5	C

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound NA = not applicable SR-91 = State Route 91
LOS = level of service sec = seconds WB = westbound

Table 3.6.28 2035 Alternative 2 Mid-City Access Design Variation with Maple Street Design Variation and Base Assumptions at Lincoln Avenue Intersection Analysis

Arterial	Intersection	2035 Alternative 2							
		No Smith Avenue Access				With Smith Avenue Access			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	77.2	**E**	45.0	D	82.6	**F**	42.3	D
	Maple Street/SR-91 WB ramps	8.5	A	23.1	C	7.7	A	23.6	C
	Maple Street/SR-91 EB off-ramp and WB on-ramp	38.8	D	91.3	**F**	26.6	C	70.5	**E**
	Sixth Street/SR-91 EB on-ramp	25.8	C	63.7	**E**	24.9	C	64.8	**E**
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	**E**	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	**E**	106.6	**F**	83.5	**F**	88.5	**F**
Lincoln Avenue (Diamond)	Lincoln Avenue/Pomona Road	18.1	B	13.4	B	19.0	B	12.8	B
	Lincoln Avenue/SR-91 WB ramps	82.4	**F**	32.9	C	67.8	E	30.1	C
	Lincoln Avenue/SR-91 EB ramps	168.3	**F**	135.0	**F**	153.0	**F**	120.9	**F**
	Lincoln Avenue/Hotel Access	12.7	B	28.0	C	12.7	B	18.6	C
	Lincoln Avenue/D Street	25.9	C	32.6	C	27.0	C	26.5	C

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound NA = not applicable SR-91 = State Route 91
LOS = level of service sec = seconds WB = westbound

Table 3.6.29 2035 Alternative 2 Mid-City Access Design Variation with Base Assumption at Maple Street and Lincoln Avenue Design Variation Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Diamond)	Maple Street/Pomona Road	70.6	**E**	46.7	D	83.2	**F**	46.4	D
	Maple Street/SR-91 WB ramps	12.7	B	23.4	C	11.9	B	24.0	C
	Maple Street/SR-91 EB ramps	23.3	C	39.1	D	18.5	B	39.4	D
	Sixth Street/Paseo Grande	36.0	D	52.9	D	30.7	C	45.7	D
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	**E**	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	**E**	106.6	**F**	83.5	**F**	88.5	**F**
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.2	C	15.3	B	19.6	B	14.0	B
	Lincoln Avenue/SR-91 WB ramps	69.7	E	33.0	C	60.3	E	32.7	C
	Lincoln Avenue/Hotel Access	10.1	B	12.2	B	10.0	B	12.0	B
	Lincoln Avenue/D Street	121.8	**F**	255.3	**F**	112.0	**F**	239.8	**F**
	SR-91 EB ramps/D Street	43.5	D	118.1	**F**	43.3	D	108.2	**F**

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound NA = not applicable SR-91 = State Route 91
LOS = level of service sec = seconds WB = westbound

Table 3.6.30 2035 Alternative 2 Mid-City Access Design Variation with Maple Street and Lincoln Avenue Design Variation Intersection Analysis

Arterial	Intersection	Base Condition (No Access)				Design Variation (Drop Ramp)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Maple Street (Connector)	Maple Street/Pomona Road	77.2	**E**	45.0	D	82.6	**F**	42.3	D
	Maple Street/SR-91 WB ramps	8.5	A	23.1	C	7.7	A	23.6	C
	Maple Street/SR-91 EB ramps	38.8	D	91.3	**F**	26.6	C	64.8	**E**
	Sixth Street/Paseo Grande	25.8	C	63.7	**E**	24.9	C	65.1	**E**
Smith Avenue	Smith Avenue/Railroad Street	54.4	D	41.0	D	56.9	**E**	43.1	D
	Smith Avenue/Pomona Road	30.1	C	30.7	C	29.2	C	28.2	C
	Smith Avenue/SR-91 Drop Ramp	NA				14.4	B	17.6	B
	Smith Avenue/Sixth Street	73.2	**E**	106.6	**F**	83.5	**F**	88.5	**F**
Lincoln Avenue (Hook)	Lincoln Avenue/Pomona Road	20.2	C	15.3	B	19.6	B	14.0	B
	Lincoln Avenue/SR-91 WB ramps	69.7	E	33.0	C	60.3	E	32.7	C
	Lincoln Avenue/Hotel Access	10.1	B	12.2	B	10.0	B	12.0	B
	Lincoln Avenue/D Street	121.8	**F**	255.3	**F**	112.0	**F**	239.8	**F**
	SR-91 EB ramps/D Street	43.5	D	118.1	**F**	43.3	D	108.2	**F**

Source: *Traffic Study Report* (July 2010).
Note 1: A black box (**F**) represents a deficient segment.
Note 2: Per City of Corona Traffic Impact Guidelines, LOS E is permitted at ramp intersections.
EB = eastbound NA = not applicable SR-91 = State Route 91
LOS = level of service sec = seconds WB = westbound

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Facilities Along SR-91		
Santa Ana River Trail/Bike Lane in the Cities of Anaheim and Corona (does not cross SR-91)	None; the Trail/Bike Lane does not cross SR-91.	A segment of the Trail/Bike Lane would be shifted north and farther from SR-91, and would be reconstructed (with paved asphalt) approximately 12 ft wide in the Initial Phases of Alternatives 1 and 2. No further changes to the Trail/Bike Lane would occur under Alternatives 1 and 2. Shifting the Trail/Bike Lane farther away from SR-91 would improve the experience for bicyclists and pedestrians.
Existing Class II bikeway in the City of Anaheim (does not cross SR-91)	None; this bikeway does not cross SR-91.	Alternatives 1 and 2 would not affect this bikeway because it is southwest of the easternmost project limits on SR-91 and does not cross SR-91.
Gypsum Canyon Road in the City of Anaheim (crosses under SR-91)	None; there would be no improvements at the Gypsum Canyon Road undercrossing at SR-91 under Alternatives 1 and 2.	A realignment project by others would add a 13 ft wide sidewalk on the west side of Gypsum Canyon Road and an 8 ft sidewalk on the east side. Alternatives 1 and 2 would not result in any improvements at the Gypsum Canyon Road undercrossing or any changes to the sidewalks provided by others.
Coal Canyon Road in the City of Anaheim (crosses under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Coal Canyon Road is 166 ft. Alternative 1 would widen the westbound bridge by 24 ft and the eastbound bridge by 30 ft, for a total width of 220 ft for the combined bridge structures on SR-91 above Coal Canyon Road. Alternative 2 would widen the westbound bridge by 40 ft and the eastbound bridge 38 ft, for a total width of 244 ft for the combined bridge structures on SR-91 above Coal Canyon Road.	The widening of these bridges under Alternatives 1 and 2 would increase the width of the combined undercrossings at the westbound and eastbound bridges under SR-91 on Coal Canyon Road. As a result, the total length of the undercrossing and the time that pedestrians and bicyclists would be in the undercrossing structure as they cross under SR-91 at Coal Canyon Road would increase. Coal Canyon Road is now an unpaved wildlife crossing and provides access across SR-91 for CHSP employees and visitors. Because this crossing is primarily intended as a wildlife crossing and it is not extensively used by pedestrians and bicyclists, the lengthened undercrossings would not result in an adverse impact on pedestrians and bicyclists. Any lighting provided in the new part of the undercrossing would need to be coordinated with CHSP to minimize adverse impacts to wildlife using this crossing.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Green River Road in the City of Corona (crosses over SR-91)	None; there would be no improvements at the Green River Road overcrossing at SR-91 under Alternatives 1 and 2.	The existing sidewalks and bicycle lanes on Green River Road would not be changed under Alternatives 1 and 2.
Existing Class II bikeway in the City of Corona; this bikeway crosses SR-91 on Green River Road (crosses over SR-91)	None; there would be no improvements at the Green River Road overcrossing at SR-91 under Alternatives 1 and 2.	The existing bikeway on Green River Road would not be changed under Alternatives 1 and 2.
Prado Road and the BNSF railroad tracks in the City of Corona (cross under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Prado Road and the BNSF is 210 ft. Alternative 1 would widen the westbound bridge by 16 ft for total width of 226 ft for the combined bridge structures on SR-91 above this undercrossing. Alternative 2 would widen the westbound bridge by 30 ft for a total width of 240 ft for the combined bridge structures on SR-91 above this undercrossing. Under Alternatives 1 and 2, the existing westbound off-ramp would be removed and converted to westbound through lanes. A new 50 ft wide bridge for the westbound off-ramp would be constructed in this area under Alternatives 1 and 2.	Alternatives 1 and 2 would result in only minor changes in the width of the existing undercrossing under SR-91 at Prado Road and the BNSF railroad tracks. They would also include a new 50 ft wide bridge on the north side of SR-91 for the westbound off-ramp. This bridge widening under Alternatives 1 and 2 would not result in a substantial impact on pedestrians or bicyclists. The BNSF right-of-way is not open for use by pedestrians or bicyclists and, therefore, any changes to the overhead structures would not impact pedestrians or bicyclists.
Auto Center Drive/Serfas Club Drive in the City of Corona (crosses under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Auto Center Drive/Serfas Club Drive is 165 ft. Alternative 1 would widen both the westbound and eastern bridges by 28 ft each for a total width of 221 ft for the combined westbound and eastbound bridge structures on SR-91 above this undercrossing. Alternative 2 would widen the westbound and eastbound bridges by 40 ft each for a total width of 245 ft for the combined westbound and eastbound structures on SR-91 above this undercrossing.	The widening of these bridges under Alternatives 1 and 2 would increase the widths of the undercrossings under SR-91 at the westbound and eastbound bridges on SR-91 above Auto Center Drive/Serfas Club Drive. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 on Auto Center Drive/Serfas Club Drive would increase. Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Auto Center Drive/Serfas Club Drive, respectively.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Maple Street in the City of Corona (crosses over SR-91)	The length of the existing bridge structure on Maple Street at its crossing over SR-91 is 75 ft. The length of the existing Frontage Road at its crossing of SR-91 is 35 ft. Alternatives 1 and 2 with DV 1 would widen the west side of the Maple Street bridge (southbound traffic) by 18 ft for a total width of 93 ft for the Maple Street bridge structure. A new 35 ft wide bridge structure at Frontage Road would be added under Alternative 2 with DVs 1 and 2. Alternative 1 with DV 3 would not change the existing bridge at Maple Street but would add a new 35 ft wide bridge structure at Frontage Road. Alternative 2 with DV 2 would widen the west side (southbound traffic) of the bridge by 20 ft for a total width of 95 ft for the Maple Street bridge structure. Alternative 2 with DV 3 would not change the existing bridge at Maple Street but would add a new 35 ft wide bridge structure at Frontage Road and a new 35 ft wide bridge structure across SR-91 for westbound access. Alternative 2 with DV 4 would completely realign the existing bridge at Maple Street, would provide a new 86 ft wide bridge structure at Maple Street, and would add a new 35 ft wide bridge structure at Frontage Road and a new 35 ft wide bridge structure across SR-91 for westbound access.	The widening of the bridges and the addition of a new bridge over the Frontage Road under Alternatives 1 and 2 would increase the widths of the overcrossings on Maple Street, and Frontage Road/Sixth Street. As a result, the total length of time that pedestrians and bicyclists would be on the overcrossing structure as it crosses over SR-91 at Maple Street would increase. Alternatives 1 and 2 with DVs 1[2] and 2[3] would provide a 7 ft wide sidewalk on the west side Maple Street only. Alternatives 1 and 2 with DVs 3[4] and 4[5] would result in no change from the existing 5 ft wide sidewalks on the west and east sides of Maple Street. Alternatives 1 and 2 with all DVs would provide 5 ft wide bicycle lanes on the west and east sides of Maple Street. Alternatives 1 and 2 would provide 5 ft wide sidewalks on the west and east sides of the realigned Frontage Road and would retain the existing sidewalks on Sixth Street. Alternatives 1 and 2 would provide 5 ft wide bicycle lanes on the east and west sides of Sixth Street.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Frontage Road/Sixth Street in the City of Corona and unincorporated Riverside County (does not cross SR-91)	The Frontage Road/Sixth Street improvements are included in the description of the Maple Street improvements provided above.	The effects of Alternatives 1 and 2 at Frontage Road/ Sixth Street are included in the description of the project effects at Maple Street provided above.
Smith Avenue in the City of Corona (crosses over SR-91)	The length of the existing bridge structure on Smith Avenue at its crossing over SR-91 is 75 ft. Alternatives 1 and 2 with DVs 1 and 3 would result in no change in the width of the bridge structure and no change from the existing 5 ft wide sidewalks on Smith Avenue. Alternative 2 with DVs 2 and 4 would widen the west side (southbound traffic) of the Smith Avenue bridge by 26 ft and the east side of the Smith Avenue bridge by 16 ft for a total length of 117 ft for the combined bridge structures crossing over SR-91. In addition, Alternative 2 with DVs 2 and 4 would add a new 75 ft wide structure for drop ramps.	Alternatives 1 and 2 with DVs 1 and 3 would result in no change in the width of the overcrossing or in the existing 5 ft wide sidewalks on Smith Avenue. Alternative 2 with DVs 2 and 4 would result in a wider overcrossing and the addition of overhead drop ramps. Alternative 2 with DVs 2 and 4 would provide an 8 ft sidewalk on the east side of Smith Avenue, and 5 ft wide bicycle lanes on the west and east sides of Smith Avenue.
Wardlow Road in the City of Corona (does not cross SR-91)	None; Wardlow Road does not cross SR-91.	Alternatives 1 and 2 would provide a 10 ft wide sidewalk on the north side and a 5 ft wide sidewalk on the south side but would not provide any bicycle facilities.
Pomona Road in the City of Corona (does not cross SR-91)	None; Pomona Road does not cross SR-91.	Alternatives 1 and 2 would provide 5 ft wide sidewalks on the west and east sides but no bicycle facilities.
Lincoln Avenue in the City of Corona (crosses over SR-91)	The total width of the existing bridge structure on Lincoln Avenue at its crossing over SR-91 is 75 ft. Alternatives 1 and 2 would widen the existing Lincoln Avenue bridges on the eastern and western sides by 18 ft each for a total length of 111 ft for the combined bridge structures crossing over SR-91.	Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Lincoln Avenue, and ADA ramps on the west and east sidewalks.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Buena Vista Avenue in the City of Corona (crosses under SR-91)	The total length of the existing combined westbound and eastbound bridge structures on SR-91 above Buena Vista Avenue is 145 ft. Alternative 1 would widen the westbound bridge 54 ft and the eastbound bridge 44 ft for a total width of 243 ft for the combined bridge structures on SR-91 above Buena Vista Avenue. Alternative 2 would widen the westbound bridge 65 ft and the eastbound bridge 55 ft for a total width of 265 ft for the combined bridge structures on SR-91 above Buena Vista Avenue.	The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above Buena Vista Avenue. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at Buena Vista Avenue would increase.
West and East Grand Boulevard in the City of Corona (cross under SR-91)	**West Grand Boulevard** The total length of the existing combined westbound and eastbound bridge structures on SR-91 above West Grand Boulevard is 135 ft. Alternative 1 would widen the westbound bridge 82 ft and the eastbound bridge 70 ft for a total width of 287 ft for the combined bridge structures on SR-91 above West Grand Boulevard. Alternative 2 would widen the westbound bridge 96 ft and the eastbound bridge 80 ft for a total width of 311 ft for the combined bridge structures on SR-91 above West Grand Boulevard. **East Grand Boulevard** The total width of the existing combined westbound and eastbound bridge structures on SR-91 above East Grand Boulevard is 175 ft. Alternative 1 would widen the westbound bridge 168 ft and the eastbound bridge 144 ft for a total width of 487 ft	**West Grand Boulevard** The widening of the bridges on SR-91 under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above West Grand Boulevard. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at West Grand Boulevard would increase. Alternatives 1 and 2 would result in no changes in the existing 5 ft wide sidewalks on West Grand Boulevard. **East Grand Boulevard** The widening of the bridges on SR-91 under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above East Grand Boulevard. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at East Grand Boulevard would increase. Alternatives 1 and 2 would provide 5 ft wide sidewalks (no grass area between curb and sidewalk) and 5 ft wide

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
	for the combined width of the bridge structures on SR-91 above East Grand Boulevard. Alternative 2 would widen the westbound bridge 190 ft and the eastbound bridge 154 ft for a total width of 519 ft for the combined bridge structures on SR-91 above East Grand Boulevard.	bicycle lanes on the west and east sides of East Grand Boulevard.
Main Street in the City of Corona (crosses under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above Main Street is 180 ft. Alternative 1 would widen the westbound bridge 68 ft and the eastbound bridge 54 ft for a total width of 302 ft for the combined bridge structures on SR-91 above Main Street. Alternative 2 would widen the westbound bridge 84 ft and the eastbound bridge 66 ft for a total width of 330 ft for the combined bridge structures on SR-91 above Main Street.	The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above Main Street. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at Main Street would increase. Alternatives 1 and 2 would provide 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides and Main Street but would not provide ADA ramps on the sidewalks.
Promenade Avenue in the City of Corona (crosses over SR-91)	None; no improvements would be made to this overcrossing under Alternatives 1 and 2.	Alternatives 1 and 2 result in no changes in the 5 ft wide sidewalks and 5 ft wide bicycle lanes on the west and east sides of Promenade Avenue.
McKinley Street in the City of Corona (crosses under SR-91)	The total width of the existing combined westbound and eastbound bridge structures on SR-91 above McKinley Street is 210 ft. Alternatives 1 and 2 would widen the westbound bridge 28 ft and the eastbound bridge 18 ft for a total width of 256 ft for the combined bridge structures on SR-91 above McKinley Street.	The widening of the bridges under Alternatives 1 and 2 would increase the lengths of the undercrossings at the westbound and eastbound bridges on SR-91 above McKinley Street. As a result, the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under SR-91 at McKinley Street would increase. Alternatives 1 and 2 would result in no change in the existing 4 ft wide sidewalk on the east side of McKinley Street.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Existing primary equestrian, bicycle, and pedestrian trail in the City of Riverside	The existing width of this bridge structure is 38 ft. Alternatives 1 and 2 would raise the profile of Buchanan Street, which would require the reconstruction of the existing overcrossing, including the road, sidewalks, curb/gutter, and trail. The existing 38 ft wide bridge would not be widened under Alternatives 1 and 2.	Alternatives 1 and 2 would result in no change in the trail facility at its crossing of SR-91 at Buchanan Street.
Buchanan Street in the City of Riverside	The Buchanan Street improvements are included in the description of the primary equestrian, bicycle, and pedestrian trail in the City of Riverside provided above.	The effects of Alternatives 1 and 2 at Buchanan Street are included in the description of the primary equestrian, bicycle, and pedestrian trail in the City of Riverside provided above.
Existing Class I Bikeway in the City of Riverside	Alternatives 1 and 2 would result in no changes in this bikeway crossing at SR-91.	Alternatives 1 and 2 would result in no changes in this bikeway crossing at SR-91.
Riverwalk Parkway/Pierce Street in the City of Riverside	Alternatives 1 and 2 would result in no changes at this crossing of SR-91.	Alternatives 1 and 2 would result in no changes at this crossing of SR-91.
Facilities Along I-15		
Corona Avenue in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above Corona Avenue is 70 ft wide. The existing southbound bridge structure on I-15 above Corona Avenue is 70 ft wide. Alternatives 1 and 2 would provide a new 55 ft wide bridge between the existing northbound and southbound bridges for a total width of 195 ft for the combined bridge structures on I-15 above Corona Avenue.	The addition of a new 55 ft wide bridge between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Corona Avenue. Alternatives 1 and 2 would result in no changes to the existing 5 ft wide sidewalks on the north and south sides of Corona Avenue.
Old Temescal Road in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above Old Temescal Road is 70 ft wide. The existing southbound bridge structure on I-15 above Old Temescal Road is 70 ft wide. Alternatives 1 and 2 would provide a new 54 ft wide bridge between the existing northbound and southbound bridges for a total width of 194 ft for the combined bridge structures on I-15 above Old Temescal Road.	The addition of a new 54 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Old Temescal Road. Alternatives 1 and 2 would result in no changes to the existing cross section on Temescal Road and would not provide sidewalks or bicycle facilities on this road at its crossing of I-15.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
Ontario Avenue in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above Ontario Avenue is 50 ft wide. The existing southbound bridge structure on I-15 above Ontario Avenue is 50 ft wide. Alternatives 1 and 2 would provide a new 76 ft wide bridge between the existing northbound and southbound bridges for a total width of 176 ft for the combined bridge structures on I-15 above Ontario Avenue.	The addition of a new 76 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at Ontario Avenue. Alternatives 1 and 2 would result in no changes to the existing sidewalk on Ontario Avenue at its crossing of I-15.
El Cerrito Road in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 above El Cerrito Road is 50 ft wide. The existing southbound bridge structure on I-15 above El Cerrito Road is 50 ft wide. Alternatives 1 and 2 would provide a new 58 ft wide bridge between the existing northbound and southbound bridges for a total width of 158 ft for the combined bridge structures on I-15 above El Cerrito Road.	The addition of a new 58 ft wide bridge on I-15 between the existing northbound and southbound bridges would increase the total length of time that pedestrians and bicyclists would be in the undercrossing structures as they cross under I-15 at El Cerrito Road. Alternatives 1 and 2 would result in no changes to the existing sidewalks on El Cerrito Road at its crossing of I-15.
Hidden Valley Parkway in the City of Norco (crosses over I-15)	The existing overcrossing structure is 115 ft wide. Alternatives 1 and 2 will not result in any changes to this structure.	Alternatives 1 and 2 will not result in any changes to the existing sidewalks on this overcrossing.
Parkridge Avenue in the City of Corona (crosses under I-15)	The existing northbound bridge structure on I-15 over Parkridge Avenue is 85 ft wide. The existing southbound bridge structure on I-15 over Parkridge Avenue is 60 ft wide. Alternative 1 would not change the existing bridge structures on I-15 over Parkridge Avenue. Alternative 2 would provide a new 55 ft bridge between the existing northbound and southbound bridges for a total width of 200 ft for the combined bridge structures on I-15 over Parkridge Avenue.	Alternative 1 would not change the length of the undercrossing at Parkridge Avenue. Alternative 2 would increase the total length of the undercrossing at Parkridge Avenue. As a result, the total length of time pedestrians and bicyclists would be in the undercrossing as they cross under I-15 at Parkridge Avenue would increase under Alternative 2.

Table 3.6.31 Bicycle and Pedestrian Facilities under Alternatives 1 and 2

Interchange and Jurisdiction	Changes in Freeway Bridge Structure Crossing Over or Under the Local Street or Trail	With Project Conditions[1] Under Alternatives 1 and 2
East Sixth Street in the City of Corona (crosses under I-15)	The existing overcrossing structure is 105 ft wide. Alternatives 1 and 2 will not result in any changes to this structure.	Alternatives 1 and 2 will not result in any changes to the existing sidewalks on this overcrossing.
Magnolia Avenue in the City of Corona (crosses over I-15)	The existing Magnolia Avenue overpass structure on I-15 is 105 ft wide. Alternatives 1 and 2 would not result in any modifications or changes to this bridge structure.	Alternatives 1 and 2 would result in no changes to the existing sidewalks on the Magnolia Avenue overcrossing.

Source: Riverside County Transportation Commission (2009 and 2011).

Note: In addition to the crossings described above, there are other crossings on SR-91 that are not available for pedestrian and bicycle use and, therefore, are not listed in the table above. Those crossings are at:

- Undercrossing at Fresno Canyon (just south of Prado Dam Spillway) in the City of Corona
- SR-71 Connector to eastbound SR-91 in the City of Corona
- BNSF railroad crossing in the City of Corona
- BNSF railroad crossing/Temescal Wash in the City of Corona

[1] Conditions apply to the street(s) in the areas of improvement(s) only. The noted improvements would be constructed as part of either the Initial Phases of Alternatives 1 and 2 or Alternatives 1 and 2, depending on when construction in these areas would occur.
[2] DV 1 is the Auto Center Drive/Maple Street interchange (split diamond).
[3] DV 1 is the Auto Center Drive/Maple Street interchange (Smith Avenue drop ramps).
[4] DV 1 is the Auto Center Drive/Maple Street interchange (direct connectors).
[5] DV 1 is the Auto Center Drive/Maple Street interchange (direct connector with Smith Avenue drop ramps).

ADA = Americans with Disabilities Act
BNSF = Burlington Northern Santa Fe
CHSP = Chino Hills State Park
DV = Design Variation
ft = feet
I-15 = Interstate 15
SR-71 = State Route 71
SR-91 = State Route 91

Table 3.6.32 Summary of Effects to Undercrossing Structures

Undercrossing Location	Total Combined Lengths of Bridge Structures at Undercrossings		
	Length of Existing Structures Under Freeway	Maximum Length of Structures Under Freeway Under Alternative 1 and its Design Variations	Maximum Length of Structures Under Freeway Under Alternative 2 and its Design Variations, Including Alternative 2f
Undercrossings on SR-91			
Coal Canyon Road in Anaheim	166 ft	220 ft	244 ft
Auto Center Drive/Serfas Club Drive in Corona	165 ft	221 ft	245 ft
Buena Vista Avenue in Corona	145 ft	243 ft	265 ft
West Grand Boulevard in Corona	135 ft	287 ft	311 ft
East Grand Boulevard in Corona	175 ft	487 ft	519 ft
Main Street in Corona	180 ft	302 ft	330 ft
McKinley Street in Corona	210 ft	256 ft	256 ft
Undercrossings on I-15			
Corona Avenue in Corona	140 ft	195 ft	195 ft
Old Temescal Road in Corona	140 ft	194 ft	194 ft
Ontario Avenue in Corona	100 ft	176 ft	176 ft
El Cerrito Road in Corona	100 ft	158 ft	158 ft
Parkridge Avenue in Corona	145 ft	145 ft	200 ft

Source: Riverside County Transportation Commission (2011).
Note: This table describes the project effects at undercrossings that would change under Alternatives 1 and 2. The lengths of the structures provided for Alternative 2 are the maximum lengths for Alternative 2 and its design variations. The length of the structures for design variation Alternative 2f are included in these structure lengths. Refer to Table 3.6.31 for descriptions of unaffected trails and local streets adjacent to or at freeway undercrossings.
Alt = Alternative
ft = feet
I-15 = Interstate 15
SR-91 = State Route 91

Table 3.6.33 Summary of Effects to Overcrossing Structures

Overcrossing Location	Total Combined Lengths of Bridge Structures at Overcrossings		
	Length of Existing Structures Over SR-91	Maximum Length of Structures Over SR-91 Under Alternative 1 and Its Design Variations	Maximum Length of Structures Over SR-91 Under Alternative 2 and Its Design Variations, Including Alternative 2f
Maple Street in Corona	260 ft	375 ft	370–420 ft[1]
Smith Avenue in Corona	250 ft	250 ft[2]	690 ft
Existing primary equestrian, bicycle and pedestrian trail on Buchanan Street in Corona	215 ft	250 ft	250 ft

Source: Riverside County Transportation Commission (2011).
Note: This table describes the project effects at overcrossings that would change under Alternatives 1 and 2. The lengths of the structures provided for Alternative 2 are the maximum lengths for Alternative 2 and its design variations. The length of the structures for design variation Alternative 2f are included in these structure lengths. Refer to Table 3.6.31 for descriptions of unaffected trails and local streets adjacent to or at freeway overcrossings.
[1] Ranges reflect the design variaitons under Alternatives 1 and 2.
[2] No change from existing under Alternative 1.
ft = feet
SR-91 = State Route 91

Table 3.6.34 Summary of SR-91 Delays for Connector Closures

Scenario	Phase	Year	Travel Time (min)		Daily Delay[1] (veh/hr)
			Per Trip[1]	Additional[1]	
Eastbound SR-91					
Weekend Baseline	–	2015	30	10	500
EB SR-91 to NB I-15 (Weekend)	Initial & Project	2015	50	30	2,900
Westbound SR-91					
Weekend Baseline	–	2015	25	5	1,500
WB SR-91 to SB SR-241 (Weekend)	Initial & Project	2015	40	20	500
SB SR-91 to SB I-15 (Weekend)	Project	2015	30	10	200

Source: *Final Work Zone Mainline Analysis* (February 2010).
[1] The additional travel time and delay is compared to the free-flow (ideal) conditions.
EB = eastbound NB = northbound SR-241 = State Route 241
I-15 = Interstate 15 SB = southbound veh/hr = vehicles per hour
min = minutes SR-91 = State Route 91 WB = westbound

Table 3.6.35 Temporary Ramp Closures and Resulting Travel Time Increases on SR-91

Interchange	Ramps (Off/On)	Time of Closure	Duration	Additional Travel Time Due to Temporary Detour Route
SR-91 Eastbound				
SR-241 NB – SR-91 EB	On	Weekends	3 weekends	4 min 3 sec
SR-71 SB – SR-91 EB	On	Weekends	2 weekends	3 min 2 sec
Auto Center Drive	On	Weekdays and Weekends	6 months	2 min 40 sec
Second Street/Grand Boulevard	Off	Permanent	--	2 min 30 sec
Main Street	On	Weekdays and Weekends	6 months	5 min 34 sec (Detour 1) 6 min 0 sec (Detour 2)
SR-91 EB – I-15 NB	Off	Weekends	2 weekends	3 min 26 sec (Detour 1) 4 min 40 sec (Detour 2)
SR-91 EB – I-15 SB	Off	Weekends	2 weekends	3 min 40 sec (Detour 1) 4 min 58 sec (Detour 2)
I-15 SB – SR-91 EB	On	Weekends	2 weekends	4 min 40 sec
McKinley Street	On (SB)	Weekdays and Weekends	2 months	1 min 33 sec
McKinley Street	On (NB)	Weekdays and Weekends	2 months	5 min 22 sec (Detour 1) 2 min 48 sec (Detour 2)[1]
Buchanan Street NB	Overpass Bridge	Weekdays and Weekends	9 months	5 min 18 sec[1]
Buchanan Street SB	Overpass Bridge	Weekdays and Weekends	9 months	5 min 43 sec[1]
Magnolia Avenue	Off	Weekdays and Weekends	2 weeks	1 min 12 sec
SR-91 Westbound				
Gypsum Canyon Road	Off	Weekdays and Weekends	3 weekends	4 min 52 sec
SR-91 WB – SR-241 SB	Off	Weekends	6 weekends	4 min 0 sec
SR-71 SB – SR-91 WB	On	Weekends	1 weekend	4 min 34 sec
SR-91 WB – SR-71 NB	Off	Weekends	4 weekends	5 min 41 sec
Auto Center Drive	Off	Weekdays and Weekends	6 months	2 min 31 sec
Maple Street	Off	Weekdays and Weekends	2 months	2 min 15 sec
Grand Boulevard	On	Permanent	--	4 min 1 sec
Main Street	Off	Weekdays and Weekends	12 months	5 min 7 sec
I-15 SB – SR-91 WB	On	Weekends	1 weekend	5 min 17 sec
SR-91 WB – I-15 SB	Off	Weekends	2 weekends	3 min 50 sec
SR-91 WB – I-15 NB	Off	Evenings	5 nights	3 min 33 sec
McKinley Street	Off (NB)	Weekdays and Weekends	2 months	1 min 58 sec (Detour 1) 3 min 31 sec (Detour 2)[1]

Source: *Final Ramp Closure Study* (February 2010).
[1] This detour route intersects the railroad track two times; however, the additional travel time shown does not reflect any delay caused by the train crossing. The actual time delay along this route could be longer.
EB = eastbound NB = northbound SR-71 = State Route 71 SR-241 = State Route 241
I-15 = Interstate 15 SB = southbound SR-91 = State Route 91 WB = westbound

Table 3.6.36 Intersection Peak-Hour Levels of Service with Ramp Closures

Intersection	Peak Hour	2015 Baseline	Ramp Closure Scenarios															
			Eastbound						Westbound					Combination Closures				
			Auto Center Drive On-ramp	Second Street / Grand Boulevard Off-ramp	Main Street On-ramp	McKinley Street On-ramp (SB)	McKinley Street On-ramp (NB)	Magnolia Avenue Off-ramp	Auto Center Drive Off-ramp	Maple Street Off-ramp	Main Street Off-ramp	Grand Boulevard On-ramp	McKinley Street Off-ramp (NB)	Auto Center Drive EB On-ramp / Auto Center Drive WB Off-ramp	Main Street On-ramp (EB) / Main Street Off-ramp (WB)	McKinley Street EB On-ramp (SB) & WB Off-ramp (NB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB) & McKinley Street WB Off-ramp (NB)	Buchanan Street Overpass and McKinley Street EB On-ramp (NB)
SR-91 WB ramps / Auto Center Drive	AM	D	-	-	-	-	-	-	B	D	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	A	D	-	-	-	A	-	-	-	-	-
SR-91 EB ramps / Auto Center Drive	AM	B	B	-	-	-	-	-	B	-	-	-	-	B	-	-	-	-	-
	PM	B	B	-	-	-	-	-	B	-	-	-	-	B	-	-	-	-	-
SR-91 EB ramps / West Sixth Street	AM	C	C	-	-	-	-	-	C	-	-	-	-	C	-	-	-	-	-
	PM	**F**	**F**	-	-	-	-	-	**F**	-	-	-	-	**F**	-	-	-	-	-
SR-91 WB ramps / West Sixth Street	AM	C	-	-	-	-	-	-	C	B	-	-	-	C	-	-	-	-	-
	PM	D	-	-	-	-	-	-	D	B	-	-	-	D	-	-	-	-	-
SR-91 EB ramps / Lincoln Street	AM	C	-	-	**F**	-	-	-	-	-	C	-	-	-	**F**	-	**F**	**F**	-
	PM	**F**	-	-	**F**	-	-	-	-	-	**F**	-	-	-	**F**	-	**F**	**F**	-
SR-91 WB ramps / Pomona Road	AM	C	-	-	-	-	-	-	-	-	C	-	-	-	C	-	-	-	-
	PM	D	-	-	-	-	-	-	-	-	D	-	-	-	D	-	-	-	-
Lincoln Street / Pomona Road	AM	-	-	-	-	-	-	-	-	-	C	-	-	-	C	-	-	-	-
	PM	-	-	-	-	-	-	-	-	-	C	-	-	-	C	-	-	-	-
West Grand Boulevard / Frontage Road	AM	**F**	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	PM	**F**	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
SR-91 EB Off-ramp / West Second Street	AM	D	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	**F**	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SR-91 EB Ramps / Main Street	AM	B	-	C	B	-	-	-	-	-	B	-	-	-	B	-	B	B	-
	PM	C	-	D	D	-	-	-	-	-	C	-	-	-	B	-	D	C	-
SR-91 WB Ramps / Main Street	AM	C	-	C	-	-	-	-	-	-	B	D	-	-	B	-	-	-	-
	PM	**E**	-	**E**	-	-	-	-	-	-	C	**F**	-	-	C	-	-	-	-
SR-91 EB Ramps / McKinley Street	AM	B	-	-	B	D	B	-	-	-	D	-	B	-	**E**	**E**	D	C	D
	PM	C	-	-	C	D	C	-	-	-	D	-	C	-	**E**	**E**	**E**	D	D
SR-91 WB On-ramp / McKinley Street	AM	C	-	-	-	-	D	-	-	-	**F**	-	C	-	**F**	**F**	-	C	**F**
	PM	B	-	-	-	-	D	-	-	-	**F**	-	D	-	**F**	**F**	-	D	**E**
SR-91 EB Off-ramp / Pierce Street	AM	B	-	-	-	-	-	B	-	-	-	-	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	B	-	-	-	-	-	-	-	-	-	-	-
Wardlow Road / Auto Center Drive	AM	B	-	-	-	-	-	-	B	B	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	B	D	-	-	-	B	-	-	-	-	-
Frontage Road / Serfas Club Drive	AM	B	C	-	-	-	-	-	C	-	-	-	-	D	-	-	-	-	-
	PM	B	**E**	-	-	-	-	-	D	-	-	-	-	**F**	-	-	-	-	-
Pomona Road / Maple Street	AM	C	-	-	-	-	-	-	C	D	-	-	-	C	-	-	-	-	-
	PM	C	-	-	-	-	-	-	**E**	D	-	-	-	D	-	-	-	-	-
West Sixth Street / Paseo Grande Road	AM	C	**E**	-	-	-	-	-	C	-	-	-	-	**E**	-	-	-	-	-
	PM	D	**F**	-	-	-	-	-	C	-	-	-	-	**F**	-	-	-	-	-
D Street / Lincoln Street	AM	C	-	-	C	-	-	-	-	-	C	-	-	-	C	-	C	C	-
	PM	C	-	-	C	-	-	-	-	-	D	-	-	-	D	-	C	C	-
West Second Street / Grand Boulevard	AM	B	-	A	-	-	-	-	-	-	B	-	-	-	B	-	-	-	-
	PM	B	-	A	-	-	-	-	-	-	B	-	-	-	B	-	-	-	-
Grand Boulevard / Main Street	AM	C	-	D	-	-	-	-	-	-	C	D	-	-	C	-	-	-	-
	PM	**F**	-	**E**	-	-	-	-	-	-	**E**	**F**	-	-	**E**	-	-	-	-
Third Street / Main Street	AM	**E**	-	D	C	-	-	-	-	-	**F**	**E**	-	-	C	-	C	C	-
	PM	D	-	C	**F**	-	-	-	-	-	**E**	C	-	-	D	-	**F**	D	-
Griffin Way / McKinley Street	AM	C	-	-	-	-	D	-	-	-	C	-	-	-	C	C	C	-	D
	PM	D	-	-	-	-	**F**	-	-	-	D	-	-	-	D	D	D	-	**F**
Sampson Avenue / McKinley Street	AM	C	-	-	D	C	C	-	-	-	D	-	C	-	**E**	**E**	D	D	D
	PM	D	-	-	**E**	**E**	D	-	-	-	**F**	-	**F**	-	**F**	**F**	**E**	**F**	**E**
Magnolia Avenue / Pierce Street	AM	C	-	-	-	D	C	C	-	-	D	-	D	-	-	C	D	D	C
	PM	**F**	-	-	-	**F**	**F**	**F**	-	-	**F**	-	**F**	-	-	**F**	**F**	**F**	**F**
Sixth Street / Lincoln Street	AM	C	-	-	**E**	-	-	-	-	-	**E**	-	-	-	**F**	-	**E**	**E**	-
	PM	D	-	-	D	-	-	-	-	-	**E**	-	-	-	**F**	-	D	D	-
Sixth Street / Buena Vista Avenue	AM	C	-	-	**E**	-	-	-	-	-	C	-	-	-	**F**	-	**E**	**E**	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	C	-	B	B	-
Sixth Street / Vicentia Avenue	AM	A	-	-	-	-	-	-	-	-	A	-	-	-	A	-	A	B	-
	PM	B	-	-	-	-	-	-	-	-	B	-	-	-	A	-	A	A	-
Sixth Street / West Grand Boulevard	AM	C	-	C	D	-	-	-	-	-	C	-	-	-	**E**	-	D	D	-
	PM	C	-	C	C	-	-	-	-	-	C	-	-	-	D	-	C	C	-
Sixth Street / Main Street	AM	D	-	-	**E**	-	-	-	-	-	**F**	-	-	-	**F**	-	**E**	**E**	-
	PM	D	-	-	**E**	-	-	-	-	-	**E**	-	-	-	**F**	-	**E**	**E**	-
Sixth Street / East Grand Boulevard	AM	C	-	-	C	-	-	-	-	-	**F**	-	-	-	**F**	-	C	C	-
	PM	D	-	-	D	-	-	-	-	-	**F**	-	-	-	**F**	-	D	D	-

Table 3.6.36 Intersection Peak-Hour Levels of Service with Ramp Closures

Intersection	Peak Hour	2015 Baseline	Ramp Closure Scenarios															
			Eastbound						Westbound					Combination Closures				
			Auto Center Drive On-ramp	Second Street / Grand Boulevard Off-ramp	Main Street On-ramp	McKinley Street On-ramp (SB)	McKinley Street On-ramp (NB)	Magnolia Avenue Off-ramp	Auto Center Drive Off-ramp	Maple Street Off-ramp	Main Street Off-ramp	Grand Boulevard On-ramp	McKinley Street Off-ramp (NB)	Auto Center Drive EB On-ramp / Auto Center Drive WB Off-ramp	Main Street On-ramp (EB) / Main Street Off-ramp (WB)	McKinley Street EB On-ramp (SB) & WB Off-ramp (NB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB)	Main Street EB On-ramp & McKinley Street EB On-ramp (SB) & McKinley Street WB Off-ramp (NB)	Buchanan Street Overpass and McKinley Street EB On-ramp (NB)
Sixth Street / Rimpau Avenue	AM	B	-	-	B	-	-	-	-	-	D	-	-	-	C	-	B	B	-
	PM	C	-	-	C	-	-	-	-	-	C	-	-	-	D	-	C	C	-
Sixth Street / El Sobrante Road	AM	B	-	-	B	-	-	-	-	-	C	-	-	-	D	-	B	B	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	A	-	B	B	-
Sixth Street / Radio Road	AM	B	-	-	B	-	-	-	-	-	B	-	-	-	B	-	B	B	-
	PM	B	-	-	B	-	-	-	-	-	B	-	-	-	B	-	B	B	-
Research Drive / Auto Center Drive	AM	B	-	-	-	-	-	-	B	B	-	-	-	B	-	-	-	-	-
	PM	B	-	-	-	-	-	-	B	B	-	-	-	B	-	-	-	-	-
Railroad Street / Lincoln Avenue	AM	C	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
	PM	C	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-
Railroad Street / Sheridan Street	AM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
Grand Boulevard / Railroad Street	AM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
	PM	B	-	-	-	-	-	-	-	-	-	B	-	-	-	-	-	-	-
South Promenade Avenue / McKinley Street	AM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**F**
Shopping Center / McKinley Street	AM	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Estelle Street / McKinley Street	AM	B	-	-	B	B	B	-	-	-	B	-	B	-	A	A	B	B	B
	PM	B	-	-	B	B	B	-	-	-	B	-	B	-	B	B	C	C	B
Magnolia Avenue / McKinley Street	AM	C	-	-	C	C	C	-	-	-	C	-	C	-	C	C	D	**E**	C
	PM	C	-	-	D	**E**	C	-	-	-	D	-	C	-	**E**	**E**	**E**	**F**	**E**
Magnolia Avenue / Lincoln Street	AM	C	-	-	-	**F**	D	-	-	-	-	-	C	-	-	C	**F**	**F**	**F**
	PM	**F**	-	-	-	**F**	**F**	-	-	-	-	-	**F**	-	-	**F**	**F**	**F**	**F**
Magnolia Avenue / Buchanan Street	AM	**F**	-	-	-	**F**	**F**	-	-	-	-	-	**F**	-	-	**F**	**F**	**F**	**F**
	PM	**F**	-	-	-	**F**	**F**	-	-	-	-	-	**F**	-	-	**F**	**F**	**F**	**F**
South Promenade Avenue / Tradewind Place	AM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East Third Street / Grand Boulevard	AM	A	-	B	B	-	-	-	-	-	A	-	-	-	B	-	B	B	C
	PM	A	-	C	B	-	-	-	-	-	A	-	-	-	B	-	B	B	C

Source: *Final Ramp Closure Study* (February 2010).

Note: The intersection LOS results are only provided for the intersections along the primary detours under each closure. Highlighted cells (**F**) indicate intersections that operate at LOS E or F.

EB = eastbound
LOS = level of service
NB = northbound
SB = southbound
WB = westbound

3.7 Visual/Aesthetics

3.7.1 Regulatory Setting

The National Environmental Policy Act (NEPA) as amended establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 USC 4331[b][2]). To further emphasize this point, the Federal Highway Administration in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Likewise, the California Environmental Quality Act establishes that it is the policy of the State to take all action necessary to provide the people of the State "with … enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code Section 21001[b]).

3.7.2 Methodology

This section summarizes the methodology and terminology used to assess the visual impacts of Alternatives 1 and 2. More details on the methodology are provided in the *Visual Impact Assessment* (VIA; 2010). The visual impact analysis followed the methodology in the *Visual Impact Assessment for Highway Projects* (FHWA, August 1981). The following six principal steps were carried out to assess the potential visual impacts of the project:

1. Define the existing visual environment.
2. Identify key views for visual assessment.
3. Analyze existing visual resources (visual quality and visual character) and viewer groups.
4. Depict the visual appearance of project alternatives and viewer response.
5. Assess the visual impacts of project alternatives.
6. Propose methods to avoid, minimize, and/or mitigate adverse visual impacts.

The visual impacts of the project were determined by assessing the existing visual resources, the visual resource change due to the project, and predicting viewer response to that change. The degree of visual quality in a view was evaluated using the following FHWA descriptive terms:

- **Vividness:** Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns (e.g., Niagara Falls is a highly vivid landscape component).
- **Intactness:** Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes and natural settings (e.g., a two-lane road that meanders through the countryside).
- **Unity:** Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape (e.g., an English or Japanese garden).

The levels of visual impact are:

- **Low:** Minor adverse change to the existing visual resource with low viewer response to a change in the visual environment.
- **Moderate:** Moderate adverse change to the visual resource with moderate viewer response to a change in the visual environment.
- **Moderately High:** Moderate adverse visual resource change with high viewer response to a change in the visual environment or high adverse visual resource change with moderate viewer response to a change in the visual environment.
- **High:** Excessive adverse visual change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts.

3.7.3 Affected Environment

The information in this section is based on the *Visual Impact Assessment* (VIA; 2010) for the project, and the *215/91 Corridor Master Plan* (Caltrans 2006).

3.7.3.1 Visual Environment

The regional landscape establishes the general visual character of the project study area, but the specific visual environment on which the VIA focused was determined by defining individual landscape units across the study area. The project's existing setting includes several types of land uses and visual characteristics, including open space, recreational, residential, industrial, and commercial. The project setting includes and is adjacent to local roads in the adjacent cities and highways (i.e., SR-91, SR-241, I-15, and SR-71). The study area includes the interchanges, overhead structures, embankments, and highway ramps within those highway segments.

3.7.3.2 Landscape Units

Landscape units are relatively homogeneous combinations of landform and land cover. A landscape unit is part of the regional landscape and can be thought of as an outdoor room that exhibits a distinct visual character. A landscape unit will often correspond to a place or district that is commonly known among local viewers. Landscape units identified in the project study area are described below and are shown on Figure 3.7-1. To assist the reader and because of the large number of figures provided in this section, all the figures referenced in this section are provided in consecutive order following the last page of text in this section.

Open Space/Recreational Landscape Unit

The Open Space/Recreational landscape unit is in the Cities of Anaheim, Yorba Linda, and Corona, and in unincorporated areas of Orange and Riverside Counties. It includes views of SR-91 and the open space and recreational areas adjacent to this freeway. This landscape unit is located in elevations ranging from 401 to 800 ft above mean sea level and includes adjacent scenic features such as CHSP, Featherly Regional Park, CNF, the Santa Ana River, and the Green River Golf Club.

The area north of SR-91 in this landscape unit primarily consists of the Santa Ana River running east to west adjacent to SR-91 and the Green River Golf Club. There is residential development north of SR-91 near Gypsum Canyon Road and Green River Road and south of SR-91 near Green River Road; however, these developments are not the primary visual features in this landscape unit. The primary visual feature in this landscape unit is the area south of SR-91, which consists of the rolling hills within the CNF. The CNF was established over 100 years ago by President Theodore Roosevelt and visually occupies the majority of this landscape unit.

The Open Space/Recreational landscape unit is represented by Key Views 1 and 2 and Existing View A. Key View 1 represents a southwest view of the study area from the Green River Golf Club. Key View 2 is from a residential street on the north side of SR-91 near SR-71, representing a typical southeast view of residents on the north side of and overlooking SR-91. This landscape unit includes developed land, as well as the following vegetation categories: chaparral, coastal sage scrub (CSS), nonnative grasslands, oak woodland, riparian forest, riparian scrub, and ruderal and ornamental.

Wildlife associated with the Open Space/Recreational landscape unit includes:

- Western tiger swallowtail (*Papilio rutulus*)
- Western fence lizard (*Sceloporas occidentalis*)

- Red-tailed hawk (*buteo jamaicensis*)
- Northern rough-winged swallow (*Stelgidopteryx serripennis*)
- California thrasher (*Toxostoma redivivum redivivum*)
- Yellow warbler (*Dendroica petechia*)
- Spotted towhee (*Pipilo maculatus*)
- Lesser goldfinch (*Carduelis psaltria*)
- Audubon's cottontail (*Sylvilagus audubonii*)

Urban Use Landscape Unit

The Urban Use landscape unit is in the Cities of Corona, Riverside, and Norco, and unincorporated areas of Riverside County. It includes views of SR-91, I-15, and commercial, industrial, and residential areas adjacent to those freeways. The landscape unit is at elevations ranging from 401 to 800 ft above mean sea level and is represented by Key Views 3, 4, 5, 6, 7, and 8. Existing Views B, C, D, E, F, and G also represent the urban use landscape unit.

Key View 3 depicts a typical view of SR-91 from a residential street on the south side of SR-91 from Ridgeview Terrace. Key View 4 depicts a typical neighborhood in the City of Corona north of and in the immediate vicinity of SR-91. Key View 5 depicts a view along Main Street showing the SR-91 overcrossing and the westbound on-ramp. Key View 6 shows a typical view of the SR-91 eastbound mainline travel lanes. Key View 7 from Cresta Road, a residential street, shows a typical view of the I-15 and SR-91 interchange from a residential area. Key View 8 is from the Magnolia Avenue overcrossing, depicting the view of I-15 north of Magnolia Avenue.

This landscape unit includes mostly developed land. Vegetation categories in this landscape unit include CSS, nonnative grasslands, ruderal and ornamental, and riparian forest.

Wildlife associated with the Urban Use landscape unit includes:

- Painted lady (*Vanessa cardui*)
- Common side-blotched lizard (*Uta stansburiana*)
- American kestrel (*Falco sparverius sparverius*)
- Cliff swallow (*Petrochelidon pyrrhonota*)
- Northern mockingbird (*Mimus polyglottos*)
- Yellow-rumped warbler (*Dendroica coronata*)
- California towhee (*Pipilo crissalis*)

- House finch (*Carpodacus mexicanus*)
- California ground squirrel (*Spermophilus beecheyi*)

3.7.3.3 Topography

The topography in the study area ranges from 0 to 800 ft above mean sea level. The project limits have no areas of steep slopes and no outstanding geological features; however, the visual study area, which extends beyond the project limits, includes the foothills and views of the scenic Santa Ana Mountains south of SR-91 and west of I-15 and CHSP on the north side of SR-91.

3.7.3.4 Biological Conditions

A large part of the study area consists of urban development, paved roads, dirt roads, structures, and disturbed habitat. However, parts of the study area do contain plant communities. Figure 3.7-2 shows the existing biological conditions in the study area, and Table 3.7.1 gives the total area occupied by each plant community in the biological study area (BSA). Refer to the VIA or the *Final Natural Environment Study* (NES; 2010) for detailed descriptions of each of these plant communities.

Table 3.7.1 Existing Biological Conditions

Land Cover Type	Coverage in the Biological Study Area (Acres)
Chaparral	20
Coastal sage scrub	126
Paths developed	818
Nonnative grasslands	74
Riparian forest	9
Riparian scrub	0.6
Ruderal and ornamental	405
Oak woodland	2
Total	1,455

Source: *Final Natural Environment Study* (May 2010).

3.7.3.5 Effects of Weather and Air Pollution

Precipitation and temperature affect the appearance of the undeveloped landscapes throughout northeast Orange County and western Riverside County. Plants are usually greener from December to May than from June to November. Summer months are typically dry and result in landscape palettes of browns and tans, while winter months tend to provide enough precipitation to trigger plant growth, turning the landscape green. The photographs in this section were taken in the dry season.

The visual quality in western Riverside County is sometimes degraded by the presence of smog. Smog is a combination of ozone and ground-level pollutants that produces a haze. The human environment, weather conditions, and topography influence the presence and severity of smog. Smog in western Riverside County is typically more visible during the warmer, dryer summer and fall months than in winter and spring. The site photographs in this report display various air quality conditions.

3.7.3.6 Existing Views

Figure 3.7-3 provides the location and direction of Existing Views A through G in the study area. Figures 3.7-4 through 3.7-9 show several existing views in the study area that depict existing visual conditions representative of the study area. Existing views have been provided in addition to the key views discussed later to assist the reader in visualizing the existing visual quality of the study area in areas other than those selected for the key views and subsequent visual simulations. Key views are intended to represent views from different land uses in the study area where the project has the greatest potential for adverse impacts. The following are brief descriptions of Existing Views A through G in the study area:

- Figure 3.7-4 shows the existing visual quality of the study area within the Open Space/Recreational landscape unit currently visible from a striped bikeway/trail on the north side of SR-91, facing west at Existing View A. SR-91 and the CNF are visible to the south and the Santa Ana River and Green River Golf Club are visible to the north. Prior to implementation of the project, the approved SR-91 Eastbound Lane Addition Project will be completed, resulting in a change in the view shown for Existing View A. However, visual impacts as a result of the SR-91 Eastbound Lane Addition Project are separate from those for the project, and the project would not be required to mitigate or minimize such impacts. Section 3.25, Cumulative Impacts, provides additional discussion of other past, present, and planned projects in the study area.
- Figures 3.7-5 and 3.7-7 show existing visual conditions of the study area from nearby industrial/commercial uses in the Urban Use landscape unit at Existing Views B and E, respectively.
- Figure 3.7-6 shows the existing visual quality of the study area currently visible from an elevated residential use with views of the project site and surrounding uses. Existing View C shows existing conditions of the project site visible to the west toward Orange County, including CHSP. Existing View D shows the project site to the north, including the existing SR-91 and SR-71 interchange area. The

study area consists of several interchanges along SR-91 for local traffic, as well as this major freeway-to-freeway interchange. Prior to implementation of the project, the SR-91/SR-71 Interchange Improvement project may be constructed, which would alter the existing conditions of Existing View D. The project would not be required to mitigate or minimize impacts that could result from implementation of the SR-91/SR-71 Interchange Improvement Project. Section 3.25, Cumulative Impacts, provides additional discussion of other past, present, and planned projects in the study area.

- Figure 3.7-8 also shows existing visual conditions from a residential use; however, this view depicts the existing visual conditions visible from a residential area adjacent to SR-91 and an overcrossing (Smith Avenue) as Existing View F.
- Figure 3.7-9 depicts conditions of the study area seen from Griffin Park as Existing View G.

3.7.3.7 Key Views

As mentioned previously, both existing views and key views are provided to assist in understanding the existing visual quality of the study area. Existing views were provided earlier for information purposes only. Key views specifically selected and provided for the project represent views from different land uses in the study area where the project has the greatest potential for adverse impacts. Key views represent the line-of-sight from various viewer groups and land uses. The location of each key view in the study area is shown on Figure 3.7-3. A description of the existing visual quality for each key view, using the FHWA VIA criteria, is provided below. Table 3.7.2, which is provided later in Section 3.7.4.2, includes the visual quality ratings of the key views for existing conditions as discussed below. The overall visual quality rating (1 to 7, or very low to very high) is an average of the three criteria ratings (i.e., vividness, intactness, and unity). The use of these evaluative criteria helps to establish an existing baseline to evaluate the effects on visual quality, which is provided later in Section 3.7.3.2.

Key View 1

Key View 1 is looking south toward SR-91 and the CNF from the Green River Golf Club in the western part of the study area. As shown on Figure 3.7-10, the existing visual quality of this view is moderately high because viewers see mostly open space and individual holes on the Green River Golf Club. SR-91 is in this view; however, trees and landscaping provide a visual barrier between the highway and the Green River Golf Club. The vividness or positive visual features in the view include the cluster of trees in the middle ground and the Santa Ana Mountains and CNF in the

background. Limited views of the highway and signs encroach on the intactness of this view. Unity is slightly higher than the other visual quality features because the view is mainly open space and the golf course, which are consistent features in this view.

People exposed to this view are mostly golfers in addition to pedestrians and bicyclists who use the existing bikeway/trail adjacent to SR-91. The viewing duration would vary for each golfer, bicyclist, and pedestrian, but most likely would not exceed 15 minutes; therefore, the overall viewer exposure level is moderate. Viewer sensitivity for Key View 1 would also be moderate because the viewer's activity and awareness are recreational in nature (golf and trail). In the Department's Scenic Highway Program (www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm), the segment of SR-91 between Weir Canyon Road and I-15, in the SR-91 study area, is listed as eligible for designation as a State Scenic Highway but is not an Officially Designated Scenic Highway. This segment of SR-91 is eligible for designation as a State Scenic Highway because it offers motorists views of the Santa Ana River, natural vegetation, the Santa Ana Mountains, and the Chino Hills. These features are consistent with the Scenic Highway Criteria defined on page 2 of the *Scenic Highway Guidelines* (Caltrans, Landscape Architecture Program, Division of Design, October 2008). To become an officially designated State Scenic Highway, a highway must be nominated by the local governing body with jurisdiction over the lands adjacent to the proposed scenic highway. The local governing bodies for this segment of SR-91 are the County of Orange and the City of Corona. As of June 2012, neither agency has nominated this segment of SR-91 to be an officially designated State Scenic Highway. As a result, viewer sensitivity for Key View 1 would be moderate along the segment of SR-91 between SR-241 and Coal Canyon because it is eligible for designation as a State Scenic Highway. There are no significant historical or scientific resources in this view.

The segment of SR-91 between SR-55 and Weir Canyon Road is an Officially Designated Scenic Highway. Because that segment of SR-91 is west of the project study area, it is outside the view areas for the project and would not be affected by the project.

Key View 2

Key View 2 is from a part of CHSP directly adjacent to a residential area on the north side of SR-91, near SR-71, facing southwest toward SR-91 and the CNF. The Prado Road/SR-91 undercrossing is in the western part of this view. As shown on Figure

3.7-11, the existing visual quality is moderate and includes natural landforms and land cover from the mountains, vegetation, and a strongly defined skyline. The view's vividness is slightly lower than intactness and unity because the view lacks a visual pattern in a predominantly natural setting. The intactness of this view is affected by minor encroachments which include fencing, the Prado Road undercrossing, and drainage features from SR-91 in the foreground and middle ground. The view's unity is reflected by the horizontal line of SR-91 and open space seen in this view.

Residents and CHSP visitors are the main viewer groups for Key View 2. The viewing duration would be permanent for those residents with views of this location. The overall viewer exposure level is moderate to high because any changes in the view would be permanent. Viewer sensitivity for these residents would also be moderate to high because residents have a permanent view of this area. There is an undeveloped entrance to CHSP in this area, from Prado Road to an existing trail along the south side of CHSP. Viewer exposure level is low for CHSP visitors because those CHSP visitors who access the park from this location experience a view of SR-91 for only approximately 900 ft along the access road. There is no known local or cultural significance of this view. As mentioned in Key View 1, this segment of SR-91 is eligible for designation as a State Scenic Highway.

Key View 3

Key View 3 is from a residential street on the south side of SR-91, east of the SR-91 and SR-71 interchange, facing northeast from the corner of Ridgeview Terrace and Via Santiago. As shown on Figure 3.7-12, an existing commercial/retail property is the main focus of this view for nearby residents and drivers along Ridgeview Terrace and Via Santiago. The existing view is given a low visual quality because (1) the vividness of the view is rated low due to the lack of landform and natural land cover; (2) the view is predominantly man-made and lacks contrasting visual elements to achieve any memorability in the view; (3) the intactness is low because of the electric poles, billboards, and other encroaching features; and (4) the view's unity is reflected by the sidewalk lines and fencing.

Residents and drivers are the main viewers of Key View 3. The duration of the view is permanent for residents. For drivers, however, the duration of the view depends on the speeds along Via Santiago and Ridgeview Terrace; therefore, the overall viewer exposure, activity, awareness, and overall sensitivity levels are moderate to high. In addition, there is no known local or cultural significance to this view.

Key View 4

Key View 4 is from a residential street on the north side of SR-91, adjacent to the North Buena Vista Avenue undercrossing. In addition, the Main Street interchange has been identified as a gateway through coordination with interested stakeholders. As shown on Figure 3.7-13, the existing visual quality for nearby residents is moderate because the trees and landscaping on the south side of the road add to the view's vividness. Encroachments in the view include the sound barrier between the residential street and SR-91, utility lines, trash cans, and cars. The view's unity is reflected by the parallel lines of the road, mailboxes, sidewalks, and fencing.

Key View 4 represents a residential setting adjacent to SR-91. Because residents are the main viewers of Key View 4 and the duration of the view is permanent, the overall viewer exposure and sensitivity levels are high. There is no known cultural significance to this view, and this view does not represent any local values for the area.

Key View 5

Key View 5 is of Main Street and SR-91, including the Main Street overcrossing and SR-91 westbound on-ramp, facing southwest. As shown on Figure 3.7-14, the existing visual quality is rated below moderate because, while drivers along Main Street see mostly vehicle traffic and urban uses, the existing view includes the mountains and open sky in the background. The vividness is limited to vegetation adjacent to Main Street and the SR-91 westbound on-ramp. Vehicle encroachments and traffic signs and signals throughout the view affect the view's intactness, and the view lacks man-made and/or natural pattern elements due to the existing mix of uses that affect the unity in the view.

The overall viewer exposure level for Key View 5 is moderate because drivers along Main Street are the primary viewers for Key View 5 and the duration of the view depends on the speed limits of local roads. In addition, modifications to highways and on- and off-ramps are not unexpected by southern California drivers and residents; therefore, the viewer sensitivity is low because this type of view is typical along a busy highway and adjacent roads. There is no known cultural significance to this view, and this view does not represent any local values for the area.

Key View 6

Key View 6 is along eastbound SR-91, just east of the I-15/Main Street overcrossing, facing east. As shown on Figure 3.7-15, the existing visual quality is low because

visual features for drivers are limited to the distant view of the hills and mountains, and motorists on SR-91 see various commercial and industrial uses mixed with undeveloped or landscaped areas. Encroachments into the view include highway signs, billboards, and light poles, which decrease the intactness of this view. The view's unity is reflected by the parallel lines and posts separating the HOV and GP lanes along SR-91.

The primary viewer group for Key View 6 is motorists on SR-91, and the overall exposure is low to moderate. As stated previously, modifications along highways are not unexpected by southern California drivers and residents. Some viewers may even be interested in the engineering/architectural aspect of new highway structures. Therefore, viewer sensitivity for motorists on SR-91 is considered low because this type of view is typical along a highway. There is no known local or cultural significance in this view.

Key View 7

Key View 7 is along Cresta Road, a residential street northeast of the SR-91/I-15 interchange, facing southwest. As shown on Figure 3.7-16, the main focus of this key view for nearby residents and motorists along local streets is the SR-91/I-15 interchange, with the mountains and skyline in the far distance. Other urban uses are visible at the base of the mountains; therefore, the existing visual quality is low. Visual features for the view's vividness include the mountains and skyline; however, the cluster of urban uses at the base of the mountains and air pollution decrease the memorability of the view. Encroachments include the cars along I-15 and its on- and off-ramps, as well as fencing and light poles along the residential road in the north side of the view. The view's unity is obstructed by the mix of uses and lack of pattern.

Motorists and residents are the two main viewer groups for Key View 7, and the overall exposure is low to moderate. In addition, Key View 7 represents a residential setting near the SR-91/I-15 interchange; therefore, viewer sensitivity for residents with this view is high as the view would be permanent for residents but low for drivers because the change in view would only be visible for a few minutes, depending on traffic speeds. There is no known cultural significance to this view and this view does not represent any local values for the area.

Key View 8

Key View 8 is along the I-15/Magnolia Avenue overcrossing, facing north. As shown on Figure 3.7-17, the main focus of this existing view for motorists is I-15, north of the Magnolia Avenue overcrossing. The existing visual quality is low given the mix of uses (commercial, highway, and residential) visible from the view point. Views of the mountains and skyline in the distance contribute to the view's vividness; however, encroachments, including cars along I-15 and construction along the median and adjacent right-of-way in the middle ground views, affect the view's intactness. The view's unity is obstructed by mixed uses and a lack of pattern between the natural and man-made elements.

Motorists on I-15 and the Magnolia Avenue overcrossing comprise the primary viewer group in this key view. The overall exposure of motorists to the view is moderate because there would be thousands of drivers per day, but the duration of the view would be seconds to minutes depending on the traffic flow. As mentioned previously, modifications along highways are not unexpected by southern California drivers and residents; therefore, viewer sensitivity for motorists on I-15 is considered low. The segment of I-15 in Corona south of SR-91 to the San Diego County line is eligible for designation as a State Scenic Highway.

There is no known cultural significance in this view.

3.7.3.8 Graffiti

Graffiti is frequently an issue on publicly owned structures such as fences, retaining walls, bridge supports/columns, sound walls, and other similar structures, as well as privately owned buildings, fences, etc. Graffiti may also occur on traffic control devices such as stop signs, stop lights, other traffic directional and safety signs, and posts/poles. Public agencies frequently have dedicated maintenance programs for the control and removal of graffiti. The Department and City of Corona both have graffiti control and removal programs.

3.7.4 Environmental Consequences

3.7.4.1 Summary of Impacts

As described earlier on page 3-1 and shown on Figure 3-3, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented in the Initial Phases of Alternatives 1 and 2 would be visible along SR-91 from SR-71 to I-15, and along I-15 from SR-91 to

Ontario Avenue. As a result, viewers on the north and south sides of SR-91 in Corona and viewers along I-15 south of SR-91 would have views of these improvements. As discussed on page 3-1, the improvements between SR-71 and I-15 under the Initial Phases of Alternatives 1 and 2 are the same as the improvements in the Ultimate Projects. As a result, the Alternative 1 and 2 Ultimate Projects would not result in additional improvements or changes in views along that segment of SR-91.

As described earlier on page 3-1 and shown on Figure 3-4, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented for the Alternative 1 and 2 Ultimate Projects would be visible along SR-91 west of SR-71 and east of I-15, and along I-15 north and south of SR-91. As a result, viewers on the north and south sides of SR-91 west of SR-71 and east of I-15 and along I-15 north and south of SR-91 would have views of these improvements. As noted above, the Ultimate Projects under Alternatives 1 and 2 do not include improvements between SR-71 and I-15; therefore, the Alternative 1 and 2 Ultimate Projects would not result in additional improvements or changes in views along that segment of SR-91.

The project would result in expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The average heights of the retaining walls for Alternatives 1 and 2 range between approximately 2–40 ft (see Tables 2.9 through 2.12 for additional detail; Table 2.13 contains information regarding potential sound wall locations and proposed heights). Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. Therefore, the project would impact the visual quality of the study area, and long-term adverse visual impacts are anticipated to be low to moderate and similar for both Alternatives 1 and 2.

In addition, Alternative 2 would result in a graded/disturbed area of 503 ac, compared to 351 ac for Alternative 1. The largest wall (i.e., largest wall area in one location) proposed for Alternative 2 would be 40 ft high and 2,376 ft long, while the largest

wall for Alternative 1 would be 28 ft high and 1,894 ft long. In Alternative 1, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,200 ft long. In Alternative 2, the maximum cut slopes would be approximately 190 ft high and 700 ft long, and the maximum fill slopes would be approximately 45 ft high and 1,650 ft long. The scale of the facility would be larger for Alternative 2 (adding 173 ac of paved area versus 117 ac for Alternative 1). Alternative 2 would increase the paved area by 39.6 percent, while Alternative 1 would increase it by 27.0 percent.

Alternatives 1 and 2 would result in an adverse impact to a segment of SR-91 eligible for designation as a State Scenic Highway (see Key View 1 impact discussion) and decrease visual quality to a segment of I-15 eligible as a State Scenic Highway (see impact discussion under Key View 8). As mentioned above, while the visual impacts of Alternatives 1 and 2 are generally the same, the visual quality of the study area under Alternative 2 would be altered more than under Alternative 1 because of the channelizers along SR 91 and I-15 that would be associated with the extension of the express lanes.

Aesthetic features will be included during final design of the project for retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Additional landscaping consistent with the *215/91 Corridor Master Plan* will be implemented where existing landscaping is being removed during construction and/or expanded right-of-way allows.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f (Initial Phase and Ultimate Project) would result in expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls similar to the project features described above for Alternative 2. The average heights of the retaining walls, maximum cut slopes, and the increase in paved area for Alternative 2f would also be similar to the project features described for Alternative 2.

As described earlier on page 3-1 and shown on Figure 3-3, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented in the Initial Phase of Alternative 2f would be visible along SR-91 from SR-71 to I-15, and along I-15 from SR-91 to Ontario

Avenue. As a result, viewers on the north and south sides of SR-91 in Corona and viewers along I-15 south of SR-91 would have views of these improvements. As discussed on page 3-1, the physical footprint of the improvements between SR-71 and I-15 under the Initial Phase of Alternative 2f is the same as in the Ultimate Project. As a result, the Alternative 2f Ultimate Project would not result in additional improvements or changes in views along that segment of SR-91.

As described earlier on page 3-1 and shown on Figure 3-4, the majority of the improvements (including the widened freeway mainline, new/modified ramps, overcrossings and bridges, concrete barriers, retaining walls, sound walls, and landscaping) that would be implemented for the Alternative 2f Ultimate Project would be visible along SR-91 west of SR-71 and east of I-15, and along I-15 north and south of SR-91. As a result, viewers on the north and south sides of SR-91 west of SR-71 and east of I-15 and along I-15 north and south of SR-91 would have views of these improvements. As noted above, the Ultimate Project does not include improvements between SR-71 and I-15; therefore, the Alternative 2f Ultimate Project would not result in additional improvemnts or changes in views along that segment of SR-91.

As with both Build Alternatives, Alternative 2f (Initial Phase and Ultimate Project) would result in adverse impacts to a segment of SR-91 eligible for designation as a State Scenic Highway and a decrease in visual quality to a segment of I-15 eligible as a State Scenic Highway. As mentioned above, the visual quality of the study area under Alternative 2f would also be altered more than under Alternative 1 because of the channelizers along SR-91 and I-15 that would be associated with the extension of the tolled express lanes. Therefore, Alternative 2f (Initial Phase and Ultimate Project) would also impact the visual quality of the study area, and long-term adverse visual impacts are anticipated to be low to moderate under Alternative 2f, consistent with the determination for both Build Alternatives.

Aesthetic features would also be included in the final design of Alternative 2f for the retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Alternative 2f would also include landscaping consistent with the *215/91 Corridor Master Plan* in areas where existing landscaping is removed during construction and/or expanded right-of-way allows.

The permanent structures including bridges, overcrossings, structural supports, retaining and sound walls, traffic control devices, and signing under Alternative 2f (Initial Phase and Ultimate Project) may also be attractive targets for graffiti. Existing maintenance programs provided by the Department, area cities, and the County of Riverside would provide for the control and removal of graffiti.

3.7.4.2 Permanent Impacts

Alternatives 1 and 2

For both Build Alternatives and their design variations, long-term impacts would result from permanent alteration of the visual environment through added hardscape, graded slopes, and widening of the freeway mainlines, bridges, interchanges, retaining walls, and sound walls. Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. Where lighting is provided, lighting fixtures would be designed to direct light downward to minimize impacts. New signage is not anticipated except for safety purposes. Refer to Table 2.6 in Chapter 2, Project Alternatives, for the total acreage anticipated to be disturbed during the construction of Alternatives 1 and 2. Refer to Table 3.11.2 in Section 3.11, Geology/Soils/Seismic/Topography, for the estimated amounts of cut and fill during construction of Alternatives 1 and 2.

The phasing plans for the Build Alternatives, described in Chapter 2, Project Description, would result in the Build Alternatives being constructed in phases, starting with the Initial Phases in 2015 and ending with completion of all the project components by 2035. The phasing of the improvements under Alternatives 1 and 2 is not anticipated to result in differences in the impacts of those alternatives related to visual resources compared to the impacts of implementing Alternatives 1 and 2 without the phasing plans. The analysis of the potential impacts of the Build Alternatives related to visual resources discussed in this section explains why the impacts for Alternatives 1 and 2 would be the same or very similar with or without the phasing plans.

Table 3.7.2 provides the visual quality ratings for the worst-case scenario of the key views for both Build Alternatives and their design variations, including points of view from the road and points of view including the road. The overall visual quality rating (1 to 7, or very low to very high) is an average of the three criteria ratings (i.e., vividness, intactness, and unity). Each key view's existing visual quality rating provided in Table 3.7.2 is based on the visual quality described in Section 3.7.3.7.

Table 3.7.2 Existing and With Project Visual Quality

Key	Existing Visual Quality				Visual Quality with the Projects				Difference from Existing Visual Quality (P-E)
	Vividness (V)	Intactness (I)	Unity (U)	Existing (E) Visual Quality ([V+I+U]/3)	Vividness (V)	Intactness (I)	Unity (U)	Proposed (P) Visual Quality ([V+I+U]/3)	
1	5.0	4.5	5.5	5.0	4.5	2.0	2.5	3.0	-2.0
2	3.5	4.0	4.0	3.8	2.5	2.0	2.0	2.2	-1.6
3	2.0	2.0	2.0	2.0	1.5	1.5	2.0	1.6	-0.4
4	4.0	3.5	3.5	3.6	2.0	1.5	1.5	1.6	-2.0
5	3.3	3.0	3.3	3.2	3.0	2.8	3.0	2.9	-0.3
6	2.5	2.5	3.0	2.7	2.2	2.4	3.3	2.6	-0.1
7	2.5	2.5	3.0	2.7	2.0	2.0	1.5	1.8	-0.9
8	2.5	2.0	3.0	2.5	2.5	2.0	2.5	2.3	-0.2

Source: *Final Visual Impact Assessment* (May 2010).
Rating Scale: 1.0–7.0 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

The with-project visual quality ratings are based on a conceptual idea of what the views would look like when the project is completed. The change in the overall visual character at project build out is the difference between the existing visual quality rating and the with project visual quality rating. For example, if the overall existing visual quality rating was 6 and the with project visual quality rating is 5, then the difference from existing would be -1.0. A negative number indicates an adverse visual impact to the existing visual setting. The greater the negative number the more substantial the visual impact (i.e., a -1.0 rating would have more of a visual impact than a -0.4 rating). A positive number represents a beneficial effect in the visual setting with implementation of the project.

Key Views

Key View 1

The view simulation shown on Figure 3.7-10 represents Alternative 1 and 2 conditions. Both Build Alternatives include improvements and widening along SR-91 in the vicinity of Key View 1. None of the design variations would occur in the area seen in Key View 1. Alternative 1 would add one GP lane in each direction, would improve existing HOV lane conditions, and would add auxiliary lanes where needed. Alternative 2 would add one GP lane in each direction and

extend the existing express lanes from the Orange/Riverside County line to I-15 in the City of Corona. Project features under Alternatives 1 and 2 would include a concrete barrier separating eastbound and westbound SR-91 traffic (this concrete barrier would not be visible in Key View 1 but would be visible to passing motorists along SR-91) and retaining walls along the north side of SR-91 between the mainline travel lanes and the Santa Ana River. The average heights of the retaining walls for Alternatives 1 and 2 range between approximately 3 and 40 ft. Refer to Tables 2.9 through 2.12 for additional detail. In addition, the project has the potential to result in the construction of a sound wall along parts of the Green River Golf Club (this sound wall would not be visible from Key View 1). Refer to Table 2.13 for additional detail and average heights of potential sound walls.

Tieback walls would be constructed under Alternatives 1 and 2 in two locations at approximately Stations 30+00 and 40+00 (outside of the area shown in the visual simulation of Key View 1). The tieback walls would be approximately 20 ft in height. A terraced 2:1 slope would be constructed behind the tieback walls where the existing side slope does not match the top of the 20 ft tieback wall. For maintenance purposes, a 20 ft bench, or terrace, would be provided every 30 ft in vertical height along the slope until it transitions into the existing slope. Also, the heights of the slope behind the retaining walls at Stations 30+00 and 40+00 would be approximately 180 ft and 80 ft, respectively. Refer to Appendix L for additional detail on project features for Alternatives 1 and 2.

As discussed earlier, the SR-91 Eastbound Lane Addition Project will widen SR-91 in the study area and will construct retaining walls in the vicinity of Existing View A and Key View 1. Due to the improvements to SR-91 as part of the project, some of those retaining walls would be removed and replaced with tieback walls. Additional grading and tieback walls would also be required in this part of the study area as a result of widening SR-91 and the realignment of the eastbound Green River Road off-ramp.

During final design of the project, the retaining walls and concrete barriers as well as other structure and hardscape features would be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of potential aesthetic treatments for retaining walls is shown on Figure 3.7-18. Because limited right-of-way is available for landscaping along SR-91, holes in the walls may be considered to allow vines to

grow through and cover the walls to reduce the visual impacts of those walls. Other landscaping (if required) would be consistent with the Urban Plant Palette in the *215/91 Corridor Master Plan*.

With implementation of the Build Alternatives, the overall visual quality would decrease for Key View 1. The Initial Phases of Alternatives 1 and 2 propose one less GP lane on eastbound and westbound SR-91 phases than the Ultimate Projects for Alternatives 1 and 2. The vividness, intactness, and unity of the view would decrease due to the removal of trees, increased view of the highway, and additional highway encroachment into the open space and recreational view.

The visual quality rating for Alternatives 1 and 2 at Key View 1 would decrease from moderately high to moderately low (a rate change of -2.0) because this view is along a major highway and this segment of SR-91 is eligible for designation as a State Scenic Highway. In addition, the specific project components in this key view would contribute to its decreased visual quality rating. Similar changes in visual quality are anticipated from other adjacent recreational facilities in the study area, including the nearby bikeway trail as shown in Figure 3.7-4.

Key View 2

Alternative 1 and 2 conditions are shown in the view simulation provided for Key View 2 on Figure 3.7-11. Similar to Key View 1, the project would implement one GP lane in each direction, improvements to the existing HOV lane under Alternative 1, and a GP lane and extension of the express lanes under Alternative 2 at this view location. None of the design variations occur in the area seen in Key View 2. The Initial Phase would provide one less GP lane on the eastbound and westbound SR-91 compared to the completed Alternatives 1 and 2.

Project features in Key View 2 for Alternatives 1 and 2 would also include construction of a retaining wall that would extend from just west of Key View 2 (east of the Green River Road off-ramp), across Key View 2, and farther east toward SR-71. The average heights of the retaining walls would range between approximately 3 and 40 ft (see Tables 2.9 through 2.12 for additional detail). Other project features in the vicinity of Key View 2 include a new structure for the Green River Road westbound off-ramp that will place the ramp bridge structure and supporting columns just to the right of the view shown on Figure 3.7-11. The new off-ramp structure will be located closer to these viewers at about 50 ft away compared to 200 ft away today.

As mentioned above, during final design of the project, aesthetic features would be designed for project retaining walls and sound walls (see Figures 3.7-18 and 3.7-19). Consideration would be given to materials, textures, and graphic symbols for sound walls as shown in Figure 3.7-19 to be consistent with the *215/91 Master Corridor Plan* and the City of Corona limited plans and specifications. In addition, because limited right-of-way is available for landscaping adjacent to SR-91, holes in retaining walls and sound walls may be considered for vines to grow through and reduce impacts.

The view simulation provided for Key View 2 in Figure 3.7-11 shows Alternatives 1 and 2. While the Initial Phases propose improvements within Key View 2, they are not anticipated to result in additional impacts related to visual quality/character compared to the impacts of implementing Alternatives 1 and 2 without the phasing plans. The potential impacts as a result of the Initial Phases would be less than those realized with implementation of the Ultimate Projects of Alternatives 1 and 2. Alternatives 1 and 2 result in the same impact with or without the phasing plans. The overall visual quality of Key View 2 would decrease as a result of the obstruction of views of the mountains and vegetation in both the middle ground and distant views by the retaining wall. The retaining wall would decrease the key view's total vividness, intactness, and unity rating, and the visual quality rating for Key View 2 would decrease from moderate to low (a rate change of -1.6). In addition, this visual impact is also anticipated for other residential use areas adjacent to SR-91 where a retaining wall or sound wall would be constructed under Alternatives 1 and 2.

Key View 3

Alternatives 1 and 2 in the vicinity of Key View 3 include several project features as shown in the view simulation provided in Figure 3.7-12. Under both Build Alternatives, this segment of SR-91 would be widened to accommodate additional lanes, and all improvements in the vicinity of Key View 3 would be completed during the Initial Phases of Alternatives 1 and 2. Additional right-of-way would be acquired, including acquisition and removal of the commercial/retail property shown in the existing view, to accommodate the project modifications and braiding to the on-ramp from Serfas Club Drive and the off-ramp to West Sixth Street, as well as to realign the frontage road adjacent to SR-91 to the south. Other project features in the vicinity of Key View 3 include bridges and retaining walls as well as potential sound walls to reduce noise levels for nearby residents. Alternatives 1 and 2 also propose design variations in Key View 3. The visual

simulation in Figure 3.7-12 shows the worst-case scenario for Key View 3 with project implementation, including the director connector design variation at the Auto Center Drive/Maple Street interchange that is included in the design for Alternative 2f.

During final design, aesthetic features would be designed to reduce impacts of increased hardscape and to provide a theme or design continuity in this area. Figures 3.7-18 and 3.7-19 show potential aesthetic features for retaining and sound walls. Any right-of-way available for landscaping would be landscaped consistent with the Urban Plant Palette identified in the *215/91 Corridor Master Plan*.

As shown in the visual simulation in Figure 3.7-12, the view's post-project vividness would decrease because of the lack of landform, land cover, and contrasting pattern elements. The billboards and electric poles would no longer be in the view with implementation of the project, and the intactness would also decrease because of encroachment from cars and the highway in the view. The unity of the key view would remain the same. Therefore, the visual quality of Key View 3 would decrease under Alternatives 1 and 2 by -0.4, and the overall rating of Key View 3 would be 1.6. This visual impact is also anticipated for other areas where property may be acquired and/or improvements would be constructed adjacent to SR-91 that would be visible to nearby residential uses. In addition, these impacts for Key View 3 would be realized with completion of the Initial Phases; therefore, the impacts of the Build Alternatives related to visual quality/ character in Key View 3 would be the same for the Ultimate Projects of Alternatives 1 and 2 as for the Initial Phases.

Key View 4

As shown in Figure 3.7-13, project features in the vicinity of Key View 4 under both Build Alternatives include a retaining wall parallel to Bollero Place on the north side of SR-91. No design variations are shown in Key View 4. All improvements in the vicinity of Key View 4 would be completed during the Initial Phases of Alternatives 1 and 2. Figure 3.7-18 shows potential aesthetic features that would be considered during final design of retaining walls under Alternatives 1 and 2. In addition, because Key View 4 is near residential uses, it is likely that sound walls would be required (see Figure 3.7-19 for a collage of aesthetic treatments to be considered during final design).

As a result of the retaining wall, Alternatives 1 and 2 would reduce Key View 4's vividness, intactness, and unity. The retaining wall under the Initial Phases of Alternatives 1 and 2 would remove the landscaping adjacent to SR-91 and Bollero Place, thereby reducing the view's vividness. The retaining wall would also remove pattern elements contributing to the view's unity (fencing, trees, and sidewalk). Intactness in the view under Alternatives 1 and 2 would decrease slightly because of the increase in scale of the concrete block wall.

The level of adverse impact to the visual setting of Key View 4 would be low to moderately low (a reduction of -2.0) because the change in visual quality would decrease and the viewer response to the changes would be high. Within Key View 4, all improvements would be completed during the Initial Phases of Alternatives 1 and 2. Therefore, the impacts to visual quality/character in Key View 4 would be the same for the Ultimate Projects of Alternatives 1 and 2 as for the Initial Phases. Similar visual impacts are also anticipated for other residential uses adjacent to SR-91 where a retaining wall or sound wall would be constructed in the study area as part of the project.

Key View 5

Alternatives 1 and 2 include several project features in Key View 5. As shown in the visual simulation in Figure 3.7-14, Alternatives 1 and 2 would widen SR-91 and remove existing landscaping on the north side to construct a retaining wall to accommodate the slightly realigned westbound on-ramp from Main Street. The average heights of the retaining walls would range from approximately 8 to 23 ft (refer to Tables 2.9 through 2.12 for additional detail). None of the design variations occur in the area seen in Key View 5. All improvements in the vicinity of Key View 5 would be completed during the Initial Phases of Alternatives 1 and 2; therefore, no additional visual and aesthetic changes would occur as a result of the Ultimate Projects for Alternatives 1 and 2. Potential aesthetic features for project retaining walls shown on Figure 3.7-18, including the wall shown in Key View 5, would help maintain a theme and design continuity in this area under Alternatives 1 and 2. In addition, areas identified for landscaping during final design would be consistent with the Urban Plant Palette in the *215/91 Corridor Master Plan*, including vines to cover hardscape to reduce the visual impacts of the retaining walls, especially for drivers along the westbound on- and off-ramps.

The existing visual character in this key view and the surrounding area is urban, and the existing visual character would not change substantially under

Alternatives 1 and 2. The vividness would decrease as a result of the removal of the landscaping on the north side of SR-91. The intactness would remain below moderate because of the vehicle encroachments. The unity would also decrease because of the mixed uses within the view and the decrease in the view of the mountains as a result of widening SR-91. Overall the visual quality would decrease by -0.3. Similar visual impacts are also anticipated for other commercial and industrial areas adjacent to SR-91. Examples of the existing visual quality of these types of commercial/industrial areas in the project study are also shown in Figures 3.7-5 and 3.7-7.

Key View 5 is also in the Grand Boulevard Historic District. Refer to Section 3.8, Cultural Resources, for discussion of the potential visual and aesthetic impacts of the Build Alternatives in that Historic District.

Key View 6

Under Alternatives 1 and 2, SR-91 would be widened and, depending on the alternative, new and elevated direct connectors would be provided for the HOV or express lanes between SR-91 and I-15. Retaining walls would be constructed on the north and south sides of SR-91, including along the direct connectors. Concrete barriers would separate eastbound and westbound traffic as well as I-15 traffic connecting to SR-91 prior to merging. In addition, Alternative 2 would include channelizers separating the express lanes and GP lanes. None of the design variations occur in the area seen in Key View 6. While the direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phase, and the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15 would be implemented during Alternatives 1 and 2, the visual simulation provided for Key View 6 in Figure 3.7-15 shows the post-project condition for both Build Alternatives.

During final design, aesthetic features would be designed for retaining walls in this area under Alternatives 1 and 2 as shown on Figure 3.7-18. In addition, aesthetic features will be designed for any new bridge structures. Figure 3.7-20 provides a collage of potential aesthetic features for bridge structures consistent with the *215/91 Master Corridor Plan* and the City of Corona limited plan and specifications. By providing aesthetic features in the final design for bridge

structures, the project would maintain a theme and design continuity in the study area.

As shown in the visual simulation in Figure 3.7-15, implementation of Alternatives 1 or 2 would change the visual quality of Key View 6. The most notable changes in this view would be the SR-91 and I-15 HOV or express lane direct connectors with Alternatives 1 and 2, and the channelizers under Alternative 2. As a result, the view's vividness would decrease because the direct connectors would obstruct the existing views of the mountains in the east and hills in the southeast. While several of the existing encroachments (light poles, billboards, and signs) would be removed under Alternatives 1 and 2, larger scale encroachments like the direct connector structures would be constructed and the overall intactness of the view would decrease. The view's unity, however, would increase because of the addition of pattern elements to the view such as lane geometry and parallel ramp structures. Overall, the changes in visual quality would result in a decrease in rating by -0.1, and the level of adverse impact to the visual setting in Key View 6 would be low due to the low sensitivity of viewers and the limited change in the overall visual quality rating. Improvements within Key View 6 would occur during the Initial Phases of Alternatives 1 and 2. The improvements associated with the Ultimate Projects for Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/character compared to the impacts of the Initial Phases of Alternatives 1 and 2. Similar visual impacts are also anticipated for other motorists driving eastbound along SR-91.

Key View 7

Alternatives 1 and 2 include construction of HOV or express lane direct connectors that would be visible from Key View 7. None of the design variations occur in the area seen in Key View 7. The direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phases, and the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15 would be implemented for Alternatives 1 and 2. The visual simulation provided for Key View 7 in Figure 3.7-16 shows Alternatives 1 and 2. Retaining walls and concrete barriers would also be constructed under Alternatives 1 and 2 in the vicinity of the SR-91/I-15 interchange but would not be visible from Key View 7. Because of the proximity to residential uses, sound walls may be required in the vicinity of Key View 7. Figures 3.7-18 through

3.7-20 show the potential aesthetic features that would be considered during final design of Alternatives 1 and 2. In addition, additional right-of-way available for landscaping will be landscaped consistent with the *215/91 Corridor Master Plan*. Vines may also be used to reduce visual impacts of any sounds walls and/or retaining walls.

As shown in the visual simulation in Figure 3.7-16, the project would introduce new direct connectors to this view and partially obstruct the view of the mountains and prominent skyline, thereby decreasing the vividness, intactness, and unity of the view. The overall quality rating of the view is decreased by -0.9, and the level of adverse impact to the visual setting in Key View 7 would be low to moderate due to the sensitivity of viewers, distance, and limited change in the overall visual quality rating. The Initial Phases for Alternatives 1 and 2 propose improvements within Key View 7, and the Ultimate Projects of Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/ character in this Key View. Similar visual impacts are also anticipated for other views from elevated residential uses with views of the study area and improvements, including Existing Views C and D shown in Figure 3.7-6.

Key View 8

Alternatives 1 and 2 include several project features that would be visible from Key View 8: modifications to the median along I-15, increased signage, and direct and elevated connectors for either the HOV or express lanes between SR-91 and I-15. Alternative 1 would construct one HOV lane on I-15 in each direction from Ontario Avenue in the City of Corona to an I-15/SR-91 HOV lane direct connector. Alternative 2 would extend the express lanes along I-15, including the channelizers to separate the GP lanes and the express lane. There are no design variations in Key View 8. These improvements as well as the direct connector for eastbound SR-91 to southbound I-15 and the single-lane express lane connector from northbound I-15 to westbound SR-91 would be implemented during the Initial Phases of Alternatives 1 and 2. Other improvements visible in Key View 8 include the direct connectors for southbound I-15 to westbound SR-91 and westbound SR-91 to northbound I-15. The visual simulation provided for Key View 8 in Figure 3.7-17 shows Alternatives 1 and 2. Figures 3.7-18 through 3.7-20 show the potential aesthetic features for retaining walls, sound walls, and bridge structures that would be considered during final design of Alternatives 1 and 2. In addition, additional right-of-way available for landscaping would be

landscaped consistent with the Urban Plant Palette identified in the *215/91 Corridor Master Plan*.

The visual simulation provided in Figure 3.7-17 shows that the visual quality of this view would decrease under Alternatives 1 and 2. The segment of I-15 visible in this key view is eligible for designation as a State Scenic Highway. Alternatives 1 and 2 would include widening of I-15, which would involve modifications to the centerline and construction of the median so there would no longer be construction areas and vacant land encroaching on the view. The view's vividness would be maintained with the views of the mountains, hillside, and skyline. Intactness would be the same because Alternatives 1 and 2 would not introduce substantial new encroachments to this view. The unit of the view would decrease because of lane improvements and direct connectors.

In Key View 8, the widening and lane improvements on I-15 would decrease the visual quality to 2.3 (a decrease of -0.2) by providing more man-made features; however the more distant natural views of the mountains and skyline would be maintained. This visual impact is also anticipated on the overcrossing and adjacent commercial and industrial uses where widening and lane improvements are made to SR-91 while maintaining natural views of the mountains in Riverside County. While improvements would occur within Key View 8 during the Initial Phases of Alternatives 1 and 2, the Ultimate Projects for Alternatives 1 and 2 are not anticipated to result in additional impacts related to visual quality/character.

Light, Glare, Shade, and Shadow

Existing urban and suburban uses in the study area receive light at night from traffic, street lighting, lighted parking lots, security lighting, signalization at the intersections and freeway on- and off-ramps, and other light sources from commercial and residential uses. Lighting would be provided for safety lighting at the interchanges, and existing lighting on existing streets and freeways would be modified or relocated. For example, lighting would be provided in the SR-91 median along the Orange/ Riverside County line for the express lane ingress and egress, similar to the existing median lighting for the existing express lanes. Lighting would be provided on the underside of the widened bridge decks for the safety of pedestrians crossing under the widened freeway or local arterials and roads. To minimize light spill into adjoining areas, light fixtures will be designed to direct light downward to only those areas requiring illumination for safety purposes.

Alternatives 1 and 2 would create new sources of glare, shadow, and shade associated with fill slopes, bridges, and other structures. These shade and shadow effects are considered minimal because very few, if any, sensitive viewers would be in the shade or shadow footprints of the individual project features.

Graffiti

As discussed earlier, public structures are often targets of graffiti. The permanent structures under Alternatives 1 and 2, including bridges, overcrossings, structural supports, retaining and sound walls, traffic control devices, and signing, may be attractive targets for graffiti. Alternatives 1 and 2 will include treatments on many of the structures and project features that help deter taggers. Those will include anti-graffiti coatings, wall texturing, and aesthetic surface treatments, and landscaping/ plantings (ivy). Nonetheless, the new/modified structures under Alternatives 1 and 2 may be attractive targets for taggers; therefore, both Alternatives could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

As discussed earlier, the Department, area cities, and County of Riverside have existing ongoing maintenance programs for the control and removal of graffiti. Those programs would apply to all structures and project features in Alternatives 1 and 2, on public and private property, as appropriate.

Summary of Visual Impacts for Alternative 1

The Alternative 1 Ultimate Project would add one GP lane in each direction, improve existing HOV lane conditions, and add auxiliary lanes. Expanded right-of-way, added hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls are all anticipated under Alternative 1 and would impact the visual quality of the study area. Refer to Tables 2.9, 2.10, and 2.13 for average heights of retaining and sound walls. In addition, Alternative 1 would result in an adverse impact (-2.0) to a segment of SR-91 eligible for designation as a State Scenic Highway (see Key View 1 impact discussion) and a decrease in visual quality to a segment of I-15 eligible as a State Scenic Highway (see impact discussion under Key View 8). However, as stated previously, modifications to highways and on- and off-ramps are not unexpected by southern California drivers and residents. Aesthetic features will be implemented during final design of Alternative 1 for retaining walls, sound walls, and bridge structures to reduce potential visual impacts. Additional landscaping consistent with the *215/91 Corridor Master Plan* will be implemented where expanded right-of-way

allows. Overall, long-term adverse impacts under Alternative 1 are anticipated to be low to moderate with implementation of minimization and mitigation measures described in Section 3.7.5. The phasing plan is not anticipated to result in impacts to visual quality, character, and resources different than those impacts without the phasing plan because all impacts would eventually be realized with completion of the Alternative 1 Ultimate Project.

As noted earlier, the new/modified structures under Alternative 1 may be attractive targets for taggers; therefore, Alternative 1 could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

Summary of Visual Impacts for Alternative 2

The visual impacts of the Alternative 2 Ultimate Project are similar to as described above for Alternative 1; however, Alternative 2 would add one GP lane in each direction and extend the existing express lanes from the Orange/Riverside County line to I-15 in the City of Corona. Refer to Tables 2.11 through 2.13 for average heights of retaining and sound walls. While the visual impacts would also remain low to moderate under Alternative 2, the visual quality of the study area would be altered more by Alternative 2 than by Alternative 1 because of the channelizers along SR-91 and I-15 that would be associated with the extension of the express lanes. This potential visual impact of Alternative 2 would primarily be visible to drivers along those highways; therefore, the overall exposure would be moderate because of the high number of viewers but low rating of the activity (driving) and duration (seconds or minutes). In addition, the extension of the express lanes would be along highway segments where adjacent uses are primarily commercial and industrial. Therefore, long-term adverse visual impacts as a result of Alternative 2 are also anticipated to be low to moderate and similar to Alternative 1 with implementation of the minimization and mitigation measures described in Section 3.7.5. The phasing plan is not anticipated to result in impacts to visual quality, character, and resources different than those impacts without the phasing plan because all impacts would eventually be realized with completion of Alternative 2 in 2035.

As noted earlier, the new/modified structures under Alternative 2 may be attractive targets for taggers; therefore, Alternative 2 could result in increased graffiti along the SR-91 and I-15 corridors, including along local streets at their crossings of those freeways.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Under the No Build Alternative, there would be no construction-related visual impacts because no improvements would be implemented and there would be no change to the existing configuration of the GP, express or HOV lanes. Though smaller, localized projects could be considered, approved, and implemented on their own merits, no major corridor improvements would be implemented on the project segments of SR-91 and I-15 under the No Build Alternative. Therefore, there would be no permanent visual impacts along these freeways under the No Build Alternative.

3.7.4.3 Temporary Impacts

Alternatives 1 and 2

For both Build Alternatives and their design variations, short-term visual impacts would occur to sensitive viewers during the construction period and would include views of demolition of existing structures, clearing of existing vegetation, grading of cut-and-fill slopes, construction of roadway improvements and structures, construction vehicles, and construction staging areas. Construction activities would be temporary, and the adverse visual impacts related to the construction activities would cease after completion of construction. The effects of vegetation clearing would gradually improve over time as landscaping implemented under Alternatives 1 and 2 matures.

Graffiti is not expected to be an issue during construction of Alternatives 1 and 2 because all the construction, staging and equipment storage areas will be fenced. As a result, structures, walls, and other features in the fenced areas would be protected from graffiti during the construction period. Therefore, the construction of Alternatives 1 and 2 is not expected to result in temporary impacts related to graffiti.

No Build Alternative

The No Build Alternative would maintain the current configurations of SR-91 and I-15 in the study area. Therefore, there would be no construction-related visual impacts under the No Build Alternative because no improvements would occur, and there would be no change to the existing configuration of the express/HOV and GP lanes on SR-91 and I-15.

3.7.5 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be required for the Initial Phases and Ultimate Projects of the SR-91 CIP Build Alternatives and would substantially reduce the short- and long-term adverse visual impacts under Alternatives 1 and 2.

V-1 **Structure Elements.** To address adverse impacts of the project structures, the RCTC Project Engineer will direct a qualified landscape architect to ensure that the final project design incorporates mitigation and minimization elements A–D, below, and that these enhancements to structures are incorporated in the design and construction of sound walls, retaining walls, and bridge elements, and will not be "follow-up" enhancements.

During construction, RCTC's Resident Engineer will ensure that the design/build contractor constructs the retaining and sound walls, medians, bridges, and other structures consistent with aesthetic and design features included in the project specifications. RCTC's Resident Engineer will ensure that those aesthetic and design features are constructed during the construction phase when the impact occurs.

A. Sound walls in low-density, developed areas or those fronting private property will be heavily textured (i.e. split-face or fractured rib) and integrally colored to minimize reflected glare and visual mass. Sound walls facing public-use areas (parks, streets, etc.) will incorporate textures and color as stated above plus site-specific aesthetic features (local or historical references) to minimize/ mitigate impacts to community character and to restore a "sense of place." Specific color selection for sound walls will be determined by the *215/91 Corridor Master Plan*.

B. Retaining walls (including walls associated with bridge structures) will be heavily textured (i.e. split-face or fractured rib) to minimize glare and visual mass. Retaining walls facing public use areas (parks, streets, etc.) over 9 ft high will be heavily textured (i.e., split-face or fractured rib) and include site-specific aesthetic features (local or historical references). Color (integral or applied) is not required for retaining walls.

C. In addition to texture and color as described in A and B, above, sound walls and retaining walls with low-density development or recreational viewer groups will include planting of trees or trees, shrubs, and vines, at the base of the walls (non-motorist side) to minimize loss of visual unity. Plantings will be local native species or ornamental species that require no irrigation after establishment. These plantings will not require permanent irrigation.

D. Slope paving in all areas with bicyclist and pedestrian viewers will include texture (i.e. stamped slate). In urban areas, slope paving will incorporate site-specific aesthetic features in addition to texture. Texture and pattern will be used to minimize the visual impacts of increased hard surface, and reinforce community identify, offsetting reduced community connectivity associated with increased bridge widths.

V-2 **Highway Planting.** RCTC's Project Engineer will direct a qualified landscape architect to ensure that replacement planting to mitigate the loss of existing landscaping is included in the final design. Replacement planting will be funded with the project's construction and will include no less than 3 years of plant establishment. All planting must be reviewed and approved by the District Landscape Architect.

RCTC's Project Engineer will ensure that the replacement planting is under construction within 2 years of acceptance of the highway contract that damaged or removed the existing planting.

RCTC's Project Engineer will direct a qualified landscape architect to ensure the project plans show that where plantable right-of-way is reduced (as at Main Street), replacement planting will be trees, shrubs, vines, ground cover, permanent irrigation, and enhanced structural elements. Enhanced structural elements will minimize the impact of reduced planting areas. Enhanced structural elements will include enhanced pedestrian facilities (such as pavement treatments, graphics, or above-standard decorative pedestrian lighting) and may incorporate community entry features into the structures.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that the project plans show that where plantable right-of-way is eliminated (as at residential areas on both sides of SR-91 between just east of Lincoln Boulevard to approximately 400 ft west of East Grand Boulevard), the loss will be mitigated by off-site planting. Planting of street trees or other approved planting such as vines with permanent irrigation in City right-of-way such as at the base of retaining walls at Bollero Place and the 600 to 700 block of West Second Street will minimize the loss of existing landscape. The off-site tree planting will minimize the visual presence of the widened adjacent mainline. Replacement of existing trees by new street trees will be at a 1:1 (new tree to existing tree) ratio. To minimize the visual loss of the mature existing trees, these mitigating/replacement street trees will be planted at no less than 36 in box size.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that where plantable right-of-way is eliminated without the prospect of site-adjacent mitigation (as at the industrial areas just east of East Grand Boulevard or the above residential areas if street planting is not accepted by the City), the loss will be mitigated by planting within the project limits. This planting will be at a 4:1 (new tree to existing tree) ratio. If vehicle recovery distances prohibit tree planting in any selected area, mitigation planting may be achieved at a ratio of 10 new shrubs to 1 existing tree. For this mitigation planting, all trees will be no less than 15-gallon size and all shrubs will be no less than 5-gallon size.

RCTC's Project Engineer will direct a qualified landscape architect to ensure that the project plans show that all mitigation planting within the State right-of-way, where appropriate, will include native tree, shrub, and vine species, and include temporary irrigation for establishment. Replacement planting will include permanent irrigation.

RCTC's Resident Engineer will ensure that the design/build contractor properly implements the landscaping and structural treatment components described in Measures V-1 and V-2.

V-3 **Light and Glare.** To reduce glare, RCTC's Project Engineer will ensure that the project plans specify lighting fixtures with non-glare hoods and that lighting is designed to illuminate only the right-of-way.

The lighting plans will require the review and approval of the Department and applicable cities and counties before construction to assure compliance with their applicable policies regarding public street lighting. RCTC's Project Engineer will coordinate with the City of Corona and the other applicable cities and counties to ensure that sufficient lighting is provided as part of the improvements to local streets within the project limits, consistent with applicable local policies and street lighting codes.

Increased glare from walls, structures and pavement will be minimized by measures identified in V-1 and V-2.

RCTC's Resident Engineer will ensure that the project lighting plan included in the project specifications is implemented by the design/build contractor during construction.

V-4 **Graffiti Reduction, Removal, and Control.** During final design, the RCTC Project Engineer will direct a qualified landscape architect to prepare planting plans that incorporate vine planting on all sound barriers in the project specifications to reduce the potential for graffiti and to soften the appearance of those walls, consistent with the Highway Design Manual, Index 902.3(5).

After the construction of each sound barrier, the RCTC Resident Engineer will require the design/build contractor to install vine planting consistent with the project specifications and the planting requirements in Measure V-2.

The Department and the City of Corona have existing ongoing maintenance programs for the control and removal of graffiti. Those programs would apply to all new and modified structures in Alternatives 1 and 2, on public and private property, as appropriate. Key components of those programs are:

- **Department Program.** Chapter D1, Litter, Debris, and Graffiti (July 2006), in the Caltrans Maintenance Manual (Volume I, January 2011) describes the Department's maintenance program for the control and removal of graffiti. Key program components applicable to the project features in Alternatives 1 and 2 are:

  - Use of recycled paint for various structures and matching paint used to cover graffiti with the original paint color on the structure.
  - Use of physical devices such as rat guards, sign hoods, razor wire, and glare screen patches to limit access to facilities targeted by taggers.
  - Replacement of ground-mounted signs with signs that have protective coatings or application of protective coatings to signs.

- **City of Corona Program.** Chapter 9.30, Graffiti Abatement Procedure, in the Corona Municipal Code, describes the City's procedures related to the prohibition of graffiti in the City and the graffiti removal process. Methods for the removal of graffiti include power washing, gel removers, and painting.

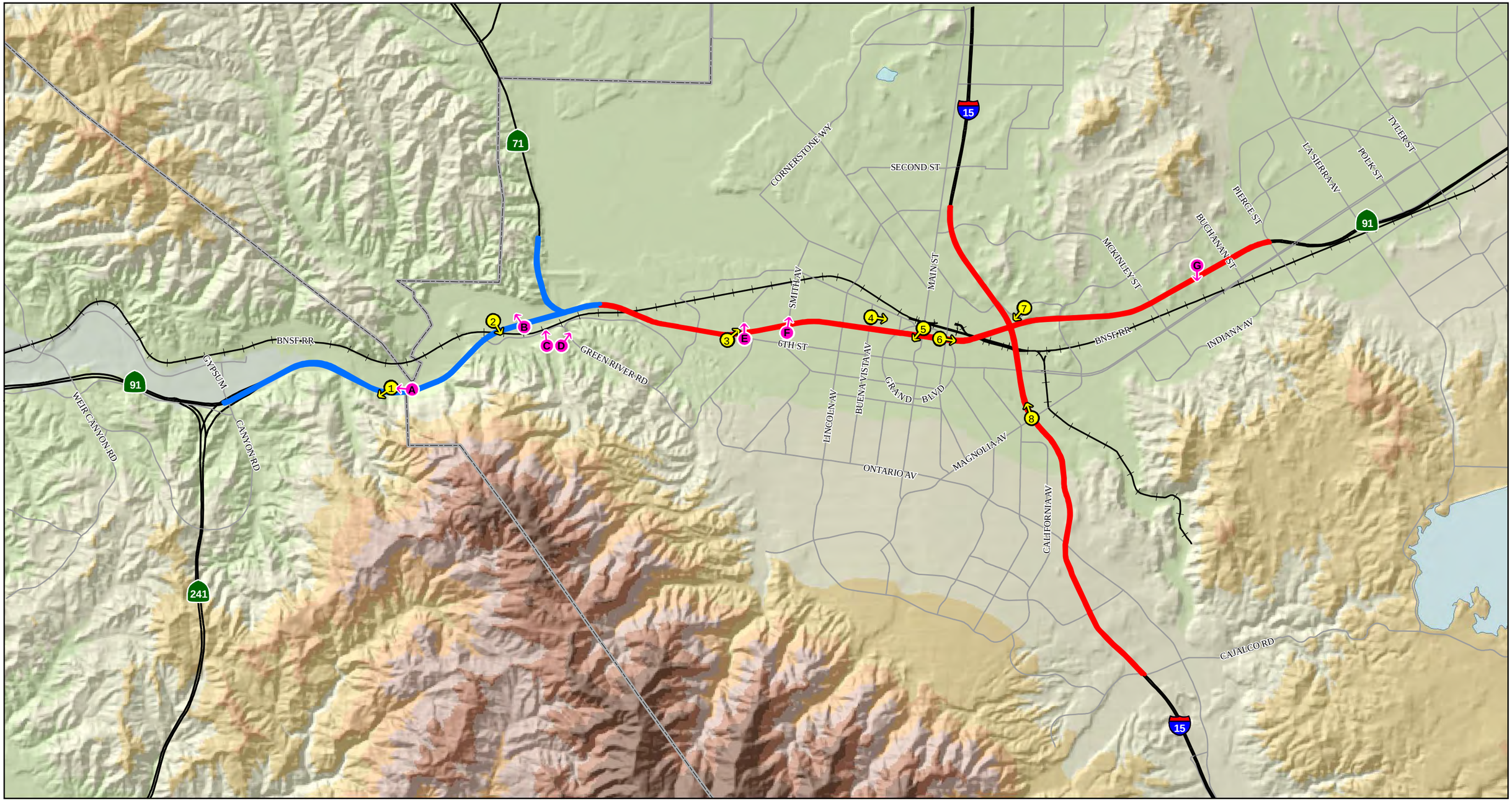


FIGURE 3.7-1

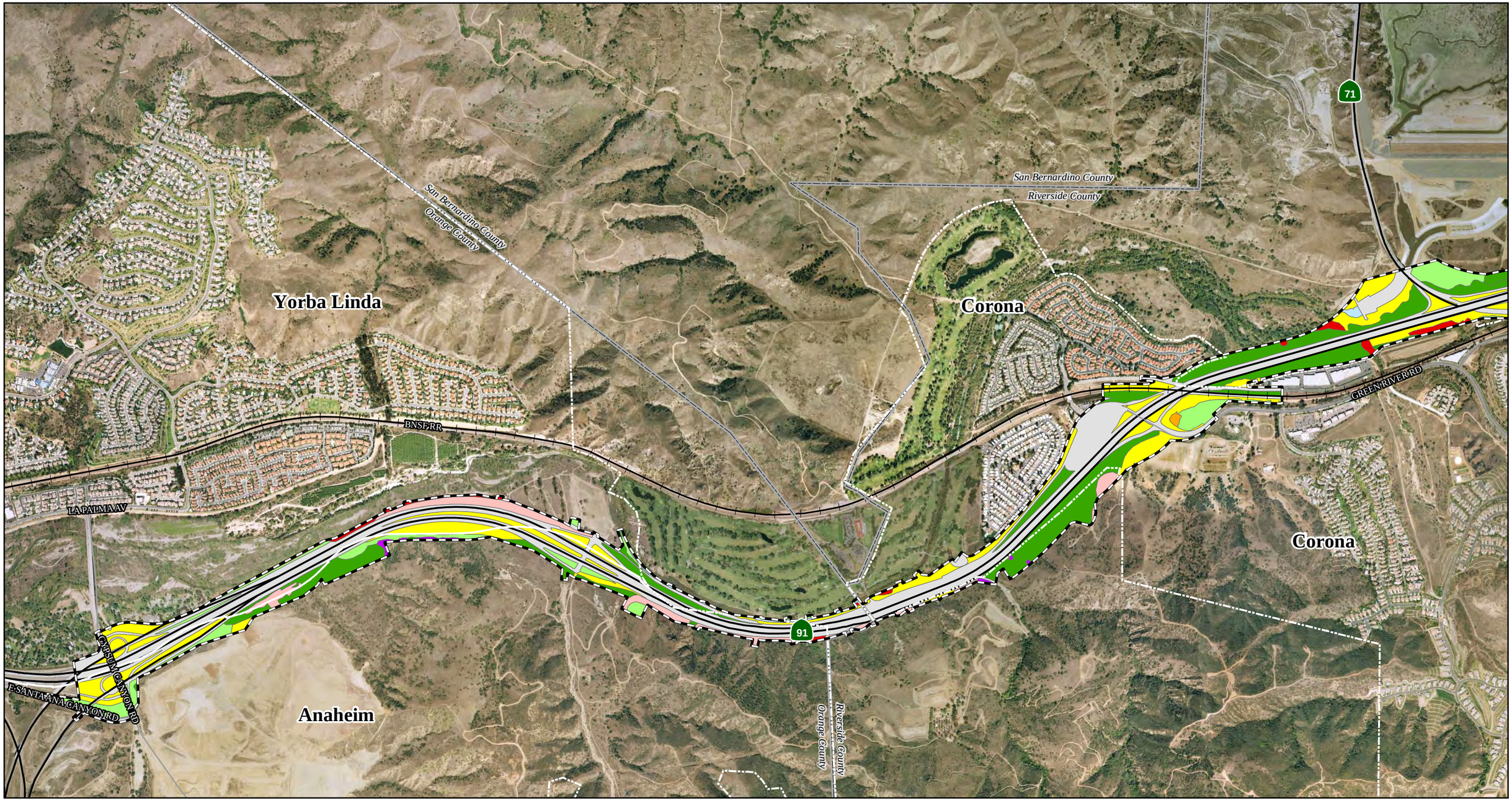
SR-91 Corridor Improvement Project

Elevations and Landscape Units

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: ESRI (2006), LSA (2008), TBM (2007), PB (2008)

i:\paz0701\gis\visual\hillshade_and_landscapeunits_eir.mxd (11/30/2010)



Biological Study Area

Biological Conditions

- Chaparral
- Coastal Sage Scrub
- Developed
- Non-native Grassland
- Oak Woodland
- Riparian Forest
- Riparian Scrub
- Ruderal and Ornamental
- Water

N

0 750 1,500 Feet

FIGURE 3.7-2

Sheet 1 of 4

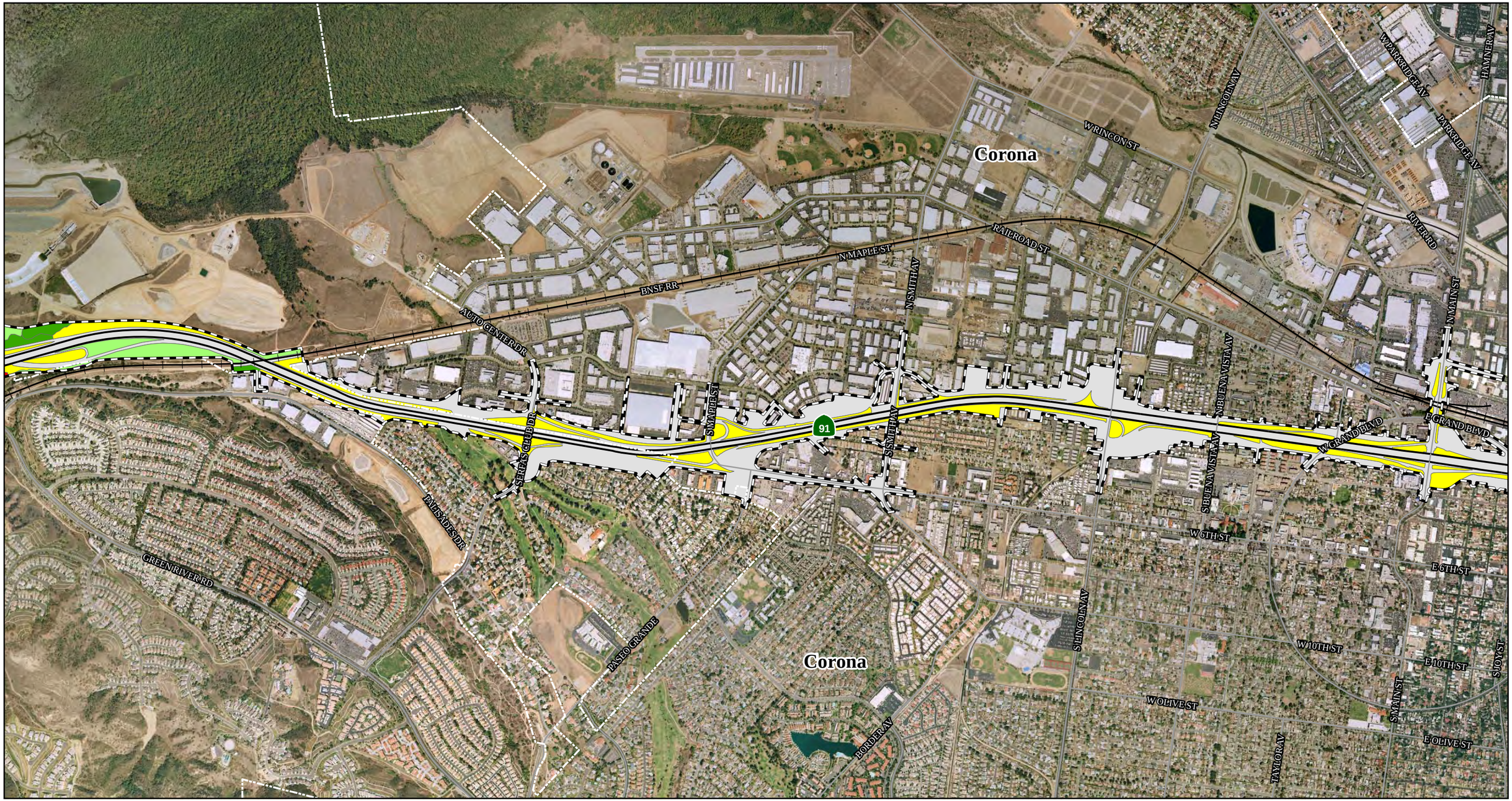
SR-91 Corridor Improvement Project

Biological Conditions

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).

I:\PAZ0701\GIS\Visual\Biological_Conditions_EIR.mxd (9/22/2009)



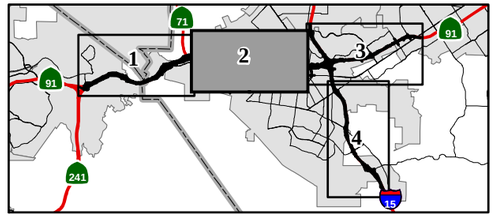
Biological Study Area

Biological Conditions

- Chaparral
- Coastal Sage Scrub
- Developed
- Non-native Grassland
- Oak Woodland
- Riparian Forest
- Riparian Scrub
- Ruderal and Ornamental
- Water

N

0 750 1,500 Feet



SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).

I:\PAZ0701\GIS\Visual\Biological_Conditions_EIR.mxd (9/22/2009)

FIGURE 3.7-2

Sheet 2 of 4

SR-91 Corridor Improvement Project

Biological Conditions

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

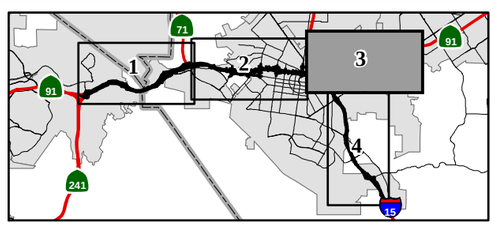
Biological Study Area

Biological Conditions

- Chaparral
- Coastal Sage Scrub
- Developed
- Non-native Grassland
- Oak Woodland
- Riparian Forest
- Riparian Scrub
- Ruderal and Ornamental
- Water

N

0 750 1,500 Feet



SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).

I:\PAZ0701\GIS\Visual\Biological_Conditions_EIR.mxd (9/22/2009)

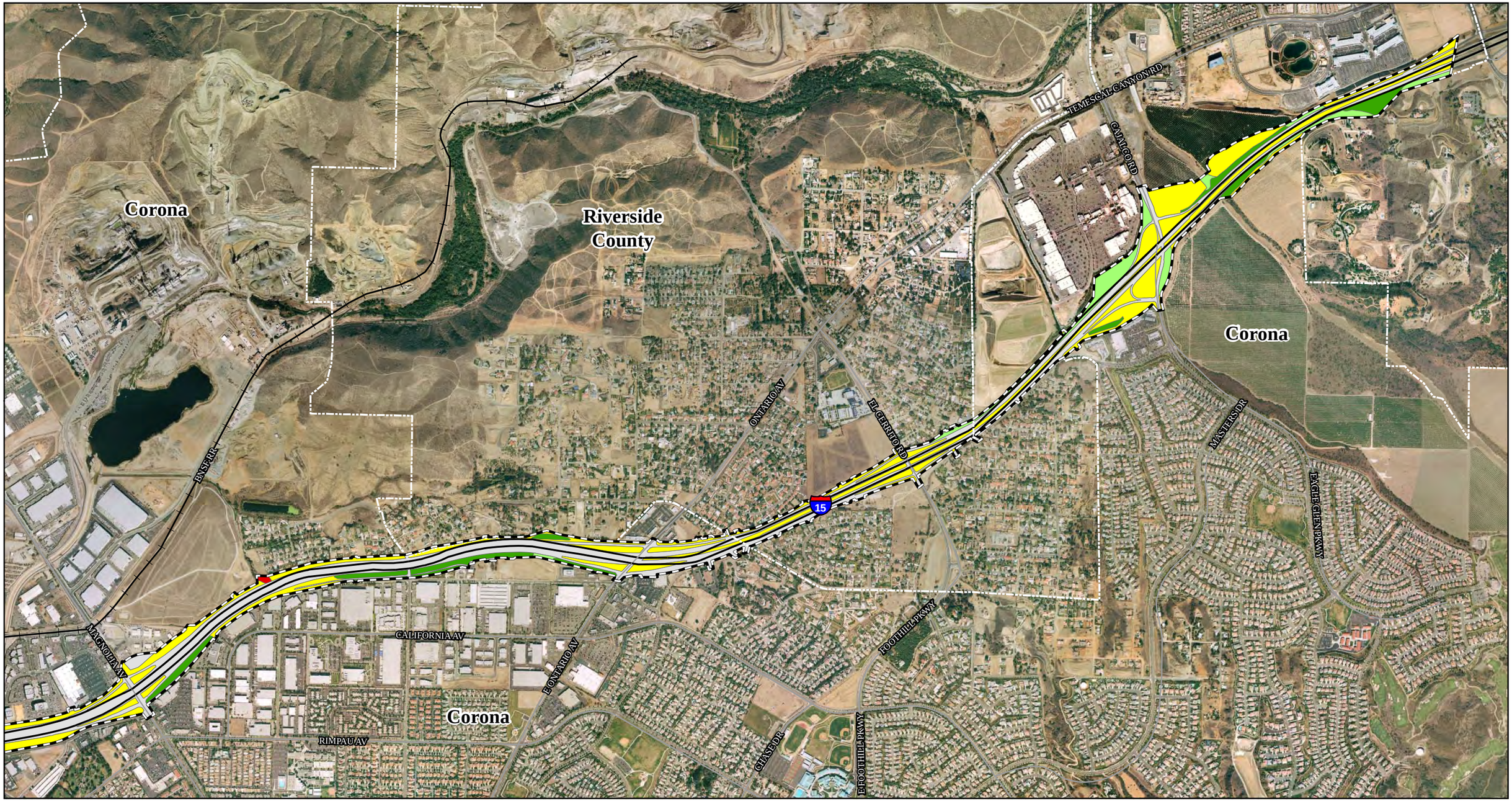
FIGURE 3.7-2

Sheet 3 of 4

SR-91 Corridor Improvement Project

Biological Conditions

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



Biological Study Area

Biological Conditions
- Chaparral
- Coastal Sage Scrub
- Developed
- Non-native Grassland
- Oak Woodland
- Riparian Forest
- Riparian Scrub
- Ruderal and Ornamental
- Water

0 750 1,500 Feet

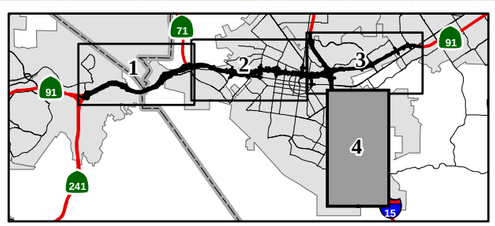


FIGURE 3.7-2
Sheet 4 of 4
SR-91 Corridor Improvement Project
Biological Conditions
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Air Photo USA (2007), TBM (2007), PB (2008).

I:\PAZ0701\GIS\Visual\Biological_Conditions_EIR.mxd (9/22/2009)

LEGEND

Key View Location, Site Number, and Direction (1-8)

Existing View Location, Site Letter, and Direction (A-G)

0 0.625 1.25 Miles

SOURCE: Air Photo USA (2007), LSA (2008), PB (2008).

I:\PAZ0701\GIS\Visual\Photo_Points_EIR.mxd (11/30/2010)

FIGURE 3.7-3

SR-91 Corridor Improvement Project

View Location Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

Study Area

Key View Location

Existing View

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

SOURCE: Air Photo USA (2007)

I:\PAZ0701\G\Visual\XV-A.cdr (8/13/09)

FIGURE 3.7-4

SR-91 Corridor Improvement Project

Existing View A

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

Study Area

Key View Location

Existing View

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

SOURCE: Air Photo USA (2007)

I:\PAZ0701\G\Visual\XV-B.cdr (8/13/09)

FIGURE 3.7-5

SR-91 Corridor Improvement Project

Existing View B

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

Study Area

Key View Location

Existing View C

Existing View D

FIGURE 3.7-6

LEGEND

Project Area

Advanced Signage Area

Photo Location and Direction

SOURCE: Air Photo USA (2007)

SR-91 Corridor Improvement Project

Existing Views C and D

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Visual\XV-CD.cdr (8/13/09)

Study Area

Key View Location

Existing View

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

SOURCE: Air Photo USA (2007)

I:\PAZ0701\G\Visual\XV-E.cd (8/13/09)

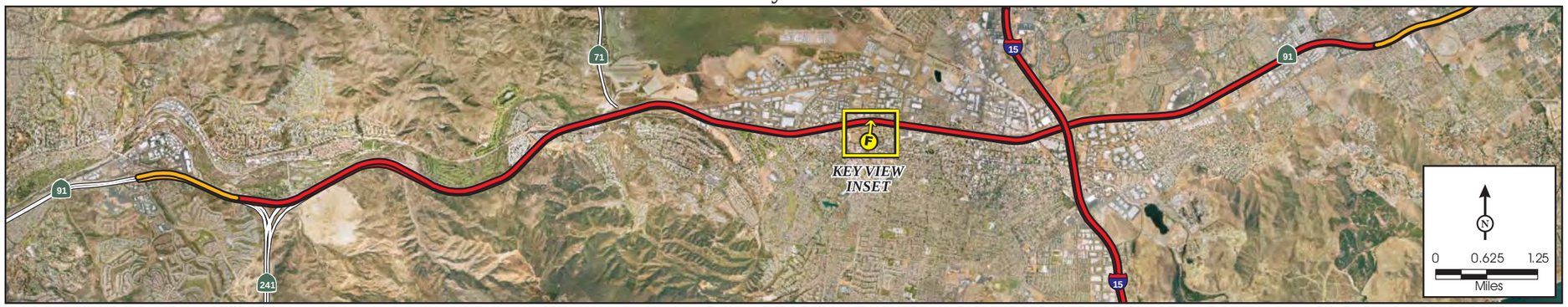
FIGURE 3.7-7

SR-91 Corridor Improvement Project

Existing View E

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

Study Area



Key View Location

Existing View

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

SOURCE: Air Photo USA (2007)

FIGURE 3.7-8

SR-91 Corridor Improvement Project

Existing View F

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Visual\XV-F.cdr (8/13/09)

Study Area

Key View Location

Existing View

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

FIGURE 3.7-9

SR-91 Corridor Improvement Project

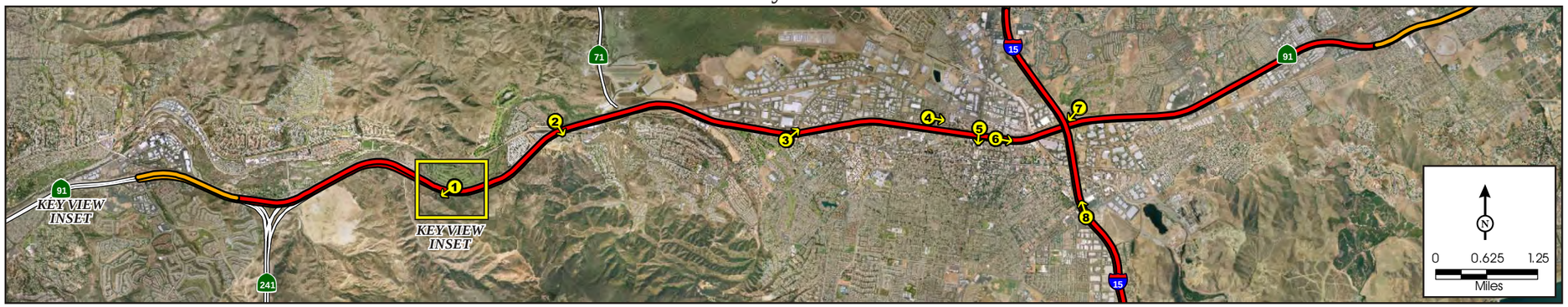
Existing View G

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Air Photo USA (2007)

I:\PAZ0701\G\Visual\XV-G.cdr (8/13/09)

Study Area



Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed retaining walls and concrete barriers shown in the visual simulation for Key View 1 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-2 and V-3.

FIGURE 3.7-10

SR-91 Corridor Improvement Project

Key View 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-1.cdr (4/26/2011)

Study Area

Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed retaining wall shown in the visual simulation for Key View 2 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-11

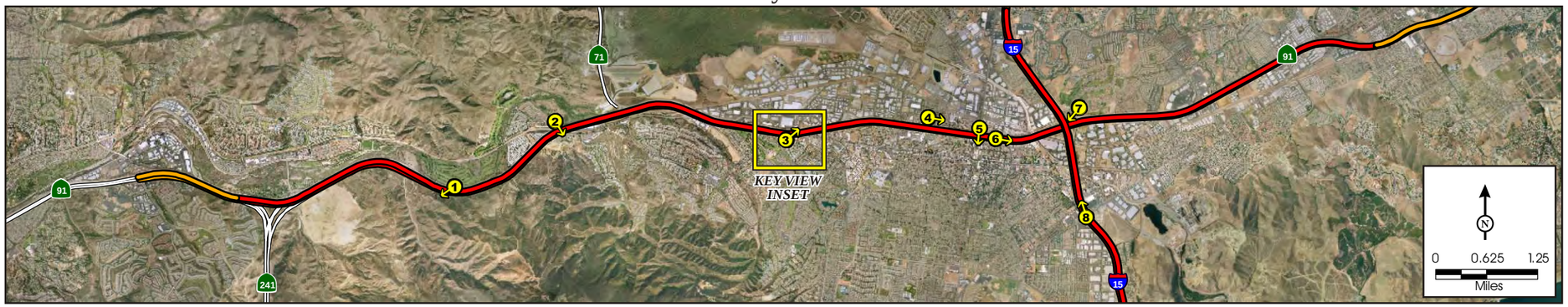
SR-91 Corridor Improvement Project

Key View 2

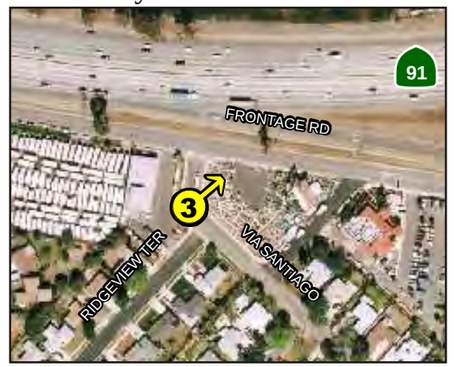
12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff
I:\PAZ0701\G\Visual\KV-2.cdr (4/11/11)

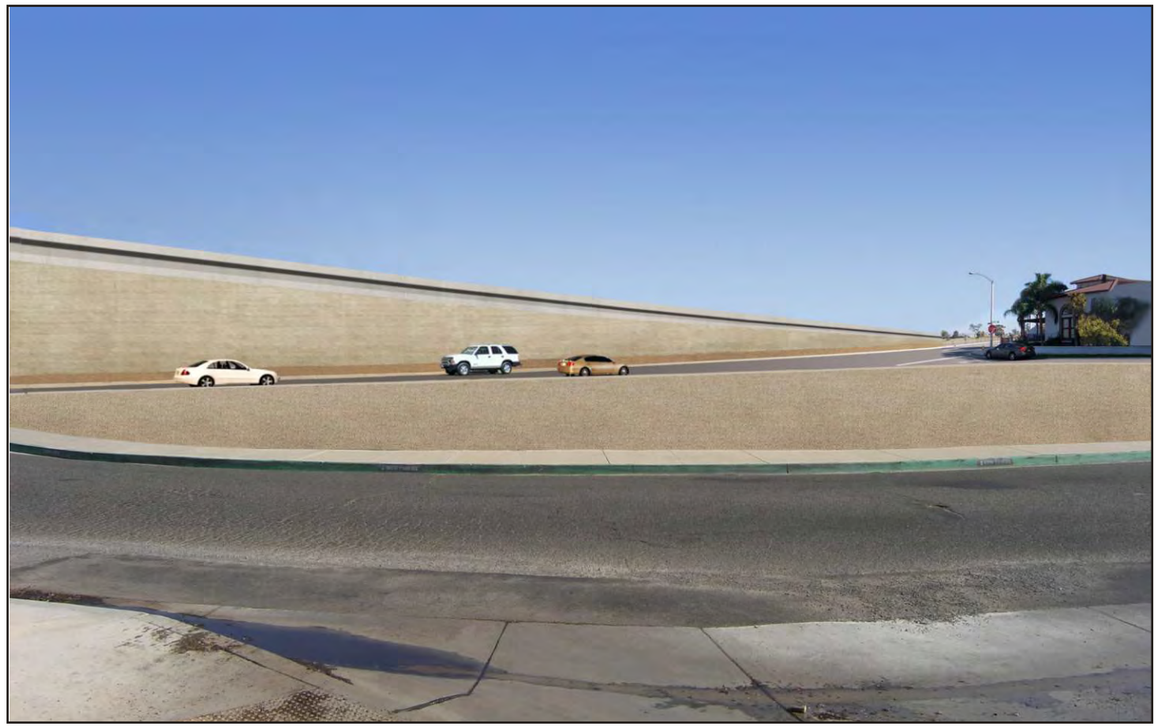
Study Area



Key View Location



Existing View



Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed hardscape, including the retaining wall and any soundwalls required within Key View 3 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18 and 3.7-19, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-12

SR-91 Corridor Improvement Project

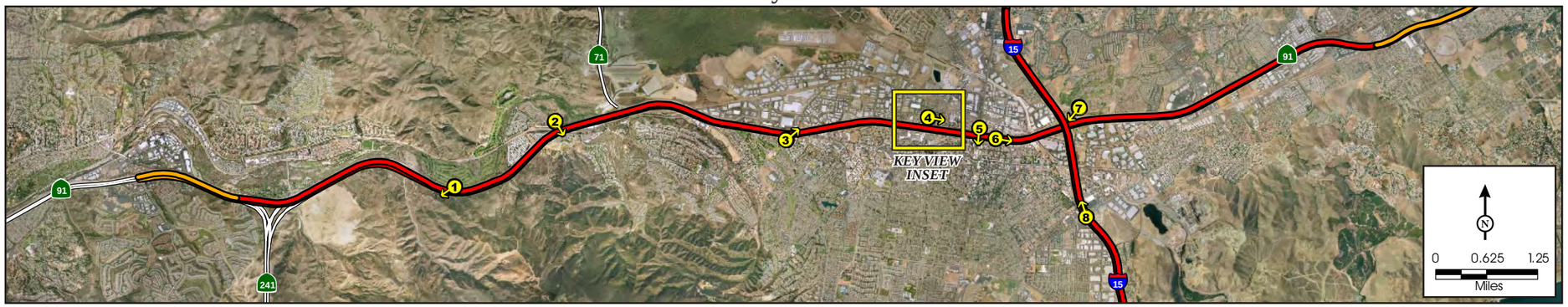
Key View 3

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

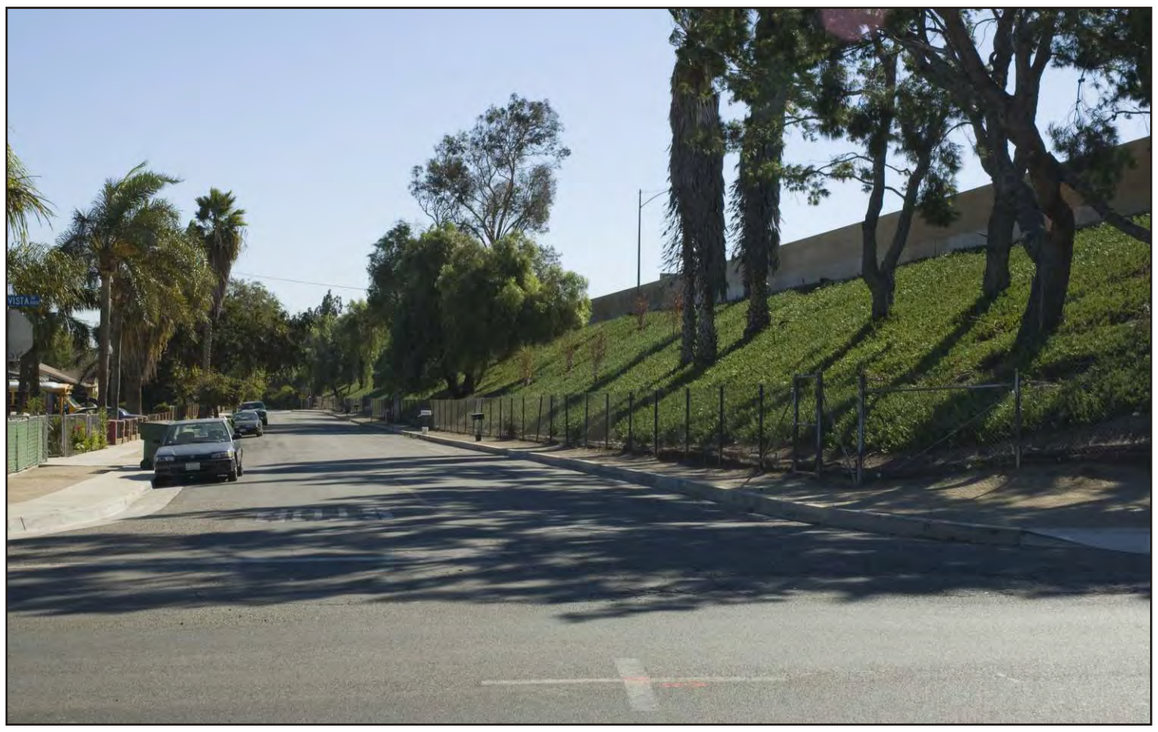
SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-3.cdr (9/23/2010)

Study Area



Key View Location



Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed retaining wall shown in the visual simulation for Key View 4 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figure 3.7-18, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-13

SR-91 Corridor Improvement Project

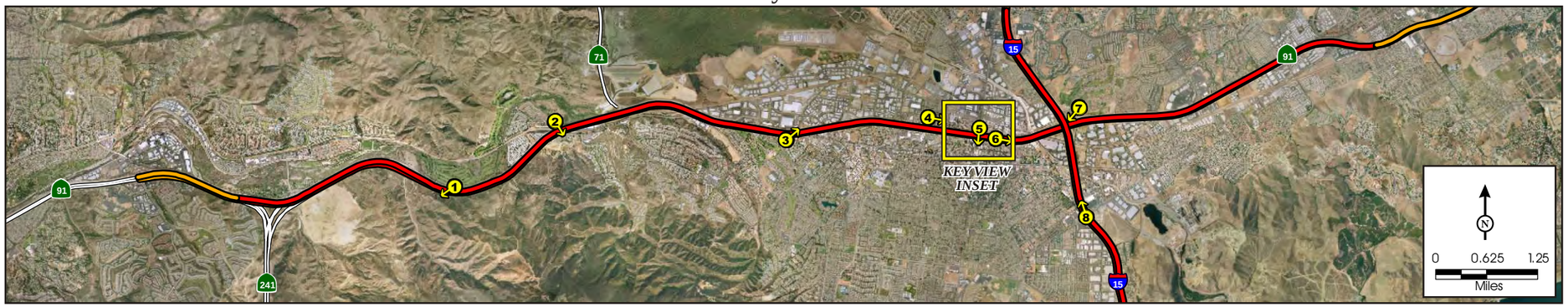
Key View 4

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-4.cdr (9/23/2010)

Study Area



Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the Main Street interchange has been identified as a Gateway through coordination with interested stakeholders, therefore the modifications shown in the visual simulation for Key View 5 would receive typical gateway treatments consistent with the *215/91 Corridor Master Plan, as well as* potential aesthetic treatments that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan*. A collage of these potential aesthetic treatments is shown in Figure 3.7-18 and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-14

SR-91 Corridor Improvement Project

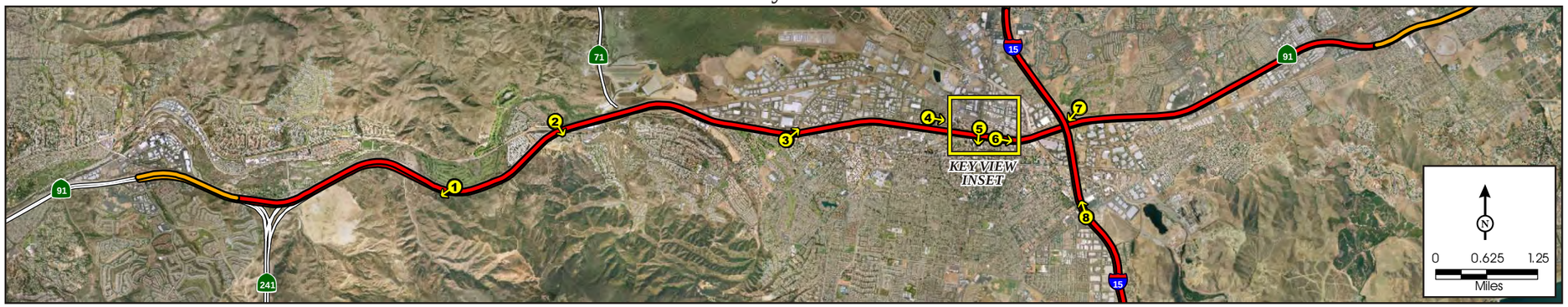
Key View 5

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-5.cdr (9/23/2010)

Study Area



Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed bridge structures and retaining walls shown in the visual simulation for Key View 6 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-19 and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-15

SR-91 Corridor Improvement Project

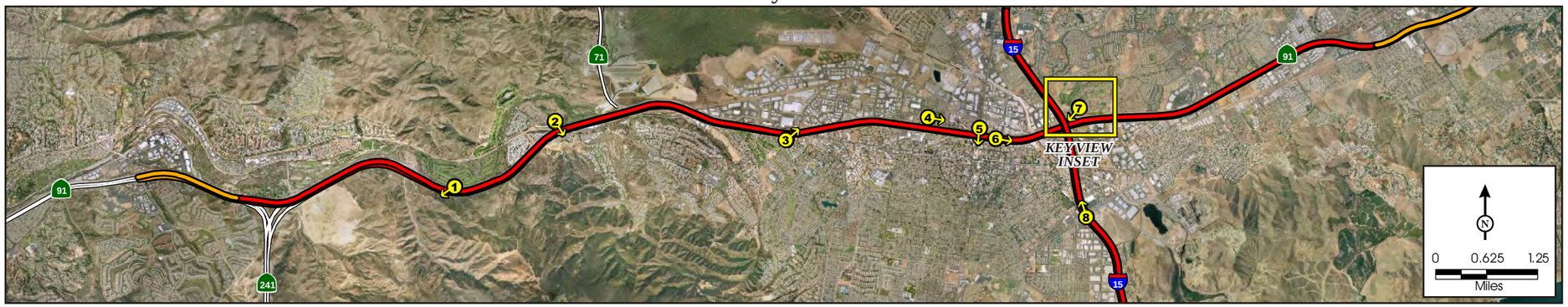
Key View 6

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-6.cdr (9/23/2010)

Study Area



Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed bridge structures shown in the visual simulation for Key View 7, and any retaining walls or sounds walls required within Key View 7 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18, 3.7-19, and 3.7-20, and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-16

SR-91 Corridor Improvement Project

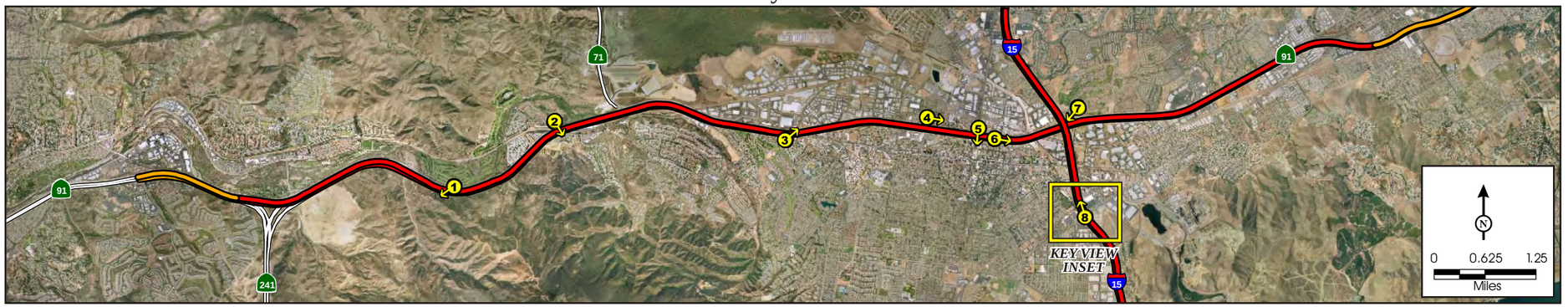
Key View 7

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-7.cr (9/23/2010)

Study Area



Key View Location

Existing View

Visual Simulation

LEGEND

- Project Area
- Advanced Signage Area
- Photo Location and Direction

Note, the proposed bridge structures shown in the visual simulation for Key View 8, and any retaining walls or sounds walls required within Key View 7 will be designed with aesthetic features that provide a theme or design continuity, such as utilization of similar colors, materials, textures, landscape features (if required), and graphic symbols consistent with the *215/91 Corridor Master Plan* and the City of Corona limited plans and specifications. A collage of these potential aesthetic treatments is shown in Figures 3.7-18, 3.7-19, and 3.7-20 and required to be implemented during final design as defined in Mitigation Measures V-3 and V-4.

FIGURE 3.7-17

SR-91 Corridor Improvement Project

Key View 8

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Parsons Brinckerhoff

I:\PAZ0701\G\Visual\KV-8.cdr (9/23/2010)

Fractured Rib Texture

The City of Riverside's
Raincross Symbol

Parthenocissus tricuspidata

Distictis buccinitoria

The aesthetic features shown here are characteristic of the Mission Revival Style that is part of the visual context of Riverside.

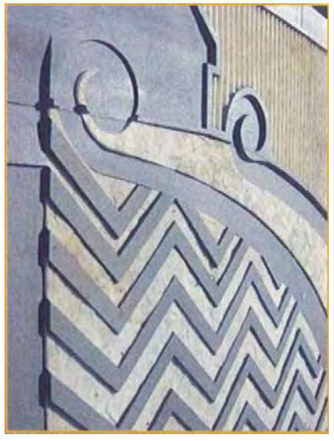


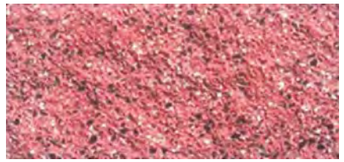
FIGURE 3.7-18

SR-91 Corridor Improvement Project
Aesthetic Features for Retaining Walls
12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Aesthetic Features-Retaining Walls.cdr (8/14/09)

SPLIT FACE BLOCK

Red Brown
City of Riverside



Tan
City of Corona

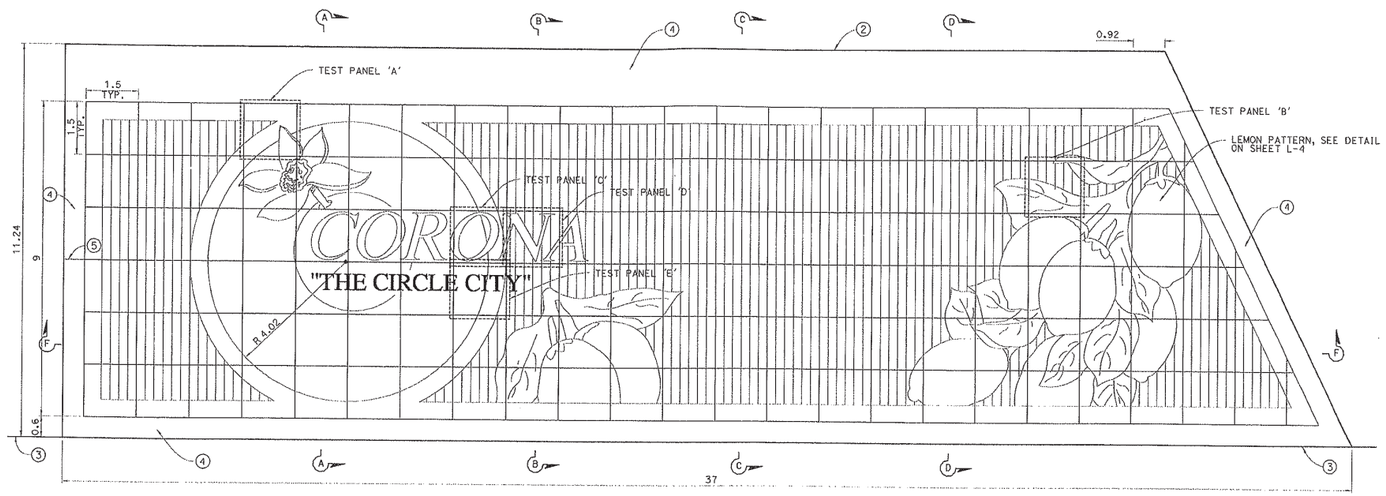
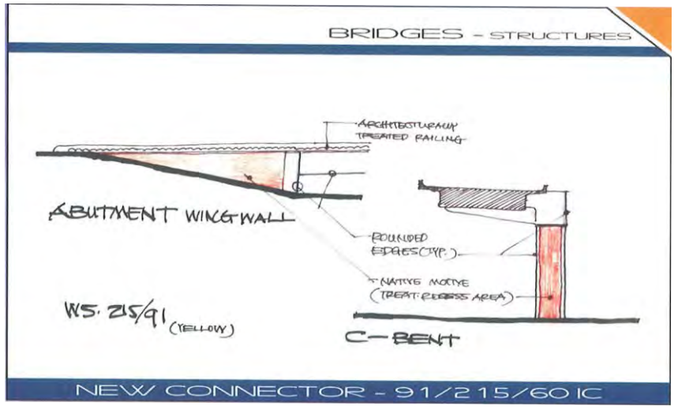
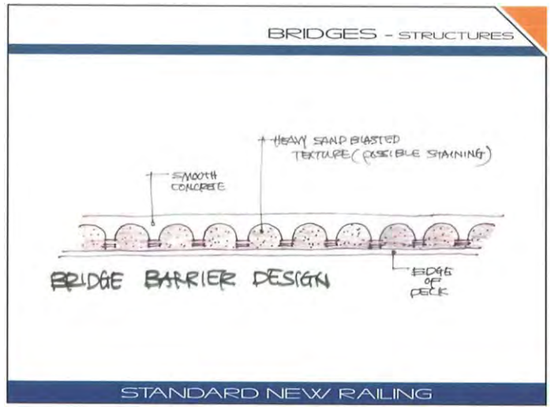
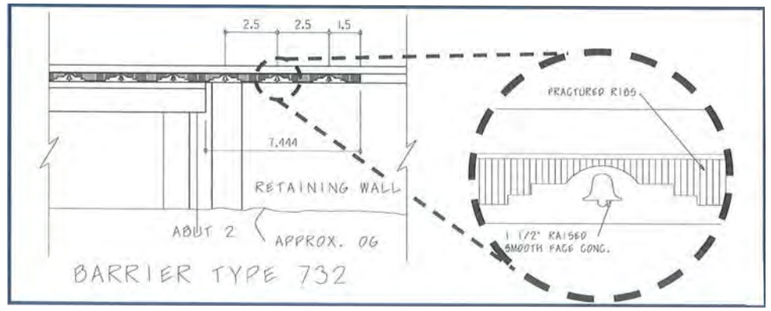


FIGURE 3.7-19

SR-91 Corridor Improvement Project
Aesthetic Features for Soundwalls
12-Ora-91-R14.43/R.18.19
08-Riv-91-R.0.00//R13.04
08-Riv-15-35.64/45.14
EA 0F540







Slope Pavement Design

Bridge Girder Design

FIGURE 3.7-20

This page intentionally left blank

3.8 Cultural Resources

3.8.1 Regulatory Setting

"Cultural resources" as used in this document refers to all "built environment" resources (structures, bridges, railroads, water conveyance systems, etc.), culturally important resources, and archaeological resources (both prehistoric and historic), regardless of significance. Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, (NHPA) sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Pilot Program (23 CFR 327) (July 1, 2007).

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix B for specific information regarding Section 4(f).

Historical resources are considered under the CEQA, as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for

inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

3.8.2 Affected Environment

The analysis of the potential for the project to impact cultural resources is documented in the *Historic Property Survey Report* (HPSR) (2010), the *Historical Resources Evaluation Report* (HRER) (2010), the *Archaeological Survey Report* (ASR) (2010), the *Supplemental Historic Property Survey Report* (Supplemental HPSR) (2011), and the *Finding of No Adverse Effect for State Route 91 Corridor Improvement Project* (FNAE) (2011).

The findings of those reports are summarized in this section.

3.8.2.1 Area of Potential Effects

The Area of Potential Effects (APE) for the project defines the geographic area within which the Build Alternatives have the potential to directly or indirectly affect historic properties, if such properties are present. The APE boundary is the maximum extent of all potential direct and indirect project impacts on cultural resources. The APE for the project contains approximately 2,107 ac along and adjacent to the project segments of SR-91 and I-15. The APE was outlined based on the maximum disturbance limits anticipated for the combined Build Alternatives.

Definition of an APE is influenced by the scale and nature of a specific proposed project and may be different for different kinds of effects. Consistent with Department policy, the area of direct effects is based on the horizontal and vertical extents of anticipated project-related, ground-disturbing activities, including permanent and temporary project impacts (California Department of Transportation [Caltrans] *Standard Environmental Reference*, Volume 2, Chapter 4, Section 3). The area of direct effects in the APE for the project contains approximately 941 ac. The area of indirect effects refers to the area of potential effects of the project on cultural resources outside the area of direct effects. The area of indirect effects for the project consists of approximately 1,166 ac. Indirect effects occur beyond the area of direct effects and can include visual, noise, atmospheric, or shadow effects; vibration from construction activities; or changes in access to or use of a cultural resource.

3.8.2.2 Records Search

Records searches for the project were conducted at the following locations:

- San Bernardino Archaeological Information Center (February 11, 2008)
- South Central Coastal Information Center (February 12 and 13, 2008)
- Eastern Information Center (February 21 and 22, 2008)

Other sources consulted are listed in Table 3.8.1.

Table 3.8.1 Sources Consulted During the Records Search

Sources
• National Register of Historic Places
• California Register of Historical Resources
• California Inventory of Historic Resources
• California Historical Landmarks
• California Points of Historical Interest
• State Historic Resources Commission
• Caltrans Statewide Historic Bridge Inventory
• City of Riverside Building and Safety Division, building permits accessed online, August and November 2008
• City of Corona Community Development Department (contacted in person, by telephone, and via email in 2008 and 2009; and by letter dated August 19, 2011)
• City of Corona Building and Safety Division, building permits on microfiche, August and November 2008, and July and November 2009
• Los Angeles Public Library, various newspaper and map archives accessed online, June–November 2008
• A.K. Smiley Public Library, Heritage Room, Redlands, October 2008
• Riverside Public Library, Local Heritage Room, Riverside, June–August 2008
• Corona Public Library, Heritage Room, Corona, June–August and November 2008
• Anaheim Public Library, August 2008
• Anaheim Heritage Reading Room at the Muzeo, Anaheim, August 2008
• Orange County Archives, Santa Ana, August 2008
• USGS topographic maps
• Riverside Historical Society (letter mailed August 18, 2008; no response received)
• Riverside County Historical Commission (letter mailed August 18, 2008; no response received)
• Corona Historic Preservation Society (letter August 18, 2008; letter August 19, 2011; and in person and by phone in August 2011)
• Norco Historical Society (letter mailed August 18, 2008; voicemail response regarding general questions; voice message left in response; no subsequent response)
• Anaheim Historical Society (letter mailed August 18, 2008; no response received)
• Pioneer Historical Society of Riverside (letter mailed August 18, 2008; no response received)
• Orange County Historical Society (letter mailed August 18, 2008; no response received)
• Personal communication with Charlie Brown, Star Ranch Foreman, Mindeman Ranch Road, April 30, 2008
• Personal communication with golf course architect Cary Bickler, ASGCA, via email on July 17, 2008
• Personal communication with Larry Deville, long-time Corona resident, August 14, 2008
• Email correspondence with the California African American Museum, August 2008 (no response received)

ASGCA = American Society of Golf Course Architects USGS = United States Geological Survey
Caltrans = California Department of Transportation

3.8.2.3 Survey Methods

Architectural Survey Methods

Multiple field surveys were conducted between April and December 2008. Reconnaissance-level (windshield) field surveys were conducted in the entire APE on April 11 and 29, June 24, July 14 and 16, August 4 and 5, and October 23 and 24, 2008. Intensive surveys of specific properties were conducted in the APE on August 13, 14, and 22, October 28 and 30, and November 14, 2008, and on January 6, July 15 and 22, and November 20, 2009.

Each building in the APE that could be seen from the public right-of-way, and in some cases from private driveways, was observed. During the surveys, notes regarding the apparent age and integrity of each building were made on field maps. In addition, notes were made regarding the location, type, and condition of all buildings that appeared to be 45 years of age or older and photographs were taken of some buildings. Consistent with general cultural resources practices and to account for the typical period of time between the preparation of the HPSR and actual project construction, buildings 45 years of age or older (rather than 50 years of age or older) were considered. All previously recorded architectural resources in the APE were also identified and their current conditions were noted. In some cases, previously recorded buildings no longer exist.

Based on the reconnaissance-level surveys and basic property-specific research, the majority of buildings in the APE were determined to meet the criteria for classification under Property Types 2–4 and 6, as defined in Attachment 4 (Properties Exempt from Evaluation) of the Section 106 PA, and therefore were not further documented. Most of the buildings that were found to be exempt were modern, substantially altered, or mobile homes.

During the intensive field surveys, the architectural historian walked along the public right-of-way and photographed and made detailed notes of each building's structural and architectural characteristics, current conditions, setting, and associated features. In some cases, property owners allowed the architectural historian access to their properties so a more thorough survey could be completed. When possible, owners and area residents were interviewed to obtain more detailed information about the buildings and the development of the area.

Archaeological Survey Methods

The archaeological field survey examined all areas that could potentially be directly affected by the Build Alternatives. Generally, this was limited to the existing State and public rights-of-way, areas for the new interchanges, and improvements to frontage roads. Those field surveys were conducted on April 29 and 30, June 26, and November 5, 2008, and on July 29, 2009. The vast majority of the public rights-of-way is completely disturbed by previous construction of roads, bridges, on- and off-ramps, buildings, and associated features such as underground water and natural gas lines. However, small areas in the rights-of-way, which include undisturbed ground surface with potential to contain intact cultural deposits, were systematically surveyed by intensively examining the ground surface at a maximum transect width of 15 ft. Areas previously surveyed for the Eastbound SR-91 Lane Addition Project from SR-241 to SR-71 were not resurveyed for this study.

3.8.2.4 Native American Consultation

On May 8, 2008, Native American consultation was initiated on behalf of the Department when a letter requesting a search of the Sacred Lands File (SLF) for the APE and areas in the vicinity of the APE was sent to the NAHC. The NAHC replied on May 21, 2008, stating that the SLF indicated the presence of Native American cultural resources in both the APE and areas in the vicinity of the APE and recommended contacting nine Native American Tribes, groups, and individuals.

A letter mailed to the nine Native American Tribes, groups, and individuals on June 3, 2008 discussed the project and requested information on Native American cultural resources. The letter also discussed four previously destroyed sites (three prehistoric, one historic) that are documented in the vicinity of the APE. One letter response received June 10, 2008, from the Soboba Band of Luiseño Indians requested further consultation and cultural resources documentation. No other responses to the June 3, 2008 letter were received.

On June 30, 2008, all nine Native American Tribes, groups, and individuals were contacted by telephone and/or email. A representative from the Gabrieleno/Tongva San Gabriel Band of Mission Indians requested monitoring by a Native American and an archaeologist during construction. A representative from the Juaneño Band of Cahuilla Mission Indians also requested monitoring by a Native American and that the Tribe be notified of any cultural resources discoveries.

In an August 20, 2008, letter, a Pechanga Band of Mission Indians representative requested the opportunity to participate in the environmental review process, copies of archaeological reports and other documentation, additional consultation, participation in all archaeological surveys and excavations through Tribal monitoring, and participation in decisions pertaining to the development of the project APE.

In response to requests from the Pechanga Tribe, the Department proposed that the HPSR and ASR be updated to include language about Native American monitoring in areas that the Pechanga Tribe considers sensitive and to state that the actual monitoring locations would be finalized during the Plans, Specifications, and Estimates (PS&E) phase of the project. On July 23, 2010, the Pechanga Tribe provided comments on the HPSR and ASR to the Department. Those comments were incorporated in the Final HPSR and ASR.

As requested by a representative of the Pechanga Band of Mission Indians during the Native American consultation process, during final design, RCTC's Project Manager will coordinate with the Pechanga Tribe to identify locations considered sensitive by the Tribe that will be shown on the project specifications as areas where Native American monitoring will be required during grading and other soil disturbance activities. RCTC's Project Engineer will include those areas on the project specifications.

Additional consultation was conducted with the two Tribal representatives who requested monitoring by a Native American and/or an archaeologist during construction. The representatives from the Juaneño Band of Cahuilla Mission Indians and the Gabrieleno/Tongva San Gabriel Band of Mission Indians modified their initial responses to recommend monitoring if cultural resources are encountered during construction and to request notification of any discoveries. The representative for the Gabrieleno/Tongva San Gabriel Band of Mission Indians also stated that while he does not know of any specific cultural resources in the APE that could be impacted, he does consider the project area to be an "…area of concern…" due to its proximity to the Santa Ana River. Section 5.5, Native American Consultation and Coordination, provides additional discussion of these consultation and coordination activities.

3.8.2.5 Consultation with the Corona Historic Preservation Society

On June 14, 2011, follow-up outreach was conducted with the Corona Historic Preservation Society (Preservation Society). On June 16, 2011, the Preservation

Society responded that they had been working on nominating the Grand Boulevard Historic District to the National Register of Historic Places (National Register) and that on May 19, 2011, the Historic District was officially approved as a California Landmark by the State Historical Resources Commission and the nomination was forwarded for consideration to be placed on the National Register. On August 19, 2011, a letter was mailed and sent via email to the Preservation Society soliciting comments regarding the Grand Boulevard Historic District and the potential effects the SR-91 CIP Build Alternatives might have on that resource. On August 24, 2011, Mr. Richard Winn of the Preservation Society responded by telephone and indicated that he would like to review the Finding of Effect (FOE) as soon as it is available.

On August 26, 2011, Mr. Winn reviewed the draft FOE. He asked where the streetlights would be stored during construction and suggested Corona Heritage Park as a possible location for the temporary storage of the streetlights displaced by the project. He agreed that the proposed project would not have an adverse effect on the Grand Boulevard Historic District, but indicated that he would present his recommendations to the Preservation Society Board and provide a letter response. Later in the day on August 26, 2011, Mr. Winn indicated he had spoken to the Board, and a letter dated August 25, 2011 was provided that indicated the Preservation Society is supportive of the project but is concerned about the protection of the streetlights. Based on the preliminary project design, up to seven of the historic-period acorn-style streetlights may be relocated. These include two that are located within proposed intersections and will need to be relocated at least 30 feet from their present locations and five that are located under the overcrossings. It is currently proposed to leave those five lights in place because the vertical and horizontal clearances are expected to be sufficient at these locations to accommodate them. However, for this analysis up to 7 of the streetlights were considered for relocation. The Preservation Society recommended storing any streetlights that would be relocated (up to 7) in a secure location during construction and suggested they may be able to provide such a location. The condition provided in Section VI of the FOE and discussed later in Section 3.8.4, Avoidance, Minimization, and/or Mitigation Measures, addresses this concern.

The Preservation Society also expressed concern about the removal of mature trees from the parkway. However, as explained to Mr. Winn during the meeting on August 26, 2011, none of the trees anticipated to be removed date to the period of significance associated with the Grand Boulevard Historic District. A copy of the

Society's letter dated August 25, 2011, is provided in Appendix M, Section 106 Consultation.

3.8.2.6 Results

Results of the Records Searches and Field Surveys

The intent of the records searches, archival research, studies described above, and the current survey was to identify prehistoric and historic cultural resources in the APE that may be eligible for listing in the National Register or may be considered a historical resource under CEQA. The records searches and field surveys resulted in the identification of 28 resources that are summarized in Table 3.8.2. Table 3.8.2 shows that two previously unrecorded prehistoric archaeological sites (items 1 and 2) and one previously recorded built environment resource (item 4) no longer exist. The remaining previously recorded site (item 3 in Table 3.8.2) was determined not to be eligible for the National Register on March 8, 2001. On September 20, 2010, SHPO concurred that items 6 through 28 were not eligible to be listed on the National Register.

As shown in Table 3.8.2, the other cultural resources identified within the APE (items 5 through 28) during the project surveys were either evaluated and determined not to be historically significant or were exempted under the Department's Section 106 PA.

Item number 5 on Table 3.8.2, the Grand Boulevard Historic District, was listed on the National Register on July 14, 2011. It is the only historic property that will potentially be impacted by the project and is described in detail below.

Grand Boulevard Historic District

The Grand Boulevard Historic District is in the City of Corona. It became a California Historical Landmark on May 19, 2011, and was listed on the National Register on July 14, 2011. The Historic District qualified for listing on the National Register because it is a *property that is associated with events that have made a significant contribution to the broad patterns of our history* (National Register Criterion A) and is a *property that embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction* (National Register Criterion C).

Table 3.8.2 Cultural Resources Identified by the Records Searches, Standard Research, and the Surveys as in the APE for the SR-91 CIP

	Resource	Status
	Resources Previously Recorded/Evaluated	
1.	Prehistoric archaeological site 33-1438 (CA-RIV-1438), a bedrock milling site, was previously documented as having been destroyed.	The survey for the SR-91 CIP verified that the site is destroyed.
2.	Prehistoric archaeological site 33-1439 (CA-RIV-1439), a light lithic scatter/temporary camp site.	The site was not relocated during the survey for the SR-91 CIP. It has been destroyed by development.
3.	Historic archaeological site CA-RIV-6532H/33-10819/Green River Camp/Alta Vista Site.	The survey for the SR-91 CIP identified only Feature 6 as extant. Feature 6 is an unusually extensive complex of rock-and-mortar foundation walls, retaining walls, stairways, patio slabs, and other elements. The site was determined to be ineligible for the National Register on March 8, 2001.
4.	A built environment resource at 108 South Howard Street was previously documented as having been destroyed.	The survey for the SR-91 CIP verified that the resource is no longer extant.
	Resources Recorded/Evaluated in the SR-91 CIP	
5.	The built environment resource known as the Grand Boulevard Historic District was identified through standard research. The Historic District was designated locally (City of Corona). No DPR forms or other documentation for this resource were found.	The Corona Historic Preservation Society nominated the Grand Boulevard Historic District as a California Landmark. That designation was approved by the State Historical Resources Commission on May 19, 2011, and that nomination was forwarded for consideration of placement in the National Register. The Grand Boulevard Historic District was listed on the National Register on July 14, 2011.
6.	A built environment resource at 44 East Grand Boulevard was identified by the records search, but had not previously been evaluated.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
7.	A built environment resource at 115 North Victoria Avenue was identified by the records search, but had not previously been evaluated.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
8.	A built environment resource at 211 North Pearl Street was identified by the records search, but had not previously been evaluated.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
9.	A built environment resource at 215 North Pearl Street was identified by the records search, but had not previously been evaluated.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
10.	A built environment resource at 105 North Pearl Street was identified by the records search, but had not previously been evaluated.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
11.	A built environment resource at 2121 Mountain View Drive was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.

Table 3.8.2 Cultural Resources Identified by the Records Searches, Standard Research, and the Surveys as in the APE for the SR-91 CIP

	Resource	Status
12.	A built environment resource at 711 Butternut Lane was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
13.	A built environment resource at 711 Balsam Lane was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
14.	A built environment resource at 1811 Via Santiago was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
15.	A built environment resource at 1805 Via Santiago was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
16.	A built environment resource at 323 Smith Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
17.	A built environment resource at 128 South Vicentia Avenue was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
18.	A built environment resource at 112 School Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
19.	A built environment resource at 107 North Sheridan Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
20.	A built environment resource at 107 North Belle Avenue was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
21.	A built environment resource at 104 North Victoria Avenue was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
22.	A built environment resource at 203 South Victoria Avenue was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
23.	A built environment resource at 207 South Victoria Avenue was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department has determined this resource is not eligible for the National Register and is not a historical resource under CEQA.

Table 3.8.2 Cultural Resources Identified by the Records Searches, Standard Research, and the Surveys as in the APE for the SR-91 CIP

	Resource	Status
24.	A built environment resource at 416½ East Second Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
25.	A built environment resource at 204 South Joy Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
26.	A built environment resource at 2308 State Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
27.	A built environment resource at 2520 State Street was identified during the surveys for the SR-91 CIP.	The potential eligibility of this resource for the National Register was evaluated as part of the cultural resources studies for the SR-91 CIP. The Department determined this resource is not eligible for the National Register and is not a historical resource under CEQA.
28.	Fifty-eight bridges in the APE were listed in the Caltrans Statewide Historic Bridge Inventory (accessed online in June 2009).	All 58 are listed as Category 5 and are ineligible for listing in the National Register. The Department determined that the 58 bridges in the APE for the SR-91 CIP are not eligible for the National Register.

Source: *Historic Property Survey Report* (2010) and the *Supplemental Historic Property Survey Report* (2011).
APE = Area of Potential Effects
CA = California
Caltrans = California Department of Transportation
CEQA = California Environmental Quality Act
CIP = Corridor Improvement Project
Department = California Department of Transportation
DPR = Department of Parks and Recreation
ft = feet
HPSR = *Historic Property Survey Report*
National Register = National Register of Historic Places
RIV = Riverside County
SHPO = State Historic Preservation Officer
SR-91 = State Route 91

After the Historic District was listed on the National Register, the Department prepared a Supplemental HPSR and Finding of Effect in August 2011 to document the status change of the District to that of historic property and to assess the project effects on it.

Because it is listed in the National Register, it is an historic property as defined in Section 106. It is also listed in the California Register of Historical Resources (California Register) and is an historical resource for the purposes of CEQA. Refer to Chapter 4, California Environmental Quality Act Evaluation, for discussion of the Grand Boulevard Historic District as a historical resource under CEQA.

The Historic District is limited to the public right-of-way. Its primary character-defining feature is its circular design, which is 1 mi in diameter and was part of the original design of the Corona town site in 1886. The location of Grand Boulevard is shown on Figure 3.8-1. The distance around the circle is approximately 3 mi. The Historic District boundary is defined as the full length of the contiguous roadway, including the full 100 ft wide right-of-way (which includes the road, curb, parkways, and sidewalks) and the two adjacent pocket parks along the inner curve of the road at its intersections with Tenth Street at South Merrill Street and South Joy Street.

Contributing elements include features within the right-of-way associated with the original design concept, early development, or function of Grand Boulevard during the period of significance (1886-1928). Contributing features include the roadway, and its intersections with streets and alleys, driveways, gutters, curbs, parkways, street trees, acorn-style streetlights, sidewalks, a hitching post, and two pocket parks. None of the contributing features within the project APE are individually significant based on the National Register and the survey and evaluation work conducted for the SR-91 CIP.

Grand Boulevard rings a grid of equidistance-spaced interior streets and is intersected at its outer ring at various angles by exterior streets. The road itself is 60 ft wide with four through lanes and an intermittent center left-turn lane. In the northernmost segment, near the SR-91 bridges, the road was widened in 1976 to 80 ft, elevated, and restriped. Around Grand Boulevard, there are long stretches of turfed parkway that are generally 12 ft wide between the street curb and the nearby sidewalk. The parkway areas include street trees, streetlights, and one granite hitching post. The most intact segments are the inner and outer curves of the southern half of Grand Boulevard. The parkways under the SR-91 mainline were narrowed in 1961 and are

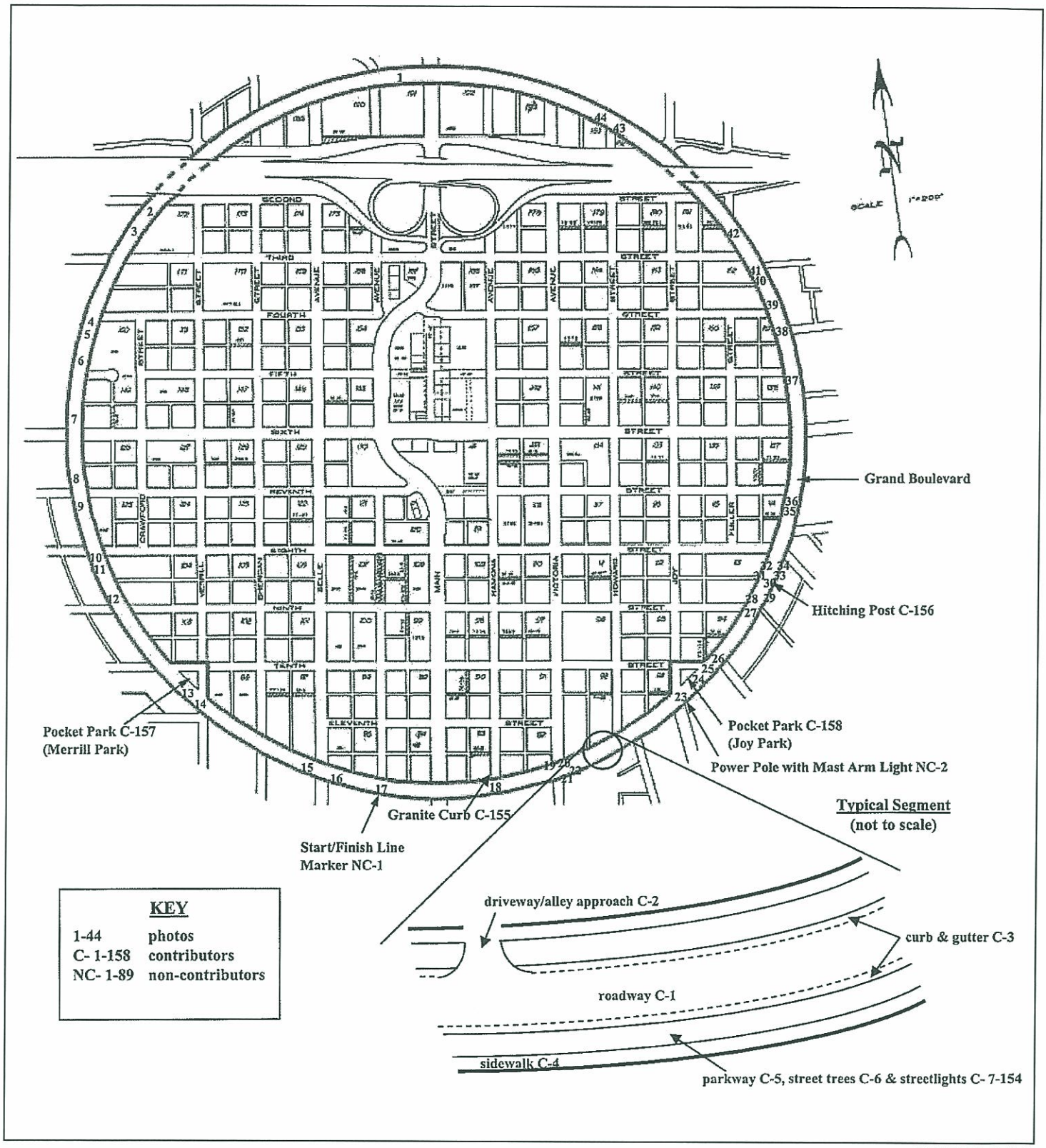


FIGURE 3.8-1
Sheet 2 of 2

SR-91 Corridor Improvement Project
Location of Grand Boulevard and
the Grand Boulevard Historic District

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Grand Boulevard Historic District National Register Nomination

I:\PAZ0701\G\Grand Boulevard Historic.cdr (10/3/11)

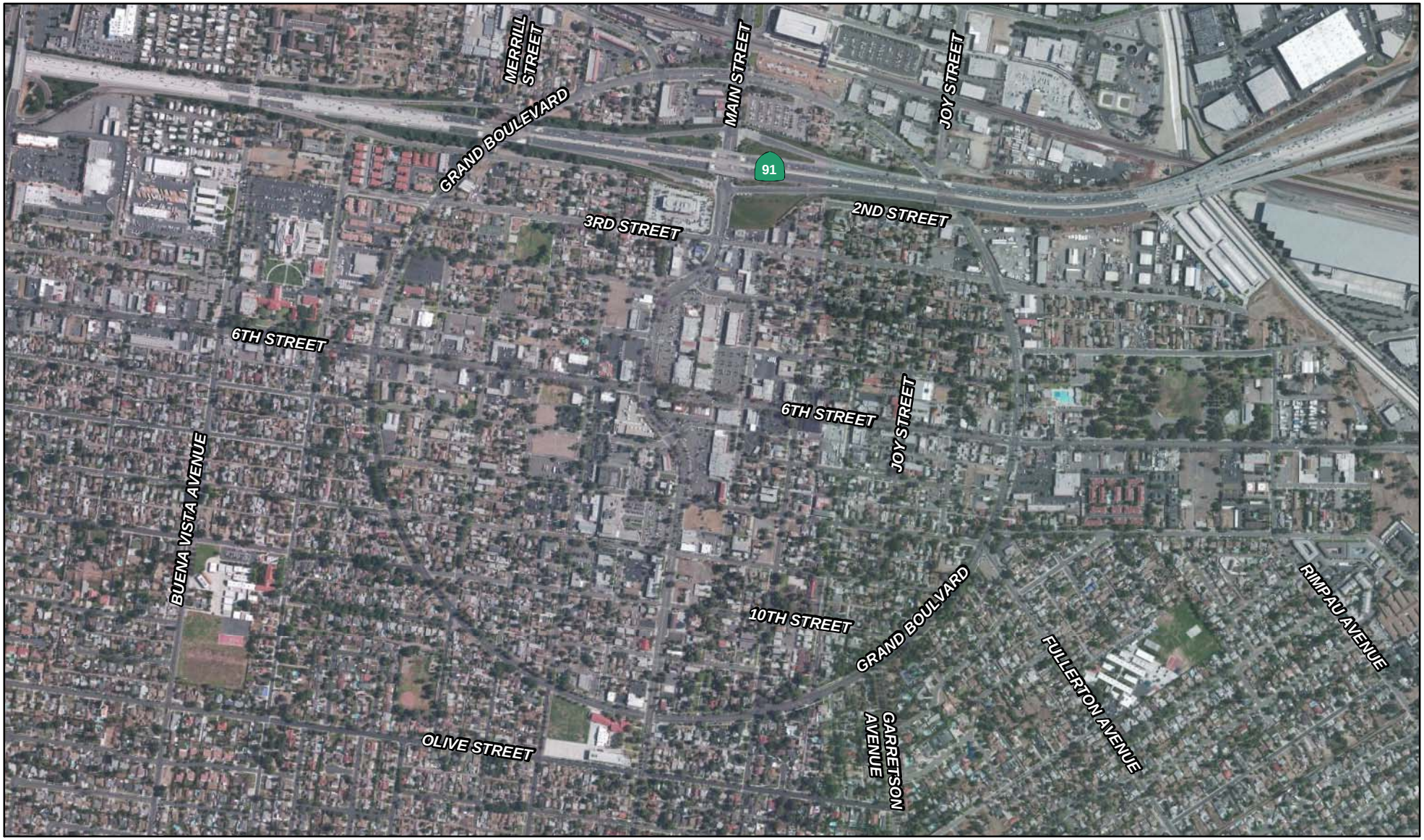


FIGURE 3.8-1
Sheet 1 of 2

SR-91 Corridor Improvement Project

Location of Grand Boulevard and the Grand Boulevard Historic District

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

0 500 1000
FEET

SOURCE: Bing Maps (c.2010)

I:\PAZ0701\GIS\Grand_Boulevard_EIR_EIS.mxd (10/3/2011)

Sidewalks were completed in segments along Grand Boulevard from the late 1800s through the 1920s. Many segments of the original sidewalks have been narrowed or replaced, and handicapped access ramps have been added to the sidewalks along the entire length of Grand Boulevard.

Many early or original street trees line the inner and outer curves of Grand Boulevard. These street trees include palms, carob, eucalyptus, pepper, cypress, and magnolia. Trees are most consistent along the inner curve. There have been no trees in the northwest quadrant since 1961. Tree wells enclose mature trees and new plantings in a few locations and in part of the outer curve north of SR-91.

There are historic-period acorn-style streetlights throughout Grand Boulevard. Of the approximately 31 acorn-style streetlights that were originally located in the northern part of Grand Boulevard between West and East Third Streets, a total of 18 (58 percent) have been removed (10), relocated (3), or replaced in-kind (5).

Past modifications to Grand Boulevard include:

- Construction of SR-91 (1961),
- Construction of grade separation (1976),
- Realignment of Joy Street and Bollero Place intersections,
- Road resurfacing and restriping,
- Installation of traffic and pedestrian control signals and signage,
- Replacement of streetlights in-kind,
- Relocation, replacement, and removal of street trees, and
- Modifications to the parkways, curbs, and sidewalks.

In 1961, SR-91 was constructed, crossing the northern part of Grand Boulevard generally north of Second Street as shown on Figure 3.8-1. The width and configuration of Grand Boulevard were not changed by the construction of SR-91, but the parkways under and adjacent to the freeway were narrowed and the vegetation removed; some intersections were altered or removed; and the two northern pocket parks were removed. In 1976, a grade separation project elevated the northernmost segment of Grand Boulevard to meet North Main Street, which was reconstructed as a railroad overpass. That segment of the road was widened to accommodate the rising curve by adjusting the outer curve parkway width for approximately 150 ft on either side of the North Main Street intersection. Relocated historic Mexican fan palms and

new magnolias, and historic-period streetlights were retained and incorporated in the widened Grand Boulevard segment.

As discussed in the National Register nomination for the Grand Boulevard Historic District: "[M]aterials, workmanship and feeling have been somewhat compromised by repairs, maintenance, and replacement, and through the installation of State Route 91 bridges (1961) and grade separation project (1976) in the northernmost sliver." Even with the modifications described above, however, Grand Boulevard retains a high degree of integrity, with the location, design, and association of the circular boulevard intact. Feeling and setting permeate the district, although they are expressed less closer to SR-91, along the elevated road segment, and at the signalized intersections; and are more expressed along the southern half of the circle where there are two pocket parks and long segments of wide, turfed parkways with consistent streetlights and mature trees.

Location of the Project APE in the Grand Boulevard Historic District

The APE for the SR-91 Build Alternative includes the following two segments of the Grand Boulevard Historic District:

- An approximately 850 ft (0.16 mi) long segment of West Grand Boulevard between Second Street and North Sheridan Street
- An approximately 2,770 ft (0.52 mi) long segment of East Grand Boulevard from just west of North Main Street to just south of Third Street

3.8.2.7 Discovery of Cultural Materials or Human Remains

If cultural materials are discovered during construction, all earthmoving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered during construction, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains and the County Coroner shall be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, which will then notify the MLD. At that time, the Department's District 8 Environmental Branch Chief or the District 8 Native American Coordinator (Gary Jones, [909] 383-7505) will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

3.8.3 Environmental Consequences

3.8.3.1 Summary of Impacts

The Initial Phases of Alternatives 1 and 2, including the Preferred Alternative 2f, would relocate small segments of sidewalks, curbs, and gutters; relocate up to 7 acorn-style streetlights; remove 18 street trees; and reconfigure 2 intersections. All the proposed modifications would occur in the northernmost part of the Grand Boulevard Circle. Overall, these are minor modifications to features that are either outside the period of significance for this Historic District or have already sustained alterations. The only contributing feature that will be impacted by the Build Alternatives are the seven historic-period streetlights. Alternatives 1 and 2 will not impact any other features that contribute to the significance of the Historic District. The integrity of location, design, and association will remain intact in the portion that will be modified by the project (i.e., the northern sliver) because the primary contributing features (the circular design and 100 ft width of Grand Boulevard) will be unaffected by the Initial Phases of Alternatives 1 and 2. Because Alternatives 1 and 2 will not alter characteristics that qualify the Grand Boulevard Historic District for the National Register in a manner that would diminish its integrity or impair its ability to convey its historic significance, it will result in No Adverse Effect to the District.

Sidewalks, Curbs, and Gutters

Alternatives 1 and 2 include removal and replacement of small segments of the existing sidewalks, curbs, and gutters within the northern sliver of the Grand Boulevard Historic District. Throughout the decades, minor modifications, including alterations to the parkways, sidewalks, and curbs have been made to Grand Boulevard. Two major projects in the northern segment in 1961 (construction of SR-91) and 1976 (grade separation and street widening) also modified features along Grand Boulevard. As a result of these modifications, the sidewalks, curbs, and gutters in the northern part of the Historic District are not character-defining features and do not contribute to the significance of the District. Therefore, any modifications to the sidewalks, curbs, and gutters by Alternatives 1 and 2 will not adversely affect the historic significance of the Grand Boulevard Historic District as a whole.

Streetlights

Up to seven of the acorn-style streetlights that are contributing features will be temporarily removed during construction. Prior to the conclusion of construction, the removed streetlights will be reinstalled as close as possible to the locations from which they were removed. The proper handling, storage, and reinstallation of the

streetlights in accordance with measures in Section 3.8.4.2 will adequately minimize the impact and limit it to a temporary duration.

Street Trees

On East Grand Boulevard, nine street trees (five north of the freeway bridge and four south of the bridge) will be removed during the construction of Alternatives 1 and 2. While trees are considered contributing features of the Historic District, the ones that will be removed are small, young, and do not appear to date to the period of significance. As a result, the removal of those nine trees will not adversely affect the historic significance of the Grand Boulevard Historic District. To avoid further degrading the integrity of this segment of the Historic District, prior to completion of the construction, replacement trees will be selected from the following species which are all compatible with the Historic District: palms, carob, eucalyptus, pepper, cypress, and magnolia and will be planted at a 1:1 ratio in the Historic District; refer to Measure CR-1 later in this section for the specific commitments included in Alternatives 1 and 2 regarding replacement of the nine trees removed in the Historic District during construction of the project.

Intersections

Alternatives 1 and 2 include reconfiguration of two previously modified intersections (Bollero Place/Frontage Road and Joy Street). Because these intersections do not date to the period of significance for the Historic District, the project-related reconfiguration of these intersections will not adversely impact the historic significance of the Grand Boulevard Historic District.

Indirect Impacts

Key View 5 (shown earlier on Figure 3.7-14) is within the Grand Boulevard Historic District. As discussed in the FOE, Alternatives 1 and 2 propose the widening of the SR-91 overcrossings at Grand Boulevard. For Alternatives 1 and 2, the biggest potential for visual and noise impacts would be near the overcrossings themselves. The proposed new overcrossing clearances above Grand Boulevard will be no more than 2 ft higher or lower than the existing clearances, but there will be 12 to 14 ft high sound walls on the bridges where there currently are none (as shown on Figure 3.7-14, which provides a visual simulation of the sound walls on SR-91). Because of the circular design of Grand Boulevard and the location of the overcrossings near the northernmost part of the circle, the overcrossings are only visible from a very limited part of Grand Boulevard. Furthermore, the integrity of the northernmost section of Grand Boulevard has already been compromised by the visual intrusion of the

modern freeway, as well as intersection modifications, a grade separation, construction of adjacent modern development, relocation of sidewalks, and removal of street trees. The Initial Phases of Alternatives 1 and 2 will maintain the existing configuration of Grand Boulevard, but proposes the removal and replacement of small segments of the existing sidewalks, curbs, and gutters, relocation of up to 7 acorn-style streetlights elsewhere along Grand Boulevard, and the removal of 18 street trees. All of these project improvements will occur in the northernmost part of the Grand Boulevard circle, which has already been compromised by previous road improvements in this area.

The Alternative 1 and 2 Ultimate Projects, including the Ultimate Project for Alternative 2f, would not result in any impacts to the Grand Boulevard Historic District because there would be no project construction in the Historic District in the Ultimate Projects for those Alternatives.

The Department originally determined that neither of the Initial Phases of Alternatives 1 and 2 or the Ultimate Projects would result in the permanent, temporary, or constructive use of the Historic District, as defined in 23 CFR Section 774.17; therefore, Section 4(f) does not apply.

The Department reconsidered and made a determination that the impacts at the Grand Boulevard Historic District would be de minimis.

Summary of Consultation with the State Historic Preservation Officer

As required by 36 CFR Part 800 and the Section 106 PA (January 2004), the Department opened consultation with the SHPO by letter on August 4, 2010, to request concurrence on the eligibility of 23 cultural resources within the APE. A copy of that letter is provided in Appendix M. Pursuant to Stipulation IX.A of the Section 106 PA, the Department proposed that a finding of No Historic Properties Affected was appropriate for this undertaking. On September 20, 2010, the SHPO concurred with the Department's recommendation that the 23 properties in the APE, including the Grand Boulevard Historic District, were not eligible for the National Register. That letter is also included in Appendix M.

In January 2011, the Preservation Society nominated the Grand Boulevard Historic District for the National Register, and on July 14, 2011, the property was listed on the National Register. As a result, the Department prepared a Supplemental HPSR (August 2011) and a Finding of Effect (August 2011) to document this change in status of this property relative to Section 106. The Department continued its

consultation with the SHPO by letter dated September 8, 2011, requesting SHPO concurrence that the undertaking will have No Adverse Effect on the National Register-listed Grand Boulevard Historic District. The Department sent a letter to SHPO on June 15, 2012, reinitiating consultation with SHPO regarding the Finding of No Adverse Effect for the project effects on the Grand Boulevard Historic District. The intent of the June 15, 2012, letter was to notify SHPO that the Department, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property, based on SHPO's concurrence with the Finding of No Adverse Effect for the project effects on the District. The SHPO concurred with the Department's de minimis determination for the Grand Boulevard Historic District in a letter dated June 26, 2012. Copies of the Department's June 15, 2012, letter and the SHPO's June 26, 2012, letter are provided in Attachment 5.J in Chapter 5.

Finding of Effect

The Department, as assigned by the FHWA, has determined that the undertaking may have an effect on historic properties (36 CFR 800.4[d][2]). The Department, as assigned by the FHWA, has applied the Criteria of Adverse Effect (36 CFR 800.5(a)) for the undertaking, which includes physical improvements to SR-91 that impact two segments of the Grand Boulevard Historic District, together totaling approximately 3,620 linear feet or 0.68 mi. The Grand Boulevard Historic District is listed in the National Register (July 14, 2011). Pursuant to 36 CFR 800.5(c) and Section 106 PA stipulation X.B.1, as assigned by the FHWA, the Department concluded that the SR-91 CIP Build Alternatives would have No Adverse Effect without Standard Conditions on the Grand Boulevard Historic District.

SHPO Concurrence with the Finding of Effect

As noted above, SHPO concurred with the Department's de minimis determination for the Grand Boulevard Historic District in a letter dated June 26, 2012.

No Build Alternative

No project improvements would be constructed under the No Build Alternative.

3.8.4 Condition Placed on the Project and Other Measures

3.8.4.1 Condition for the Acorn-Style Streetlights in the Grand Boulevard Historic District

The following condition will be implemented during the design/build phase regarding the removal, temporary storage, and relocation of up to seven existing acorn-style streetlights within the project disturbance limits in the Grand Boulevard Historic

District. This condition on the project would be required for the Initial Phases under Alternatives 1 and 2.

- The RCTC Project Engineer will require the design/build contractor to clearly indicate on the final plans the locations of up to seven acorn-style streetlights in the project disturbance limits that are to be removed at the beginning of construction in those areas and to identify the locations where the removed streetlights would be reinstalled.
- The RCTC Resident Engineer will require the design/build contractor to remove and, as necessary, dismantle, the affected acorn-style streetlights and to place them in containers appropriate for storing those fixtures during the project construction period.
- The RCTC Resident Engineer will require the design/build contractor to store the containers holding the acorn-style streetlights in a secure location protected from public access and weather.
- The RCTC Project Engineer will require the design/build contractor to verify that the locations identified for the reinstallation of the affected streetlights are acceptable to the City of Corona and consistent with the City's requirements for the siting of streetlights.
- The RCTC Resident Engineer will require the design/build contractor to reinstall the acorn-style streetlights at the locations designated in the final plans when no further construction/disruption will occur at those locations, as follows:
    - The streetlights will be reinstalled as close to their original locations as possible based on the project design and available space, in a manner consistent with the other acorn-style streetlights in the Grand Boulevard Historic District and with the City of Corona requirements for the siting of streetlights.
    - If any of the acorn-style streetlights cannot be reinstalled at or near their original locations, they will be reinstalled elsewhere within the boundaries of the Grand Boulevard Historic District, focusing on locations where acorn-style lights have previously been removed as long as those locations are consistent with the historic spatial relationships of the Historic District and with the City of Corona requirements for the siting of streetlights; and
    - If the lights cannot be reinstalled as described above, the RCTC Project Engineer will consult with the City of Corona to identify alternative locations.

- The RCTC Resident Engineer will require the construction contractor to have an architectural historian on site during the removal, dismantling, and reinstallation of the acorn-style streetlights.

3.8.4.2 Measure for Replacement of Trees Removed from the Grand Boulevard Historic District

CR-1 **Replacement of Trees in the Grand Boulevard Historic District.** The requirements of Measure V-2 in Section 3.7.4, Environmental Consequences, related to highway planting would apply to the replacement of the 18 trees in the Grand Boulevard Historic District. In addition, the following will be implemented during the design/build phase regarding the removal and replacement of the 18 trees in the Grand Boulevard Historic District. This measure would be required for the Initial Phases of Alternatives 1 and 2.

- The RCTC Project Engineer will require the design/build contractor to replace all trees removed in the Historic District at a ratio of 1:1.
- The RCTC Project Engineer will require the design/build contractor to install replacement trees that are compatible with the existing plantings in the Grand Boulevard Historic District and with the overall character of the Historic District, and that the replacement trees be identified in consultation with the City of Corona, the Department's District Landscape Architect, and a Professional Qualified Staff Architectural Historian from the District. The replacement trees will be selected from the following species: palms, carob, eucalyptus, pepper, cypress, and magnolia.
- The RCTC Project Engineer will require the construction contractor to install all replacement trees no later than the completion of construction activities in the Grand Boulevard Historic District.

3.8.4.3 Measures for the Discovery of Cultural Materials or Human Remains

These measures would be required for the Initial Phases and Ultimate Projects for Alternatives 1 and 2.

CR-2 **Discovery of Cultural Materials.** If cultural materials are discovered during construction, the RCTC Resident Engineer will require the design/build contractor to divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find.

CR-3 **Discovery of Human Remains.** If human remains are discovered during construction, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains and that the County Coroner shall be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the NAHC, which will then notify the MLD. At that time, the Department's District 8 Environmental Branch Chief or the District 8 Native American Coordinator (Gary Jones, [909] 383-7505) will be contacted so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

3.8.4.4 Mitigation for Native American Monitoring

As discussed earlier, the Pechanga Band of Mission Indians requested monitoring during construction as described in the following measures, which would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

CR-4 During final design, the RCTC Project Manager and Department Cultural Resources Professionally Quality Staff will coordinate with representatives from the Pechanga Band of Mission Indians to identify areas in the project disturbance limits considered sensitive the Tribe.

During final design, the RCTC Project Engineer will identify on the project plans all areas that require monitoring by a Native American Monitor during site preparation, disturbance, and grading.

During all site preparation, disturbance, and grading, the RCTC Resident Engineer will require the design/build contractor to have a Native American monitor present and conducting monitoring activities is all areas identified by the Pechanga Band of Mission Indians as sensitive as shown in the project specifications.

This page intentionally left blank

PHYSICAL ENVIRONMENT

3.9 Hydrology and Floodplains

3.9.1 Regulatory Setting

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The Federal Highway Administration (FHWA) requirements for compliance are outlined in 23 CFR 650 Subpart A.

In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project

The base floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the base floodplain."

3.9.2 Affected Environment

This section is based on the *Summary of Floodplain Encroachment for the State Route 91 Corridor Improvement Project* (May 2010), the *Location Hydraulic Study for the State Route 91 Corridor Improvement Project* (May 2010), the *Location Hydraulic Study Segment 1* (May 2010), and *the Location Hydraulic Study Sections 2 and 3* (May 2010). The findings of those reports are summarized in this section.

3.9.2.1 Floodplains

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps[1] (FIRMs), the project area along SR-91 is within the following FEMA-mapped 100-year floodplains:

[1] FEMA Firm Map Nos. 06059C0180H, February 18, 2004; 06059C0185H, February 18, 2004; 06065C1335G, August 28, 2008; 06065C0668G, August 28,

- Santa Ana River (Zone AE [base flood elevations determined]) near Gypsum Canyon Road and the Orange/Riverside County line
- Santa Ana River (Zone A [no base flood elevations determined]) near Green River Road, Coal Canyon, and Wardlow Wash
- Country Club Creek (Zone AE) at the Mountain View Country Club in Corona
- Oak Street Creek Channel (Zone A) near North Lincoln Avenue in Corona
- Zone AO (flood depths of 1 to 3 ft) of an unnamed floodplain near West Grand Boulevard and West Second Street in Corona
- Temescal Wash (Zone AE) near the SR-91/I-15 interchange

Along I-15, the study area crosses the 100-year floodplain of the South Norco Channel (Zone AE) at Corona Avenue in Corona. Figure 3.9-1 shows the 100-year FEMA-mapped floodplains in the vicinity of the project segments on SR-91 and I-15.

To accommodate the project and improve local bank protection, the Santa Ana River is being improved and relocated to the north as part of a separate Corps project. The Corps has completed an SEIS for the Santa Ana River realignment. The Santa Ana River realignment will be completed and operational before the construction of the project starts. A Letter of Map Revision (LOMR) will be necessary to redefine the floodplain maps for the affected segments of the Santa Ana River (FEMA FIRMs 06059C0185H, February 18, 2004; 06065C1335G, August 28, 2008; and 06065C0669G, August 28, 2008) as part of the River relocation by the Corps. The LOMR would be the responsibility of the Corps. The LOMR would show the 100-year floodplain of the Santa Ana River as shifted to the north. The floodplain that extends through the Wardlow Wash double 12x9 ft reinforced concrete box (RCB) wildlife crossing would also be extended to meet the new Corps bank protection as part of the Corps bank protection project.

In addition to the Corps bank protection project, a separate Corps Santa Ana Mainstem project is underway. That project includes raising the height of Prado Dam and constructing protective dikes. That project would require revisions to the existing floodplains near Prado Dam.

2008; 06065C0669G, August 28, 2008; 06065C0688G, August 28, 2008; 06065C0689G, August 28, 2008; and 06065C0693G, August 28, 2008.

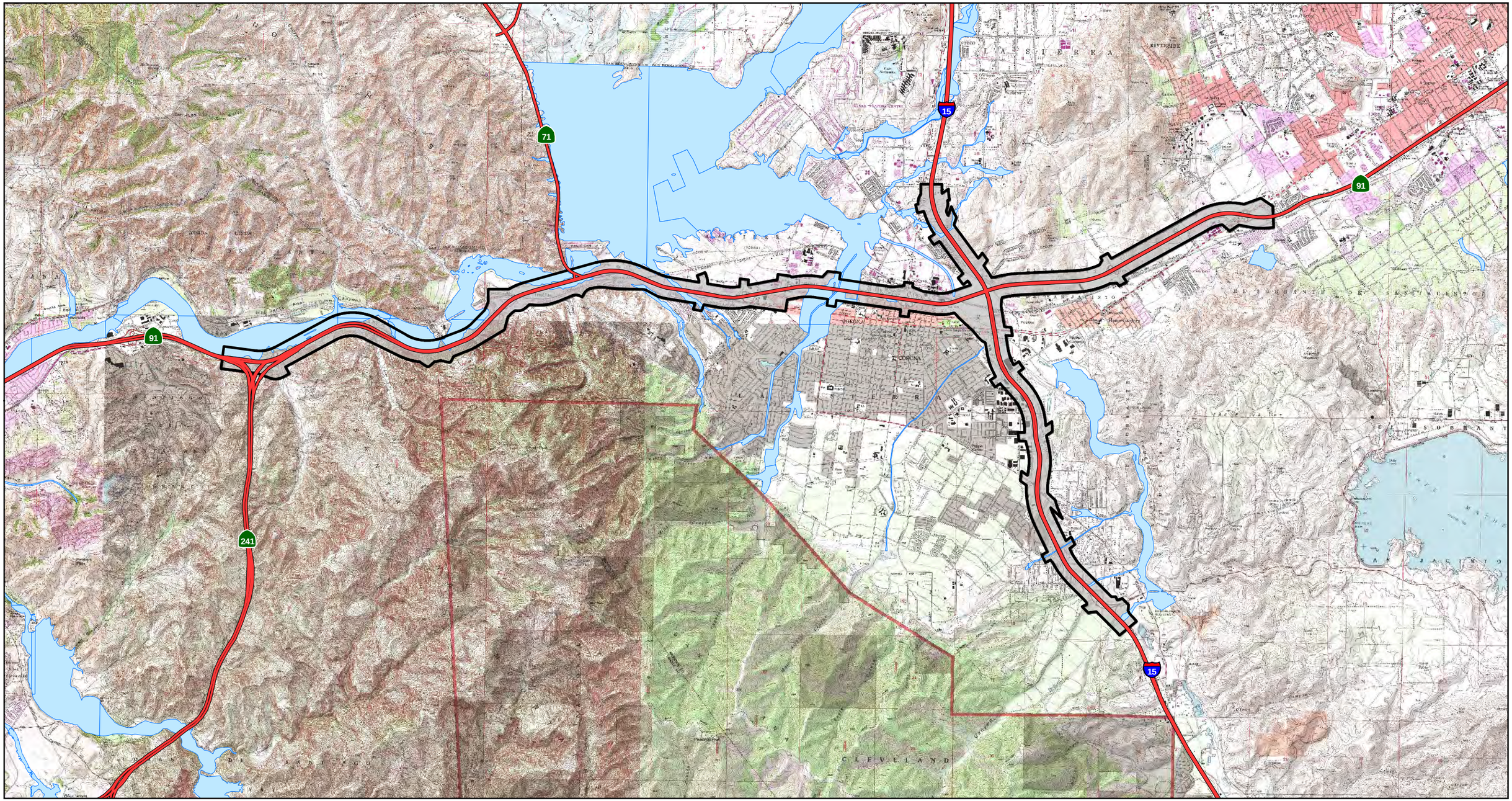


FIGURE 3.9-1

LEGEND

SR-91 Study Area

100-Year Floodplain

N

0 3300 6600

FEET

SR-91 Corridor Improvement Project

FEMA Mapped 100-Year Floodplains

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: FEMA (2008), PB (2008), USGS 7.5' QUAD - BLACK STAR CANYON ('88), CORONA NORTH ('81), CORONA SOUTH ('88), PRADO DAM ('81), RIVERSIDE WEST ('81); CALIF.

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_100year.mxd (6/23/2010)

This page intentionally left blank

3.9.2.2 Natural and Beneficial Floodplain Values

Floodplains and wetlands in their natural or relatively undisturbed states serve water resource values (e.g., natural moderation of floods, water quality maintenance, and groundwater recharge), living resource values (e.g., fish, wildlife, and plant species), and cultural resource values (e.g., open space, archaeological, historical natural beauty, scientific study, outdoor education, and recreation). The beneficial uses for surface waters in the project study area are defined in the *Santa Ana River Basin Water Quality Control Plan* (Santa Ana RWQCB, February 2008) as various ways that water can be used for the benefit of people and/or wildlife.

The following beneficial uses have been identified in the *Santa Ana River Basin Water Quality Control Plan* for the Santa Ana River in the study area:

- **Agricultural Water Supply (AGR):** Waters are used for farming, horticulture or ranching. These uses may include, but are not limited to, irrigation, stock watering, and support of vegetation for range grazing.
- **Groundwater Recharge (GWR):** Waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers.
- **Water Contact Recreation (REC1):** Waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water skiing, skin and scuba diving, surfing, whitewater activities, fishing, and use of natural hot springs.
- **Noncontact Water Recreation (REC2):** Waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tide pool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.
- **Warm Freshwater Habitat (WARM):** Waters support warm water ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates.
- **Wildlife Habitat (WILD):** Waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

- **Rare, Threatened, or Endangered Species Habitat (RARE):** Waters support the habitats necessary for the survival and successful maintenance of plant or animal species designated under State or federal law as rare, threatened, or endangered.
- **Spawning Habitat (SPWN):** Waters support high-quality aquatic habitats necessary for reproduction and early development of fish and wildlife.

3.9.3 Environmental Consequences

3.9.3.1 Summary of Impacts

Assuming a worst case using the existing FIRMs and the total improvements under Alternative 2, the Initial Phases of Alternatives 1 and 2 would result in encroachments into the 100-year floodplain at the Santa Ana River at Wardlow Wash, at Country Club Creek, and at West Grand Boulevard. There would be no appreciable increase in the 100-year surface water elevations under Alternatives 1 and 2. There would not be significant encroachments, and the encroachments would not result in significant adverse impacts to natural and beneficial floodplain values. There would be no additional encroachments in the Ultimate Project for Alternatives 1 and 2.

Alternatives 1 and 2 could result in erosion of exposed soil surfaces during construction that would be controlled using BMPs as described in the Storm Water Pollution Prevention Plan (SWPPP). Temporary detention basins would be used, as needed, during construction to prevent localized flooding. Therefore, the construction of Alternatives 1 and 2 would not result in adverse impacts related to floodplains.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f would also result in the same encroachments into the 100-year floodplain as described above for Alternative 2. There would be no appreciable increase in the 100-year surface water elevations under Alternative 2f, no significant encroachments, and the encroachments would not result in significant adverse impacts to natural and beneficial floodplain values. The floodplain encroachments will occur in the Initial Phase. No additional enroachments will occur in the Ultimate Project for Alternative 2f.

Similar to Alternative 2 as described above, during construction, the Alternative 2f Initial Phase and Ultimate Project could also result in an erosion of exposed soil surfaces that would be controlled using BMPs. The construction of the Alternative 2f

Initial Phase and Ultimate Project would not result in adverse impacts related to floodplains.

3.9.3.2 Permanent Impacts

Alternatives 1 and 2

As mentioned above, Corps projects would modify the Santa Ana River floodplain and Prado Dam (these projects are not reflected in the current FIRMs for this area). As a result, the Build Alternatives would either not encroach into the Santa Ana River floodplain near Wardlow Wash or the encroachment would be less than when comparing the project to the existing FEMA FIRMs. Because it is unclear at this time whether or not an encroachment would occur at this location after the Corps projects have been implemented and the FIRMs are revised, this analysis assumes that an encroachment would occur under the Build Alternatives. As discussed below, three encroachments were identified for the Build Alternatives based on the existing FIRMs. Specifically, the analysis of floodplain encroachment is based on the existing floodplain, which represents a worst-case scenario for the Build Alternatives.

In addition, without the relocation of the Santa Ana River, the project would result in a fourth encroachment downstream of Prado Dam at the Green River Golf Club. However, after implementation of the Corps projects, the project would not encroach on the floodplain at this location. Because this analysis of floodplain encroachment assumes that the Santa Ana River will already be relocated prior to construction of the project, it is assumed that no encroachment would occur at this location.

As discussed below, the Build Alternatives would encroach on the 100-year floodplain at three locations when compared to the existing FIRMs. This analysis is based on the worst-case possible encroachment under Alternative 2.

As shown earlier in Table S.5, any modifications to existing storm and local flood control facilities or Corps facilities will require coordination with the OCFCD, RCFCD, and/or Corps, as appropriate. Any such modifications would need to be approved by the appropriate agency during final design and prior to any construction at or near the affected flood control and/or Corps facilities.

Encroachments

Santa Ana River Near Wardlow Wash (FEMA FIRM 06065C0669G, August 28, 2008)

The floodplain at this location is at the Prado Dam outlet in the City of Corona in Riverside County. This area is adjacent to the confluence of the Santa Ana River

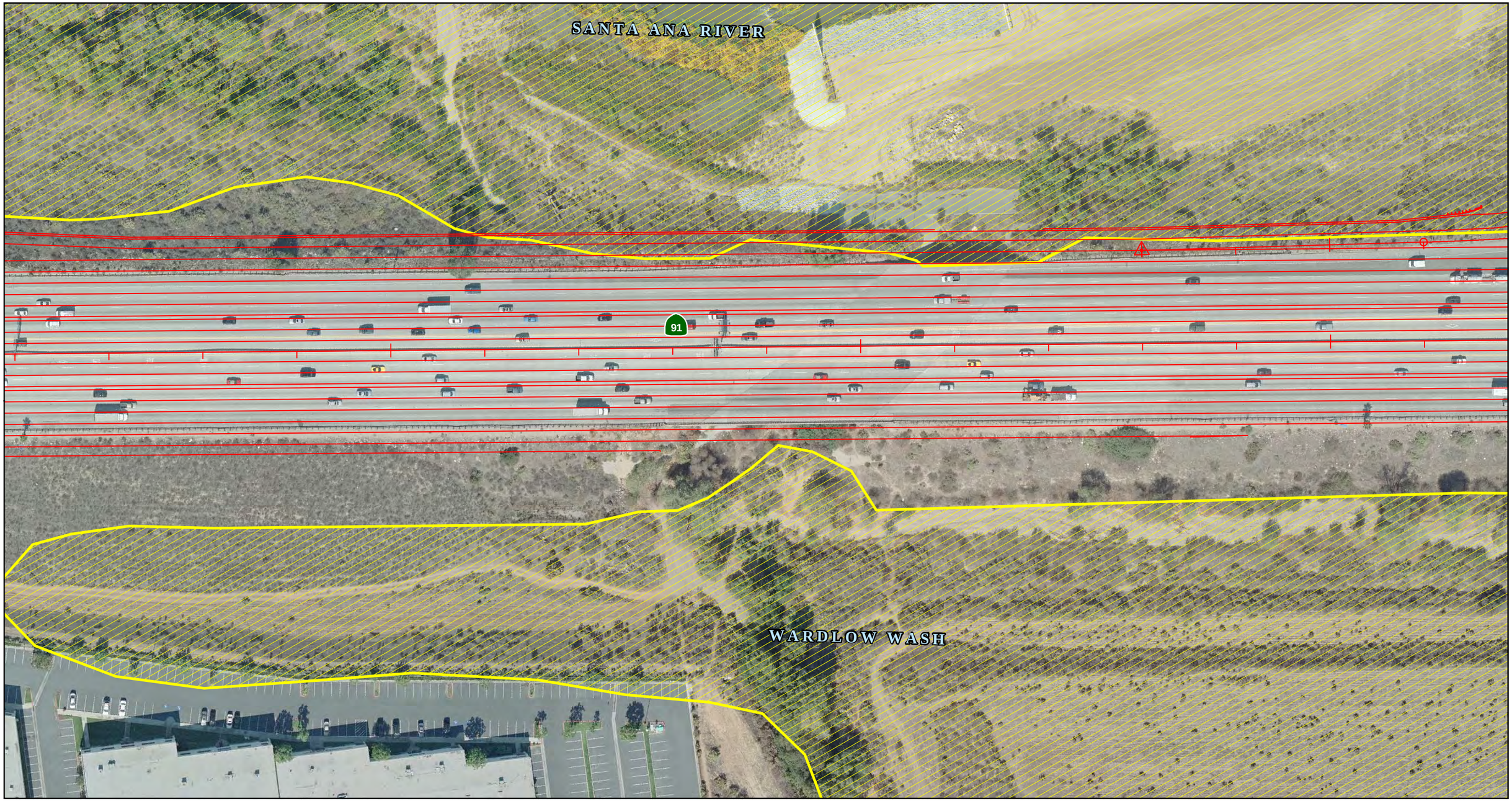
and Wardlow Wash. SR-91 is raised above the 100-year floodplain through this stretch of the study area. The floodplain in this area is Zone A.

The improvements at this location include the addition of lanes to SR-91, improvements to the SR-71/SR-91 interchange, and extension of the existing Wardlow Wash reinforced concrete pipe wildlife crossing. The widened road would be constructed on a retaining wall. The retaining wall would extend approximately 5 to 60 ft into the existing (2009) floodplain. However, because the Corps bank protection project would move the floodplain boundary north, the actual encroachment is anticipated to be less. In addition, the Build Alternative improvements to the SR-71/SR-91 interchange would encroach on the floodplain. As shown on Figure 3.9-2, the floodplain encroachments that would occur at this location would be longitudinal encroachments (parallel to the direction of flow).

The Build Alternatives propose improvements to an existing freeway that is already in the floodplain. The SR-91 corridor narrows in the vicinity of the Orange/Riverside County line and is bounded by hills to the south and the Santa Ana River to the north. The Mindemann Landslide, which is a large, ancient landslide, and numerous smaller landslides superimposed on that ancient landslide are in the hills on the south side of SR-91 in this area. Under the Build Alternatives, the SR-91 centerline would be shifted north at this location so that all the widening would occur on the north side of the alignment. Widening SR-91 to the north is preferred over the extensive excavation and/or retaining walls that would be necessary to accommodate widening into the hillside on the south side of SR-91 in the vicinity of the Mindeman Landslide. Widening to the north is also consistent with the improvements recently constructed SR-91 Eastbound Lane Addition project (separate project). For these reasons, there are no practical alternatives to the widening of the SR-91 to the north and the resulting longitudinal encroachment into the floodplain under Alternatives 1 and 2.

Country Club Creek (FEMA FIRM 06065C0688G, August 28, 2008)

The floodplain at this location is at the Mountain View Golf Course in the City of Corona. SR-91 is raised above the 100-year floodplain through this stretch. The floodplain in this area is Zone AE.



LEGEND

Floodplain Boundary

Alternative 1 and 2 Projects
Segment 1 (with SR-71 Connector)

N

0 1250 2500
FEET

NOTE: Encroachments into the 100-year floodplain would be less than shown on this figure. This figure shows the existing floodplain, which will be revised after construction of the Army Corps of Engineers Prado Dam and Santa Ana River Bank Stabilization project is complete.

Map Index

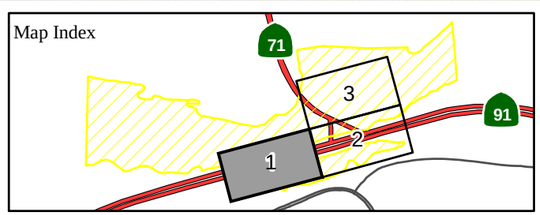


FIGURE 3.9-2
Sheet 1 of 3

SR-91 Corridor Improvement Project

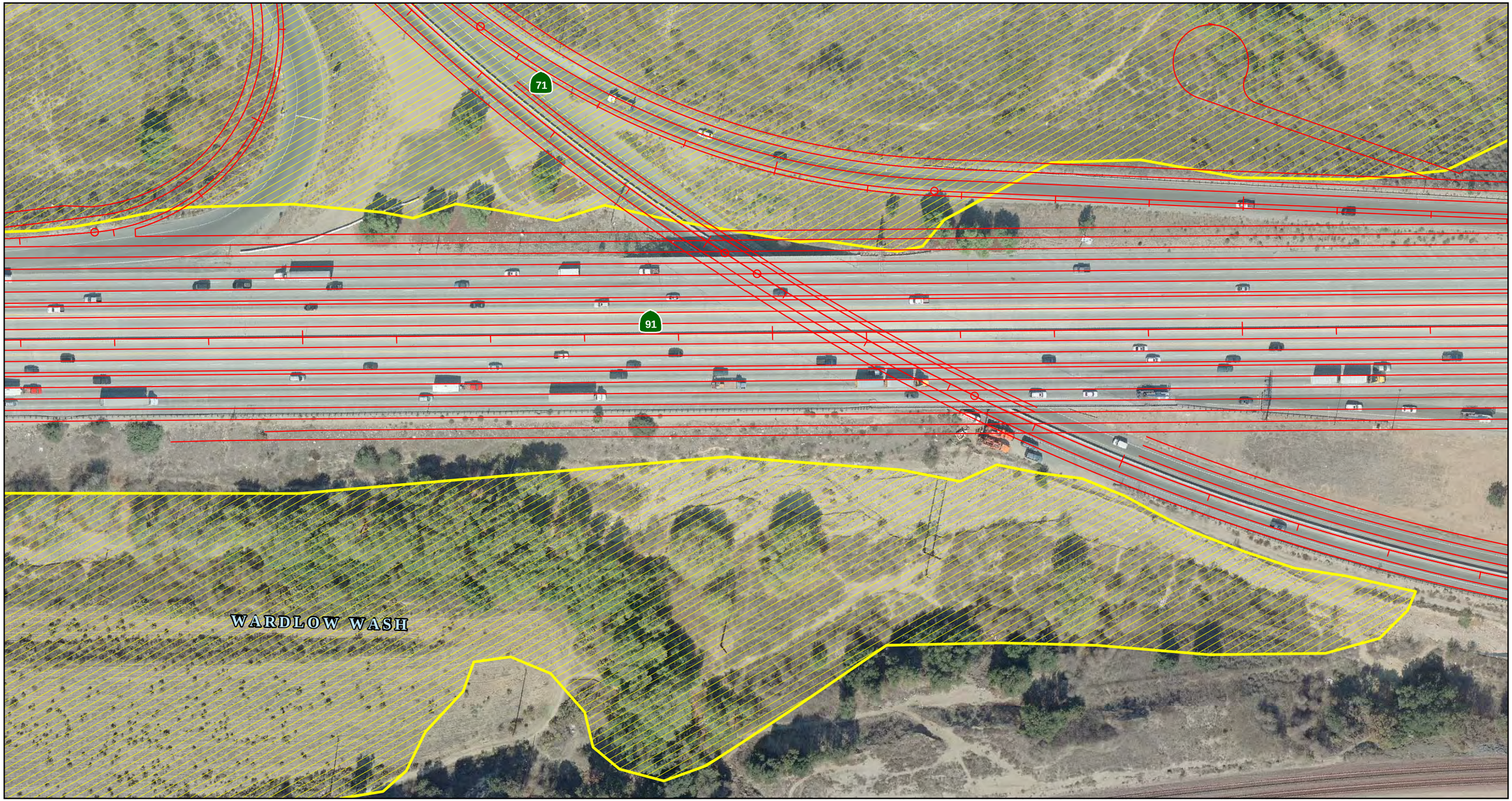
Floodplain Encroachments at the Santa Ana River near Wardlow Wash

12-Ora-91-R15.93/R18.91
08-Riv-91-R0.00/R10.85
08-Riv-15-36.58/42.47
EA 0F540

SOURCE: FEMA (2008), PB (2010), MSVE (2008)

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_SantaAnaRiver.mxd (9/23/2010)

This page intentionally left blank



LEGEND

Floodplain Boundary

Alternative 1 and 2 Projects
Segment 1 (with SR-71 Connector)

0 1250 2500
FEET

NOTE: Encroachments into the 100-year floodplain would be less than shown on this figure. This figure shows the existing floodplain, which will be revised after construction of the Army Corps of Engineers Prado Dam and Santa Ana River Bank Stabilization project is complete.

Map Index

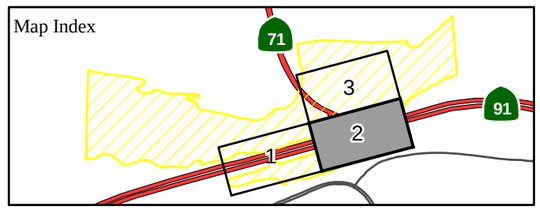


FIGURE 3.9-2
Sheet 2 of 3

SR-91 Corridor Improvement Project

Floodplain Encroachments at the Santa Ana River near Wardlow Wash

12-Ora-91-R15.93/R18.91
08-Riv-91-R0.00/R10.85
08-Riv-15-36.58/42.47
EA 0F540

SOURCE: FEMA (2008), PB (2010), MSVE (2008)

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_SantaAnaRiver.mxd (9/23/2010)

This page intentionally left blank

LEGEND

Floodplain Boundary

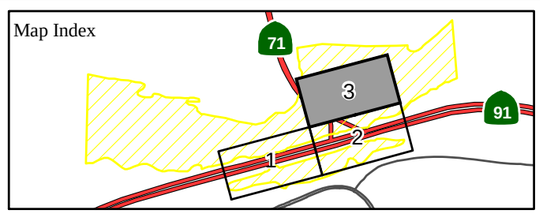
Alternative 1 and 2 Projects
Segment 1 (with SR-71 Connector)

NOTE: Encroachments into the 100-year floodplain would be less than shown on this figure. This figure shows the existing floodplain, which will be revised after construction of the Army Corps of Engineers Prado Dam and Santa Ana River Bank Stabilization project is complete.

N

0 1250 2500
FEET

Map Index



SOURCE: FEMA (2008), PB (2010), MSVE (2008)

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_SantaAnaRiver.mxd (9/23/2010)

FIGURE 3.9-2
Sheet 3 of 3

SR-91 Corridor Improvement Project

Floodplain Encroachments at the Santa Ana River near Wardlow Wash

12-Ora-91-R15.93/R18.91
08-Riv-91-R0.00/R10.85
08-Riv-15-36.58/42.47
EA 0F540

This page intentionally left blank

The improvements at this location include the addition of lanes on SR-91 in each direction and improvements to the eastbound off-ramp at the Auto Center Drive/ Serfas Club Drive interchange. The widened road would be constructed on a retaining wall. The retaining wall would extend approximately 50 to 80 ft into the existing floodplain. As shown in Figure 3.9-3, that floodplain encroachment would be a transverse encroachment (perpendicular to the direction of flow).

West Grand Boulevard (FEMA FIRM 06065C0689G, August 28, 2008)

The floodplain at this location is in the City of Corona. The floodplain is mostly a developed residential area south of SR-91. SR-91 is raised above the 100-year floodplain through this stretch. The floodplain in this area is Zone AO.

Risks to Life and Property

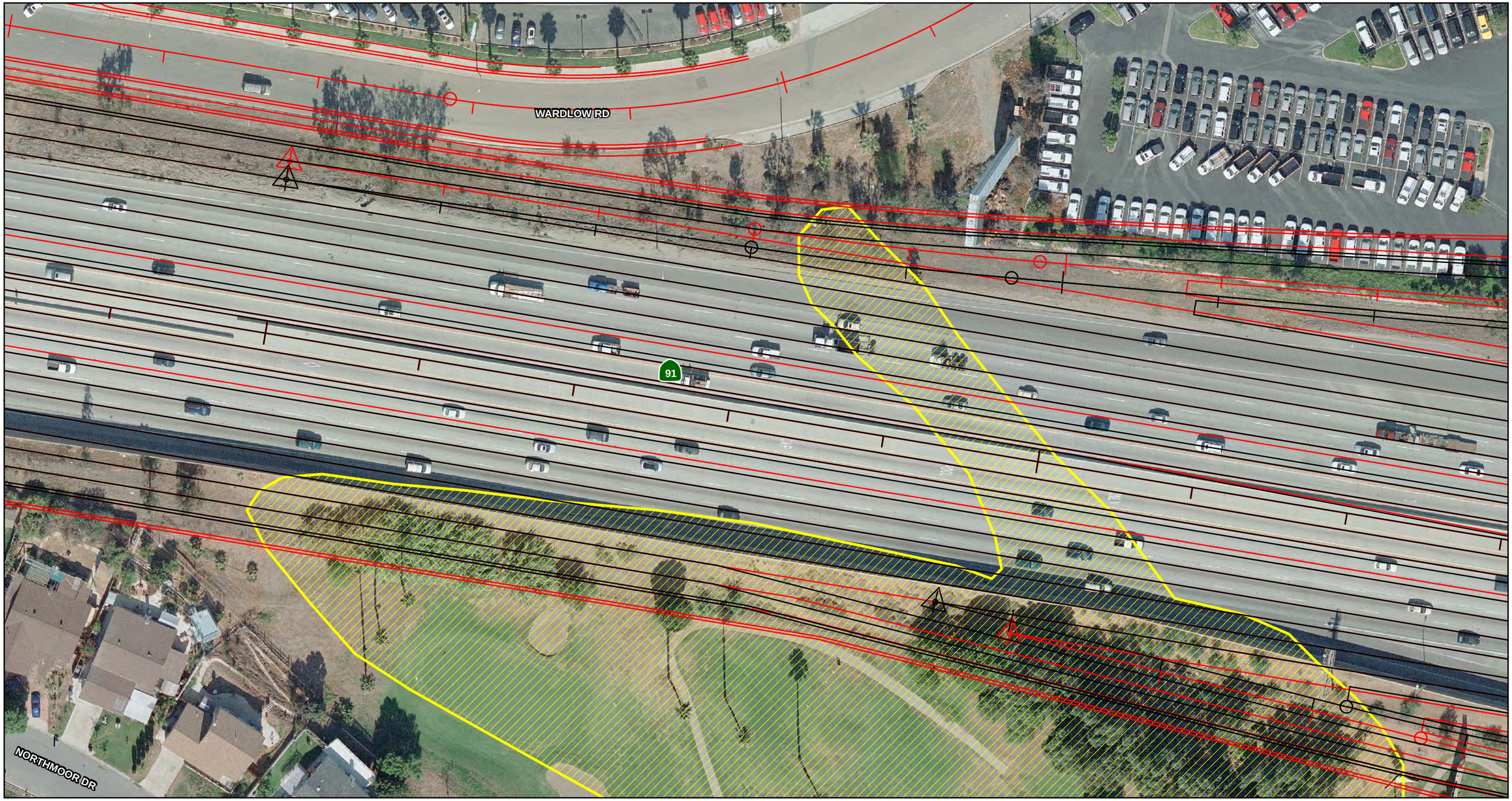
Santa Ana River Near Wardlow Wash

The encroachment from the new retaining wall at this location is too minor to result in a substantial change in the 100-year water surface elevation of this floodplain. The quantity of flow (approximately 34,000 cfs) in the Santa Ana River controls the confluence hydraulics with Wardlow Wash. As a result, the encroachment on the 100-year floodplain at this location under Alternatives 1 and 2 and their design variations would not result in an appreciable increase of the 100-year water surface elevation. In addition, Alternatives 1 and 2 and their design variations would not result in substantial interruption of emergency services or routes at this location. A TMP will be prepared and coordinated with emergency service providers to minimize impacts to emergency services during ramp or mainline closures during construction. During operation, Alternatives 1 and 2 would have a beneficial impact on emergency services by improving traffic throughput and travel times and reducing delay. Therefore, there would be no significant floodplain-related risks to life or property at this location as a result of Alternatives 1 and 2 and their design variations.

Country Club Creek

The Corps Hydrologic Engineering Center River Analysis System (HEC-RAS) model was used to determine changes in the 100-year flood surface elevation at this location as a result of the Build Alternatives. The modeling results indicate that the improvements would not result in a change to the water surface elevation or velocity of Country Club Creek at this location. In addition, Alternatives 1 and 2 and their design variations would not result in substantial interruption of emergency services or routes at this location. A TMP will be

This page intentionally left blank



LEGEND

Floodplain Boundary

Alternative 1 Project Segment 1
Auto Center/Maple Interchange Direct Connector and Split Diamond

Alternative 2 Project Segment 1
Auto Center/Maple Interchange Direct Connector and Split Diamond

N

0 30 60
FEET

SOURCE: FEMA (2008), PB (2010).

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_CountryClubCreek.mxd (9/23/2010)

FIGURE 3.9-3

SR-91 Corridor Improvement Project

Floodplain Encroachment
at Country Club Creek

12-Ora-91-R15.93/R18.91
08-Riv-91-R0.00/R10.85
08-Riv-15-36.58/42.47
EA 0F540

This page intentionally left blank

prepared and coordinated with emergency service providers to minimize impacts to emergency services during ramp or mainline closures during construction. During operation, Alternatives 1 and 2 would have a beneficial impact on emergency services by improving traffic throughput and travel times and reducing delay. Therefore, there would be no substantial floodplain-related risks to life or property at this location as a result of Alternatives 1 and 2 and their design variations.

West Grand Boulevard

The encroachments from the culvert extension and new retaining wall are minor at this location and would not result in an appreciable increase of the 100-year water surface elevation of the floodplain. In addition, implementation of the Build Alternatives would not result in substantial interruption of emergency services or routes. A TMP will be prepared and coordinated with emergency service providers to minimize impacts to emergency services during ramp or mainline closures during construction. During operation, Alternatives 1 and 2 would have a beneficial impact on emergency services by improving traffic throughput and travel times and reducing delay. Therefore, there would be no substantial floodplain-related risks to life or property at this location as a result of Alternatives 1 and 2 and their design variations.

Impacts to Natural and Beneficial Floodplain Values

Grading, construction, and operation of the Build Alternatives could potentially result in direct impacts to natural and beneficial floodplain values and could impair the identified beneficial uses of those water bodies. The potential impacts of construction activities on beneficial uses focus primarily on sediments, turbidity, and pollutants that might be associated with sediments (e.g., phosphorus and pesticides) and how these may impact beneficial uses. Construction-related activities that are primarily responsible for sediment releases are related to exposing soils to potential erosion by rainfall/runoff and wind. Those activities include removal of vegetation and existing structures from the site, grading and excavation of the site, and construction of new road surfaces and structures. These activities can create the potential for sediment to be transported outside the project limits with storm water runoff and potentially impair beneficial uses of receiving waters. For example, if substantial amounts of sediment are transported downstream to the Santa Ana River, the following beneficial uses may be impaired: REC1,REC2, WARM, WILD, RARE, and SPWN.

Non-sediment-related pollutants of concern during construction include waste construction materials; chemicals, liquid products, and petroleum products (such as paints, solvents, and fuels) used in construction or the maintenance of heavy equipment; and concrete-related waste streams. These construction-related pollutants may be spilled, leaked, or transported via storm runoff into receiving waters and may potentially impair beneficial uses. For example, if substantial amounts of waste construction materials, chemicals, liquid products, and petroleum products were transported to the Santa Ana River, the following beneficial uses may be impaired: AGR, GWR, REC1, REC2, WARM, WILD, RARE, and SPWN.

As discussed earlier, the Build Alternatives would encroach on floodplains at the Santa Ana River near Wardlow Wash at Country Club Creek and at West Grand Boulevard. All these encroachments would occur at the edges of the existing freeway facilities and would be generally within or adjacent to developed uses or disturbed/ low quality vegetation. As a result, the areas of floodplain encroachment do not provide high-quality beneficial values related to water resources, living resources, or cultural resources. Therefore, implementation of the Build Alternatives would not result in substantial impacts to natural and beneficial floodplain values, and the beneficial uses of the noted floodplains are not likely to be adversely impacted. In addition, compensatory mitigation within the same watershed for impacts to wetlands, described later in Section 3.18, Wetlands and Other Waters, would help to reduce potential impacts to water resource beneficial floodplain values within the watershed.

Incompatible Floodplain Development

Alternatives 1 and 2 and their design variations include improvements to existing transportation facilities to improve travel conditions and reduce traffic impacts to the existing road network. The project and future development in the area would have some physical effect on the floodplain, but the project and future nonproject-related development would be required to comply with policies in the General Plans for the Counties of Orange and Riverside, and the Cities of Anaheim, Corona, Norco, Riverside, and Yorba Linda. Therefore, the project would not promote incompatible floodplain development.

Assessment of Significant Encroachments

The improvements at this location include the addition of pavement to eastbound SR-91, construction of a new retaining wall, and the realignment of Second Street. The realignment of Second Street would require a 20 ft extension of the existing 48 in reinforced concrete pipe at the South Belle Avenue and Second Street intersection

and a 10 ft extension of the 36 in reinforced concrete pipe at the South Sheridan Street and Second Street intersection. The existing 36 in reinforced concrete pipe at South Merrill Street would not be modified or extended as part of the Build Alternatives. As shown in Figure 3.9-4, the floodplain encroachments that would result from the extension of the two drainage structures described above would be transverse encroachments.

A "significant encroachment" as defined at 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood- related impacts:

- A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route;
- A significant risk (to life or property); or
- A significant adverse impact on natural and beneficial floodplain values.

The potential for the project to result in a significant encroachment into the base floodplain is discussed in detail below.

In summary, the actions under the Alternative 1 and 2 Initial Phases and Ultimate Projects do not constitute significant floodplain encroachment as defined in 23 CFR Section 650.105(q). The project would require construction of retaining walls and extension of existing culverts within the 100-year floodplain. The project would not result in a substantial change in the capacity of the Santa Ana River or Country Club Creek to carry water. The project would result in a minimal increase in flood heights and flood limits. This minimal increase would not result in a significant change in flood risks or damage. The encroachments would not result in significant adverse impacts on the natural and beneficial floodplain values, would not result in a significant change in flood risks or damage, and would not have significant potential for interruption or termination of emergency services or emergency routes. Therefore, the project-related floodplain encroachments are not significant under 23 CFR Section 650.105(q).

Agency Coordination

Coordination with FEMA for impacts to the 100-year floodplain is not required because the project would not result in an appreciable increase of the 100-year water surface elevation or change the boundaries of the 100-year floodplain.

This page intentionally left blank

LEGEND

- Floodplain Boundary
- Alternative 1 Project Segment 2 (with Lincoln Avenue Hook Ramps)
- Alternative 2 Project Segment 2 (with Lincoln Avenue Hook Ramps)

N

0 30 60
FEET

SOURCE: FEMA (2008), PB (2010).

I:\PAZ0701\GIS\WaterQuality\Floodplain Section\Floodplains_WestGrandBlvd.mxd (9/23/2010)

FIGURE 3.9-4

SR-91 Corridor Improvement Project

Floodplain Encroachment
at West Grand Boulevard

12-Ora-91-R15.93/R18.91
08-Riv-91-R0.00/R10.85
08-Riv-15-36.58/42.47
EA 0F540

This page intentionally left blank

No Build Alternative

Under the No Build Alternative, no project improvements would be constructed. No hydrology and floodplain adverse impacts would occur because there would be no construction in the study area under the No Build Alternative. The existing surface hydrology and floodplains would not change from the existing conditions, other than what would occur under the Corps projects in this area, as described earlier.

Under the No Build Alternative, no impacts to natural and beneficial floodplain values would occur as a result of grading, construction, and operation of any SR-91 CIP improvements. Therefore, the No Build Alternative is not expected to result in substantial impacts to natural and beneficial floodplain values.

3.9.3.3 Temporary Impacts

Alternatives 1 and 2

The possibility of erosion during construction of the project is discussed in detail later in Section 3.10, Water Quality and Storm Water Runoff. BMPs would be used to control erosion during construction. The construction BMPs would be described in the SWPPP and included on the construction plans. Existing general drainage patterns would be maintained during construction, although temporary detours around facilities undergoing reconstruction would occur. Temporary detention basins would be used, if necessary, to prevent localized flooding. The BMPs used to control direct impacts would be effective at controlling indirect impacts related to erosion, drainage patterns, and flooding during construction of Alternatives 1 and 2 and their design variations. As a result, the Alternative 1 and 2 Initial Phases and Ultimate Projects would not result in adverse impacts related to floodplains during construction.

No Build Alternative

Under the No Build Alternative, the project would not be constructed and temporary impacts to hydrology and floodplains would not occur. However, construction of other planned projects could result in temporary erosion impacts similar to those described for the project.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

As discussed in Section 3.10, Water Quality and Storm Water Runoff, Construction Site, Design Pollution Prevention, and Treatment BMPs will be implemented to minimize water quality-related impacts to the 100-year floodplain and the associated beneficial uses. As discussed in Section 3.17, Natural Communities, and Section 3.18, Wetlands and Other Waters, measures to minimize impacts and preserve natural and

beneficial floodplain values include installation of construction fencing around riparian/riverine vegetation to be preserved and compensatory mitigation for temporary and permanent impacts to riparian and aquatic habitats. With implementation of these measures, no other specific measures for impacts to floodplains are required.

3.10 Water Quality and Storm Water Runoff

3.10.1 Regulatory Setting

3.10.1.1 Federal Requirements: Clean Water Act

In 1972 Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.), from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act. [Most frequently required in tandem with a Section 404 permit request. See below.]
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit approval is in the public interest. The Section 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

3.10.1.2 State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the State. It predates the CWA and regulates discharges to waters of the State. Waters of the State include more than just Waters of the U.S., like groundwater and surface waters not considered Waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in

the applicable RWQCB Basin Plan. States designate beneficial uses for all water body segments, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, each state identifies waters failing to meet standards for specific pollutants, which are then state- listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source controls, the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

3.10.1.3 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- **National Pollution Discharge Elimination System (NPDES) Program**

  Municipal Separate Storm Sewer Systems

  Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water dischargers, including Municipal Separate Storm Sewer Systems (MS4s). The U.S. EPA defines an MS4 as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. The SWRCB has identified the Department as an owner/operator of an MS4 by the SWRCB. This permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

  The Department's MS4 Permit, under revision at the time of this update, contains three basic requirements:

  1. The Department must comply with the requirements of the Construction General Permit (see below);

2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) and other measures.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed Project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit (Order No. 2009-0009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites which result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply

according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water body must obtain a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by USACE . The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

3.10.2 Affected Environment

The information in this section is based on the *Final Water Quality Assessment Report* for the project (May 2010).

3.10.2.1 Regional Hydrology

The study area for this water quality analysis is in the Santa Ana River Watershed. Specifically, this analysis considered the project alignment in three segments in this watershed:

- **Segment A:** Extends on SR-91 from its interchange with SR-241 in Orange County to just east of the Smith Avenue overcrossing in the City of Corona in Riverside County. Segment A includes an advance signage area extending west from the SR-241 interchange to Weir Canyon Road. Segment A is primarily in the

Santa Ana Narrows Subwatershed of the Lower Santa Ana River Watershed. The subwatersheds are shown on Figure 3.10-1.

- **Segment B:** Extends east on SR-91 from Smith Avenue, across I-15, into the City of Riverside and terminates at Pierce Street. Segment B includes an advance signage area extending west from Pierce Street to Tyler Street. Segment B is in the Temescal and Arlington Subwatersheds of the Middle Santa Ana River Watershed.
- **Segment C:** Extends on I-15 from the Hidden Valley Parkway interchange in the City of Corona south to the Cajalco Road interchange in the City of Corona. Segment C includes advance signage areas extending north from Hidden Valley Parkway to Fifth Street and south from Cajalco Road to Weirick Road. Segment C is in the Temescal and Bedford Subwatersheds of the Middle Santa Ana River Watershed.

The Santa Ana River Watershed drains approximately 2,800 square miles (sq mi), with more than 50 contributing tributaries. The Santa Ana River extends about 96 mi from its headwaters to the Pacific Ocean. The headwaters for the Santa Ana River and its tributaries are in the San Gabriel and San Bernardino Mountains to the north and the San Gorgonio and San Jacinto Mountains to the east. From the San Bernardino and San Gabriel Mountains, the Santa Ana River flows through the Santa Ana Valley, Prado Basin, and a narrow pass in the Santa Ana Mountains, and then southwest to the Pacific Ocean. The Santa Ana River Watershed is divided into upper and lower watersheds at Prado Dam.

3.10.2.2 Local Hydrology

Surface water flow in the study area is generally toward the west, following the local topography and the gradient of the Santa Ana River or the Arlington Valley drainage toward Temescal Wash.

3.10.2.3 Surface Streams

Within the existing State rights-of-way on SR-91 and I-15, storm water runoff from SR-91 and I-15 is currently discharged into adjacent natural and human-made depressed areas, canyons, and existing storm drain systems. The existing channelized storm water from the project segments of SR-91 and I-15 eventually discharges into the Santa Ana River (Reaches 2 and 3) and its tributaries, including Wardlow and Temescal Washes. Surface waters in the study area are shown on Figure 3.10-1.

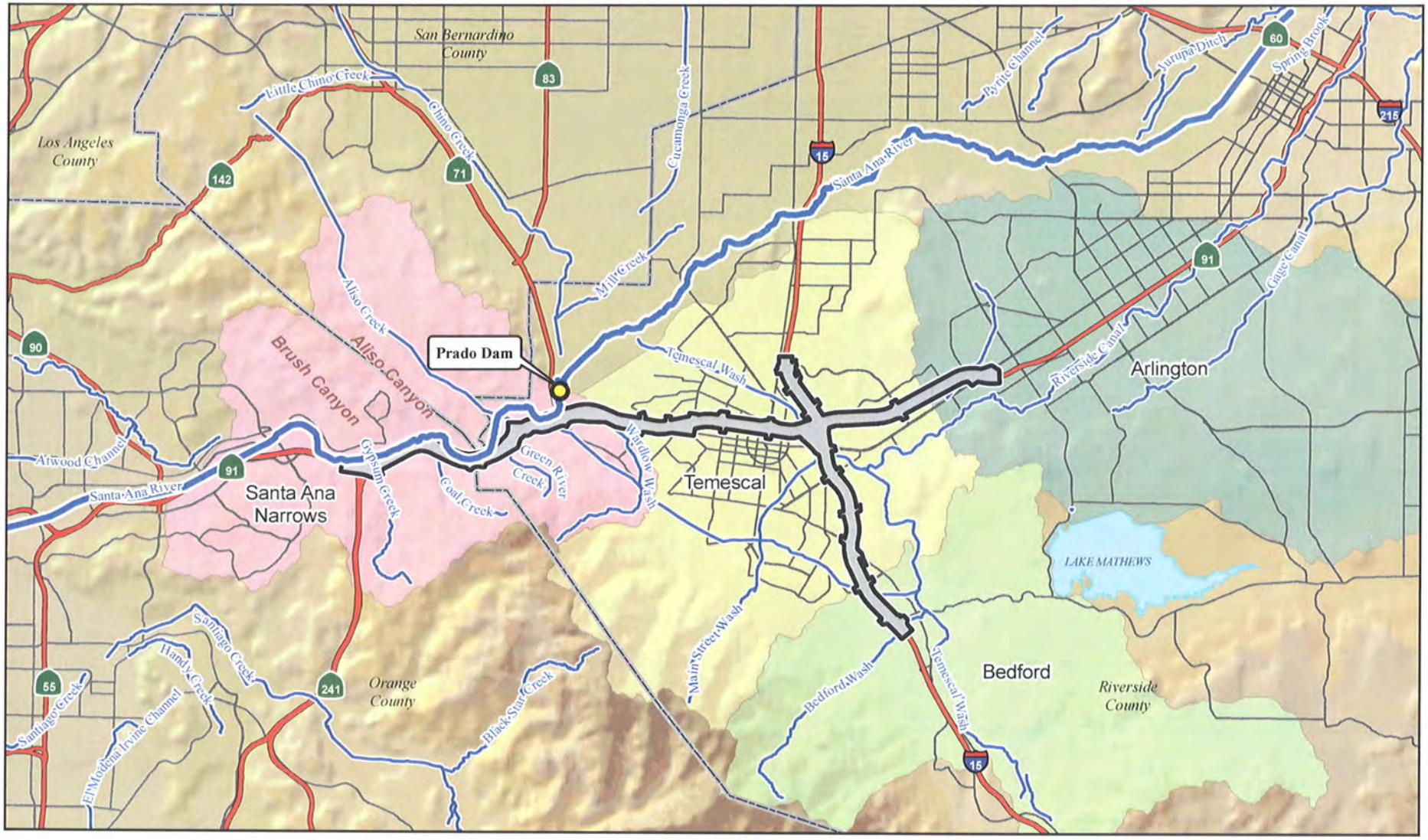


FIGURE 3.10-1

LEGEND

- SR-91 CIP Study Area
- Surface Waters
- Prado Dam

Subwatersheds

- Arlington
- Bedford
- Santa Ana Narrows
- Temescal

0 1.5 3 Miles

SOURCE: ESRI (2006), NHD (2000), TBM (2007), PB (2008)

I:\PAZ0701\GIS\WaterQuality\Subwatersheds_Fig3101.mxd (2/19/2010)

SR-91 Corridor Improvement Project

Subwatersheds and Surface Waters

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Within Segment A, the Santa Ana River, Reach 2, from 17th Street in Santa Ana to Prado Dam, parallels and is north of SR-91. Drainages that enter the Santa Ana River in the vicinity of Segment A include Aliso and Brush Canyons from Chino Hills to the north, Wardlow Wash from the east, and Fresno, Coal, and Gypsum Canyons and Green River Creek from the south.

Within Segment B and the eastern part of Segment A, the Santa Ana River, Reach 3, from Prado Dam to Mission Boulevard in Riverside is north of the study area.

Within Segment C, Reach 1 of Temescal Wash (from Lincoln Avenue to the Riverside Canal) parallels I-15 to the west (north of the SR-91/I-15 interchange) and to the east (south of SR-91).

3.10.2.4 Beneficial Uses for Surface Waters

Beneficial uses identified in the RWQCB, Santa Ana Region, *Water Quality Control Plan for the Santa Ana River Basin* (Basin Plan; February 2008) for Reaches 2 and 3 of the Santa Ana River are:

- AGR: Agriculture
- GWR: Groundwater recharge
- REC-1: Body-contact recreation (swimming/wading)
- REC-2: Non-body contact recreation (boating/fishing)
- WARM: Warm water habitat for fish amenable for reproduction in warm water
- WILD: Habitat for wild plants and animals
- RARE: Habitat for rare (threatened/endangered) plants and animals
- SPWN: Habitat for spawning, reproduction, and early development of fish and wildlife (applicable to Reach 3 only)

Beneficial uses identified in the Basin Plan for Reach 1 of Temescal Wash are:

- REC-1: Body-contact recreation (swimming/wading)
- REC-2: Non-body contact recreation (boating/fishing)
- WARM: Warm water habitat for fish amenable for reproduction in warm water
- WILD: Habitat for wild plants and animals

3.10.2.5 Surface Water Quality Objectives

Surface water quality objectives for all inland waters in the region are listed in Table 3.10.1. The Santa Ana River, Reach 2, has the following site-specific numeric water quality objective:

Table 3.10.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
Algae	Waste discharges shall not contribute to excessive algal growth in inland surface receiving waters.	All inland surface waters
Ammonia	Varies based on pH and temperature. Ranges from 0.004 to 0.0224 mg/L un-ionized ammonia and 0.05 to 1.49 mg/L total ammonia.	COLD beneficial use designation
	Varies based on pH and temperature. Ranges from 0.0006 to 0.0530 mg/L un-ionized ammonia and 0.119 to 2.27 mg/L total ammonia.	WARM beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	All inland surface waters
Chlorine (residual)	Chlorine residual in wastewater discharged to inland surface waters shall not exceed 0.1 mg/L.	All inland surface waters
Coliform (fecal)	Logarithm means less than 200 organisms per 100 mL based on five or more samples per 30-day period and not more than 10 percent of the samples exceed 400 organisms per 100 mL for any 30-day period.	REC-1 beneficial use designation
	Logarithm means less than 2,000 organisms per 100 mL based on five or more samples per 30-day period and not more than 10 percent of the samples exceed 4,000 organisms per 100 mL for any 30-day period.	REC-2 beneficial use designation
Coliform (total)	Not to exceed 100 organisms per 100 mL.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses. The natural color of fish, shellfish or other inland surface water resources used for human consumption shall not be impaired.	All inland surface waters
Floatables	Waste discharges shall not contain floating materials, including solids, liquids, foam, or scum, that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Fluoride	Shall not exceed 0.7 to 1.2 mg/L as a result of controllable water quality factors depending on air temperature (refer to Basin Plan).	MUN beneficial use designation
Metals	Varies based on hardness.	All inland surface waters
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Nitrate	Shall not exceed 45 mg/L as NO_3 or 10 mg/L as N.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that result in a visible film or in coating objects in the water or that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Oxygen (dissolved)	Shall not be depressed below 5 mg/L as a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be depressed below 6 mg/L as a result of controllable water quality factors.	COLD beneficial use designation
	Waste discharges shall not cause the median dissolved oxygen concentration to fall below 85 percent of saturation or the 95th percentile concentration or fall below 75 percent of saturation within a 30-day period.	All inland surface waters
pH	Shall not be raised above 8.5 or depressed below 6.5 as a result of controllable water quality factors.	All inland surface waters
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation

Table 3.10.1 Surface Water Quality Objectives for Inland Surface Waters

Constituent	Concentration	Receiving Waters
Solids (suspended and settleable)	Shall not cause nuisance or adversely affect beneficial uses.	All inland surface waters
Sulfides	Shall not be increased as a result of controllable water quality factors.	All inland surface waters
Surfactants	Waste discharges shall not contain concentrations of surfactants that result in foam in the course of flow or use of the receiving water or that adversely affect aquatic life.	All inland surface waters
Taste and odor	Shall not contain taste- or odor-producing substances at concentrations that cause a nuisance or adversely affect beneficial uses.	All inland surface waters
Temperature	Shall not be raised above 90°F June through October or above 78°F during the rest of the year as a result of controllable water quality factors.	WARM beneficial use designation
	Shall not be increased by more than 5°F as a result of controllable water quality factors.	COLD beneficial use designation
Toxic substances	Shall not be discharged at levels that will bioaccumulate in aquatic resources to levels that are harmful to human health. Concentrations of toxic pollutants in the water column, sediments, or biota shall not adversely affect beneficial uses.	All inland surface waters
Turbidity	Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20 percent. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 NTU. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.	All inland surface waters

Source: *Water Quality Control Plan for the Santa Ana River Basin* (RWQCB, Santa Ana Region, February 2008).

°F = degrees Fahrenheit
Basin Plan = RWQCB, Santa Ana Region, Water Quality Control Plan for the Santa Ana River Basin
COLD = cold freshwater habitat
JTU = Jackson turbidity units
mg/L = milligrams per liter
mL = milliliters
MUN = municipal water supply
N = nitrogen
NO_3 = nitrate
NTU = nephelometric turbidity units
pCi/L = picocuries per liter
pH = percentage of hydrogen
REC-1 = contact water recreation
REC-2 = noncontact water recreation
RWQCB = California Regional Water Quality Control Board
WARM = warm freshwater habitat

- Total dissolved solids (TDS): 650 milligrams/liter (mg/L)

The Santa Ana River, Reach 3, has the following site-specific numeric water quality objectives:

- TDS: 700 mg/L
- Hardness: 350 mg/L
- Sodium: 110 mg/L
- Chloride: 140 mg/L
- Total inorganic nitrogen: 10 mg/L
- Sulfate: 150 mg/L
- Chemical oxygen demand: 30 mg/L

The following site-specific numeric water quality objectives are applicable to the Santa Ana River, Reaches 2 and 3, and Temescal Wash:

- Ammonia: 0.098 mg/L ammonia nitrogen (NH_3-N)
- Cadmium: 4 micrograms/liter (µg/L)
- Copper: 37 µg/L
- Lead: 28 µg/L

3.10.2.6 Water Quality Impairments

Regional Water Quality

In general, the quality of surface water and groundwater in the Santa Ana River Watershed becomes progressively poorer as water moves downstream. The highest quality water is typically associated with tributaries flowing from the surrounding mountains and groundwater recharged by those streams. Water quality is affected by a number of factors including consumptive use, importation of water high in dissolved solids, runoff from urban and agricultural areas, and the recycling of water within the basin.

The most important regional issue in the Santa Ana River Watershed is the degradation of water quality by nitrogen and TDS. Historically, the Santa Ana River and its major tributaries flowed year-round; however, diversion for irrigation has resulted in decreased flow and groundwater recharge. Primary water quality concerns in the Middle Santa Ana River include TDS, total inorganic nitrogen levels, and contaminant plumes in groundwater; bacterial quality of surface waters; and impacts from concentrated animal-feeding operations.

Surface Water Quality

The United States Geological Survey (USGS) maintains several gauging stations in the Santa Ana River. However, most of the data collected at those stations are discharge measurements. Water quality measurements collected at Gage 11074000 in the Santa Ana River below Prado Dam for selected constituents are summarized in Table 3.10.2. The data are summarized as averages by water year, which is defined by the USGS as October through September. These measured values are within the water quality objectives for this reach of the Santa Ana River that were provided earlier in Section 3.10.2.5, Surface Water Quality Objectives.

Section 303(d) Listed Waters

Santa Ana River Reach 3 is listed as impaired for lead, copper, and pathogens in the SWRCB *2010 Integrated Report* (approved on August 4, 2010). In addition,

Table 3.10.2 Average Santa Ana River Water Quality by Water Year (October through September)

Constituent	Units	1998–1999	1999–2000	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007
Alkalinity	mg/L	187.2	177.6	191.5	202.8	177.1	186.3	193.5	199.8	205
Ammonia	mg/L as N	0.3	0.2	0.3	0.06	0.1	0.07	0.14	0.11	0.06
Calcium	mg/L	71.0	65.2	70.0	--	--	--	--	--	--
Chloride	mg/L	91.0	93.5	100.6	107.9	--	97.8	95.7	108.3	117.9
Dissolved organic carbon	mg/L	5.9	5.8	4.8	--	--	--	--	--	--
Dissolved oxygen	mg/L	9.4	8.7	8.7	9.0	8.7	8.9	9.5	9.8	9.9
Fluoride	mg/L	0.4	0.4	0.4	--	--	--	--	--	--
Hardness	mg/L as $CaCO_3$	244.7	229.3	244.5	--	--	--	--	--	--
Iron	µg/L	15.1	16.4	15.6	--	--	--	--	--	--
Magnesium	mg/L	16.6	16.1	16.9	--	--	--	--	--	--
Manganese	µg/L	96.7	73.0	76.2	--	--	--	--	--	--
Nitrate+nitrite	mg/L as N	6.5	5.0	5.0	5.3	3.6	4.3	3.9	5.1	5.4
Nitrite	mg/L as N	0.09	0.08	0.11	0.07	0.09	0.13	0.07	.06	0.05
Ortho-phosphate	mg/L as P	0.8	0.7	0.8	0.78	0.6	0.52	0.58	0.68	0.92
pH	pH units	8.1	8.1	8.0	8.1	8.1	8.1	8.1	8.1	8.2
Phosphorus	mg/L as P	1.3	1.2	1.0	0.89	0.9	0.74	0.69	0.91	1.2
Potassium	mg/L	10.2	9.5	10.6	--	--	--	--	--	--
Silica	mg/L	20.0	18.4	19.5	--	--	--	--	--	--
Sodium	mg/L	79.1	80.0	86.9	--	--	--	--	--	--
Specific conductance	µs/cm	932.8	896.9	911.1	943.4	817.4	884.3	855.4	921.8	1,019
Sulfate	mg/L	96.7	92.1	96.9	100.6	81.7	88.0	92.4	104.5	109.0
Temperature	°C	17.8	18.8	18.5	18.2	18.5	18.8	18.5	18.5	19.0
Total dissolved solids	mg/L	541.4	506.6	541.7	--	--	--	--	--	--
Total suspended organic carbon	mg/L	2.1	1.9	3.0	--	--	--	--	--	--
Zinc	µg/L	20.8	41.3	16.7	--	--	--	--	--	--

Source: United States Geological Survey, *Water Quality Data Reports, 1994–1997.*
$CaCO_3$ = calcium carbonate
°C = degrees Celsius
µg/L = micrograms per liter
mg/L = milligrams per liter
N = nitrogen
P = phosphorus
pH = percentage of hydrogen

Temescal Creek Reach 1 is listed as impaired for pH. The *2010 Integrated Report* includes changes to the 2006 CWA Section 303(d) list of impaired water bodies and CWA Section 305(b) report on the quality of waters in California. On November 12, 2010, the EPA approved the State's inclusion of all waters and pollutants that the State identified as requiring a TMDL and they disapproved the State's omission of several water bodies and associated pollutants that meet federal listing requirements.

On October 11, 2011, the EPA approved the final list of impaired water bodies. The EPA added Santa Ana River Reach 2 to the list of impaired waters as impaired for indicator bacteria and Reach 3 for lead.

A resolution to amend the Basin Plan to include a TMDL for bacterial indicators was approved by the Santa Ana RWQCB on September 1, 2006, and the EPA on May 16, 2007 (Resolution No. R8-2005-001). This TMDL is applicable to Reach 3 of the Santa Ana River. In addition, a TMDL is currently under development for nutrients for Reach 3 of the Santa Ana River.

3.10.2.7 Groundwater Resources

As designated in the Basin Plan, the project site is within the Orange County Groundwater Management Zone of the Lower Santa Ana River Basin and the Temescal, Arlington, and Bedford Groundwater Management Zones of the Middle Santa Ana River Basin, as shown on Figure 3.10-2. Groundwater basins were redesignated as Groundwater Management Zones by the Santa Ana RWQCB in the February 2008 Basin Plan.

Near Prado Dam, the study area is bordered by the Prado Basin Surface Water Management Zone. The floodplain behind Prado Dam has unique hydraulic characteristics. Flood control operations at the dam, coupled with an extremely shallow groundwater table and an unusually thin aquifer, affect subsurface flows in the area. Depending on how the dam is operated, surface waters may or may not percolate behind the dam. There is little or no groundwater storage in the floodway behind the dam. Any groundwater in storage is forced to the surface because the foot of Prado Dam extends to bedrock, and subsurface flows cannot pass through the barrier created by the dam and the surrounding hills. As a result, this area is designated as a surface water management zone rather than a groundwater management zone.

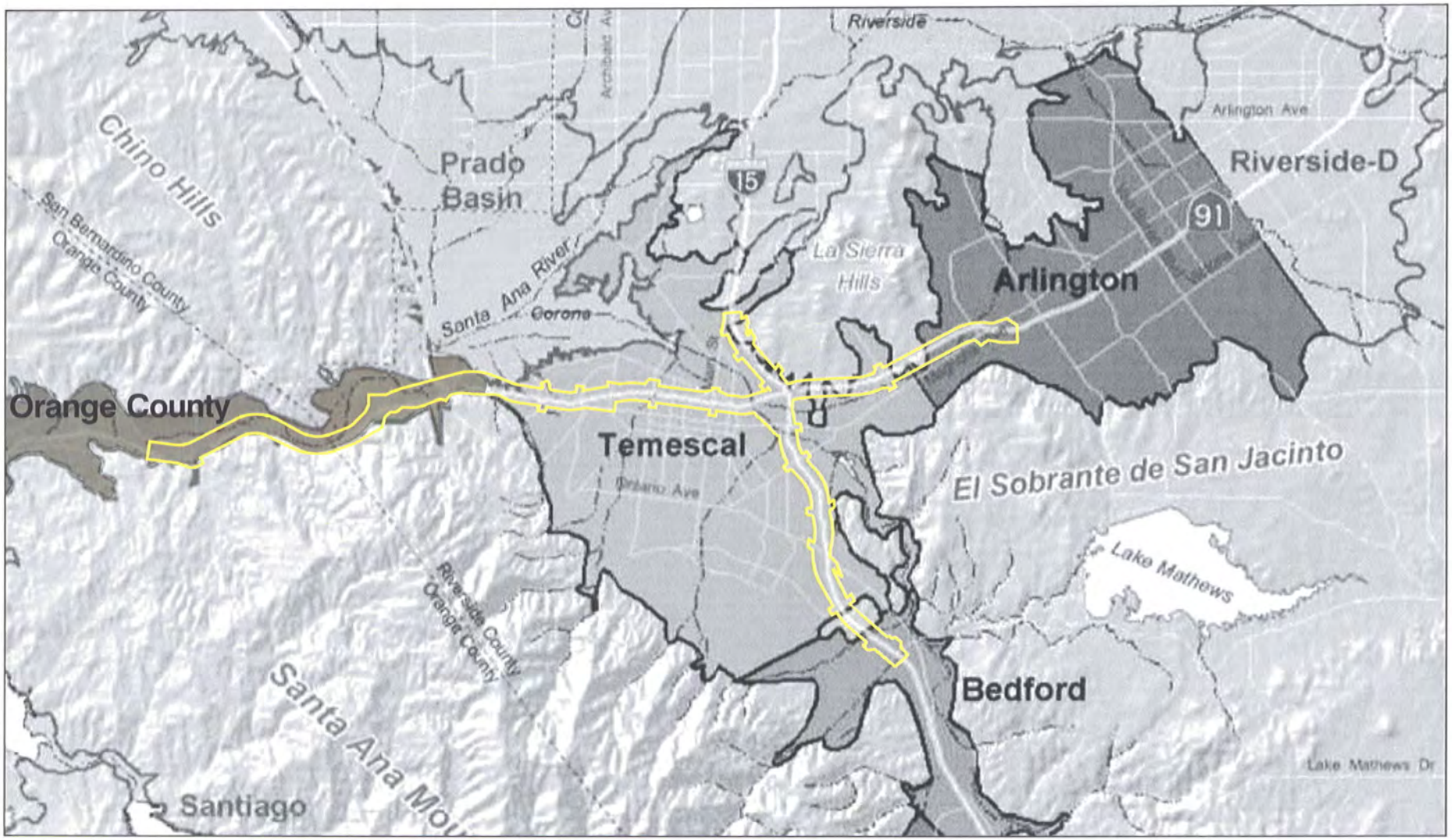


FIGURE 3.10-2

LEGEND

- SR-91 Study Area

0 1.5 3
MILES

SOURCE: California Regional Water Quality Control Board, Santa Ana Region.
Water Quality Control Plan, Santa Ana River Basin. Updated February 2008.

SR-91 Corridor Improvement Project
Groundwater Management Zones
Ora-91-R14.43/R.18.19
Riv-91-R.0.00/R13.04
Riv-15-35.64/45.14
EA# 0F540

I:\PAZ0701\G\Groundwater Management Zones_Fig3102.cdr (2/19/2010)

This page intentionally left blank

The Orange County Groundwater Management Zone underlies a coastal alluvial plain in northwest Orange County. This groundwater management zone is bounded by consolidated rocks exposed on the northeast in the Chino Hills, on the north in the Coyote Hills, and on the east in the Santa Ana Mountains; by SR-55 and the Irvine Groundwater Management Zone on the southeast; the Pacific Ocean on the southwest; and a low topographic divide at approximately the Orange County/ Los Angeles County line and Coyote Creek on the northwest. This groundwater management zone is recharged by percolation of Santa Ana River flow, infiltration of precipitation, and injection wells.

The Arlington Groundwater Management Zone underlies part of the Santa Ana River Valley in northwest Riverside County. This groundwater management zone is bounded by impermeable rocks of the El Sobrante de San Jacinto Mountains on the south, the La Sierra Hills on the west and northwest, the Riverside-D Groundwater Management Zone on the east, and the Chino 5 Groundwater Management Zone on the north. This groundwater management zone is replenished by infiltration from Santa Ana River flow, return irrigation flow, and deep percolation of precipitation.

The Temescal Groundwater Management Zone underlies the southwest part of the upper Santa Ana Valley. This groundwater management zone is bounded on the north by the Prado Basin Surface Water Management Zone, on the east by non-water-bearing crystalline rocks of the El Sobrante de San Jacinto Mountains and La Sierra Hills, on the west by the Santa Ana Mountains, and on the south by the Bedford Groundwater Management Zone. Dominant recharge to this groundwater reservoir is from percolation of precipitation on the valley floor and infiltration of stream flow within tributaries exiting the surrounding mountains and hills.

The southern tip of the study area along I-15 is in the north part of the Bedford Groundwater Management Zone. The Bedford Groundwater Management Zone is bounded by the Temescal Groundwater Management Zone on the north, the Santa Ana Mountains on the west, the El Sobrante de San Jacinto Mountains on the east, and Lee Lake on the south. The part of the study area in the Bedford Groundwater Management Zone consists of areas for advanced signage only.

The depth to groundwater along the alignments of SR-91 and I-15 varies from approximately 10 ft to greater than 110 ft. During past bridge construction, groundwater has been encountered at depths as shallow as approximately 11 ft below ground surface (bgs) at the SR-91 Promenade Avenue Overcrossing to as deep as

approximately 110 ft bgs at the I-15/Ontario Avenue Overcrossing. Groundwater depths in the area of the I-15/Ontario Avenue and I-15/El Cerrito Road overcrossings are 50 and 30 ft bgs, respectively. In general, the parts of the study area with historic depths to groundwater less than 50 ft bgs extend from Santa Ana Canyon to approximately Research Drive in the City of Corona, near the I-15/SR-91 interchange, and the vicinity of Pierce Street.

Groundwater levels are subject to seasonal fluctuations and may vary over time. Local perched groundwater or surface water may also occur during or following periods of intense rainfall. There are no sole source aquifers in the project area.

Segment A is located in a high risk area, which is defined as a location where spills from the State-owned rights-of-way, activities, or facilities can discharge directly to municipal or domestic water supply reservoirs or groundwater percolation facilities. The Orange County Water District (OCWD) maintains several groundwater recharge basins along the Santa Ana River downstream of Segment A. Runoff from SR-91 discharges directly into the Santa Ana River and is therefore considered a high risk area. There are no high risk areas along Segments B and C.

3.10.2.8 Beneficial Uses for Groundwater

The beneficial uses for groundwater identified in the Basin Plan for the Orange County, Arlington, Bedford, and Temescal Groundwater Management Zones are:

- Municipal
- Agricultural
- Industrial
- Process water supply

3.10.2.9 Groundwater Quality Objectives

The groundwater quality objectives for the Santa Ana Region as designated in the Basin Plan are provided in Table 3.10.3.

There are no site-specific groundwater objectives for the Bedford Groundwater Management Zone. The site-specific groundwater objectives for the other three groundwater management zones in the study area are:

- **Orange County Groundwater Management Zone**
  - TDS: 910 mg/L
  - Nitrate as nitrogen: 5.9 mg/L

Table 3.10.3 Groundwater Quality Objectives for Groundwater Management Zones

Constituent	Concentration	Area
Arsenic	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Boron	Shall not exceed 0.75 mg/L as a result of controllable water quality factors.	Santa Ana Region
Chloride	Shall not exceed 500 mg/L as a result of controllable factors.	MUN beneficial use designation
Coliform (total)	Shall not exceed 2.2 organisms/100 mL median over any 7-day period as a result of controllable water quality factors.	MUN beneficial use designation
Color	Waste discharges shall not result in coloration of the receiving waters that causes a nuisance or adversely affects beneficial uses.	Santa Ana Region
Cyanide	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Fluoride	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Hardness	Shall not be increased as a result of waste discharges to levels that adversely affect beneficial uses.	MUN beneficial use designation
Oil and grease	Waste discharges shall not result in deposition of oil, grease, wax, or other materials in concentrations that cause a nuisance or adversely affect beneficial uses.	Santa Ana Region
Barium	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cadmium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Chromium	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Cobalt	Shall not exceed 0.2 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Copper	Shall not exceed 1.0 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Iron	Shall not exceed 0.3 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Lead	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Manganese	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Mercury	Shall not exceed 0.002 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Selenium	Shall not exceed 0.01 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Silver	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Methylene blue-activated substances	Shall not exceed 0.05 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
pH	The pH of groundwater shall not be raised above 9 or depressed below 6 as a result of controllable water quality factors.	Santa Ana Region
Radioactivity	Shall not exceed the California Code of Regulations, Title 22, standards of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha, 20,000 pCi/L for tritium, 8 pCi/L for strontium-90, 50 pCi/L for gross beta, and 20 pCi/L for uranium.	MUN beneficial use designation
Sodium	Shall not exceed a sodium absorption rate of 9.	AGR beneficial use designation
Sulfate	Shall not exceed 500 mg/L as a result of controllable water quality factors.	MUN beneficial use designation
Taste and odor	Groundwater shall not contain taste- or odor-producing substances in concentrations that adversely affect beneficial uses.	Santa Ana Region
Toxic substances	All waters shall be maintained free of substances in concentrations that are toxic or that produce detrimental physiological responses in human, plant, animal, or aquatic life.	Santa Ana Region

Source: *Water Quality Control Plan for the Santa Ana River Basin* (RWQCB, Santa Ana Region, February 2008).
AGR = agricultural water supply
MUN = municipal water supply
RWQCB = California Regional Water Quality Control Board
pCi/L = picocuries per liter
mg/L = milligrams per liter
pH = percentage of hydrogen

- **Temescal Groundwater Management Zone**
  - TDS: 770 mg/L
  - Nitrate as nitrogen: 10 mg/L
- **Arlington Groundwater Management Zone**
  - TDS: 980 mg/L
  - Nitrate as nitrogen: 10 mg/L

As discussed previously, the Prado Basin Surface Water Management Zone is generally defined as a surface water feature within the Prado Basin. For the purpose of regulating discharges that would affect the Prado Basin Surface Water Management Zone and downstream waters, the water quality objectives established for surface waters that flow in the Prado Basin Surface Water Management Zone apply. Those objectives were discussed in Section 3.10.2.5.

Groundwater Quality

Water in the study area is primarily sodium-calcium bicarbonate-based. TDS in the Orange County Groundwater Management Zone range from 232 to 661 mg/L and average 475 mg/L. Groundwater in this groundwater management zone is impaired by increasing salinity, high nitrates, and methyl tertiary-butyl ether (MTBE).

Groundwater in the Temescal Groundwater Management Zone has elevated nitrate concentrations and an average TDS concentration of 790 mg/L. TDS within the Arlington Groundwater Management Zone range from 320 to 756 mg/L.

3.10.3 Environmental Consequences

3.10.3.1 Summary of Impacts

Pollutants of concern during operation of a transportation facility include sediments, trash, and debris that can be generated from facility maintenance activities as well as vehicles operating on the facility. Increased impervious areas associated with new freeway facilities increase the volume of runoff during a storm, which more effectively transports pollutants to receiving waters and may lead to downstream erosion. The Alternative 1 Ultimate Project would increase the impervious surface area in the study area by 117 ac (i.e., 27.0 percent) compared to the existing freeway facilities. The Alternative 2 Ultimate Project would increase the impervious surface area by 173 ac, a 39.6 percent increase, compared to the existing freeway facilities. As part of the project, BMPs will be implemented to target constituents of concern in runoff from the additional freeway facilities. Drainage from the newly added freeway facilities would be treated by biofiltration swales, infiltration basins, detention basins,

and/or media filters. All the runoff from the new net impervious surface area would be treated by the BMPs. BMPs would be implemented in accordance with NPDES Permit requirements; therefore, the operation of Alternatives 1 and 2 would not result in substantial adverse water quality impacts based on compliance with the applicable permits.

During construction of the Alternative 1 and 2 Ultimate Projects, excavated soil would be exposed and there would be increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. There is also potential for construction-related pollutants to be discharged into storm drains and surface waters during construction. The total area estimated to be disturbed during construction of the Alternative 1 Ultimate Project is approximately 351 ac. The total soil area estimated to be disturbed during construction of the Alternative 2 Ultimate Project is approximately 503 ac. Construction BMPs would be properly designed, implemented, and maintained. Therefore, no substantial adverse water quality impacts would occur during construction of the Alternative 1 or 2 Ultimate Project.

The Initial Phases of Alternatives 1 and 2 would result in a smaller increase in impervious surfaces than under the Ultimate Projects. As a result, the Initial Phases of Alternatives 1 and 2 would result in a smaller increase in runoff than under the Ultimate Alternatives. BMPs will be constructed in the Initial Phases to treat runoff from the freeway facilities.

The construction of the Initial Phases of Alternatives 1 and 2 would result in exposure of less excavated soil to the potential for soil erosion than would occur under the Ultimate Projects. Construction BMPs would be included in the Initial Phases of Alternatives 1 and 2.

Summary of Impacts of Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase of Alternative 2f would increase the impervious surface area by 110 ac compared to the existing freeway facilities. The Ultimate Project under Alternative 2f would increase the impervious surface area an additional 63 ac (for a total of 173 ac) compared to the existing freeway facilities.

The total area estimated to be disturbed during the construction of the Initial Phase of Alternative 2f would be approximately 305 ac, and the additional area estimated to be

disturbed for the Ultimate Project under Alternative 2f would be approximately 198 ac (for a total of 503 ac).

As discussed above for Alternatives 1 and 2, BMPs would be implemented in accordance with NPDES Permit requirements for Alternative 2f (Initial Phase and Ultimate Project). A Construction General Permit that includes a SWPPP would be prepared and implemented during construction of Alternative 2f (Initial Phase and Ultimate Project). Groundwater and any other non-storm-water dewatering activities will be subject to the requirements of the De Minimus Permit and discharge authorization letter from the RWQCB Executive Director; therefore, no substantial adverse water quality impacts would occur during construction and operation of Alternative 2f (Initial Phase and Ultimate Project).

Alternative 2f includes the implementation of construction and permanent BMPs in the Initial Phase and Ultimate Project. Permanent BMPs constructed in the Initial Phase would be constructed to accommodate Ultimate Project conditions. None of the BMPs constructed during the Initial Phase would require relocation to accommodate the Ultimate Project improvements. The BMPs that would be provided in the Initial Phase and Ultimate Project for Alternative 2f are listed in Tables 3.10.4 and 3.10.5, respectively.

Table 3.10.4 Treatment BMP Estimated Quantities for the Initial Phase of Alternative 2f

Project Segment	Biofiltration Swales/Strips Each	Infiltration Devices Each	Detention Devices Each	Media Sand Filters Each
1	7	5	5	5
2	4	6	7	10
3	1	1	1	1
Total	**12**	**12**	**13**	**16**

Source: *Project Report* (2012).

Table 3.10.5 Treatment BMP Estimated Quantities for the Alternative 2f Ultimate Project

Project Segment	Biofiltration Swales/Strips Each	Infiltration Devices Each	Detention Devices Each	Media Sand Filters Each
1	12	6	7	7
2	10	9	11	14
3	2	2	3	2
Total	**24**	**17**	**21**	**23**

Source: *Project Report* (2012).

3.10.3.2 Permanent Impacts

Sediments, Turbidity, and Floating Materials

Increased impervious areas associated with new freeway facilities in turn increase the volume of runoff during a storm, which transports pollutants to receiving waters and may lead to downstream erosion or impairment of water quality objectives. In addition, as the amounts of impervious surfaces and runoff increase, less water is able to infiltrate into the ground. Infiltration allows water to travel more slowly to creeks and streams, which helps sustain flows through drier periods and supports aquatic life. Water that travels too quickly to creeks and streams can pick up and carry more sediment and other pollutants, thereby impairing that body's water quality. In addition, the water may also hit creeks and streams in a rush, which could result in erosion and flooding. Water that infiltrates through the ground gets filtered by natural processes before it reaches the receiving water body. Compared with existing conditions, there would be a slight increase in runoff volumes due to the addition of new impervious areas from the freeway improvements under Alternatives 1 and 2. Such increases would generally shorten the time of concentrations and runoff travel time to the Santa Ana River. However, because the flow increase to the Santa Ana River is expected to be minimal, the hydrologic impact is considered negligible.

Alternatives 1 and 2 would result in a permanent increase of impervious surfaces and a permanent increase in runoff and pollutant loading, including sediments, trash, and debris. As shown in Table 3.10.6, Alternative 1 would increase the impervious surface area in the study area by 117 ac (i.e., 27.0 percent) compared to the existing freeway facilities. Water quality impacts related to sediment, turbidity, and floating materials during operation of the Initial Phase of Alternative 1 would be similar to those discussed above for Alternative 1. However, the increase in impervious surface area, and therefore the increase in runoff and pollutant loading, would be less than under Alternative 1. Because a detailed phasing plan for the Initial Phase of Alternative 1 has not been developed, the new impervious surface area for the phasing cannot be quantified.

Table 3.10.6 Existing and New Impervious Areas for Alternatives 1 and 2

Build Alternatives	Existing Impervious Area (acres)	Net New Impervious Area (acres)	Increase in Impervious Area (%)
Alternative 1	436.6	117	27.0
Alternative 2	437.0	173	39.6

Source: *Final Water Quality Assessment Report (May 2010)*.

As shown in Table 3.10.6, Alternative 2 would increase the impervious surface area by 173 ac, a 39.6 percent increase, compared to the existing freeway facilities. Because the increase in impervious surface would be greater under Alternative 2, the increase in runoff and pollutant loading under Alternative 2 would also be greater than under Alternative 1. Water quality impacts during the operation of the Initial Phase of Alternative 2 would be similar to those discussed above for Alternative 2. The Initial Phase of Alternative 2 would increase the impervious surface area by 110 ac, which is less than the impervious surface area increase of the Alternative 2 Ultimate Project (173 ac). The increase in impervious surface, and therefore the increases in runoff and pollutant loading, under the Alternative 2 Ultimate Project would be greater than the Initial Phase of Alternative 2.

The operation of Alternatives 1 and 2 will be subject to the requirements of the Department's NPDES Permit. Specifically, during project operation, the Department must (1) comply with the requirements of the 1999 Department Statewide NPDES Permit and any subsequent permit, (2) consider approved BMPs to treat the runoff from the project site, and (3) install these BMPs where feasible.

The Department has provisions to evaluate and monitor BMP effectiveness in the SWMP. The SWMP also lists provisions to replace a BMP with an alternative practice if monitoring finds the BMP is not performing as designed or expected. The Department recognizes the importance of maintenance and monitoring of BMPs after construction is complete.

Currently, runoff from SR-91 and I-15 in the study area is partially treated where runoff sheet flows to vegetated slopes and swales. As part of the project, BMPs would be implemented to target constituents of concern in runoff from the newly added freeway facilities (117 ac and 173 ac under Alternatives 1 and 2, respectively). The BMPs would also increase filtration, which would partially offset the increased runoff as a result of the increased impervious areas under Alternatives 1 and 2.

Drainage from the newly added freeway facilities would be treated by biofiltration swales, infiltration basins, detention basins, and/or media filters. All the runoff from the new net impervious surface areas would be treated by the BMPs. The BMPs would treat runoff from an area equivalent to the impervious surface area added by the project as well as runoff from part of the existing freeway facility. The potential BMP locations for Alternatives 1 and 2 and the Initial Phase of Alternative 2 are shown on Figures 3.10-3 and 3.10-4, respectively, and are also discussed in detail

below. Figures 3.10-3 and 3.10-4 are provided following the last page of text in this section to minimize disruptions for the reader.

- **Biofiltration Swales.** Biofiltration swales (bioswales) are vegetated channels that convey storm water and remove pollutants by filtration through grass, sedimentation, adsorption to soil particles, and infiltration through soil. Bioswales are effective at removing debris and solid particles, although some removal of dissolved constituents is also achieved.
- **Infiltration Basins.** Infiltration basins are designed to remove pollutants by capturing storm water runoff and infiltrating it directly to the soil, instead of discharging it to receiving waters. Infiltration basins remove a wider range of pollutants than detention basins. Pollutants removed by infiltration basins include total suspended solids (TSS), nutrients, pesticides, particulate metals, dissolved metals, pathogens, litter, biochemical oxygen demand, and TDS.
- **Detention Basins.** Detention basins are designed to reduce sediment and particulate loading in storm water runoff. Water is temporarily detained in a detention basin to allow sediment and particulates to settle out before the runoff is discharged to receiving waters. Detention basins typically detain water for 24 to 72 hours.
- **Media Filters.** Media filters are designed to remove TSS pollutants (sediments and metals) from runoff through sedimentation and filtration. They also effectively remove trash and dissolved metals. Austin sand filters are media filters that are open, at grade, and do not contain a permanent pool of water.

BMPs would be implemented in accordance with NPDES Permit requirements as described later in Measure WQ-3. They would be implemented in phases as the project improvements are implemented, with 100 percent of the net new impervious area treated for each phase as well as runoff from part of the existing freeway facility. Therefore, Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 would not result in substantial adverse water quality impacts related to sediments, turbidity, and floating materials.

No Build Alternative

Under the No Build Alternative, there would be no increase in impervious areas or changes in land use on SR-91 or I-15; however, the No Build Alternative would contribute to water quality objective impairments because the runoff from these facilities would continue to remain partially untreated where runoff sheet flows to vegetated slopes and swales.

Oil, Greases, and Chemical Contamination

In addition to sediments and trash, pollutants of concern during operation of a transportation facility include petroleum products, metals, nutrients, solvents, waste paint, herbicides, and pesticides. These pollutants of concern can be generated from maintenance activities as well as vehicles operating on the facility. New impervious areas associated with freeway facilities increase the volume of runoff during a storm, which more effectively transports pollutants to receiving waters and may lead to downstream erosion and impairment of water quality objectives and/or beneficial uses of receiving waters.

There would be a net increase in impervious areas under Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 that would result in an increase in the volume of runoff during a storm or a subsequent increase of pollutant loading (including petroleum products, metals, and chemicals) to receiving waters.

Alternative 1 would increase the impervious surface area by 117 ac compared to the existing freeway facility. That increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters and potentially impair water quality objectives and/or beneficial uses. Water quality impacts during the operation of the Initial Phase of Alternative 1 would be similar to those for Alternative 1. However, the increase in impervious surface area and the increase in runoff and pollutant loading for the Initial Phase of Alternative 1 would be less than for Alternative 1. Because a detailed phasing plan for the Initial Phase of Alternative 1 has not been developed, the new impervious surface area for the Initial Phase of Alternative 1 cannot be quantified.

Alternative 2 would result in a greater net increase in impervious surface area than Alternative 1, with a total net increase of 173 ac compared to the existing freeway facilities. As a result, the increase in runoff and pollutant loading under Alternative 2 would be greater than under Alternative 1. Water quality impacts during operation of the Initial Phase of Alternative 2 would be similar to those discussed above for Alternative 2. The Initial Phase of Alternative 2 would increase the impervious surface area by 110 ac compared to existing conditions, which is less than the increase in impervious surface area under Alternative 2. The increase in impervious surface, and therefore the increase in runoff and pollutant loading, under Alternative 2 would be greater than under the Initial Phase of Alternative 2.

As discussed above, runoff from SR-91 and I-15 in the project limits is currently partially treated where runoff sheet flows to vegetated slopes and swales. As part of Alternatives 1 and 2, BMPs would be implemented to target constituents of concern in runoff from the newly added freeway facilities. Drainage from the newly added freeway facilities would be treated by biofiltration swales, infiltration basins, detention basins, and/or media filters as discussed earlier and as shown on Figure 3.10-3. All the runoff from the new net impervious surface area under Alternatives 1 and 2 would be treated by the BMPs as well as runoff from part of the existing freeway facility. The percentages of total runoff from new areas and the existing facility that would be treated under Alternative 1 are currently estimated at 125 percent in Segment A, 116 percent in Segment B, and 102 percent in Segment C.

The Department's roadway maintenance activities under Alternatives 1 and 2 would be similar to existing conditions. The new BMPs would require maintenance and would target pollutants of concern from maintenance activities (such as oil and grease). There would be fewer BMPs to maintain for the Initial Phases of Alternatives 1 and 2 compared to Alternatives 1 and 2; therefore, there would be less maintenance activities and a lower potential for spills or leaks of petroleum products. Alternative 2 would include construction of a greater number of BMPs compared to Alternative 1. This would increase maintenance activities and therefore increase the potential for spills or leaks of petroleum products. Therefore, Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 would not substantially increase the potential for pollutants associated with maintenance activities to impact water quality.

The potential for groundwater contamination of the nearby OCWD recharge basins along the Santa Ana River requires that appropriate spill containment and spill prevention control measures be incorporated into Alternatives 1 and 2. Spill containment and prevention control measures would be implemented in accordance with specific sections in the SWMP, including Section 3 for BMP identification and implementation and Section 4.4.1 for new construction projects.

In summary, Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 would not result in substantial adverse water quality impacts related to oil, grease, and chemical contamination.

No Build Alternative

Under the No Build Alternative, there would be no increase in impervious areas or changes in land use on SR-91 or I-15; however, the No Build Alternative would

contribute to water quality objective impairments because the existing runoff from these facilities would continue to remain partially untreated where runoff sheet flows to vegetated slopes and swales.

Changes in Temperature

Temperature is not typically considered a constituent of concern during operation of a transportation facility. Therefore, the operation of Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 is not expected to result in substantial long-term adverse water quality impacts related to temperature.

No Build Alternative

Temperature is not typically considered a constituent of concern during operation of a transportation facility. Therefore, the operation of SR-91 and I-15 under the No Build Alternative is not expected to result in substantial long-term adverse water quality impacts related to temperature.

3.10.3.3 Temporary Impacts

Sediments, Turbidity, and Floating Materials

The potential impacts of construction activities on water quality focus primarily on sediments, turbidity, and pollutants that might be associated with sediments (e.g., phosphorus and pesticides) and how these may impact water quality objectives and/or beneficial uses. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on water quality and impair water quality objectives and/or beneficial uses. Construction-related activities that are primarily responsible for sediment releases are related to exposing soils to potential erosion by rainfall/runoff and wind. Such activities include removal of vegetation and existing structures from the site, grading and excavation of the site, and construction of new road surfaces and structures. These activities can create the potential for sediment to be transported outside the project limits with storm water runoff and potentially impair water quality objectives and/or beneficial uses of receiving waters. Environmental factors that affect erosion include topographic, soil, and rainfall characteristics. Additionally, material from storage stockpiles and construction materials (e.g., asphalt, paving materials, concrete) could be transported into surface waters during storm events.

During construction of Alternatives 1 and 2, excavated soil would be exposed and there would be increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate.

There is also the potential for construction-related pollutants to be discharged into storm drains and surface waters during construction and potentially impairing water quality objectives and/or beneficial uses of receiving waters. For instance, grading can generate sediment, which has the potential to be washed into storm drains and surface waters or tracked off site by construction trucks and heavy equipment.

The total area anticipated to be disturbed during the construction of Alternative 1 is estimated to be approximately 351 ac. The water quality impacts related to sediment, turbidity, and floating materials during construction of the Initial Phase of Alternative 1 would be similar to those discussed above for Alternative 1. However, the total soil area disturbed during construction of the Initial Phase of Alternative 1 would be less than disturbed by Alternative 1. Because a detailed phasing plan for Alternative 1 has not been developed, the disturbed soil area for the Initial Phase of Alternative 1 cannot be quantified.

Water quality impacts during the construction of Alternative 2 would be similar to those discussed above for Alternative 1. However, the total soil area disturbed during the construction of Alternative 2 would be approximately 503 ac, which is greater than the total disturbed area under Alternative 1. Water quality impacts during construction of the Initial Phase of Alternative 2 would be similar to those discussed above for Alternative 2. However, the total soil area disturbed during construction of the Initial Phase of Alternative 2 would be approximately 305 ac, which is less than Alternative 2 (503 ac).

The impacts due to erosion and sedimentation can be placed in three categories: degradation of aquatic and riparian ecosystems, pollutant transport, and erosion of land and sedimentation within waterways and public facilities (i.e., storm drains). Sediment can be detrimental to aquatic life (e.g., primary producers, benthic invertebrates, and fish) by interfering with photosynthesis, respiration, growth, reproduction, and oxygen exchange in water bodies. In addition, sediment particles can transport other pollutants that are attached to them including nutrients, trace metals, and hydrocarbons. Sediment particles such as silts and clays are the primary components of total suspended solids (TSS), a common water quality analytical parameter. In addition to impacts directly associated with sedimentation, various pollutants can also be transported along with sediment particles leaving construction sites. These pollutants often originate from organic components, plant residues, and nutrient elements within soils on the construction site, and are thus mobilized by erosion and later deposited downstream during sedimentation. Alternatively, these

other pollutants may be generated independent of erosion and, because of their nature, can have substantial detrimental effects on receiving waters.

There are several drainages in the study area that connect directly or indirectly to the Santa Ana River. The project would affect waters of the United States as a result of widening, modifying, or otherwise improving drainages and culverts to accommodate the widening of and improvements to SR-91. Prior to initiation of construction, a Permit will be obtained through the Corps pursuant to Section 404 of the CWA.

Streambed banks and adjacent riparian areas extending beyond the limits of the Corps jurisdiction are considered subject to CDFG jurisdiction. The project would affect waters of the State as a result of widening, modifying, or otherwise improving drainages and culverts to accommodate the widening of and improvements to SR-91. Prior to initiation of construction, a Streambed Alteration Agreement with the CDFG will be obtained.

The construction of Alternatives 1 and 2 would result in temporary effects to potential RWQCB jurisdictional areas; the RWQCB often asserts jurisdiction of these areas under the Porter-Cologne Act. Prior to initiation of construction, a CWA Section 401 Water Quality Certification from the RWQCB will be obtained.

Under the Construction General Permit, a SWPPP would be prepared and implemented, including implementing specific erosion and sediment control BMPs detailed in the SWPPP during construction activities. Appropriate construction site BMPs for work in high risk areas would be identified in the SWPPP and implemented during construction. Alternatives 1 and 2 may include, but not be limited to, the Construction Site BMPs listed in Table 3.10.7. Construction BMPs would be properly designed, implemented, and maintained, as described later in Measure WQ-1. Therefore, no substantial adverse water quality impacts related to sediment, turbidity, and floating materials would occur during the construction of Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2.

No Build Alternative

Under the No Build Alternative, no improvements to SR-91 or I-15 other than routine road and bridge maintenance would be made. Therefore, the No Build Alternative would result in no short-term water quality impacts related to sediments, turbidity, and floating materials from construction-related activities.

Table 3.10.7 Construction Site BMPs for Alternatives 1 and 2

Category of BMPs	BMP No.	BMP Name
Temporary soil stabilization	SS-1	Scheduling
	SS-2	Preservation of existing vegetation
	SS-4	Hydroseeding
	SS-5	Soil binders
	SS-7	Geotextiles, plastic covers, and erosion control blankets/mats
	SS-9	Earth dikes/drainage swales, and lined ditches
	SS-10	Outlet protection/velocity dissipation devices
	SS-11	Slope drains
Temporary sediment control	SC-1	Silt fence
	SC-3	Sediment trap
	SC-4	Check dam
	SC-5	Fiber rolls
	SC-6	Gravel bag berm
	SC-7	Street sweeping and vacuuming
	SC-10	Storm drain inlet protection
Wind erosion control	WE-1	Wind erosion control
Tracking control	TC-1	Stabilized construction entrance/exit
	TC-2	Stabilized construction roads
Non-storm water control	NS-3	Paving and grinding operations
	NS-4	Temporary stream crossing
	NS-5	Clear water diversion
	NS-8	Vehicle and equipment cleaning
	NS-9	Vehicle and equipment fueling
	NS-10	Vehicle and equipment maintenance
	NS-13	Material and equipment use over water
Waste management and material pollution control	WM-1	Material delivery and storage
	WM-2	Material use
	WM-3	Stockpile management
	WM-4	Spill prevention and control
	WM-5	Solid waste management
	WM-6	Hazardous waste management
	WM-7	Contaminated soil management
	WM-8	Concrete waste management
	WM-9	Sanitary/septic waste management

Sources: *Final Water Quality Assessment Report* (May 2010).
BMPs = best management practices
SR-91 CIP = State Route 91 Corridor Improvement Project

Oil, Greases, and Chemical Contamination

Non-sediment-related pollutants of concern during construction include waste construction materials; chemicals, liquid products, and petroleum products (such as paints, solvents, and fuels) used in construction or the maintenance of heavy equipment; and concrete-related waste streams. These construction-related pollutants may be spilled, leaked, or transported via storm runoff into receiving waters and may potentially impair water quality objectives and/or beneficial uses.

During construction of Alternative 1, there is a potential for construction-related pollutants to be discharged into storm drains and surface waters, thereby potentially

impairing the water quality objectives and/or beneficial uses of receiving waters. Oil and grease have the potential to be leaked during operation and maintenance of heavy equipment on site during construction. In addition, various chemicals used during construction have the potential to be spilled or leaked, thereby potentially impairing the water quality objectives and/or beneficial uses of receiving waters. Water quality impacts related to oil, grease, and chemical contamination during construction of the Initial Phase of Alternative 1 would be similar to those discussed above for Alternative 1. However, there would be less construction activities under the Initial Phase of Alternative 1 compared to Alternative 1, which would result in a lower potential for spills or leaks of oil, grease, or chemicals.

Water quality impacts during construction of Alternative 2 would be similar to those discussed above for Alternative 1. However, there would be more construction activity under Alternative 2 compared to Alternative 1, which would increase the potential for spills or leaks of oil, grease, or chemicals. Water quality impacts during the construction of the Initial Phase of Alternative 2 would be similar to those discussed above for Alternative 2. However, there would be less construction activities under the Initial Phase of Alternative 2 compared to Alternative 1, which would result in a lower potential for spills or leaks of oil, grease, or chemicals.

As discussed earlier, under the General Construction Activity NPDES Permit, a SWPPP would be prepared and implemented, including implementing specific construction site BMPs detailed in the SWPPP during construction activities. Measures to control spills, leakage, and dumping during construction would be addressed by structural and nonstructural BMPs. Construction BMPs would be properly designed, implemented, and maintained as presented in Measure WQ-1. Therefore, no substantial adverse water quality impacts related to oil, grease, and chemical contamination would occur during construction of Alternatives 1 and 2, and the Initial Phases of Alternatives 1 and 2.

Dewatering may be necessary to construct structure footings under Alternatives 1 and 2. Dewatered groundwater may contain high levels of TDS, salinity, high nitrates, or other contaminants. Groundwater and any other non-storm-water dewatering activities are subject to the requirements of the De Minimus Permit (Order No. R8-2009-0003), which covers discharge of groundwater and non-storm-water construction waste in the Santa Ana Region. This permit requires monitoring of dewatering discharges and adherence to effluent and receiving water limitations in the permit so that the water quality of surface waters is ensured protection. Compliance

with this permit, as described later in Measure WQ-2, would minimize the potential for substantial adverse water quality impacts of Alternatives 1 and 2 during dewatering.

No Build Alternative

Under the No Build Alternative, no improvements to SR-91 or I-15 other than routine road and bridge maintenance would be conducted. Therefore, the No Build Alternative would result in no short-term water quality impacts related to oil, greases, and chemical contamination from construction-related activities.

Changes in Temperature

Water detained on construction sites has the potential to reach ambient air temperature, which would increase the temperature of surface waters if discharged during storm events and potentially impair the water quality objectives and/or beneficial uses of receiving waters. In addition, non-storm-water discharges (such as groundwater dewatering activities) have the potential to change surface water temperatures and potentially impair the water quality objectives and/or beneficial uses of receiving waters.

As noted earlier, dewatering may be necessary to construct structure footings for Alternatives 1 and 2. Dewatered groundwater may differ in temperature from the receiving waters. Water quality impacts related to temperature during construction of the Initial Phases of Alternatives 1 and 2 would be similar to those for Alternatives 1 and 2. However, because less dewatering activities would be required under the Initial Phases of Alternatives 1 and 2 compared to Alternatives 1 and 2, potential water quality impacts related to temperature would be less.

Groundwater and any other non-storm-water dewatering activities under Alternatives 1 and 2 will be subject to the requirements of the De Minimus Permit (Order No. R8-2009-0003). This permit requires dischargers to monitor dewatering discharges and adhere to effluent and receiving water limitations contained within the permit so that the water quality of surface waters is ensured protection. Compliance with this permit, as discussed later in Measure WQ-2, would minimize water quality impacts related to temperature under Alternatives 1 and 2 during dewatering.

No Build Alternative

Under the No Build Alternative, no improvements to SR-91 or I-15 other than routine road and bridge maintenance would be made. Therefore, the No Build Alternative

would result in no short-term water quality impacts related to temperature from construction-related activities.

3.10.4 Avoidance, Minimization, and/or Mitigation Measures

The Department SWMP is the guidance for compliance with the NPDES Permit requirements for discharge. As part of the Department Project Delivery Storm Water Management Program described in the SWMP, selected Construction Site, Design Pollution Prevention, and Treatment BMPs will be incorporated into the final design of the project. Compliance with the standard requirements of the SWMP and NPDES permits, listed below in measures WQ-1, WQ-2, and WQ-3, would minimize the potential substantial short- and long-term adverse impacts of Alternatives 1 and 2 and their design variations related to water quality. The following measures would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

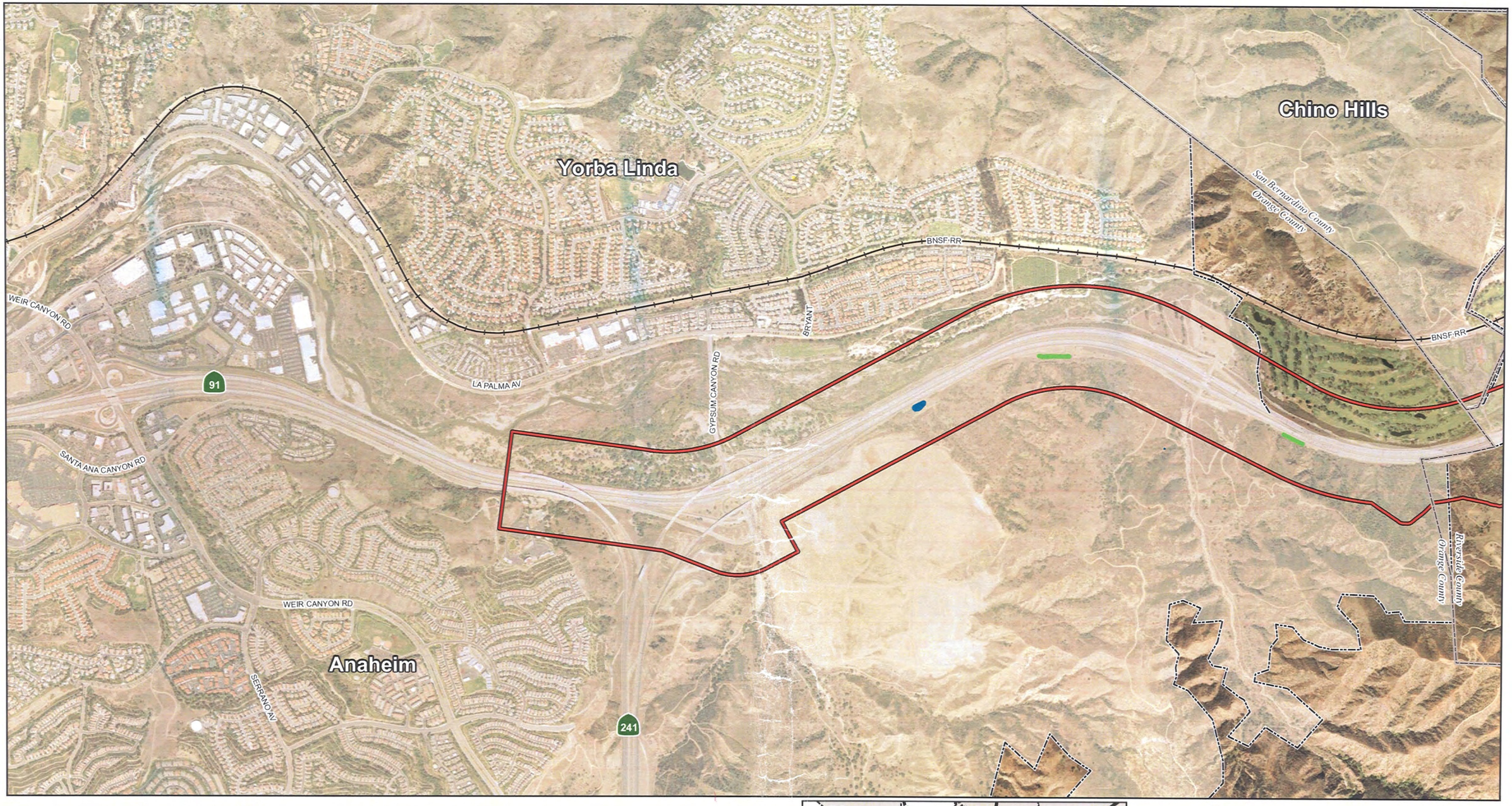
WQ-1 Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002), and any subsequent permit, as they relate to the project construction activities. This will include submission of the Permit Registration Documents, including an NOI, risk assessment, site map, SWPPP, annual fee, and signed certification statement to the SWRCB at least 14 days prior to the start of construction activity. The SWPPP will meet the requirements of the Construction General Permit and will identify potential pollutant sources associated with construction activities; identify non-storm water discharges; develop a water quality monitoring and sampling plan; and identify, implement, and maintain BMPs to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during project construction. An NOT will be submitted to the SWRCB on the completion of construction and the stabilization of the site. RCTC's Resident Engineer will also require the design/build contractor to implement SWRCB Resolution No. 2001-046 requiring sampling and analysis during project construction.

WQ-2 Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the General Waste Discharge Requirements for Discharges to Surface Waters that Pose an Insignificant (De Minimus) Threat to Water Quality, Order No. R8-2009-0003, NPDES No. CAG998001, as they relate to discharge of non-storm-water dewatering wastes for the project. This will include submitting to the Santa Ana RWQCB an NOI at least 60 days prior to the start of construction, notification of discharge at least 5 days prior to any planned discharges, and monitoring reports by the 30th day of each month following the monitoring period.

WQ-3 Prior to dewatering activities, RCTC's Resident Engineer will provide the design/build contractor with a copy of the discharge authorization letter issued by the RWQCB Executive Director.

WQ-4 Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to follow the procedures outlined in the Caltrans Storm Water Quality Handbooks, Project Planning and Design Guide (July 2010 or subsequent issuance) for implementing Design Pollution Prevention and Treatment BMPs for the project. This will include coordination with the Santa Ana RWQCB with respect to the feasibility, maintenance, and monitoring of Treatment BMPs as set forth in the Department's Statewide SWMP (May 2003 or subsequent issuance). RCTC's Resident Engineer will also require the design/ build contractor to comply with other provisions identified in the NPDES Permit, Statewide Storm Water Permit, and Waste Discharge Requirements for the State of California, Department of Transportation (Order No. 99-06-DWQ, NPDES No. CAS000003). RCTC's Resident Engineer will also require the design/build contractor to comply with other provisions identified in the NPDES Permit and Waste Discharge Requirements for the Riverside County Flood Control and Water Conservation District, the County of Riverside, and the incorporated cities of Riverside County within the Santa Ana Region (Order No. R8-2010-0033, NPDES No. CAS618033); and for the County of Orange, Orange County Flood Control District and the incorporated cities of Orange County within the Santa Ana Region (Order No. R8-2009-0030), as applicable.

This page intentionally left blank

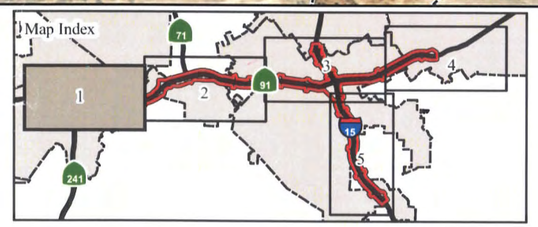


LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET



SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Ultimate_Fig3103.mxd (11/17/2011)

FIGURE 3.10-3
Sheet 1 of 5

SR-91 Corridor Improvement Project

Proposed BMP Locations Alternatives 1 and 2 (LPA)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Chino Hills

San Bernardino County
Riverside County

71

CORONA EXWY

BNSF RR

PALISADES DR

GREEN RIVER RD

Corona

RAILROAD ST

MAPLE ST

AUTO CENTER DR

SMITH AV

91

6TH ST

SERFAS CLUB DR

Corona

BORDER AV

PACIFICA

GRANDE

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Ultimate_Fig3103.mxd (11/17/2011)

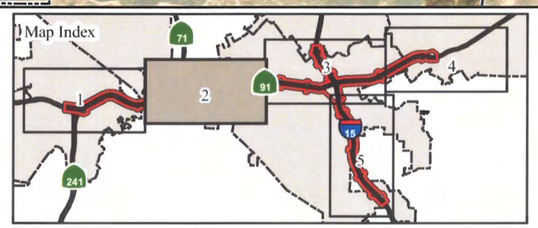


FIGURE 3.10-3
Sheet 2 of 5

SR-91 Corridor Improvement Project

Proposed BMP Locations Alternatives 1 and 2 (LPA)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Norco
Corona
Corona
Corona
FIRST ST
LINCOLN AV
PARKRIDGE AV
HAMNER AV
HIDDEN VALLEY PKWY
RINCON ST
SMITH AV
MAIN ST
RIVER RD
BNSF RR
RAILROAD ST
MCKINLEY ST
PROMENADE AV
15
CRESTA RD
PARKRIDGE AV
JOY ST
91
MERRILL ST
BUENA VISTA AV
2ND ST
6TH ST
LINCOLN AV
GRAND BLVD
MAIN ST
SMITH AV
BORDER AV
10TH ST
RIMPAU AV
MAGNOLIA AV
GRAND ST
INDIANA AV

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Ultimate_Fig3103.mxd (11/17/2011)

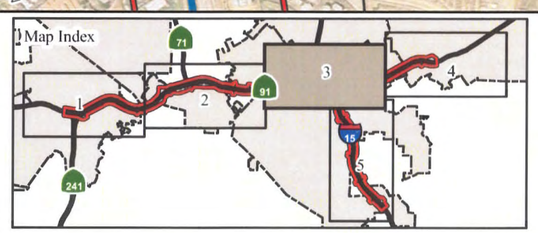


FIGURE 3.10-3
Sheet 3 of 5

SR-91 Corridor Improvement Project

Proposed BMP Locations Alternatives 1 and 2 (LPA)

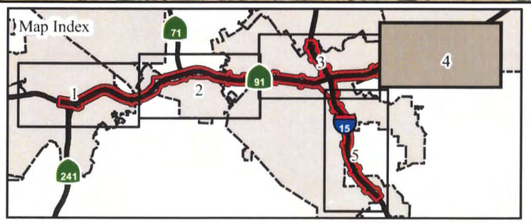
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

0 750 1500
FEET



SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Ultimate_Fig3103.mxd (11/17/2011)

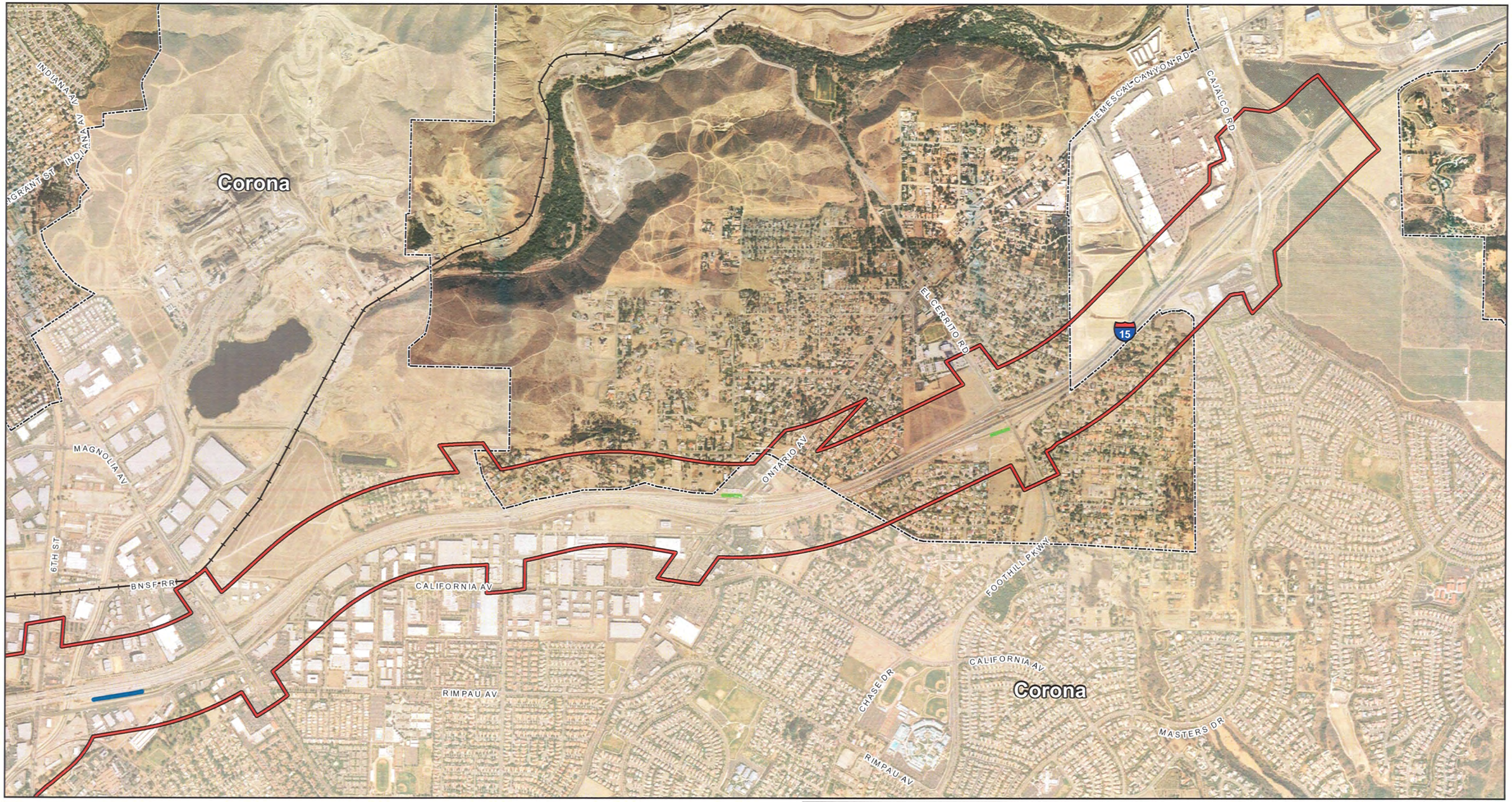
FIGURE 3.10-3
Sheet 4 of 5

SR-91 Corridor Improvement Project

Proposed BMP Locations Alternatives 1 and 2 (LPA)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

0 750 1500
FEET

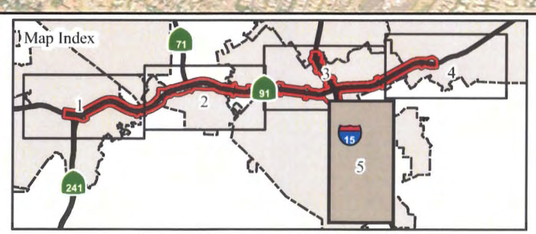


FIGURE 3.10-3
Sheet 5 of 5

SR-91 Corridor Improvement Project

Proposed BMP Locations Alternatives 1 and 2 (LPA)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Ultimate_Fig3103.mxd (11/17/2011)

This page intentionally left blank

Yorba Linda
Chino Hills
Anaheim
BNSF RR
BNSF RR
WEIR CANYON RD
LA PALMA AV
BRYANT
SANTA ANA CANYON RD
SANTA ANA CANYON RD
WEIR CANYON RD
GYPSUM CANYON RD
SERRANO AV
San Bernardino County
Orange County
Riverside County
Orange County
91
241

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Initial_Fig3104.mxd (11/17/2011)

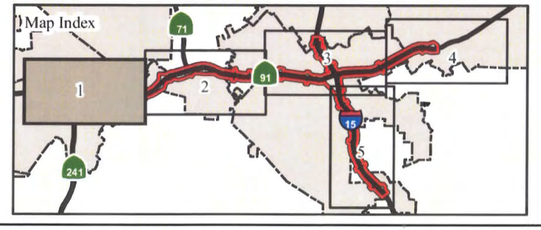
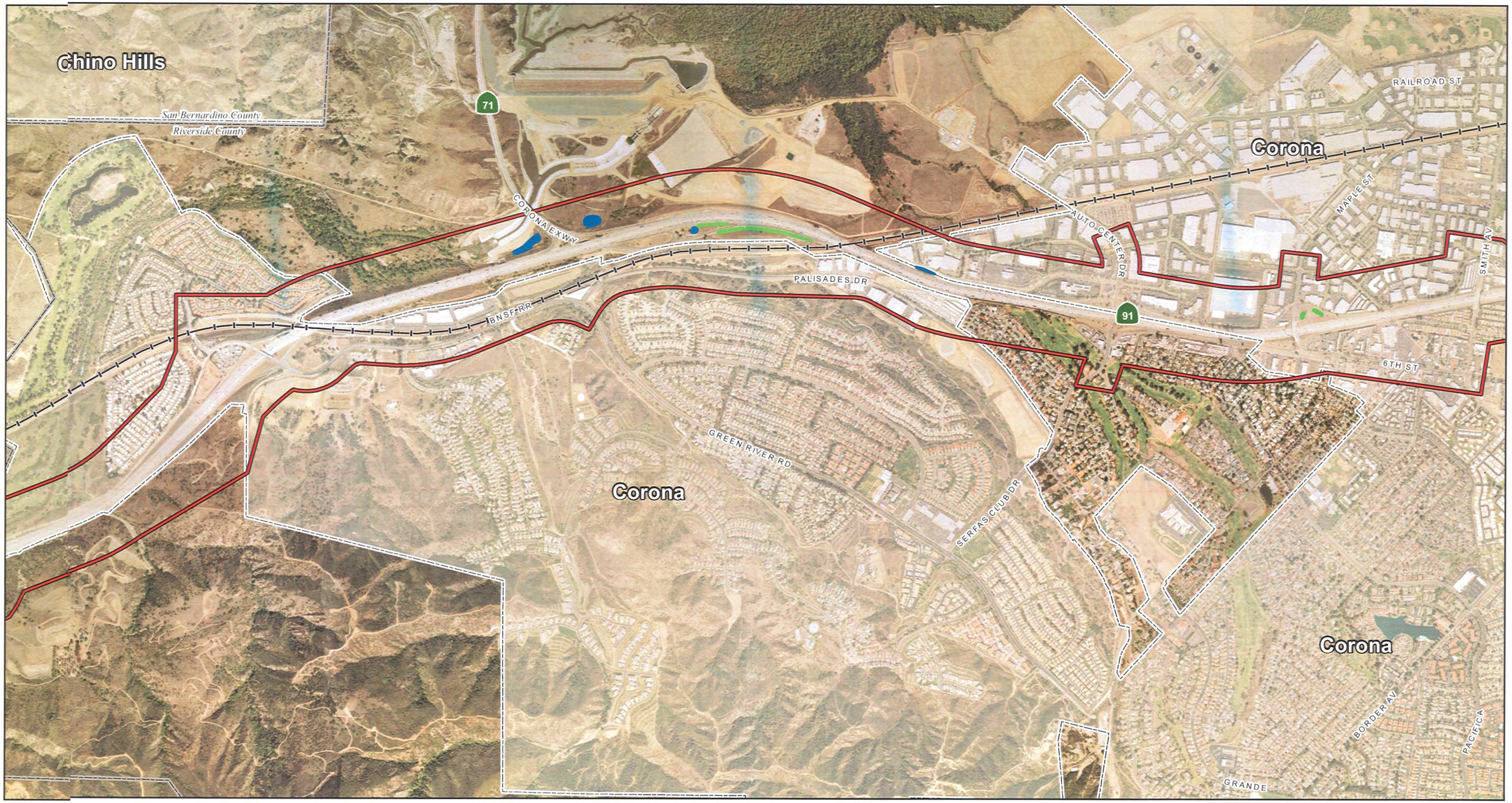


FIGURE 3.10-4
Sheet 1 of 5
SR-91 Corridor Improvement Project
Proposed BMP Locations for
the Initial Phase of Alternative 2 (LPA)
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Initial_Fig3104.mxd (11/17/2011)

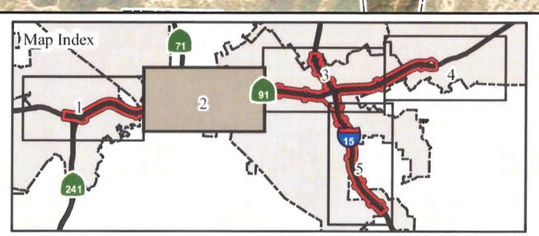


FIGURE 3.10-4
Sheet 2 of 5
SR-91 Corridor Improvement Project
Proposed BMP Locations for the Initial Phase of Alternative 2 (LPA)
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Norco
Corona
Corona
Corona
FIRST ST
LINCOLN AV
PARKRIDGE AV
HAMNER AV
HIDDEN VALLEY PKWY
RINCON ST
SMITH AV
MAIN ST
RIVER RD
BNSF RR
RAILROAD ST
MCKINLEY ST
PROMENADE AV
15
CRESTA RD
PARKRIDGE AV
JOY ST
91
MERRILL ST
BUENA VISTA AV
2ND ST
6TH ST
LINCOLN AV
GRAND BLVD
MAIN ST
MAGNOLIA AV
GRAND ST
INDIANA AV
SMITH AV
BORDER AV
10TH ST
JIMPAU AV

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Initial_Fig3104.mxd (11/17/2011)

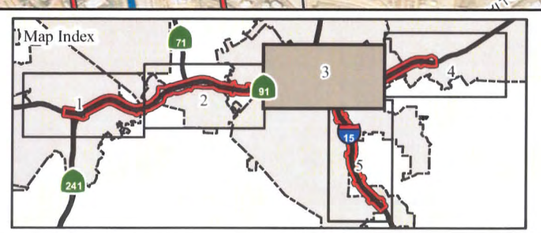


FIGURE 3.10-4
Sheet 3 of 5
SR-91 Corridor Improvement Project
Proposed BMP Locations for
the Initial Phase of Alternative 2 (LPA)
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Riverside
Corona
Riverside
RIVERWALK PKWY
COLLETT AV
PIERCE ST
POLK ST
MAGNOLIA AV
VAN BUREN BLVD
DIANA AV
INDIANA AV
BNSF RR
91
VICTORIA AV
TYLER ST
PROMENADE AV
BUCHANAN ST
LA SIERRA AV
INDIANA AV
DUFFERIN AV
AT&SF RR
MAGNOLIA AV
MCALLISTER ST
MCALLISTER PKWY
MCKINLEY ST
INDIANA AV

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

N

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Initial_Fig3104.mxd (11/17/2011)

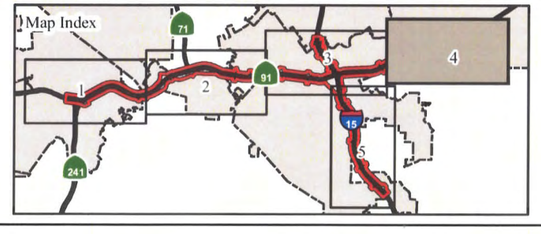


FIGURE 3.10-4
Sheet 4 of 5
SR-91 Corridor Improvement Project
Proposed BMP Locations for
the Initial Phase of Alternative 2 (LPA)
12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Corona

INDIANA AV

GRANT ST

MAGNOLIA AV

6TH ST

BNSF RR

CALIFORNIA AV

RIMPAU AV

ONTARIO AV

EL CERRITO RD

TEMESCAL CANYON RD

CAJALCO RD

15

FOOTHILL PKWY

CHASE DR

MASTERS DR

Corona

LEGEND

- SR-91 Study Area
- City Boundary
- County Boundary
- Bioswale
- Infiltration Basin/Detention Basin/Media Filter
- Well

0 750 1500
FEET

SOURCE: Digital Globe (04/2007); PB (2009); RBF (2009)

I:\PAZ0701\GIS\WaterQuality\BMP-Initial_Fig3104.mxd (11/17/2011)

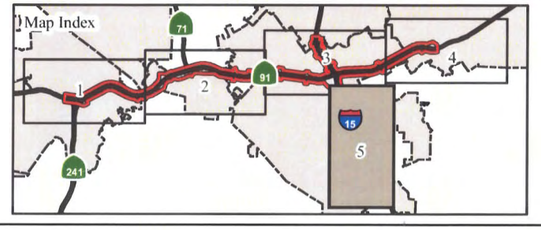


FIGURE 3.10-4
Sheet 5 of 5
SR-91 Corridor Improvement Project
Proposed BMP Locations for
the Initial Phase of Alternative 2 (LPA)

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

3.11 Geology/Soils/Seismic/Topography

3.11.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department's Office of Earthquake Engineering is responsible for assessing seismic hazards for Department projects. The current policy is to use the anticipated Maximum Credible Earthquake (MCE) from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

The Alquist-Priolo Earthquake Fault Zoning Act was passed by the State of California in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The main purpose of this Act is to prevent the construction of buildings used for human occupancy on surface traces of active faults. The Act only addresses the hazard of surface fault rupture and not other potential earthquake-related hazards. The Seismic Hazards Mapping Act, passed in 1990, addresses nonsurface fault rupture earthquake hazards, including liquefaction and seismically induced landslides.

The State Geologist is required to establish regulatory zones, referred to as Earthquake Fault Zones (referred to as Special Studies Zones prior to January 1, 1994), around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities and counties and State agencies for their use in planning and controlling new or renewed construction.

3.11.2 Affected Environment

This section discusses the existing geologic and soils environment along SR-91 and I-15 and provides analysis of the potential impacts of the project related to geology and soils. This section also addresses the potential for structural damage to project facilities due to the local geology underlying the project site, as well as slope stability, ground settlement, soil conditions, grading, and regional seismic conditions. This section summarizes information in the *Updated Preliminary Geotechnical Design Report State Route 91 Corridor Improvement Project, SR-91 from SR-241 to Pierce*

Street, I-15 from Hidden Valley Parkway to Cajalco Road, Orange and Riverside County, California (July 2010) (i.e., *Geotechnical Design Report*).

3.11.2.1 National Natural Landmarks and Other Geographic and Topographic Features

Nearly 20,000 ac of open space on the Irvine Ranch have been designated an NNL by both the State of California and the United States Department of Interior. The Irvine Ranch NNL contains large areas of important natural habitats and unusual geological formations. A small part of the NNL abuts SR-91 east of the SR-91/SR-241 interchange. The NNL program aims to encourage and support voluntary preservation of sites that illustrate the geological and ecological history of the United States, and to strengthen the public's appreciation of the country's natural heritage. An NNL designation is an agreement between the property owner and the federal government. An NNL designation does not change ownership of the property nor create any encumbrances on the property. Designation of an NNL presently constitutes only an agreement with the owner to preserve, insofar as possible, the significant natural values of the site or area. Administration and preservation of an NNL is solely the property owner's responsibility. Either party may terminate the agreement after the other party is notified.

The *Geotechnical Design Report* did not identify any geologic or topographic features potentially requiring protection adjacent to the project segments of SR-91 and I-15.

3.11.2.2 Local Geology/Topography

There are 11 geomorphic provinces in California, as defined by the California Geological Survey (CGS). Geomorphic provinces are geologic regions with distinct landforms and geology. The geologic study area for the project is in the northern Peninsular Ranges geomorphic province of southern California. The Peninsular Ranges are a series of northwest-southeast-trending mountain ranges separated by similarly trending valleys. Physiographically, the northern part of the Peninsular Ranges province is divided into three major fault-bounded blocks: the Santa Ana Mountains, Perris Block, and the San Jacinto Mountains.

The bedrock units in the study area are generally exposed on slopes adjacent to the project segments of SR-91 and I-15. The project segments are defined as the entire lengths of SR-91 and I-15 that would be improved under the Build Alternatives.

Table 3.11.1 describes the bedrock formations and the surface geological units present along the project segments of SR-91 and I-15. As shown on Figure 3.11-1, geologic units along SR-91 and I-15 consist of a variety of bedrock and alluvial soil units. From west to east along SR-91 in Santa Ana Canyon, these bedrock units consist of mostly sedimentary sandstone, cobbly sandstone and siltstone, and volcanic intrusive bedrock. Cretaceous-age intrusive granitic bedrock underlies most of SR-91 from I-15 to Pierce Street, with localized areas of older alluvial fan and fluvial deposits. I-15 north of SR-91 is underlain by mostly intrusive granitic bedrock. I-15 south of SR-91 is underlain by recent and older alluvial fan deposits and sections of tertiary sandstone and siltstone and Cretaceous-age volcanic rock.

3.11.2.3 Faulting and Seismicity

The entire southern California region is seismically active due to the influence of several earthquake fault systems resulting from interaction between the Pacific and North American crustal plates. An active fault is defined by the State of California as a "…sufficiently active and well defined fault that has exhibited surface displacement within the last 11,000 years." A potentially active fault is defined by the State as a "…fault with a history of movement between 11,000 and 1.6 mya [million years ago]." The active and potentially active faults in the study area are capable of producing seismic shaking that could be damaging to bridges and other structures. Figure 3.11-2 illustrates the locations of the major fault zones in the study area.

Local faults that have the potential to influence the project area are faults of the San Andreas fault system, which includes several major faults considered active by the State. The San Andreas fault is approximately 23 mi northeast of the study area as shown on Figure 3.11-2. The San Andreas fault system is a right-lateral strike-slip network of faults including the San Andreas, Elsinore, Whittier, Chino, and Central Avenue faults.

The San Andreas fault zone is a 745 mi long network of predominantly strike-slip faults. The average annual geologic slip rate on the San Andreas fault is estimated to be 0.70 to 1.38 inches per year (in/yr) during the past several thousand years. The maximum probable magnitude of an earthquake on the San Andreas fault is estimated to be 8.0 maximum moment magnitude (M_{max}). Recurrence of earthquakes on the San Andreas fault is highly variable and ranges from approximately 20 years at Parkfield, California, to an estimated 300 years. The average interval for major ruptures in the vicinity of the study area is thought to be about 140 years.

Table 3.11.1 Bedrock Formations and Surface Geologic Units Along the Project Segments of SR-91 and I-15

Formation / (Symbol) / Origin[1]	Age	Approximate Station References[2]	Brief Description
Bedrock Formations			
Vaqueros/Sespe Formation (Tvs) Marine and non-marine sedimentary rocks	Early Miocene, Oligocene and Late Eocene (17 to 40 mya)	SR-91 OC 450+00 to 480+00 SR-91 RC 35+00 to 40+00	Sandstone and sandy siltstone; conglomeratic sandstone and clayey, silty sandstone
Santiago Formation (Tsa) Marine and non-marine sedimentary rocks	Middle Eocene (45 to 50 mya)	SR-91 OC 480+00 to 505+00 SR-91 RC 24+00 to 35+00	Sandstone and conglomerate
Silverado Formation (Tsi) Marine and non-marine sedimentary rocks	Paleocene (55 to 65 mya)	SR-91 OC 505+00 to 520+00 SR-91 RC 20+00 to 24+00	Sandstone, siltstone and conglomerate
Holz Shale Member (Ladd Formation) (Klhs) Marine sedimentary rocks	Late Cretaceous (65 to 100 mya)	In Mindeman Landslide Complex SR-91 RC 13+00 to 18+00	Sandstone, siltstone and shale
Baker Canyon Conglomerate Member (Ladd Formation) (Klbc) Marine sedimentary rocks, locally non-marine	Late Cretaceous (65 to 100 mya)	SR-91 OC 520+00 to 560+00	Conglomerate and conglomeratic sandstone
Santiago Peak Volcanics (Ksv, Kvsp, Kvspi) Volcanic intrusives and flows	Cretaceous (100 to 141 mya)	In Mindeman Landslide Complex SR-91 OC 560+00 to SR-91 RC 13+00	Basalt, andesite, dacite and rhyolite
Plutonic Rocks Cajalco Pluton (Kcg) Intrusive granitic rocks	Cretaceous (100 to 141 mya)	SR-91 RC 400+00 to 460+00 500+00 to 540+00	Monzogranite
Plutonic Rocks Cajalco Pluton (Kcg, Kmp) Intrusive Granitic Rocks	Cretaceous (100 to 141 mya)	I-15 RC 2250+00 to 2210+00	Granite with micro pegmatite to monzogranite
Santiago Peak Volcanics (Kvspi) Volcanic intrusives and flows	Cretaceous (100 to 141 mya)	I-15 RC 2090+00 to 2060+00	Basalt, andesite, dacite and rhyolite
Topanga Formation (Tt) Marine sedimentary rocks	Middle Miocene (45 to 50 mya)	I-15 RC 1990+00 to 1960+00	Sandstone, siltstone and shale
Surface Geologic Units			
Old Alluvial Deposits (Qof, Qov, Qof3, Qvoa, Qvof, Qvof1) Mostly well-dissected and terrace deposits elevated above floodplains	Pleistocene (0.1 to 1.8 mya)	SR-91 RC 40+00 to 75+00 110+00 to 175+00 180+00 to 260+00 460+00 to 500+00 540+00 to 620+00 I-15 RC 2280+00 to 2230+00 2040+00 to 1950+00	Well-indurated alluvial fan deposits, predominantly sand and gravel

Table 3.11.1 Bedrock Formations and Surface Geologic Units Along the Project Segments of SR-91 and I-15

Formation / (Symbol) / Origin[1]	Age	Approximate Station References[2]	Brief Description
Alluvial Deposits (Qya, Qyf, Qyf1) Fluvial deposits along canyon floors and floodplains	Holocene and Late Pleistocene (0.0 to 0.1 mya)	SR-91 RC 0+00 to 6+00 75+00 to 110+00 175+00 to 180+00 260+00 to 400+00 I-15 RC 2210+00 to 2040+00 1950+00 to 1920+00	Unconsolidated sand, silt, and clay
Landslide Deposits, Older (Qlso) Usually large landslides that display subdued evidence of recent movement	Pleistocene (0.1 to 1.0 mya)	SR-91 OC 549+00 to 577+00 SR-91 RC 0+00 to 19+00	Highly fragmented to coherent landslide deposits comprised of all bedrock types: Mindeman Landslide
Landslide Deposits (Qls) Landslides that display headscarps, fissures and hummocky topography suggesting recent movement	Holocene and Late Pleistocene (0.0 to 0.1 mya)	Intermittent SR-91 OC 542+00 to 577+00 SR-91 RC 0+00 to 34+00	Highly fragmented landslide deposits and debris flows comprised of all bedrock types
Artificial Fill (Af) Fill placed by mechanical means at roadway alignments and structures	Latest Holocene (0 to 150 years)	Present at structures within study area and elevated roadways	Varies

Source: *Updated Preliminary Geotechnical Design Report* (July 2010).
[1] The locations of these formations are shown on Figure 3.11-1.
[2] Station numbering is used on design plans; refer to Figure 3.11-1 for the locations of these formations.
I-15 = Interstate 15
mya = million years ago
OC = Orange County
RC = Riverside County
SR-91 = State Route 91

This page intentionally left blank

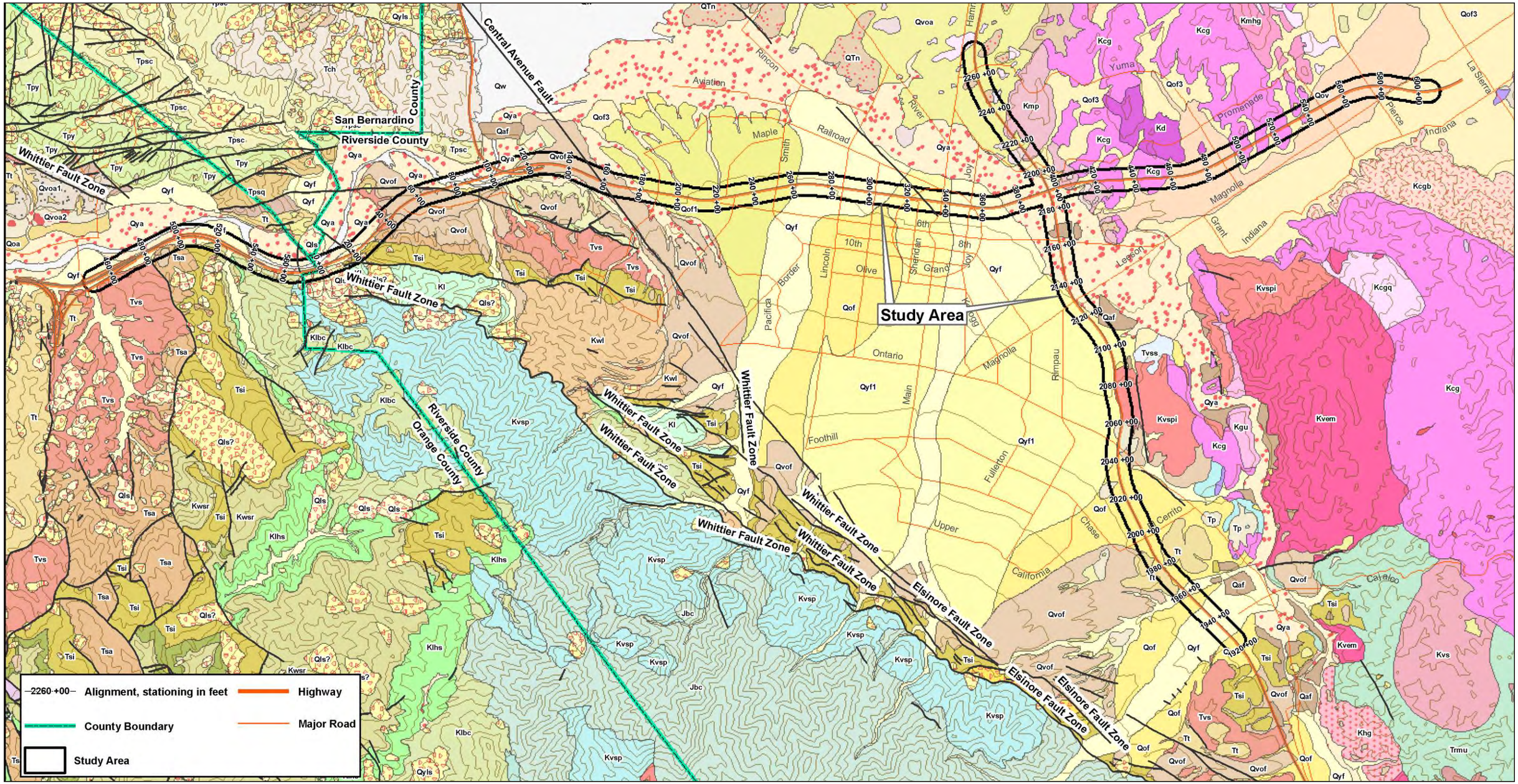


FIGURE 3.11-1

0 3000 6000
FEET

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010)

I:\PAZ0701\G\Regional Geo Map.cdr (9/23/2010)

SR-91 Corridor Improvement Project
Regional Geologic Map
Ora-91-R14.43/R.18.19
Riv-91-R.0.00//R13.04
Riv-15-35.64/45.14
EA# 0F540

This page intentionally left blank

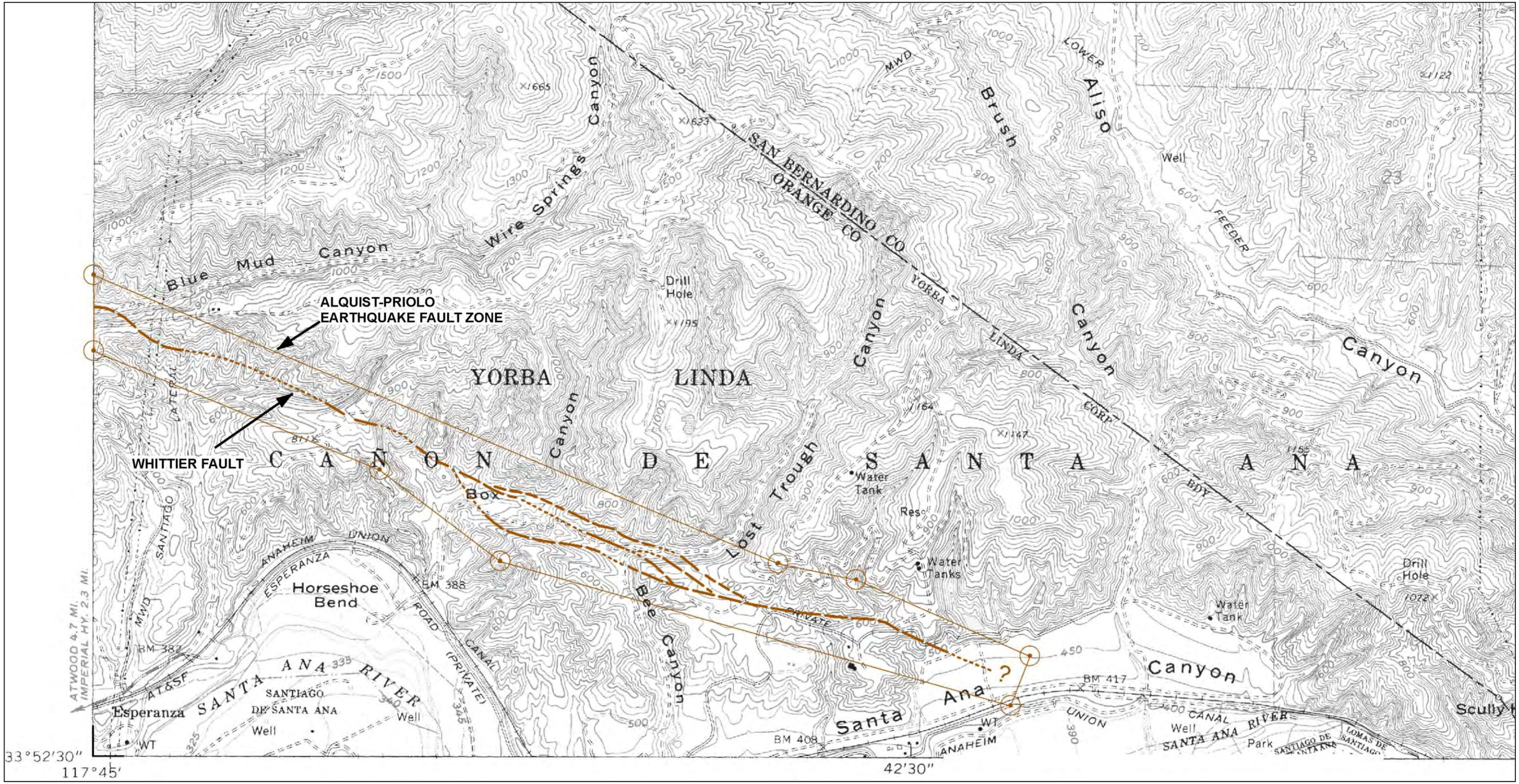


FIGURE 3.11-2
Sheet 1 of 4

0 1000 2000
FEET

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010), REFERENCE: Prado Dam Quadrangle, A.P. Fault Zone Map (2003)

I:\PAZ0701\G\Fault Zone Map-1.cdr (9/23/2010)

SR-91 Corridor Improvement Project
Earthquake Fault Zone Map
Ora-91-R14.43/R.18.19
Riv-91-R.0.00//R13.04
Riv-15-35.64/45.14
EA# 0F540

This page intentionally left blank

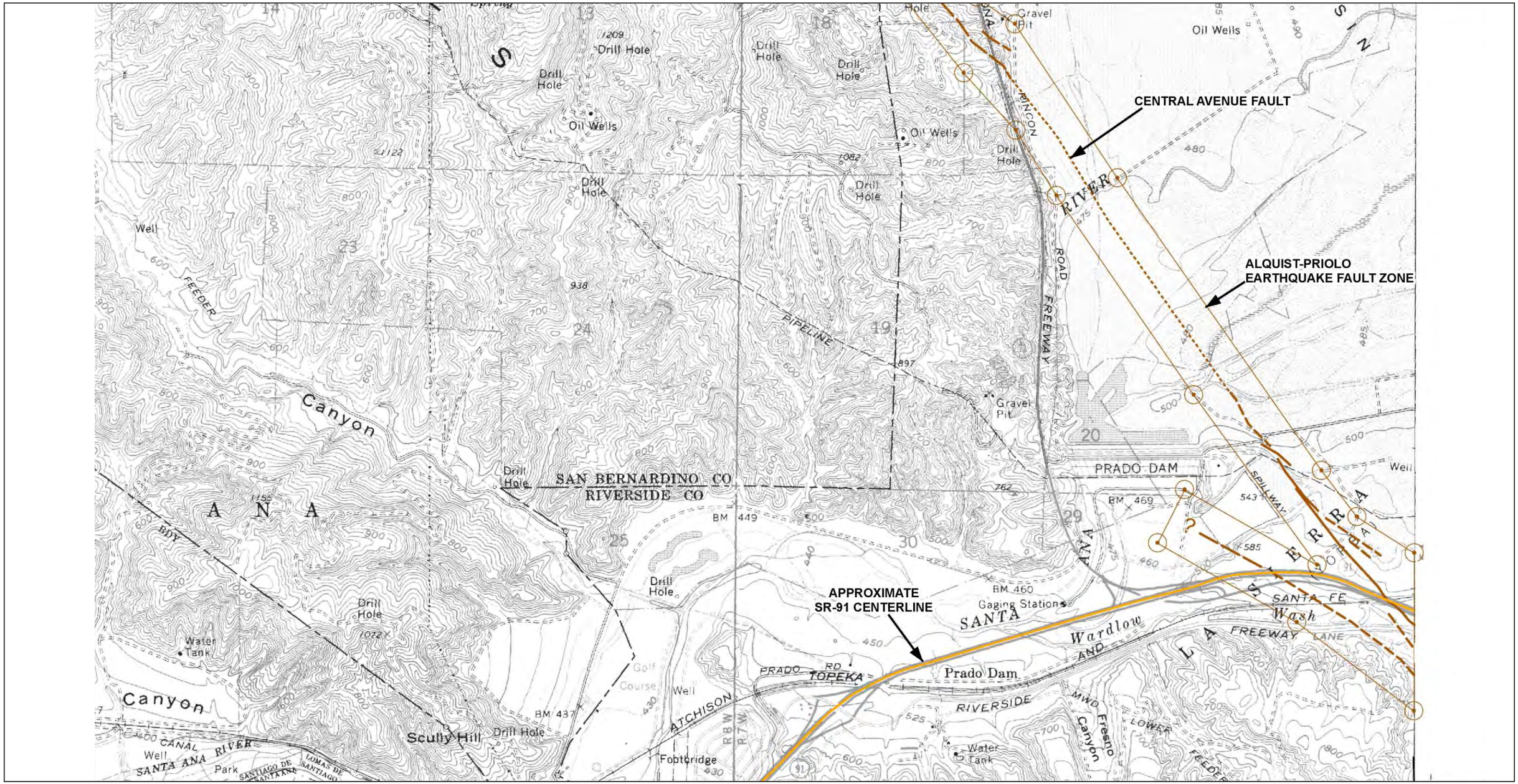


FIGURE 3.11-2
Sheet 2 of 4

SR-91 Corridor Improvement Project
Earthquake Fault Zone Map
Ora-91-R14.43/R.18.19
Riv-91-R.0.00//R13.04
Riv-15-35.64/45.14
EA# 0F540

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010), REFERENCE: Prado Dam Quadrangle, A.P. Fault Zone Map (2003)

I:\PAZ0701\G\Fault Zone Map-2.cdr (9/23/2010)

This page intentionally left blank

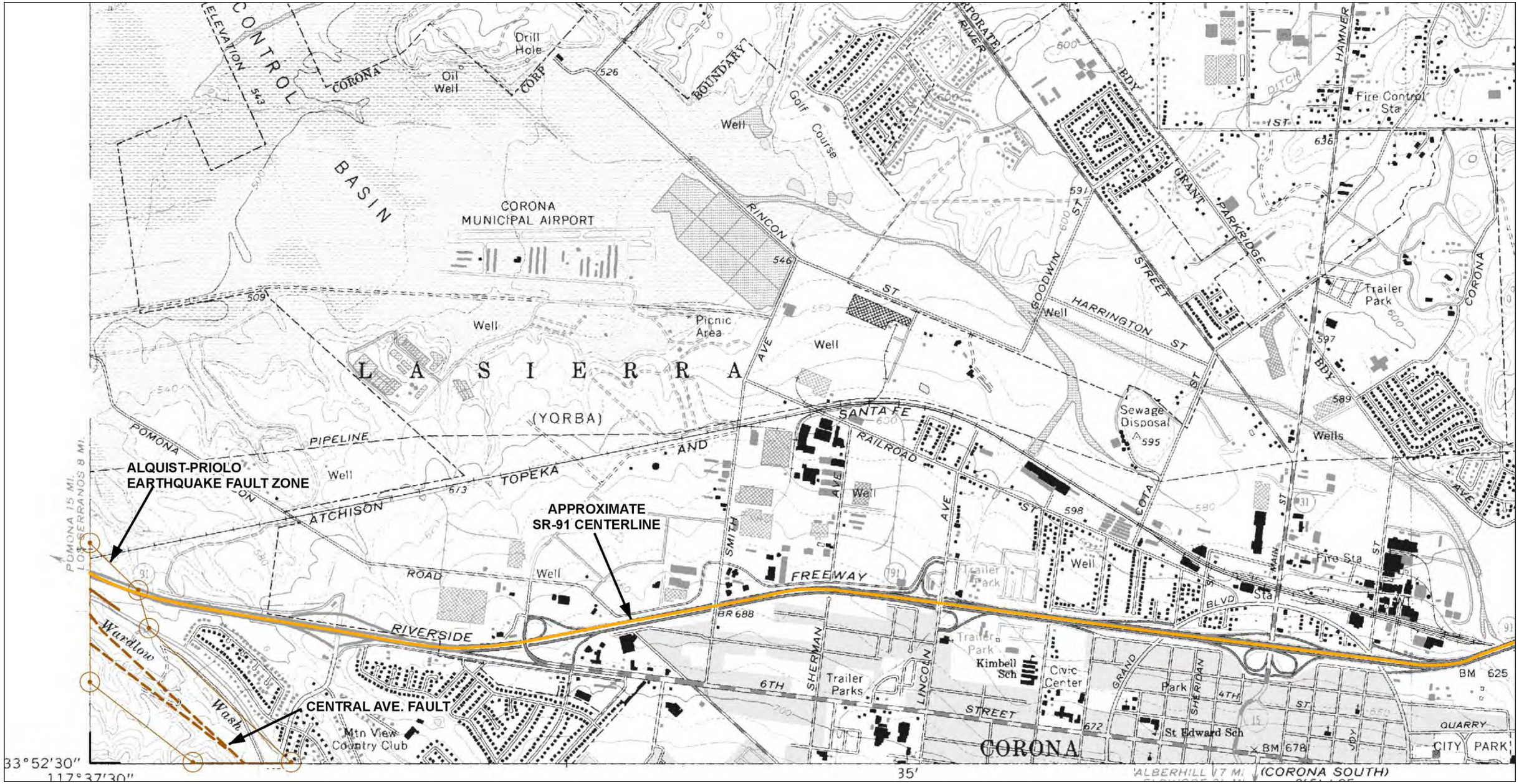


FIGURE 3.11-2
Sheet 3 of 4

N

0 1000 2000
FEET

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010), REFERENCE: Prado Dam Quadrangle, A.P. Fault Zone Map (2003)

I:\PAZ0701\G\Fault Zone Map-3.cdr (9/23/2010)

SR-91 Corridor Improvement Project
Earthquake Fault Zone Map
Ora-91-R14.43/R.18.19
Riv-91-R.0.00//R13.04
Riv-15-35.64/45.14
EA# 0F540

This page intentionally left blank

FIGURE 3.11-2
Sheet 4 of 4

SR-91 Corridor Improvement Project
Earthquake Fault Zone Map
Ora-91-R14.43/R.18.19
Riv-91-R.0.00//R13.04
Riv-15-35.64/45.14
EA# 0F540

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010), REFERENCE: Prado Dam Quadrangle, A.P. Fault Zone Map (2003)

I:\PAZ0701\G\Fault Zone Map-4.cdr (9/23/2010)

This page intentionally left blank

The last major rupture of the San Andreas fault in the vicinity of the study area was a magnitude 7.8 event on January 9, 1857.

The Elsinore fault forms the eastern boundary of the Santa Ana Mountains. At the northern end of the Santa Ana Mountains, the Elsinore fault splits into two segments: the Chino-Central Avenue fault, which forms the eastern boundary of the Chino Hills; and the Whittier fault, which passes through Santa Ana Canyon and continues as the northern boundary of the Santa Ana Mountains. The Elsinore fault is approximately 115 mi long, and the geologic slip rate is estimated to be about 0.16 in/yr. The maximum probable magnitude of an earthquake on the Elsinore fault is estimated to be 7.6 M_{max}. The recurrence interval for earthquakes on the Elsinore fault is estimated to be roughly 250 years. There has only been one major earthquake on the Elsinore fault during historical times—a magnitude 6 near Temescal Valley in 1910 that produced no known surface rupture.

The Whittier fault is part of the Elsinore fault zone and forms part of the northern boundary of the Santa Ana Mountains. The Whittier fault is a right-lateral, strike-slip fault that is approximately 25 mi long. The average slip rate is estimated to be between 0.04 and 0.20 in/yr. The maximum probable magnitude of an earthquake on the Whittier fault is 7.6 M_{max}. The recurrence interval for earthquakes on the Whittier fault is unknown.

The Whittier fault is thought to be related to the fault that caused the Whittier Narrows earthquake, which occurred on October 1, 1987, and caused eight deaths and $358 million in property damage. The Whittier fault crosses SR-91 near the Orange County/Riverside County line. That area is not included in a Special Studies Zone (Alquist-Priolo earthquake fault zone) because the fault trace is covered by alluvium and landslide debris and, therefore, is not considered to be well defined. The Whittier segment or the Glen Ivy segment of the Elsinore fault may generate an earthquake having an estimated maximum magnitude of 7.6 M_{max} on the project site.

The Chino-Central Avenue fault is part of the Elsinore fault zone and forms the eastern boundary of the Chino Hills. The Chino-Central Avenue fault is a reverse fault. The Chino-Central Avenue fault is approximately 17 mi long, and the average long-term geologic slip rate is estimated to be between less than 0.04 to 0.08 in/yr. The maximum probable magnitude of an earthquake generated by the Chino-Central Avenue fault is 7.6 M_{max}. The recurrence interval of earthquakes on the Chino-Central Avenue fault is unknown. The Chino-Central Avenue fault crosses SR-91 in

Corona at the Prado Overhead bridge. This fault is within a mapped earthquake fault zone boundary.

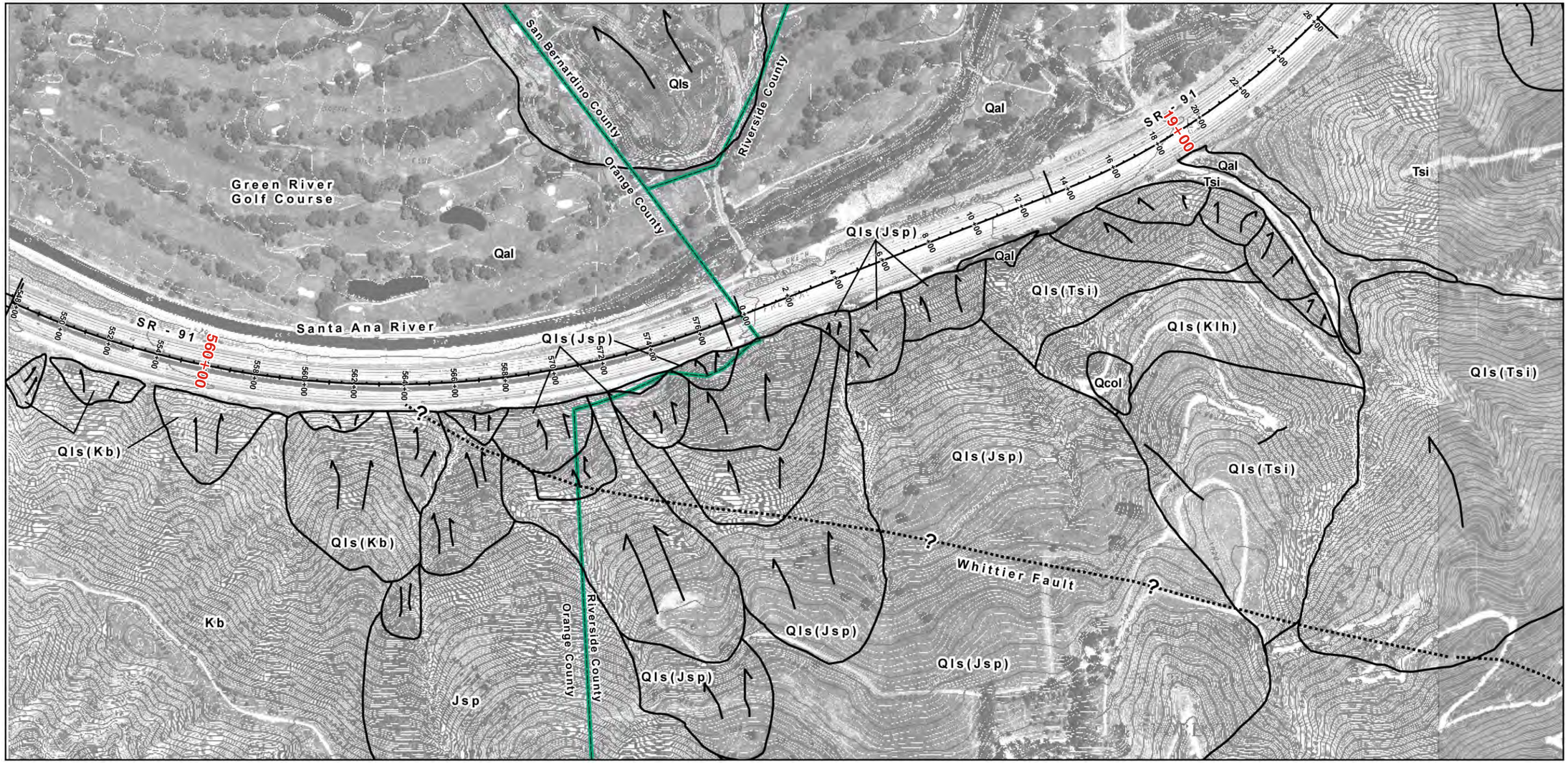
3.11.2.4 Landslides

Landslides are rock, earth, or debris flows on slopes due to gravity. Landslides constitute a major geologic hazard because they are widespread and can cause substantial damage to life and property. The expansion of urban and recreation uses into hillside areas leads to more people being potentially threatened by landslides each year. Although landslides commonly occur in connection with other major natural disasters such as earthquakes, volcanoes, wildfires, and floods, they can occur on any terrain given the right conditions of soil, moisture, and angle or slope. Steep bare slopes, clay-rich rock, deposits of stream or river sediment, and heavy rains can also contribute to landslides.

Landslide deposits are present along the steep slopes adjacent to the south side of SR-91 from approximately Coal Canyon Road to approximately 0.25 mi west of Green River Road. A major large landslide complex, commonly referred to as the Mindeman Landslide or the Green River Landslide, is present on the south side of SR-91 between approximately Station 560+00 in Orange County to approximately Station 19+00 in Riverside County as shown on Figure 3.11-3. The body of the landslide debris extends upslope from SR-91 at El. 442 ft to the top of the landslide mass at El. 1,100 ft. The top part of the landslide continues up slope from the main body of the landslide to a maximum El. 1,900 ft.

3.11.2.5 Liquefaction, Lateral Spreading, and Seismic Compaction

Soil liquefaction occurs when saturated, loose soils lose their strength due to excess water in the soils. The space between the soil particles is completely filled with water, which exerts pressure on the soil particles thereby influencing how tightly the soil particles are pressed together. Prior to an earthquake, the water pressure is relatively low. However, the shaking caused by an earthquake can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support building and bridge foundations is reduced. The potential impacts of liquefaction may include settlement of the ground surface, additional forces pushing down on foundation piles as a result of soil settlement above the liquefied layers, and reduction of the shear strength of the liquefied soil, resulting in reduced load-carrying capacity. Liquefied soils can also exert pressure on retaining walls, which can cause them to tilt or slide.



Qal	Quaternary alluvium	Qls(Kb)	Landslide in Ladd Formation, Baker Conglomerate
Qcol	Quaternary colluvium	Qls(Jsp)	Landslide in Santiago Peak Volcanics
Qls	Quaternary landslide	Tsi	Tertiary Silverado Formation
Qls(Tsi)	Landslide in Tertiary Silverado Formation	Kb	Cretaceous Ladd Formation, Baker Conglomerate
Qls(Klh)	Cretaceous Ladd Formation, Holz Shale Member	Jsp	Jurassic Santiago Peak Volcanics

+2200+00+ Alignment, stationing in feet

Contact

Fault, approximately located

Fault, concealed, queried where location questionable

Landslide arrows showing direction of movement

County boundary

FIGURE 3.11-3

N

0 250 500
FEET

Mindeman Landslide: On the south side of SR-91 between approximately Station **560+00** in Orange County and Station **19+00** in Riverside County.

SOURCE: *Updated Preliminary Geotechnical Design Report* (2010)

State Route 91 Corridor Improvement Project

Mindeman Landslide

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Mindeman Landslide.cdr (9/23/2010)

This page intentionally left blank

The primary factors affecting the possibility of liquefaction in a soil deposit are the intensity and duration of the earthquake shaking, the soil type, the relative density of that soil, the pressures of material above that soil, and the depth to groundwater. Soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands, nonplastic silts that are saturated, and silty sands.

The potential for liquefaction along the project segments of SR-91 and I-15 is anticipated in areas of shallow groundwater and loose granular soils. According to an Environmental Hazards Map prepared by the County of Riverside (2008), areas in Riverside County designated as having high liquefaction susceptibility include the SR-91/I-15 interchange, I-15 north of that interchange in the vicinity of Corona Avenue and Hidden Valley Parkway, and SR-91 east of that interchange in the vicinity of McKinley, Buchanan, and Pierce Streets. According to a Seismic Hazard Zones map prepared by the CGS for the Black Star Canyon Quadrangle, the segment of SR-91 in Orange County between SR-241 and the Orange/Riverside County line is also in a liquefaction hazard zone.

The potential for lateral spreading is not anticipated due to relatively flat topography in areas of shallow groundwater, except along SR-91 in the vicinity of the Orange/Riverside County line where the freeway parallels the Santa Ana River.

Seismic compaction is a phenomenon in which loose, unsaturated sands tend to settle or densify during strong seismic shaking. Sediments that are sufficiently loose can experience seismic compaction, which can cause ground surface settlement and damage to surface and near-surface structures. The potential for seismic compaction is anticipated in areas of shallow groundwater and loose granular soils along the project segments of SR-91 and I-15.

3.11.2.6 Water

Surface and groundwater are discussed briefly in this section as they relate to potential geological/geotechnical conditions such as scour and liquefaction. Detailed discussions of surface water and groundwater are provided in Section 3.9, Hydrology and Floodplains, and Section 3.10, Water Quality and Storm Water Runoff.

Surface Water

The majority of the project alignments of SR-91 and I-15 is not adjacent to an unlined drainage or river channel. However, the Santa Ana River closely parallels the north side of SR-91 near the Orange/Riverside County line, and some retaining walls may be required in this area. Erosion or degradation may occur when moving water lifts

and rolls or carries sand and rocks (streambed material) in the streamflow direction. This condition, called scour, may be a potential project constraint for retaining walls close to the Santa Ana River.

Groundwater

The depth to groundwater along the project segments of SR-91 and I-15 varies from approximately 10 ft to greater than 110 ft bgs. During construction of the existing bridges along the project segments of SR-91 and I-15, groundwater was encountered as shallow as approximately 11 ft bgs at the SR-91 Promenade Avenue Overcrossing to as deep as approximately 110 ft bgs at the I-15/Ontario Avenue Overcrossing.

Groundwater depths in the area of the I-15/Ontario Avenue Overcrossing and the I-15/El Cerrito Road Overcrossing are 50 and 30 ft bgs, respectively. In general, areas with historic depths to groundwater less than 50 ft bgs are along SR-91 in Santa Ana Canyon to approximately Station 160+00 in the City of Corona, near the I-15/SR-91 interchange, and in the vicinity of Pierce Street.

Groundwater levels are subject to seasonal fluctuations and may vary over time. Locally perched groundwater or surface water may also occur during or following periods of intense rainfall.

3.11.2.7 Corrosive Soils

Caltrans Corrosion Guidelines Section 5.5 states that the Department considers a site to be corrosive if one or more of the following conditions exist for soil and/or water samples taken from the site:

- Chloride concentration is greater than or equal to 500 parts per million (ppm)
- Sulfate concentration is greater than or equal to 2,000 ppm
- Percentage of hydrogen (pH) is 5.5 or less

Based on laboratory test results from the *Preliminary Geotechnical Information Report for the Eastbound SR-91 Lane Addition from SR-241 to SR-71* (April 2007), the soils tested along the eastbound side of SR-91 in the vicinity of the Orange/ Riverside County line may generally be considered noncorrosive with respect to the Department guidelines. The corrosion potential of the soils along the remainder of the project segments of SR-91 and I-15 is currently unknown.

3.11.3 Environmental Consequences

3.11.3.1 Summary of Impacts

The Initial Phases and Ultimate Projects under Alternatives 1 and 2 would permanently result in or be affected by the following geotechnical conditions:

- Ground motion, liquefaction, fault rupture, and other effects related to seismic activity
- Implementation of retaining walls for slope stability
- Erosion of slopes
- Permanent 2.25 ac subsurface easement in the NNL adjacent to SR-91 for engineered tiebacks for a wall along SR-91 (the tiebacks are not needed for the Initial Phases of Alternatives 1 and 2)
- Permanent subsurface easement (1.65 ac for the Alternative 1 Ultimate Project and 1.88 ac for the Alternative 2 Ultimate Project) in CHSP on the south side of SR-91 for engineered tiebacks for a wall along SR-91 (the tiebacks are not needed for the Initial Phases of Alternatives 1 and 2)
- Potential for erosion if unpaved areas are not properly landscaped and maintained

The construction of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations would temporarily result in or be affected by the following geotechnical conditions:

- Increased potential for soil erosion in areas of disturbed soil
- Ground motion, liquefaction, fault rupture, and other effects related to seismic activity
- Potential need for blasting in areas with non-rippable (i.e., difficult to excavate) granitic bedrock

The phasing plans for the Build Alternatives, described earlier in Chapter 2, Project Alternatives, would result in the improvements in those alternatives being constructed in phases, starting with the Initial Phases in 2015 and ending with the completion of all the project components by 2035. The phasing of the improvements under Alternatives 1 and 2 would result in similar impacts to those alternatives related to geology, soils, seismic issues, and topography compared to the impacts of implementing Alternatives 1 and 2 without the phasing plans.

Summary of Impacts of Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f (Initial Phase and Ultimate Project) would result in the same permanent and temporary impacts associated with geotechnical conditions described above for Alternatives 1 and 2.

The construction of Alternative 2f (Initial Phase and Ultimate Project) could be temporarily affected by the increased potential for soil erosion in areas of disturbed soil, ground motion, liquefaction, fault rupture, and other effects related to seismic activity and would potentially have the need for blasting in areas with non-rippable (i.e., difficult to excavate) granitic bedrock, similar to the conditions described above for Alternatives 1 and 2.

As with the other Build Alternatives, implementation of safe construction practices and compliance with the Department and California Division of Occupational Safety and Health Administration (Cal-OSHA) requirements would minimize impacts to worker safety during construction of the Alternative 2f Initial Phase and Ultimate Project.

The primary geologic and geotechnical constraints potentially affecting the design of, and facilities in, Alternative 2f (Initial Phase and Ultimate Project) are the same as those listed above for Alternatives 1 and 2.

3.11.3.2 Permanent Impacts

Alternatives 1 and 2

The Initial Phases and Ultimate Projects under Alternatives 1 and 2 would alter existing landforms due to grading and cut-and-fill slopes. Those impacts would not be substantial because grading would be limited and retaining walls would be used in many locations to minimize cut and fill. The road, structures, slopes, and other features of the Build Alternatives could be impacted by ground motion and liquefaction and possibly ground surface rupture during seismic events. The primary geologic and geotechnical constraints potentially affecting the design of, and facilities in, the Initial Phases and Ultimate Projects under Alternatives 1 and 2 are:

- Moderate to high ground accelerations due to the presence of nearby active faults, including the Elsinore (Whittier segment), Chino-Central Avenue, Elsinore (Glen Ivy segment), Puente Hills Blind Thrust, San Andreas, and San Jacinto faults.
- Fault rupture associated with the Whittier and Chino-Central Avenue faults.

- Liquefaction and seismic compaction in areas of shallow groundwater and loose granular soils.
- Slope stability in areas of ancient landslides, steep natural terrain, and cut slopes.
- Erosion and surface instability in hillside areas and areas adjacent to the Santa Ana River floodplain.
- Non-rippable granitic bedrock along SR-91 from I-15 to approximately Pierce Street.
- Possibly corrosive soils along westbound SR-91 in the vicinity of the Orange/Riverside County line and along I-15.
- Permanent subsurface easement in the NNL for underground tiebacks for the tieback wall along SR-91 (the tiebacks are not needed for the Initial Phases of Alternatives 1 and 2).
- Permanent subsurface easement (1.65 ac for the Alternative 1 Ultimate Project and 1.88 ac for the Alternative 2 Ultimate Project) in CHSP on the south side of SR-91 for engineered tiebacks for a wall along SR-91 (the tiebacks are not needed for the Initial Phases of Alternatives 1 and 2).

Faulting/Seismicity

Moderate to severe seismic shaking is likely to occur in the study area during the life of the improvements under the Initial Phases and Ultimate Projects in Alternatives 1 and 2. The project site is in seismically active southern California and within the influence area of several fault systems that are considered active. In general, the project facilities can be designed to accommodate the expected ground accelerations through compliance with applicable building and seismic codes. As a result, the potential for structural damage can be substantially reduced or avoided through seismic engineering design.

Landslides and Cut-and-Fill Slopes

No permanent, large cut slopes would be required for the improvements under the Initial Phases and Ultimate Projects in Alternatives 1 and 2. Areas where the widening would encroach into existing slopes would be accommodated by the new retaining walls.

Under the Initial Phases and Ultimate Projects in Alternatives 1 and 2, if construction of the retaining walls were to occur on the south side of SR-91 in the vicinity of the Orange/Riverside County line and the existing Mindeman Landslide, local slope failure could occur as a result of cutting into the toe of existing landslides. The widening of SR-91 in this location would place fills and/or new retaining walls and

the new lanes on the north side of the existing freeway only. No excavation into the existing landslide areas would occur as part of the Initial Phases and Ultimate Projects in Alternatives 1 and 2.

Retaining walls are anticipated to be required at the abutments below several overcrossings to ensure slope stability for the Initial Phases and Ultimate Projects in Alternatives 1 and 2. In addition, new embankments and fill slopes will be required in various areas along the project segments of SR-91 and I-15. The embankments and fills may have slopes constructed at 2:1 horizontal to vertical (H:V) slope gradients. Embankment slopes may be designed at a gradient steeper than 2:1 H:V using soils reinforcement or engineered buttresses.

The soil and rock material excavated (cut) during construction of the Initial Phases and Ultimate Projects in Alternatives 1 and 2 would be used as fill elsewhere in the project construction. The amounts of excavated material anticipated to be used as fill in the project construction for the Alternative 1 and 2 Ultimate Projects are summarized in Table 3.11.2. In addition to these amounts, soil material would be imported to the project site in areas needing additional fill material. The amounts of imported fill material anticipated to be used during the construction of the Alternative 1 and 2 Ultimate Projects are also summarized in Table 3.11.2.

Table 3.11.2 Summary of Cut and Fill Amounts

Alternative	Cut Material[1] (cubic yards)	Additional Imported Material (cubic yards)	Total Amount of Fill (cubic yards)
Alternative 1	708,420–761,723	275,467–343,004	1,033,042–1,055,572
Alternative 2	725,719–793,107	644,110–738,946	1,383,898–1,495,443

Source: Riverside County Transportation Commission (2011).

[1] The cut material would be used as fill material elsewhere on the project site during construction of Alternatives 1 and 2.

Erosion

Impacts related to erosion occurring after the completion of construction that may affect the traveling public or the project facilities can be substantially reduced through design and grading techniques. The Initial Phases and Ultimate Projects in Alternatives 1 and 2 would result in potential for erosion and a need for sensitive design and grading techniques to reduce erosion. Refer to Section 3.10, Water Quality and Storm Water Runoff, for additional discussion regarding construction-related water quality issues and mitigation, including BMPs.

Liquefaction and Seismic Compaction

The potential impacts of liquefaction to the project facilities may include settlement of the ground surface, additional downdrag forces on foundation piles as a result of soil settlement above the liquefied layers, and reduction of shear strength of the liquefied soil resulting in reduced load-carrying capacity. Liquefaction below areas of sloping ground may also lead to lateral slope instability (lateral spreading).

The potential for liquefaction along the project segments of SR-91 and I-15 is anticipated in areas of shallow groundwater and loose granular soils under the Initial Phases and Ultimate Projects in Alternatives 1 and 2. According to an Environmental Hazards Map prepared by the County of Riverside (2008), areas of the alignment within Riverside County designated as having high liquefaction susceptibility include the SR-91/I-15 interchange; I-15 north of the interchange in the vicinity of Corona Avenue and Hidden Valley Parkway; SR-91 east of the interchanges in the vicinity of McKinley, Buchanan, and Pierce Streets; and the length of SR-91 in Orange County between SR-241 and the Orange/Riverside County line. Soils in some parts of the study area may also be subject to seismic compaction.

According to a Seismic Hazard Zones map (CGS, previously referred to as the California Division of Mines and Geology [CDMG], 2001) for the *Black Star Canyon* quadrangle, the length of SR-91 in Orange County between SR-241 and the Orange County/Riverside County line is in a liquefaction hazard zone. The potential for lateral spreading is not anticipated to be an issue due to the relatively flat topography in areas of shallow groundwater, except along SR-91 in the vicinity of the Orange County/Riverside County line where the freeway parallels the Santa Ana River. Seismic compaction is a phenomenon in which loose, unsaturated sands tend to settle or densify during strong earthquake shaking. Sediments that are sufficiently loose are subject to such densification, which can cause ground surface settlement and damage to surface and near-surface structures.

Corrosive Soils

Although the corrosive potential of soils along the eastbound side of SR-91 in the vicinity of the Orange/Riverside County line is known and those soils were found to be noncorrosive, the corrosion potential of soils along the remainder of the project segments of SR-91 and I-15 is unknown. Therefore, corrosive soils cannot be ruled out as a potential project constraint. Additional laboratory testing would be required during final design to determine the corrosion potential of soils along those segments of the project alignment not previously tested. Depending on where, if any, corrosive

soils are found, this issue may occur under the Initial Phases and Ultimate Projects in Alternatives 1 and 2.

National Natural Landmarks and Other Geographic and Topographic Features

Under the Ultimate Projects for Alternatives 1 and 2, approximately 2.25 ac of the NNL adjacent to SR-91 would be impacted by a permanent subsurface easement for underground tiebacks for the tieback wall along SR-91. No surface disturbance to the NNL would occur. No impacts to this NNL would occur under the Initial Phases of Alternatives 1 and 2.

Because the *Geotechnical Design Report* did not identify any geologic or topographic features potentially requiring protection adjacent to the project segments of SR-91 and I-15, the Build Alternatives would not result in impacts to those types of resources.

No Build Alternative

Under the No Build Alternative, existing earthquake, seismic, and landslide issues would continue to potentially affect the existing facilities along the project segments of SR-91 and I-15. However, the grading and use of cut-and-fill slopes required for the project would not occur under the No Build Alternative, and the No Build Alternative would not result in any impacts to the NNL.

3.11.3.3 Temporary Impacts

Alternatives 1 and 2

Construction activities may temporarily disturb soil outside the project footprint but within the freeway rights-of-way, primarily in the trample zone around work areas, heavy equipment traffic areas, and material laydown areas. Construction activities in TCEs outside the freeway rights-of-way will also temporarily disturb soils in those areas.

During construction of the Initial Phases and Ultimate Projects in Alternatives 1 and 2, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The project will be required to adhere to the requirements of the General Construction Permit and implement erosion and sediment control BMPs specifically identified in a project SWPPP to keep sediment from moving off site into receiving waters. Refer to Section 3.10, Water Quality and

Storm Water Runoff, for additional information regarding construction-related water quality issues and mitigation.

Worker safety hazards resulting from erosion during construction activities would be minimized with the implementation of requirements outlined in the General Construction Permit and erosion and sediment control BMPs identified in the SWPPP.

Construction activities for the Build Alternatives could be impacted by ground motion from seismic activities, possible ground rupture, and liquefaction if an earthquake were to occur during construction. Implementation of safe construction practices and compliance with the Department and Cal-OSHA requirements would minimize the impacts to worker safety during construction activities.

In general, the sedimentary bedrock, younger and older alluvial soils, and artificial fills near the surface along the project segments of SR-91 and I-15 can be excavated using conventional earth-moving equipment. However, non-rippable granitic bedrock may be present in areas where shoulder widening would result in new cut slopes, the construction of retaining walls, and/or the modification of existing cut slopes. Excavation characteristics of bedrock are dependent on the depth of cut, type of excavation equipment used, and rock quality. Alternatives 1 and 2 may require blasting in areas underlain by granitic bedrock, particularly in areas along SR-91 east of the I-15 interchange. Project components for both Build Alternatives in this area require minor widening within existing shoulder areas and the requirement for blasting to accommodate widening is unlikely. However, if during final design it is determined that blasting is required, Measure GEO-3 requires the preparation of a blasting plan that will identify specific requirements such as hours that activities may occur, notification of activities to nearby property owners, and measures to minimize noise, vibration, and dust.

No Build Alternative

Under the No Build Alternative, the temporary impacts discussed above for the Build Alternatives would not occur because there would be no construction of project improvements under this alternative.

3.11.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

GEO-1 A *Preliminary Geotechnical Design Report* (July 2010) was prepared during the development of the preliminary engineering for the project. During final design, RCTC's Project Engineer or a Project Geotechnical Engineer or Project Geologist under contract to RCTC will prepare a *Final Geotechnical Design Report* as required by Topic 113 of the Department's Highway Design Manual (May 2012). This report will document soil-related constraints and hazards such as slope instability, settlement, liquefaction, or related secondary seismic impacts that may be present along the project segments of SR-91 and I-15. The performance standard for this report will be the Department's Geotechnical Manual (2012 or most recent version) standards as they apply to the project features and structures. RCTC will submit the *Final Geotechnical Design Report* to the Department for review and approval during final design.

The report will include but not be limited to:

- Evaluation of expansive soils and recommendations regarding construction procedures and/or design criteria to minimize the effect of these soils on the construction of the project and to minimize effects related to expansive soils on project facilities in the long term.
- Identification of potential liquefiable areas within the project limits and recommendations for mitigation.
- Evaluation of the corrosion potential of soils along those segments of the project alignment not previously tested (i.e., areas along I-15 and the westbound side of SR-91).
- Demonstration that no retaining walls or excavations will occur in the existing landslide areas, or that landslide stabilization measures independent of the retaining wall design are included in the final project design.
- Demonstration that the design of all retaining walls is geotechnically suitable for project area soils, and verification that project design has considered and addressed the possibility of scour associated with the Santa Ana River.
- Demonstration that side slopes can be designed and graded so that surface erosion of the engineered fill is not increased compared to existing, natural conditions.

RCTC's Project Engineer will incorporate the measures recommended in the design level geotechnical report in the final design and project specifications.

RCTC's Resident Engineer will require the design/build contractor to implement the measures recommended in the *Final Geotechnical Design Report* as included in the project specifications.

GEO-2 RCTC's Resident Engineer will maintain a quality assurance/quality control plan during construction. The plan will include observing, monitoring, and testing by the Project Geotechnical Engineer and/or the Project Geologist under contract to RCTC prior to and during construction to confirm that the geotechnical/geologic recommendations from the *Final Geotechnical Design Report* and standard design and construction practices are fulfilled by the design/ build contractor, or if different site conditions are encountered, appropriate changes are made to accommodate such issues. The geotechnical engineer will submit weekly reports to RCTC and the Department during all project-related grading, excavation, and construction activities.

GEO-3 During final design, if blasting is required, RCTC's Project Engineer will require the design/build contractor to prepare a blasting plan to minimize potential hazards related to blasting activities. The blasting plan will address all applicable standards in accordance with the United States Department of the Interior, Office of Surface Mining. The issues to be addressed in the blasting plan will include, but are not limited to, the following: hours of blasting activity, notification to adjacent property owners, noise and vibration, and dust control.

RCTC's Resident Engineer will require the design/build contractor to implement the blasting plan prior to and during any blasting during construction.

Refer also to Section 3.10, Water Quality and Storm Water Runoff, for additional mitigation measures related to soil erosion, including BMPs.

This page intentionally left blank

3.12 Paleontology

3.12.1 Regulatory Setting

Paleontology is the study of life in past geologic time based on fossil plants and animals. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized or funded projects (e.g., Antiquities Act of 1906 [16 USC 431-433], Federal-Aid Highway Act of 1960 [23 USC 305], and the Omnibus Public Land Management Act of 2009 [16 USC 470aaa]). Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

3.12.2 Affected Environment

This section provides a discussion of the existing paleontological setting for the project and an analysis of potential impacts of the project on paleontological resources. This section summarizes information provided in the *Paleontological Resources Identification and Evaluation for SR-91 Corridor Improvement Project Cities of Anaheim, Yorba Linda, Corona, Norco, and Riverside Counties of Orange and Riverside, California* (2010). The study area for this analysis was larger than the Area of Direct Impacts (ADI) by approximately 325 ft on all sides. A paleontological locality search was conducted through the records of the San Bernardino County Museum (SBCM), the Natural History Museum of Los Angeles County (LACM), the Riverside Municipal Museum (RMM), and the University of California, Berkeley Museum of Paleontology (UCMP). There is one known paleontological resource within the project ADI: 07GM7-14, which is located within the Puente Formation.

The project segments of SR-91 and I-15 are located in the northwestern Peninsular Range Province of southern California. This Province is bounded on the north by the Transverse Ranges, on the east by the Colorado Desert, and on the west by the Pacific Ocean (Jahns 1954), and extends south to include the entire Baja California Peninsula. Igneous, metamorphic, and sedimentary rocks are exposed throughout the Province.

This section briefly describes the paleontological sensitivity of rock formations in the study area. Refer to the technical report described above for more detailed descriptions of these rock formations.

Generally, scientifically significant paleontological resources are identified sites or geological deposits containing individual fossils or groups of fossils that are unique or

unusual, diagnostically or stratigraphically important, and add to the existing body of knowledge in specific areas stratigraphically, taxonomically, or regionally. All vertebrate fossils that can be related to a stratigraphic context are paleontologically significant and are considered significant nonrenewable paleontological resources. Invertebrate and plant fossils as well as other environmental indicators associated with vertebrate fossils are also considered paleontologically significant. Certain invertebrate and plant fossils that are regionally rare or uncommon, or help to define stratigraphy, age, or taxonomic relationships are likewise considered paleontologically significant. The technical study includes the results of a paleontological locality search through the SBCM, LACM, RMM, and UCMP, and contains an exhaustive discussion of paleontological significance, paleontological sensitivity, the geology, and structure of the project area, and the stratigraphy and paleontology of rocks that may be impacted by the project.

A pedestrian survey of geological exposures in the study area was conducted to locate surface fossils and confirm the geologic mapping.

A formation or rock unit has paleontological sensitivity or the potential for significant paleontological resources if it has previously produced or has lithologies that could contribute to the preservation of vertebrate fossils and associated or regionally uncommon invertebrate and plant fossils. All sedimentary rocks and certain extrusive volcanic rocks and mildly metamorphosed rocks are considered to have potential for paleontological resources.

The project segments of SR-91 and I-15 pass through the Santa Ana Mountains and a structural feature known as the Perris Block. The Santa Ana Mountains contain exposures of Jurassic to Cretaceous (145 to 65 mya) metamorphic and igneous rocks covered by limited exposures of younger sediments dating from the Cretaceous to the present.

There are 21 formally named sedimentary formations or unnamed sedimentary units in the project study area as well as several exposures of igneous and metamorphic rock. There is one known fossil locality in the study area that contained fossil fish, leaves, and coprolites. This locality is within the Puente Formation. The paleontological sensitivity for the sedimentary or other rock types, either high or low, was determined based on their age and whether fossils have or have not been collected from those units in the past. The ADI, the study area, and the paleontological sensitivities in the project study area are shown in Figure 3.12-1.

ESPERANZA RD
N WEIR CANYON RD
LA PALMA AV
E SANTA ANA CANYON RD
GYPSUM CANYON RD
91
241
Horseshoe Bend
SANTIAGO DE SANTA ANA
SANTA ANA RIVER
CANYON DE SANTA ANA
Featherly Regional Park
FREEWAY
Diversion Dam
Well
Water Tank
Gravel Pit
ANAHEIM
RIVERSIDE
SANTIAGO

LEGEND

- Study Area
- Area of Direct Impacts

Paleontological Sensitivities

- High Potential
- Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

MAP INDEX

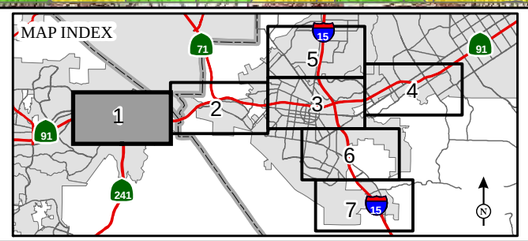


FIGURE 3.12-1
Sheet 1 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

Study Area

Area of Direct Impacts

Paleontological Sensitivities

High Potential

Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

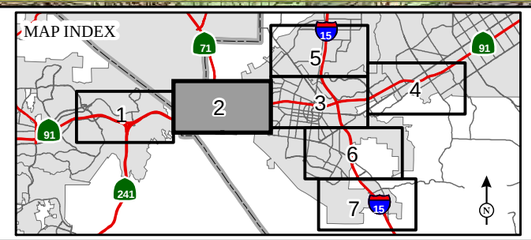


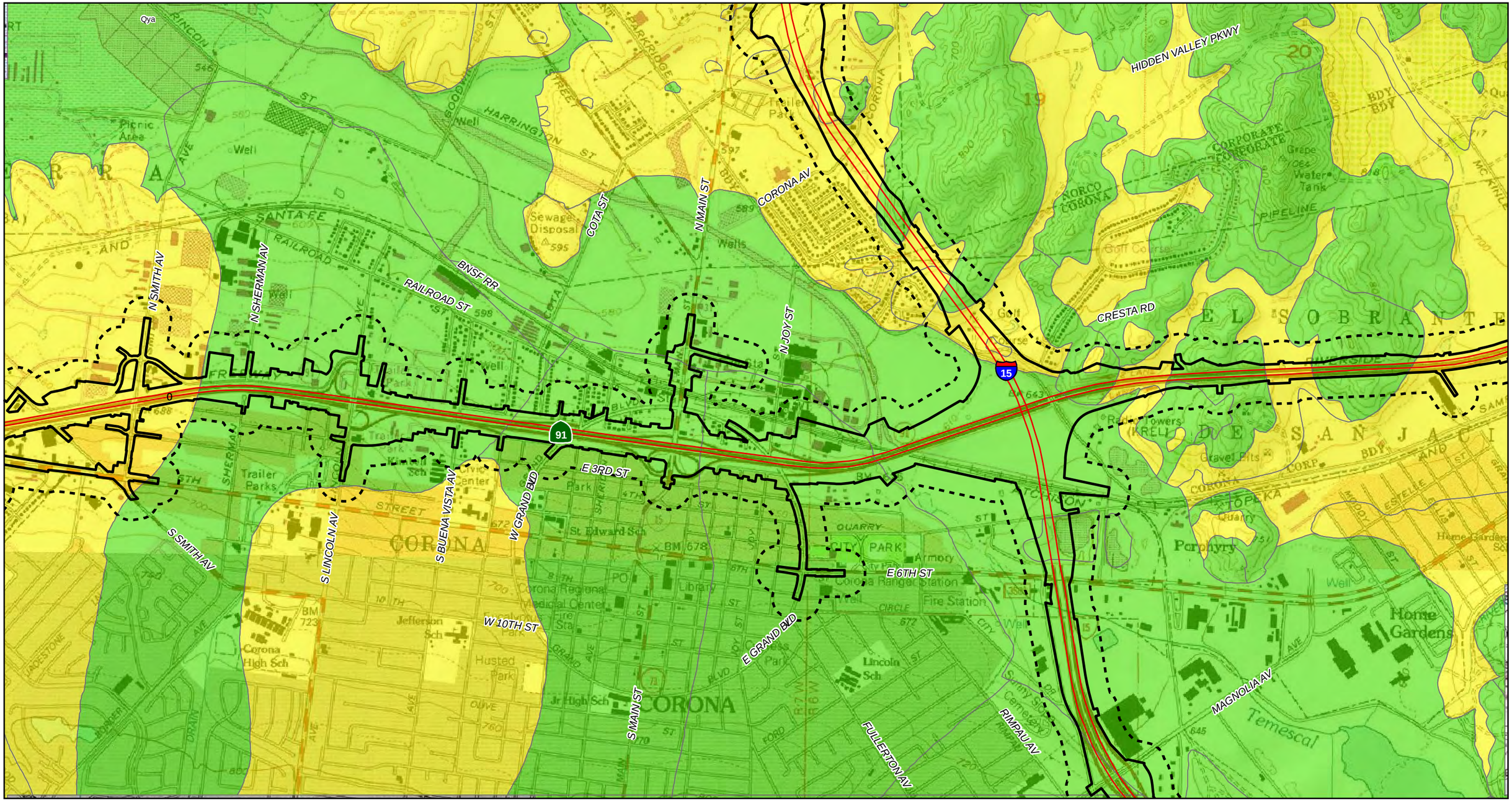
FIGURE 3.12-1
Sheet 2 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

This page intentionally left blank



LEGEND

- Study Area
- Area of Direct Impacts

Paleontological Sensitivities

- High Potential
- Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

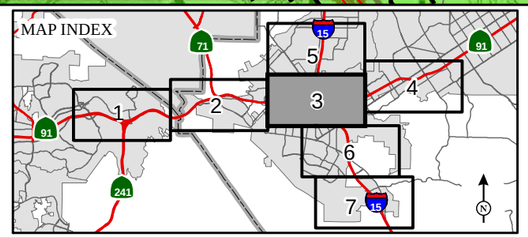


FIGURE 3.12-1
Sheet 3 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

- Study Area
- Area of Direct Impacts

Paleontological Sensitivities

- High Potential
- Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

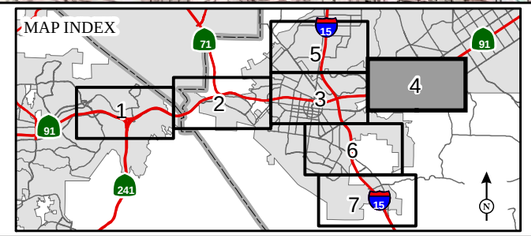


FIGURE 3.12-1
Sheet 4 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

- Study Area
- Area of Direct Impacts

Paleontological Sensitivities

- High Potential
- Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

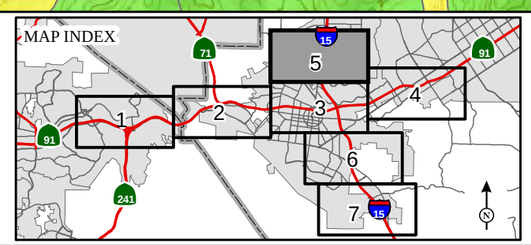


FIGURE 3.12-1
Sheet 5 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

- Study Area
- Area of Direct Impacts

Paleontological Sensitivities

- High Potential
- Low Potential

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

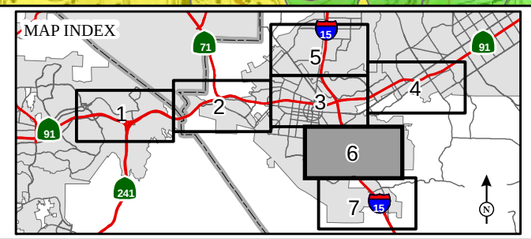
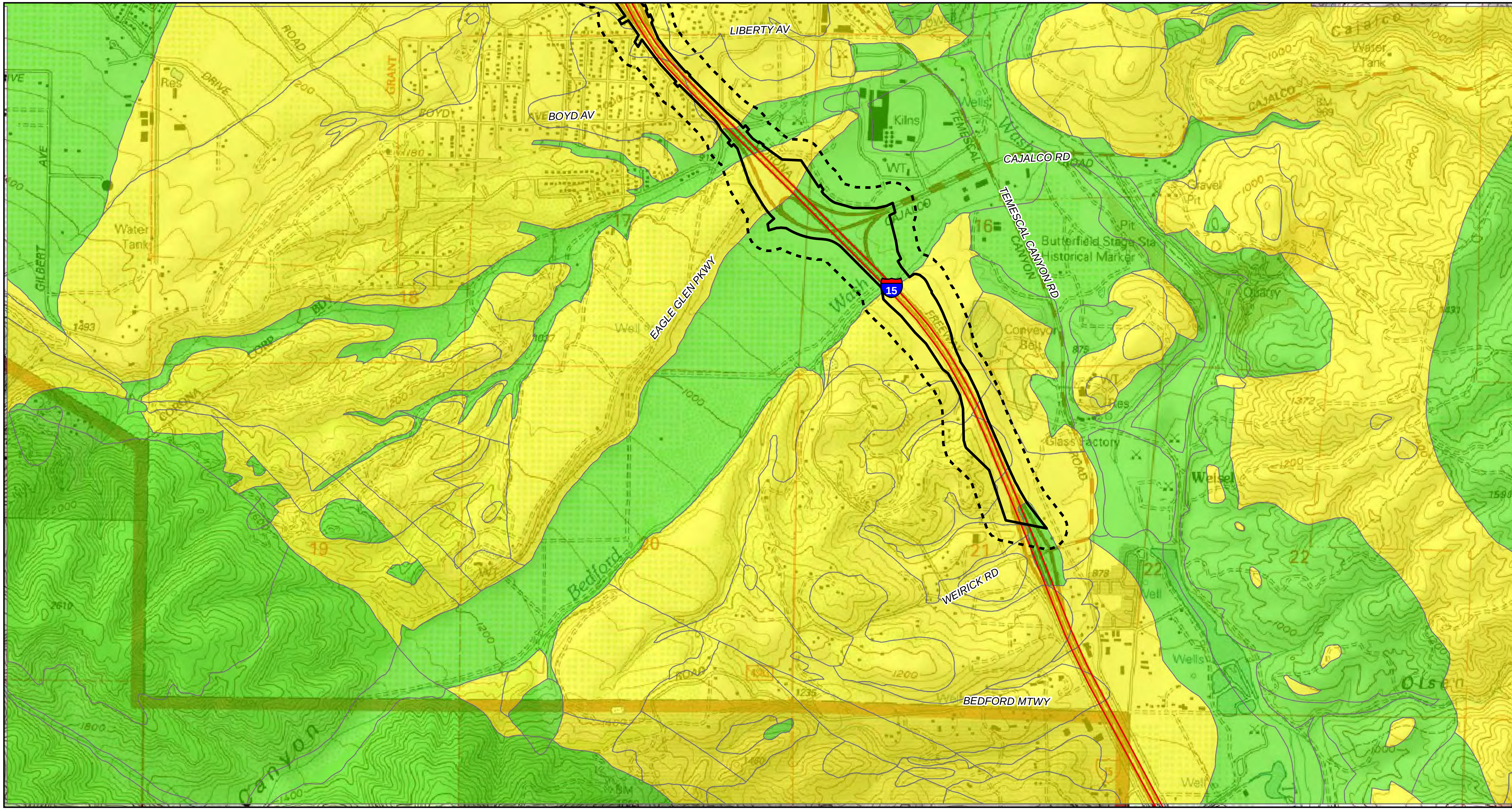


FIGURE 3.12-1
Sheet 6 of 7

SR-91 Corridor Improvement Project
Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

Study Area

Area of Direct Impacts

Paleontological Sensitivities

🟨 High Potential

🟩 Low Potential

N

0 750 1,500 Feet

SOURCE: USGS 7.5' Quads: Prado Dam (1981), Corona North (1981), Riverside West (1980), Black Star Canyon (1988), Corona South (1980), Lake Mathews (1988); Thomas Bros. (2008); USGS Geologic Map of the Santa Ana 30' x 60' Quadrangle (2004, Morton).

I:\PAZ0701\GIS\Paleo\Paleo_Sensitivities.mxd (2/16/2010)

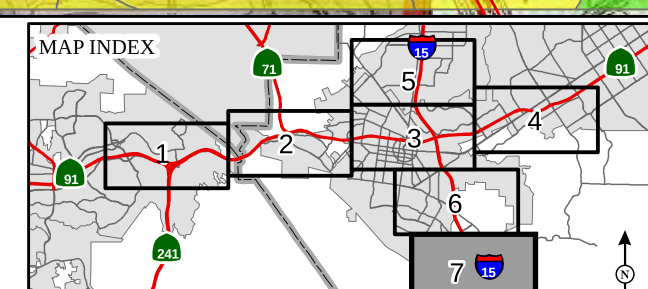


FIGURE 3.12-1

Sheet 7 of 7

SR-91 Corridor Improvement Project

Paleontological Sensitivities

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

The ADI, which includes the existing State and other public rights-of-way and the areas adjacent to those rights-of-way, encompasses a total of approximately 1,652 ac. The area within the ADI is identified as high or low paleontological sensitivity depending on the sediments in each area. Approximately 787 ac or 48 percent of the area in the ADI is identified as high sensitivity for paleontological resources, and 865 ac or 50 percent is identified as low sensitivity.

Six of the sedimentary units are from the Holocene to late Pleistocene Epochs of the Quaternary Period and, because of their young age (less than 10,000 years), are unlikely to contain paleontological resources. These sediments are artificial fill, very young alluvial stream deposits, very young alluvial fan deposits, young alluvium, young alluvial fan deposits, and young landslides. These sediments are considered to have a low paleontological sensitivity. However, they often form a cap several feet deep over older sediments that can contain fossils, so the low sensitivity rating of an area with these sedimentary units could change to high if excavation extends deep enough to encounter the older sediments under those younger sediments.

Four alluvial sediment types from the Pleistocene Epoch of the Quaternary Period (1.8 mya to 10,000 years ago) have the potential to contain paleontological resources. Fossils from similar sediments include animals such as sloth, camel, bison, horse, and deer. As a result, these sedimentary units are considered to have high paleontological sensitivity.

Nine of the sedimentary formations from the Tertiary Period (65 mya to 1.8 mya) have the potential to contain paleontological resources: sediments of the Norco area, the Fernando Formation, Chino Hills Mio-Pliocene sandstone, sandstone of the Norco area, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations (interfingered and undifferentiated), the Santiago Formation, and the Silverado Formation. Fossils found in these formations include mammals, birds, reptiles, fish, invertebrates, and plants. These sedimentary formations are considered to have high paleontological sensitivity.

Two of the sedimentary formations from the Late Cretaceous Period (80 to 65 mya) have the potential to contain paleontological resources. They are the Williams and Ladd Formations. Fossils found in these formations include dinosaurs, sea turtles, ammonites, bivalves, gastropods, and brachiopods. These sedimentary formations are considered to have high paleontological sensitivity.

Areas where igneous and metamorphic rock are exposed at the ground surface have low paleontological sensitivity. The area of exposure is assigned this rating only because there may be a slight chance for paleontological remains if there is a thin mantle of fossiliferous sediments on top of the igneous and metamorphic exposure that was too limited in its extent to be shown when the geology in that specific area was mapped. If fossiliferous sediments containing fossils are found on top of these igneous or metamorphic exposures, the paleontological sensitivity of the area would change to high.

3.12.3 Environmental Consequences

3.12.3.1 Summary of Impacts

The construction of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations could result in permanent impacts on paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. As shown on Figure 3.12-1, the ADI for Alternatives 1 and 2 is the same. While there would be minor differences in areas actually disturbed during construction, the impacts of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations on these sediments would be very similar because the construction of these alternatives would use similar techniques and would disturb approximately the same areas along the alignments. As a result, there is not a substantive difference in permanent impacts on paleontological resources under the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations.

The construction impacts of Alternatives 1 and 2 and their design variations would be permanent. As a result, the Build Alternatives would not result in temporary impacts on paleontological resources.

Summary of Impacts of Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The construction of Alternative 2f (Initial Phase and Ultimate Project) could result in permanent impacts on paleontological resources in the sediments listed above. The impacts on these sediments under Alternative 2f (Initial Phase and Ultimate Project) would be very similar to the impacts of Alternative 2 and its design variations because the

construction of Alternative 2f would use similar techniques and would disturb approximately the same areas along the alignments.

Because construction impacts of Alternative 2f (Initial Phase and Ultimate Project) would be permanent, Alternative 2f (Initial Phase and Ultimate Project) would not result in temporary impacts on paleontological resources.

3.12.3.2 Permanent Impacts

Alternatives 1 and 2

The Build Alternatives would alter existing landforms and potentially expose fossil resources during grading activities such as excavation along the alignment, excavation to various depths to reach competent soil, excavation for wall footings, excavation for relocated or new utilities, and activities such as pile driving and cast-in-drilled-hole (CIDH) piles. Construction activities may also disturb sediment outside the project footprint but within the project right-of-way, primarily in the heavy equipment traffic and material laydown areas.

The construction activities associated with the Build Alternatives could encounter paleontological resources during excavation activities. As shown on Figures 2-14 and 2-15, construction will occur only once along individual segments of SR-91 and I-15 for the Initial Phase and Ultimate Project for Alternative 1. As a result, the construction of the Initial Phase and Ultimate Project for Alternative 1 will impact individual areas only once, but in all cases will impact areas of high sensitivity for paleontological resources. As shown on Figures 2-16 and 2-17, construction of the Initial Phase of Alternative 2 will require construction along the majority of the SR-91 and I-15 alignments, and the Ultimate Project will require additional construction in the majority of those areas as well as some areas not affected by the Initial Phase of Alternative 2. As a result, the construction of Alternative 2 will impact many areas along the alignments during both the Initial Phase and Ultimate Project, and in all cases will impact areas of high sensitivity for paleontological resources.

Specifically, construction and excavation under the Initial Phases and Ultimate Projects for Alternatives 1 and 2 and their design variations could impact paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the

Silverado Formation, the Williams Formation, and the Ladd Formation. As discussed earlier and as shown on Figure 3.12-1, approximately 48 percent of the ADI is in areas identified as high sensitivity for paleontological resources and 52 percent as low sensitivity.

The majority of the alignments of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 would stay at the same grade as the existing SR-91 alignment. New excavation would consist of widening existing road cuts to allow construction of additional lanes, overexcavation to reach competent soil, utility trenches, wall footings, and pile driving and/or CIDH piles that may be used for bridge supports. There are several locations where the Build Alternatives would be elevated above current grade to allow for the addition of new structures such as ramps, connectors, collector-distributor roads, etc. Preliminary data regarding depth of excavation within the alternatives suggest that excavation may reach depths of up to 3 ft during preparation of the roadway, up to 10 ft during relocation or installation of utilities or storm drain or sewer lines, potentially up to 10 ft for wall footings (studies still pending), and up to 120 ft during drilling for bridge supports (driven piles or CIDH piles) for installation in certain areas such as the SR-91/I-15 interchange. Borrow areas for obtaining additional fill material for this project have not yet been identified and are not considered in this analysis. The design/build contractor would be required to obtain material from a borrow site that has been environmentally cleared and permitted.

No Build Alternative

Because the No Build Alternative does not involve construction or excavation, there is no potential for encountering paleontological resources under this alternative. Therefore, the No Build Alternative would not result in permanent impacts on paleontological resources.

3.12.3.3 Temporary Impacts

Alternatives 1 and 2

There are no temporary impacts to paleontological resources under Alternatives 1 and 2 because impacts to these resources during construction are considered permanent as discussed above in Section 3.12.3.2, Permanent Impacts.

No Build Alternative

The No Build Alternative does not involve construction. Therefore, there is no potential for encountering paleontological resources under the No Build Alternative.

3.12.4 Avoidance, Minimization, and/or Mitigation Measures

The analysis did not identify any special paleontological situations that would require the redesign of Alternatives 1 and 2 to avoid critical paleontological localities or strata. Mitigation to address impacts on paleontological resources that may be encountered during construction is required for Alternatives 1 and 2 and their design variations. Measure PAL-1 addresses potential impacts to nonrenewable paleontological resources. The following measure would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

PAL-1 Following preparation of suitable construction drawings and elevations and during final design, RCTC's Project Engineer will require the Designated Principal Paleontologist under contract to RCTC to prepare a *Paleontological Mitigation Plan* (PMP). The PMP will provide guidance for developing and implementing paleontological mitigation efforts, including field work, laboratory methods, and curation. This PMP will be consistent with guidelines provided in the Caltrans *Standard Environmental Reference* (SER), Environmental Handbook, Volume I, Chapter 8, Paleontology, the Counties of Riverside and Orange, and the Society of Vertebrate Paleontology (SVP), and will be specifically tailored to the resources and sedimentary formations in the disturbance limits.

The part of the PMP that covers excavation will include but not be limited to:

- Prior to any ground disturbance, RCTC's Designated Prinicipal Paleontologist or his/her representative will attend a meeting with the design/build contractor to explain the likelihood for encountering paleontological resources during construction, what resources may be discovered, and the methods that will be employed if anything is discovered.
- RCTC's Principal Paleontologist will conduct a preconstruction field survey in areas identified as having high paleontological sensitivity after vegetation and any pavement are removed, followed by salvage of any observed surface paleontological resources prior to the beginning of additional ground-disturbing activities. The survey will be conducted by the Prinicpal

Paleontologist or his/her representative who is qualified to identify vertebrate, invertebrate, and plant fossils.

- During ground disturbance, grading, and excavation, RCTC's Project Engineer will require the design/build contractor to retain a Principal Paleontologist. The Prinicpal Paleontologist will provide a Paleontological Monitor who is qualified to recognize and professionally collect vertebrate, invertebrate, and plant fossils. The qualified Paleontological Monitor will initially be present on site on a full-time basis whenever these types of construction activities occur in sediments that have a high paleontological sensitivity rating and also on a spot-check basis in sediments that have a low sensitivity rating. Monitoring may be reduced to a part-time basis if no resources are being discovered in sediments with a high sensitivity rating. Any reduction or modification in scheduling of monitoring will be determined by the Principal Paleontologist and RCTC's Resident Engineer. The qualified Paleontological Monitor will inspect fresh cuts and/or spoils piles to recover paleontological resources. That monitor will be empowered to temporarily divert construction equipment away from the immediate area of the discovery. The monitor will be equipped to rapidly stabilize and remove fossils to avoid prolonged delays to construction schedules. If large mammal fossils or large concentrations of fossils are encountered, RCTC's Resident Engineer will require the design/build contractor to make heavy equipment available to assist in the removal and collection of large materials.
- Localized concentrations of small (or micro-) vertebrates may be found in all native sediments. As described in the PMP, the qualified Paleontological Monitor will spot-screen native sediments through one-eighth- to one-twentieth-inch mesh screens to determine whether microfossils are present. If microfossils are encountered, a standard sediment sample (up to 3 cubic yards or 6,000 pounds) will be collected and processed through one-twentieth-inch mesh screens to recover additional fossils. As described in the PMP, the processing of large bulk samples will be conducted at a designated location within the project limits that will be accessible throughout the duration of construction and also

away from any cut or fill areas or active construction areas. Processing will be completed concurrently with construction and with the intent to have all processing completed before, or just after, project completion.

- RCTC's Project Engineer will require the Principal Paleontologist or his/her representative to prepare any recovered specimens to the point of identification and permanent preservation. This includes sorting any washed mass samples to recover small invertebrate and vertebrate fossils, the removal of surplus sediment from around larger specimens to reduce the volume of storage for the repository and storage cost, and the addition of approved chemical hardeners/ stabilizers to fragile specimens. This preparation will be conducted at a designated laboratory with access to fossil preparation tools, magnifying equipment, storage boxes and vials, and chemical hardeners. The processing of fossils through the lab will be conducted concurrently with construction, especially if numerous fossils are being collected.
- Specimens will be identified to the lowest taxonomic level possible and curated into an institutional repository with retrievable storage. Repository institutions usually charge a one-time fee based on volume, so removing surplus sediment is important. The repository institution may be a local museum or university that has a curator who can retrieve the specimens on request. RCTC's Project Manager and the Department will require that a draft curation agreement be in place between the Principal Paleontologist and an approved curation facility prior to the initiation of paleontological monitoring and mitigation activities for the project.

RCTC's Resident Engineer will require the design/build contractor to comply with the provisions of the PMP during all ground disturbance, grading, and excavation activities. This will include appropriate coordination with RCTC's Designated Principal Paleontologist and the provision of qualified paleontological monitors consistent with the provisions of the PMP.

After the completion of all ground disturbance and grading, RCTC's Project Manager will require the design/build contractor to have the design/build contractor's Designated Principal Paleontologist prepare a

Final Paleontological Mitigation Report (PMR) that summarizes the project area investigated, the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the scientific significance of the curated collection. RCTC's Project Manager will retain a copy of the report for the RCTC project files and will provide a copy of the report to the Department.

3.13 Hazardous Waste/Materials

3.13.1 Regulatory Setting

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Resource Conservation and Recovery Act of 1976 (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- CWA
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, EO 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976 and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

3.13.2 Affected Environment

The information in this section is based on the *Final Initial Site Assessment* (ISA; July 2010), the *Final Asbestos, Lead-Based Paint, and Hazardous Materials Survey Report* (November 2011), the *Detailed Site Investigation Report* (DSI; December 2011), the *Final Aerially Deposited Lead Survey Report* (December 2008), the *Final Aerially Deposited Lead Survey Report Addendum* (July 2009 [revised April 2010]), and the *Final Community Impact Assessment* (CIA; December 2010).

3.13.2.1 Initial Site Assessment

The ISA was prepared to determine whether construction of the project could be affected by any recorded or visible hazardous waste problems within the project disturbance limits. The ISA included searches of government records by using the Environmental Database Report (EDR) Radius Report (August 5, 2008) to obtain a listing of properties or known incidents from federal, State, local, and EDR proprietary environmental databases in accordance with the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments (E-1527-05) requirements; a review of historical aerial photographs and Sanborn-Perris maps; interviews with local agency officials from the Santa Ana RWQCB and the Riverside County Department of Environmental Health (RCDEH); and a site visit of the sites identified by the results of the EDR database search in order to locate potential contaminant sources on the identified sites, to note general site conditions, and to identify unlisted sites in the project vicinity that may use, store, or transport hazardous materials or wastes.

The ISA included review of files maintained by the SWRCB GeoTracker online database, the California Department of Toxic Substances Control (DTSC) EnviroStor online database, and the EDR Radius Report. Regulatory agency coordination included records reviews of files obtained from the Orange County Health Care Agency (OCHCA), OCFA, Anaheim Fire Department (AFD), Anaheim Public Utilities Department (APUD), Riverside County Community Health Agency (RCCHA), RCDEH, RCFD, Corona Fire Department (CFD), City of Norco Building Department, City of Norco Fire Department (NFD), and the RWQCB were also reviewed as part of the regulatory coordination process. These records were reviewed in October, November, and December 2008; January 2009; and January 2010.

Telephone interviews were also conducted with representatives of the Santa Ana RWQCB and the RCDEH between April 2009 and May 2009. Interviews were

conducted to obtain additional information for sites with documented releases and that may pose a potential concern during the construction of the project.

Sites of Environmental Concern

Sites that may pose a potential environmental concern to the project include known hazardous waste release sites reported within the project disturbance limits and properties that currently store, generate and/or handle hazardous substances that may be acquired as part of the project. Table 3.13.1 lists these sites of potential environmental concern based on the database search, review of historical aerial photographs and Sanborn-Perris maps, interviews conducted with the RWQCB and RCDEH, the site visit, and sites record review conducted for the ISA. All the sites listed in Table 3.13.1 are in or partially in the project disturbance limits.

Sites where hazardous wastes and materials are sold, generated, or otherwise managed at a smaller scale, including but not limited to the storage of small amounts of cleaning products or paint, may also be completely or partially acquired. The primary impact of such a right-of-way acquisition would be the relocation of the building or business and not the relocation of major hazardous materials or wastes. These types of sites are unlikely to pose a hazardous waste/materials concern to the project because they do not typically result in site contamination or other substantive concerns related to hazardous materials and wastes, and therefore are not discussed further in this section.

Figure 3.13-1 shows the locations of these sites of concern in relation to the project disturbance limits of Alternative 1 and its four design variations (a through d). Figure 3.13-2 shows the locations of these sites of concern in relation to the project disturbance limits of Alternative 2 and its eight design variations (a through h). Figures 3.13-1 and 3.13-2 are provided following the last page of text in this section.

The sites of potential concern listed in Table 3.13.1 were identified as along either SR-91 from Weir Canyon Road to Smith Avenue or SR-91 from Smith Avenue to Tyler Street. No sites of potential concern were identified along I-15 from Fifth Street to Weirick Road because hazardous wastes/materials were not identified to be stored within an area that would be required for TCEs on that project segment. In addition, according to the SWRCB GeoTracker (last accessed January 2010), there are no sites with open release cases existing within the project disturbance limits on I-15.

Table 3.13.1 Hazardous Waste/Materials Sites of Potential Concern

Figure 3.13-1 Map ID[1]	Figure 3.13-2 Map ID[1]	Site Name and Address	Assessor's Parcel Numbers	Regulatory Databases	Site Information
N/A	1	Hayden Industrial Products 1531 Pomona Road Corona, CA	118-040-007	FINDS, RCRA-SQG, SLIC, WDS, HAZNET	No open release cases were reported as of January 2010. Based on site records reviewed from the RCDEH and the CFD, ASTs may be present on site.
1	2	Aero Tanks Enterprises 1780 Pomona Rincon Road Corona, CA	102-280-032	Not listed on any regulatory database	No open release cases were reported as of January 2010. Based on site records reviewed from the CFD, argon and carbon dioxide tanks are currently located on site.
2	3	Shell Goodman Sixth Street 1825 West Sixth Street Corona, CA	102-270-011	FID, SWEEPS UST, FINDS, RCRA-SQG, HAZNET, HIST UST, LUST, UST	No open release cases were reported as of January 2010. There are currently three USTs, four pump islands, and an AST containing propane located on site.
3	4	Carl's Jr. 1865 West Sixth Street Corona, CA	102-270-003	Not listed on any regulatory database	No open release cases were reported as of January 2010. Based on site records reviewed from the CFD, an AST containing carbon dioxide is currently located on site.
4	5	Chevron No. 91582 2270 West Frontage Road Corona, CA	102-091-020	FID, SWEEPS UST, FINDS, RCRA-SQG, HAZNET	No open release cases were reported as of January 2010. There are currently USTs and six pump islands located on site.
5	6	Corona Chevrolet 2550 Wardlow Road Corona, CA	102-420-047	FINDS, HAZNET	No open release cases were reported as of January 2010. There is currently one AST on site.
6	7	Green River Golf Club 5215 Green River Road Corona, CA	085-071-30, 101-130-013, 101-210-001, 353-063-06, 353-063-29	HAZNET, CORTESE, FID, LUST	No open release cases were reported as of January 2010. According to available site records, pesticides, herbicides, and fungicides may have been stored on site.
7	8	Stock-Rite Building Supply, Inc. (now an unnamed industrial property) 523 South Maple Street Corona, CA	102-040-013	HIST UST	No open release cases were reported as of January 2010. There is currently one AST on site.
8	9	U.S. Rentals, Inc. (now United Rentals) 525 Maple Street Corona, CA	102-040-015	HAZNET, CORTESE, LUST, HIST UST	No open release cases were reported as of January 2010. One AST containing propane and approximately 17 cylinder tanks (likely storing liquid petroleum gas) are currently located on site.

Table 3.13.1 Hazardous Waste/Materials Sites of Potential Concern

Figure 3.13-1 Map ID[1]	Figure 3.13-2 Map ID[1]	Site Name and Address	Assessor's Parcel Numbers	Regulatory Databases	Site Information
9	10	Mobil No. 18-FLM 616 Paseo Grande Street Corona, CA	102-250-050, 102-250-051	HAZNET, FID, CORTESE, SWEEPS UST, LUST, UST, HIST UST, RCRA-LQG	Based on file information from the SWRCB GeoTracker website, the Santa Ana RWQCB, and the EDR Radius Report, this site is currently undergoing soil and groundwater remediation. Soil contaminated with gasoline was discovered during the replacement of three gasoline USTs and one waste oil UST in 1986. Hydrocarbon concentrations were detected in groundwater during monitoring activities. TPH-g, benzene, and MTBE were identified as the contaminants of concern in groundwater. There are five existing USTs and four existing fuel pump islands on site.
10	11	Song's ARCO 800 Serfas Club Drive Corona, CA	102-050-002	FID, CORTESE, LUST, PROP65, HIST UST	No open release cases were reported as of January 2010. There are currently four USTs and nine pump islands located on site.
11	12	State of California property, formerly 102 South Main Street Corona, CA	N/A	SLIC	Based on information reviewed from the EDR Radius Report and the SWRCB GeoTracker, this site currently has an open case for a petroleum leak that was reported on January 2, 1965. The media affected is unknown. According to the SWRCB GeoTracker, this site is located within the SR-91 right-of-way. Based on the findings of the Phase I ESA and Phase II testing conducted as part of the DSI, no RECs exist on site.
12	13	Orange Heights (now Newport Farms) 105 Pearl Avenue Corona, CA	117-270-013	CORTESE, LUST	No open release cases were reported as of January 2010. However, multiple ASTs (potentially storing propane) and drums (potentially storing waste petroleum, lubricating oil, and/or gear oil) are currently stored on site. There may also be fuel tanks on site.
13	14	Texaco Service Station (now Shell Gas Station) 230 Lincoln Avenue Corona, CA	118-171-049	FID, CORTESE, SWEEPS UST, LUST, HIST UST, UST	No open release cases were reported as of January 2010. There are currently four USTs, four pumps located on two pump islands, and two propane ASTs located on site.
14	15	Honda Cars of Corona (now Vacation Station RV) 231 South Lincoln Avenue Corona, CA	118-270-024	FINDS, RCRA-SQG, LUST, HAZNET, HIST UST, FID, SWEEPS UST, CORTESE	Based on information reviewed from the SWRCB GeoTracker, RCDEH, and the EDR Radius Report, this site is currently undergoing soil and groundwater remediation. Soil contaminated with gasoline was discovered during the removal of a gasoline UST and a waste oil UST in 1997. Hydrocarbon concentrations were detected in groundwater during monitoring activities. TPH-g, benzene, and MTBE 0were identified as the contaminants of concern within the groundwater.
15	16	Union Oil Service Station No. 621(now Unocal 76) 304 South Main Street Corona, CA	117-103-021	HIST UST, UST	No open cases were reported as of January 2010. There are currently USTs and six pump islands located on site.

Table 3.13.1 Hazardous Waste/Materials Sites of Potential Concern

Figure 3.13-1 Map ID[1]	Figure 3.13-2 Map ID[1]	Site Name and Address	Assessor's Parcel Numbers	Regulatory Databases	Site Information
16	17	Corona Industrial Electric, Inc. (now T&T Enterprises [Building A] and Food Tech [Building B]) 901 East Third Street Corona, CA	117-270-024	FID, SWEEPS UST, HIST UST	No open release cases were reported as of January 2010. Drums (potentially storing waste oil, used absorbent, and/or petroleum hydrocarbons) are currently stored on site, and there is a potential for two historical USTs to be present on site.
17	18	Southern California Edison Substation (south of SR-91 and west of South Sherman Avenue in the City of Corona)	118-101-015	Not listed on any regulatory database	No open release sites were reported at this site. However, a number of hazardous waste/materials may be stored on site or may be used during daily facility operations. Potential hazardous wastes/materials located on site include PCBs in transformers, PCBs in soils surrounding transformers, and asbestos-containing materials in electrical insulators. Additional unknown hazardous wastes/materials for daily facility operations may also be used and stored on site.

Source: *Final Initial Site Assessment* (July 2010) and *Detailed Site Investigation Report* (December 2011).

[1] These sites are shown on Figures 3.13-1 (Sheets 1–7) and 3.13-2 (Sheets 1–7).

AST = aboveground storage tank
CFD = Corona Fire Department
CORTESE = Cortese Hazardous Waste and Substances Sites List
ESA = Environmental Site Assessment
FID = Facility Inventory Database
FINDS = Facility Index System/Facility Index Identification Initiative Program Summary Report
HAZNET = Facility and Manifest Data
HIST UST = Historical Underground Storage Tank
ISA = Initial Site Assessment
LUST = leaking underground storage tank
MTBE = methyl tertiary-butyl ether
PCBs = polychlorinated biphenyls
PROP65 = Proposition 65 Records
RCDEH = Riverside County Department of Environmental Health
RCRA-LQG = Resource Conservation and Recovery Act – Large-Quantity Generator
RCRA-SQG = Resource Conservation and Recovery Act – Small-Quantity Generator
RECs = Recognized Environmental Conditions
RWQCB = Regional Water Quality Control Board
SLIC = Spills, Leaks, Investigations, and Cleanup Cost Recovery Listing
SR-91 = State Route 91
SWEEPS UST = Statewide Environmental Evaluation and Planning System
SWRCB = State Water Resources Control Board
TPH-g = total petroleum hydrocarbons-gasoline
UST = underground storage tank
WDS = Water Discharge System

Although there are five open-case sites outside the project disturbance limits along I-15, based on information from the SWRCB GeoTracker website, the soil and/or groundwater contamination at these sites has been limited to areas within and around the boundaries of those parcels. In addition, all five sites are over 500 ft west of the median of I-15. Due to the distance of each site from the project disturbance limits along I-15 and the limited extent of soil and/or groundwater contamination, it is not anticipated that these sites would pose a potential environmental concern to the Build Alternatives.

The 18 sites identified in Table 3.13.1 may generate, handle and/or store hazardous wastes/materials on site. However, only two sites, the Mobil No. 18-FLM (at 616 Paseo Grande Street in the City of Corona) and Honda Cars of Corona (at 231 South Lincoln Avenue in the City of Corona), have been identified as open cases for site contamination resulting from a release to soil and/or groundwater. These sites are located within the project disturbance limits due to the partial acquisition of and TCE at the Mobil No. 18-FLM site and the full acquisition of the Honda Cars of Corona site under both Build Alternatives. According to the SWRCB GeoTracker, the Mobil No. 18-FLM and the Honda Cars of Corona release sites are undergoing various stages of remediation for hydrocarbon contamination.

In addition, according to site records for the Green River Golf Club (located at 5215 Green River Road in the City of Corona), pesticides, herbicides, and fungicides may have been stored on that site. Therefore, there is a potential that pesticides, herbicides, and fungicides were applied on the part of the Green River Golf Club adjacent to the project segment of SR-91.

Agricultural Uses

According to the ISA, there are three parcels (APNs 085-071-23, 353-063-31, and 142-180-002) within the project disturbance limits that appear to have been previously used for historical agricultural purposes. These sites are shown on Figures 3.13-1 and 3.13-2. These parcels appear to have remained undisturbed and, as a result, have the potential to contain pesticides and herbicides that may have been used for pest and weed control. In addition, according to the CIA there are three parcels (APNs 101-250-069, 277-210-003, and 277-210-008) with areas of designated Farmland of Local Importance within the project disturbance limits. These designated farmland areas may also have the potential to contain pesticides and herbicides in soils that have not been disturbed and are also identified on Figures 3.13-1 and 3.13-2.

Aerially Deposited Lead

Due to the historical use of lead in gasoline, lead may exist in soils near heavily traveled roads. This specific type of lead is referred to as aerially deposited lead (ADL). The presence of ADL in soils may pose a potential concern to the environment and on-site workers during construction activities and may result in disposal considerations if removed off site. The *Final Aerially Deposited Lead Survey Report* was conducted to characterize lead in soils within the existing and additional public right-of-way required for the project along SR-91 from Gypsum Canyon Road to Magnolia Avenue, and along I-15 from 1,000 ft north of Hidden Valley Parkway to Bedford Canyon Wash. In addition, planned improvements, including trenching and installation of a fiber optic cable along eastbound SR-91 from east of the Weir Canyon Road undercrossing to east of the Gypsum Canyon Road undercrossing, were also surveyed for soil contaminated by ADL as part of the *Final Aerially Deposited Lead Survey Report Addendum*.

According to the *Final Aerially Deposited Lead Survey Report* and the *Final Aerially Deposited Lead Survey Report Addendum*, test results indicated that soluble lead was detected in 94 out of 148 samples analyzed. Concentrations of soluble lead in soils ranged from 0.1 mg/L to 2.1 mg/L. The criteria against which the lead analytical results for the Final ADL Survey were evaluated are as follows: If the 95 percent upper confidence limit (UCL) mean for soluble lead is less than 0.5 mg/L, the soil is considered non-hazardous for reuse on site. Although the maximum soluble lead concentration of 21 mg/L was detected in soils, a statistical analysis of soluble lead indicated that the 95 percent UCL for soluble lead analysis is less than 0.5 mg/L.

Therefore, according to DTSC Variance No. V09HQSCD006, soils located within the project limits to a depth of 3 ft bgs between Gypsum Canyon Road and Magnolia Avenue and 5 ft bgs along eastbound SR-91 starting east of the Weir Canyon Road undercrossing and extending east of the Gypsum Canyon Road undercrossing may be released to the contractor as nonhazardous soils and reused on site without restrictions under the DTSC Variance No. V09HQSCD006 (effective July 1, 2009 through July 1, 2014) for ADL impacted soil. However, if off-site disposal is required for soils along SR-91 within the project disturbance limits, the soils will be treated as a California hazardous waste. Soil sampling locations along the I-15 median indicate soils from along I-15 are considered nonhazardous.

3.13.2.2 Detailed Site Investigation

A DSI was conducted to evaluate the potential areas of concern identified in the ISA. The DSI included Phase I ESAs of the two sites of environmental concern, the Mobil No. 18-FLM site at 616 Paseo Grande, and the Former Honda Cars of Corona site at 231 South Lincoln Avenue. Both sites are in the City of Corona. The findings of the DSI for these two sites are described below.

Mobile No. 18 – FLM

The Mobile No. 18 – FLM site was a previously occupied by an automobile service station since the 1950s. According to the Phase I ESA for this site, a fuel release that impacted soil and groundwater was reported in 1986. Investigations and remedial activities performed under the oversight of the Santa Ana Regional Water Quality Control Board (RWQCB) are ongoing. At the time the Phase I ESA was conducted, hydraulic lifts and underground storage tanks (USTs) were still located on site and would pose a potential concern if disturbed or removed.

Former Honda Cars of Corona

The Former Honda Cars of Corona site is a 3.5 ac site that was used for agricultural purposes from 1931 to 1968, and later developed for commercial use in approximately 1977. The vacant buildings present on the site are associated with past use of the site for automotive sales and service.

During site reconnaissance as part of the Phase I ESA, hazardous materials containers were observed on the property. Waste oil was observed in an approximately 300-gallon aboveground storage tank (AST) immediately adjacent to an underground four-stage clarifier. Waste antifreeze in an approximately 100-gallon AST, 55-gallon drums of chemicals and waste products, eight hydraulic lifts, and one abandoned hydraulic lift were also noted. Records for the site indicate that a tank was removed in 1997, and a gasoline release was discovered when that tank was removed. Investigation and remedial activities under the oversight of the RCDEH is ongoing. Fuel-related constituents, including benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE, and trichloroethylene, have been detected in groundwater at the site. A soil vapor extraction (SVE) system was operated from 2006 through 2008 to treat contaminants on site. In April 2008, RCDEH authorized the removal of that equipment.

Phase II testing, including soil and soil vapor investigations, was conducted at the Honda of Corona site on April 12, 2011. Investigation activities were conducted in

areas considered to have the greatest potential for subsurface impacts based on past operations as well as those areas that had not been previously investigated. Based on the results of the investigation, total petroleum hydrocarbons (TPH) were not detected in any of the soil samples analyzed, indicating there was no release of petroleum hydrocarbons associated with the hydraulic lifts or clarifier. Soil sampling results also indicated that perchloroethylene (PCE) was the only volatile organic compound (VOC) detected in the soil samples analyzed. PCE was detected at concentrations between 0.7 and 4 micrograms per kilogram (µg/kg). These concentrations of PCE in soils are below the EPA IX Regional Screening Level (RSL) for residential and commercial land uses (550 µg/kg and 2,600 µg/kg, respectively).

The soil vapor survey results reported four VOCs (toluene, ethylbenzene, xylenes, and PCE) in samples from 5 ft bgs. The highest concentrations of ethylbenzene and xylenes, although not substantial, were detected near the former UST/remediation area. Toluene was detected at 250 µg/L, which is above the residential California Human Health Screening Level (CHHSL) of 135 µg/L but below the commercial CHHSL of 378 µg/L. These results indicate that residual gasoline contamination in soil represents a potential to encounter contaminated soils and/or vapor intrusion should new structures be constructed over the former UST area.

Within the former service bay buildings, PCE was detected at concentrations between 1.3 and 1.4 µg/L, which are slightly above the commercial CHHSL of 0.603 µg/L. These vapor results were consistent with the soil results, indicating that relatively low-level PCE releases have occurred on site in the areas of the service bays and the clarifier.

As of December 2011, the Honda Cars of Corona site received a No Further Action (NFA) letter from the RCDEH. Although an NFA letter was issued, the site closure document notes that low levels of contaminants remain in place; therefore, additional investigation may be warranted.

3.13.2.3 Potential Environmental Concerns

The ISA and DSI revealed no evidence of potential environmental concerns involving spills, accidental releases, or illegal dumping of hazardous waste or materials within the disturbance limits of the project with the exception of the following environmental concerns discussed below. The potential costs associated with the remedial activities required to address the environmental concerns identified below are provided in Section 3.13.4 of this section.

- **Contaminated Soils and Groundwater:** Two sites listed in Table 3.13.1 (Mobil No. 18-FLM and Honda Cars of Corona, shown on Figures 3.13-1 and 3.13-2) are listed in databases indicating a release of hazardous materials into the environment. As a result of these releases, on-site soils and/or area groundwater have been impacted.
- **Hazardous Waste Generators and Handlers:** There are multiple industrial and automotive uses in and adjacent to the disturbance limits of the Build Alternatives. Several of these locations were classified in the records search as a hazardous waste generator and/or handler (refer to Table 3.13.1). While many of these sites are not in violation of hazardous waste regulations, hazardous wastes and materials are routinely present at these sites. For example, as identified in Table 3.13-1, records obtained for the Green River Golf Club facility indicate that herbicides, pesticides, and fungicides are used and stored on site. Therefore, there is a potential that such materials have been used in the area that would be partially acquired or used as a TCE. In addition, the SCE substation (APN 118-101-015), located south of SR-91 and west of South Sherman Avenue, may include polychlorinated biphenyls (PCBs) in transformers, PCBs in soils surrounding transformers, and ACMs in electric insulators. A portion of APN 118-101-015 would be utilized for TCE purposes in all design variations of Alternative 1 and in Alternative 2 with design variations a, b, e, and f. APN 118-101-015 would be fully acquired under Alternative 2 with design variations c, d, g, or h, which would require the relocation of the existing substation. Therefore, there is a potential that such materials may be encountered during the substation relocation.
- **Asbestos in Rails, Bearing Pads, Support Piers, Expansion Joint Materials in Bridges, Asphalt, Concrete, Road-Building Materials, and Other Building Materials Used in Residential and Nonresidential Structures:** The use of asbestos in many building products was banned by the EPA by the late 1970s; however, many ACM categories not previously banned may still be in use today. ACMs represent a concern when they are subject to damage that results in the release of fibers. Asbestos may be found in building materials such as rails, bearing pads, support piers, expansion joint material in bridges, asphalt, and concrete within the project disturbance limits. The types of building materials will be surveyed, sampled, and assessed in accordance with 40 CFR 763 (Asbestos Hazard Emergency Response Act [AHERA]).
- **Lead-Based Paint on Building/Road Structures and Lead in Yellow Paint and Tape Used for Pavement Marking:** Building structures built prior to 1978 are presumed to contain lead-based paint (LBP). In addition, road structures such

as bridges may contain LBP. Yellow paint used for traffic striping prior to 1997 exceeds the hazardous waste criteria under Title 22 California Code of Regulations (CCR) and would require disposal in a Class I disposal facility authorized to accept this type of waste.

- **Polychlorinated Biphenyls in Pole-Mounted or Pad-Mounted Transformers and/or Light Ballasts, Mercury in Light Ballasts and Thermostats:** PCBs are known hazardous materials found in coolants or lubricating oils used in some electrical transformers, light ballasts, electrical panels, and other similar equipment prior to 1976. Pole- and pad-mounted electrical transformers, which were observed in the project disturbance limits, may contain PCBs. In addition, structures built prior to 1976 are presumed to have PCBs in light ballasts and electrical equipment. Mercury is also a known hazardous material found in electrical panels, lighting systems ballasts and fixtures, and thermostats.
- **Railroads:** Although no cases of accidental spills associated with the BNSF railroad tracks in the project disturbance limits were revealed in the records search, soils along the railroad tracks within the project disturbance limits should be assumed to be impacted by polynuclear aromatic hydrocarbons (PNAs). Sources of PNAs include diesel fuel spills from trains, kerosene used to heat rails during rail replacement activities, and wood preservatives used for switch ties. Soils surrounding railroad tracks and ballasts may also be contaminated with ACMs; chlorinated hydrocarbons (e.g., PCE and trichloroethylene) from cargo spills; creosote and pentachlorophenol, which are used as a wood preservative for switch ties; and pesticides and herbicides, which are used around the railroad tracks and ballasts for pest and weed control.
- **Agricultural Soils:** Historic farmlands (APNs 085-071-23, 353-063-31, and 142-180-002) and land designated as Farmland of Local Importance (APNs 101-250-069, 277-210-003, and 277-210-008) located within the project disturbance limits are shown on Figures 3.13-1 and 3.13-2. Due to the historical and existing agricultural land uses in the project disturbance limits, herbicides and pesticides may have been used for pest and weed control.
- **Creosote and Pentachlorophenol in Utility Poles and Railroad Ties:** According to the ISA, wooden utility poles and railroad ties may be removed or disturbed within the right-of-way during project construction. According to the Topical & Chemical Fact Sheets provided by the EPA, creosote is often applied to wood products, primarily utility poles and railroad ties, as a preservative. Pentachlorophenol is also commonly used as a wood treatment or preservative. Therefore, there is a potential for creosote and pentachlorophenol to be present on

existing wooden utility poles and railroad ties. Creosote and pentachlorophenol may also be present in soils located adjacent to railroad ties.

- **All Other Wood-Treated Waste Materials:** Other wood-treated waste materials may be encountered during construction. Therefore, these materials may also contain creosote, pentachlorophenol, arsenic, copper, and chromium; treatment compounds such as copper azole, alkaline copper quaternary, chromated copper arsenate; and other associated compounds.

The presence of ACMs and LBPs in structures and of PCBs in both structures and pole- and pad-mounted transformers was not assessed as part of the ISA. In addition, the presence of potentially contaminated soils in areas adjacent to the BNSF Railway right-of-way and the presence of herbicides and pesticides in former or active agricultural lands were also not assessed as part of the ISA.

3.13.3 Environmental Consequences

3.13.3.1 Summary of Impacts

Routine operation and maintenance of the facilities Alternatives 1 and 2 would not introduce new sources of hazardous materials and wastes. Continued exposure to existing hazardous wastes through vehicle transport would continue. However, the transport of hazardous waste and/or materials is heavily regulated; therefore, no new permanent adverse impacts related to hazardous wastes/materials (direct or indirect) beyond existing conditions would occur during operation of Alternatives 1 and 2, and their design variations, and there are no differences in permanent impacts between Alternatives 1 and 2.

Properties zoned for industrial and automotive uses within the project disturbance limits may routinely store hazardous wastes and materials onsite. Therefore, prior to acquisition of these properties, any potentially hazardous waste material present will be relocated and/or removed off-site.

Impacted soils and/or groundwater were identified at two sites with open release cases that are located within the disturbance limits. Phase I ESAs were conducted to characterize the extent of the contamination for open remediation sites or sites of potential concern that would be disturbed or acquired as part of the project and that were accessible to the project team to conduct these activities. Contact with hazardous materials during construction would be further minimized through the sampling (Phase II Site Investigation) of suspected hazardous materials prior to construction.

According to the DSI, soil and/or groundwater contamination have been reported at the Mobil No. 18-FLM and Honda Cars of Corona sites. Construction of Alternatives 1 and 2 would require partial acquisition of, and a TCE at, the Mobil No. 18-FLM site and full acquisition of the Honda Cars of Corona site. Both these sites would be acquired during the Initial Phases of Alternatives 1 and 2. As a result of the acquisitions at these properties or the use of these properties as TCEs, there is a potential for contaminated soils and/or groundwater to be encountered during construction of the Build Alternatives.

Other areas of environmental concern include potentially contaminated soils related to the BNSF railroad tracks, agricultural land uses, ADL in areas not previously sampled, and ACMs, LBPs, and PCBs in building structures that would be disturbed or demolished as part of the project.

ACM and LBP surveys for road structures were also conducted as part of the *Final Asbestos, Lead-Based Paint, and Hazardous Materials Survey Report*. Of the 21 bridges sampled for ACMs and LBPs, 6 bridges contained ACMs and 3 bridges contained LBPs. The 6 bridges containing ACMs and 3 bridges containing LBPs will be disturbed during both the Initial Phases and Ultimate Projects for Alternatives 1 and 2. In addition, light fixtures under bridges may contain mercury, and lead may be present in metal washers, metal spacers, and soft metal railing brace pads. The types of materials in these 21 bridge structures would require testing at the time of disturbance, which would occur during both the Initial Phases and Ultimate Projects for Alternatives 1 and 2.

With the implementation of measures HW-1 through HW-14, no new temporary adverse impacts related to hazardous wastes/materials (direct or indirect) would occur under Alternatives 1 and 2, and their design variations.

The difference in permanent impacts between Alternatives 1 and 2 and their design variations is the relocation of the SCE substation. The relocation of the SCE substation would only occur under Alternative 2, under specific design variations. However, these impacts would be mitigated with incorporation of measure HW-15.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Similar to Alternatives 1 and 2 described above, the Initial Phase and Ultimate Project under Alternative 2f would include routine operation and maintenance of the facilities and would not introduce new sources of hazardous materials and wastes. Continued exposure to

existing hazardous wastes through vehicle transport would continue. However, the transport of hazardous waste and/or materials is heavily regulated; therefore, no new permanent adverse impacts related to hazardous wastes/materials (direct or indirect) beyond existing conditions would occur during operation of the Initial Phase and Ultimate Project under Alternative 2f.

Similar to Alternatives 1 and 2, Alternative 2f would require that prior to acquisition of properties zoned for industrial and automotive uses, any hazardous waste material present on site will be relocated and/or removed off site. The properties identified in Table 3.13.2 will be acquired during the Initial Phases of Alternatives 1 and 2. Therefore, impacts related to the acquisition of these properties would be limited to the Initial Phase of Alternative 2f.

Because impacted soils and/or groundwater were identified at two sites with open release cases that will be acquired during the Initial Phase of Alternative 2f, Alternative 2f would also require sampling (Phase II Site Investigation) of suspected hazardous materials prior to the Initial Phase of construction to minimize contact with hazardous materials.

During final design of Alternative 2f and prior to any ground disturbance in its Initial Phase, the Honda Cars of Corona site will require final confirmation that sampling has been completed at the site, and that contaminant investigation for the site has received regulatory site closure. Additionally, prior to the completion of final design of the Initial Phase, all monitoring wells and vapor extraction wells on that site must be properly abandoned in accordance with regulatory requirements.

During final design of Alternative 2f and prior to any ground disturbance during its Initial Phase, further investigation at the Mobil No.18-FLM Site will be conducted for contaminants in soils, and a work plan will be prepared.

The Initial Phase under Alternative 2f would require the sampling of potentially contaminated soils related to the BNSF railroad tracks; agricultural uses; ADL in areas not previously sampled; and ACMs, LBPs, and PCBs in building structures that would be disturbed or demolished as part of the project.

As discussed above for Alternatives 1 and 2, both the Initial Phase and Ultimate Project under Alternative 2f would require the remediation of ACMs in five bridges, any light fixtures under bridges that may contain mercury, and any lead that may be present in metal washers, metal spacers, and soft metal railing brace pads.

Table 3.13.2 Potential Impacts to Alternatives 1 and 2 and Their Design Variations[1]

Figure 3.13-1 Map ID	Figure 3.13-2 Map ID	Site of Potential Concern[2]	Impacts Under Alternative 1 and the Initial Phase of Alternative 1	Impacts Under Alternative 2 and the Initial Phase of Alternative 2
N/A	1	Hayden Industrial Products 1531 Pomona Road Corona, CA	This site would not be acquired under Alternative 1. As a result, it would not pose an environmental concern.	Under Alternative 2 with design variations 2a through 2d, 2g, and 2h, ASTs potentially stored on site would require removal as a result of the full acquisition of this property.
1	2	Aero Tanks Enterprises 1780 Pomona Rincon Road Corona, CA	Under Alternative 1 with design variations 1a through 1d, argon and carbon dioxide tanks would require removal as a result of the full acquisition of this property.	Under Alternative 2 with design variations 2a through 2h, argon and carbon dioxide tanks would require removal as a result of the full acquisition of this property.
2	3	Shell Goodman Sixth Street 1825 West Sixth Street Corona, CA	Under Alternative 1 with design variations 1a and 1b, two pump islands would require relocation as a result of the TCE and partial acquisition of this property. Under Alternative 1 with design variations 1c and 1d, two pump islands and potentially an AST would be relocated as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2d, two pump islands would require relocation due to the TCE and partial acquisition of this property. Under Alternative 2 with design variations 2e through 2h, two pump islands and potentially an AST would require relocation due to the TCE and partial acquisition of this property.
3	4	Carl's Jr. 1865 West Sixth Street Corona, CA	Under Alternative 1 with design variations 1a and 1b, an AST would require removal as a result of the full acquisition of this property.	Under Alternative 2 with design variations 2a through 2d, an AST would require removal as a result of the full acquisition of this property.
4	5	Chevron No. 91582 2270 West Frontage Road Corona, CA	Under Alternative 1 with design variations 1a through 1d, USTs and six pump islands would require removal as a result of the full acquisition of this property.	Under Alternative 2 with design variations 2a through 2h, USTs and six pump islands would require removal as a result of the full acquisition of this property.
5	6	Corona Chevrolet 2550 Wardlow Road Corona, CA	Under Alternative 1 with design variations 1a through 1d, one AST would require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2h, one AST would require relocation as a result of the TCE and partial acquisition of this property
6	7	Green River Golf Club 5215 Green River Road Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under the Initial Phase of Alternative 2. Under Alternative 1 with design variations 1a through 1d, soils located in the area of the property that would be partially acquired or used for TCE purposes may contain pesticides, herbicides and fungicides. Therefore, there is a potential for contaminated soils to be encountered during construction activities.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, soils located in the area of the property that would be partially acquired or used for TCE purposes may contain pesticides, herbicides, and fungicides. Based on the findings of the DSI, pesticides were not detected above CHHSLs for residential and commercial uses. Therefore, no impacts from pesticides, herbicides or fungicides are anticipated.
7	8	Stock-Rite Building Supply, Inc. (now an unnamed industrial property) 523 South Maple Street Corona, CA	Under Alternative 1 with design variations 1a and 1b, an existing AST would require removal as a result of the full acquisition of this property. Under Alternative 1 with design variations 1c and 1d, an existing AST would require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2d, an existing AST would require removal as a result of the full acquisition of this property. Under Alternative 2 with design variations 2e through 2h, an existing AST would require relocation as a result of the TCE and partial acquisition of this property.

Table 3.13.2 Potential Impacts to Alternatives 1 and 2 and Their Design Variations[1]

Figure 3.13-1 Map ID	Figure 3.13-2 Map ID	Site of Potential Concern[2]	Impacts Under Alternative 1 and the Initial Phase of Alternative 1	Impacts Under Alternative 2 and the Initial Phase of Alternative 2
8	9	U.S. Rentals, Inc. (now United Rentals) 525 Maple Street Corona, CA	Under Alternative 1 with design variations 1a and 1b, an existing AST and 17 cylinder tanks would require removal as a result of the full acquisition of this property.	Under Alternative 2 with design variations 2a through 2f, the existing AST and 17 cylinder tanks would require removal as a result of the full acquisition of this property.
9	10	Mobil No. 18-FLM 616 Paseo Grande Street Corona, CA	Under Alternative 1 with design variations 1a through 1d, soil and groundwater located in the area of the property that would require partial acquisition or use as a TCE may contain petroleum hydrocarbons. Therefore, there is a potential for contaminated soil and groundwater to be encountered during construction activities. In addition, a UST containing waste oil would require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2f, soil and groundwater located in the area of the property that would require partial acquisition or use as a TCE may contain petroleum hydrocarbons. Therefore, there is a potential for contaminated soil and groundwater to be encountered during construction activities. In addition, a UST containing waste oil would require relocation as a result of the TCE and partial acquisition of this property.
10	11	Song's ARCO 800 Serfas Club Drive Corona, CA	Under Alternative 1 with design variations 1a through 1d, four USTs and one pump island would require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2f, four USTs and one pump island would require relocation as a result of the TCE and partial acquisition of this property.
11	12	State of California property, formerly 102 South Main Street Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Based on the findings of the DSI, this site was misidentified in the ISA, and no RECs exist on site. Therefore, this site will not pose a potential concern to the project during construction activities.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, soil and/or groundwater contamination may be encountered during construction activities. Based on the findings of the DSI, this site was misidentified in the ISA, and no RECs exist on site. Therefore, this site will not pose a potential concern to the project during construction activities.
12	13	Orange Heights (now Newport Farms) 105 Pearl Avenue Corona, CA	The impacts under Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Under Alternative 1 with design variations 1a through 1d, multiple ASTs and drums stored on site would require relocation. Fuel tanks potentially located on site may also require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, multiple ASTs and drums stored on site would require relocation. Fuel tanks potentially located on site may also require relocation as a result of the TCE and partial acquisition of this property.
13	14	Texaco Service Station (now Shell Gas Station) 230 Lincoln Avenue Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Under Alternative 1 with design variations 1a through 1c, one AST may require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, one AST may require relocation as a result of the TCE and partial acquisition of this property.

Table 3.13.2 Potential Impacts to Alternatives 1 and 2 and Their Design Variations[1]

Figure 3.13-1 Map ID	Figure 3.13-2 Map ID	Site of Potential Concern[2]	Impacts Under Alternative 1 and the Initial Phase of Alternative 1	Impacts Under Alternative 2 and the Initial Phase of Alternative 2
14	15	Honda Cars of Corona (now Vacation Station RV) 231 South Lincoln Avenue Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Under Alternative 1 with design variations 1a through 1d, this property would be fully acquired. Known soil and groundwater contamination has been reported at this site; therefore, there is a potential for contaminated soil and groundwater to be encountered during construction activities.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, this property would be fully acquired. Known soil and groundwater contamination has been reported at this site. Therefore, there is a potential for contaminated soil and groundwater to be encountered during construction activities.
15	16	Union Oil Service Station No. 621 (now Unocal 76) 304 South Main Street Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Under Alternative 1 with design variations 1a through 1d, two pump islands and USTs may potentially require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 and the Initial Phase of Alternative 2 with design variations 2a through 2h, two pump islands and USTs may potentially require relocation as a result of the TCE and partial acquisition of this property.
16	17	Corona Industrial Electric, Inc. (now T&T Enterprises [Building A] and Food Tech [Building B]) 901 East Third Street Corona, CA	The impacts under the Initial Phase of Alternative 1 are the same as the impacts discussed under the Initial Phase of Alternative 2. Refer to the impacts discussion under Alternative 2. Under Alternative 1 with design variations 1a through 1d, drums and two historical USTs may require relocation as a result of the TCE and partial acquisition of this property.	Under Alternative 2 with design variations 2a through 2h, drums and two historical USTs may require relocation as a result of the TCE and partial acquisition of this property.
17	18	Southern California Edison Substation (south of SR-91 and west of South Sherman Avenue in the City of Corona)	TCEs would be required under Alternative 1 and all its design variations. However, areas that would be disturbed would not be located within areas adjacent to transformers. Therefore, no adverse impacts would occur under Alternative 1 or its design variations.	TCEs would be required under Alternative 2 and under design variations 2a, 2b, 2e, and 2f. However, areas that would be disturbed would not be located within areas adjacent to transformers. Therefore, no adverse impacts would occur under Alternative 2 under these design variations. Alternative 2 with design variations 2c, 2d, 2g, or 2h would require relocation of the SCE substation. The SCE substation (APN 118-101-015) may include, but not be limited to, potential environmental concerns such as PCBs in transformers, PCBs in soils surrounding transformers, and asbestos-containing materials in electric insulators. There is a potential that such materials may be encountered during the process of the substation relocation. However, any impacts as a result of the relocation would be avoided,

Table 3.13.2 Potential Impacts to Alternatives 1 and 2 and Their Design Variations[1]

Figure 3.13-1 Map ID	Figure 3.13-2 Map ID	Site of Potential Concern[2]	Impacts Under Alternative 1 and the Initial Phase of Alternative 1	Impacts Under Alternative 2 and the Initial Phase of Alternative 2
				minimized, or mitigated under environmental documentation within the purview of SCE only. The Department would coordinate with SCE to request preparation of this environmental documentation if Alternative 2 with design variations 2c, 2d, 2g, or 2h is identified for implementation.

Source: *Final Initial Site Assessment* (July 2010) and the *Detailed Site Investigation Report* (December 2011).

[1] There are four design variations for Alternative 1 and eight design variations exist for Alternative 2. If a design variation is not identified within this impact table under the respective Build Alternative, it is assumed that these hazardous waste release sites and/or hazardous waste generators would not impact the Build Alternatives during construction.

[2] These sites are shown on Figures 3.13-1 (Sheets 1–7) and 3.13-2 (Sheets 1–7).

APN = Assessor's Parcel Number
AST = aboveground storage tank
CHHSL = California Human Health Screening Level
Department = California Department of Transportation
DSI = Detailed Site Investigation
ESA = Environmental Site Assessment
ISA = Initial Site Assessment
PCBs = polychlorinated biphenyls
RECs = Recognized Environmental Conditions
SCE = Southern California Edison
SR-91 = State Route 91
TCE = temporary construction easement
UST = underground storage tank

The three bridges containing LBPs will be disturbed during the Alternative 2f Initial Phase and Ultimate Project.

Of the six bridges containing ACMs, the following four bridges would be disturbed during the both the Initial Phase and Ultimate Project for Alternative 2f:

- Prado Overhead (Bridge No. 56-0637) Railing Brace Pads (Spacers)
- East SR-91/North SR-71 Connector Separation (Bridge No. 56-0635) Railing Brace Pads (Spacers)
- West Grand Boulevard Undercrossing (Bridge No. 56-0445 L/R) Railing Brace Pads (Spacers)
- East SR-91/North SR-71 Separation (Bridge No. 56-0587) Railing Brace Pads (Spacers)

In addition, the following bridge would be disturbed only during the Initial Phase of Alternative 2f:

- Serfas Club Drive Undercrossing (Bridge No. 56-0368 L/R) Railing Brace Pads (Spacers)

The following bridge would be disturbed only during the Ultimate Project for Alternative 2f:

- El Cerrito Road Undercrossing (Bridge No. 56-0635) Railing Brace Pads (Spacers)

With the implementation of Measures HW-1 through HW-14, no new temporary adverse impacts related to hazardous wastes/materials (direct or indirect) would occur under the Initial Phase and Ultimate Project under Alternative 2f.

The Initial Phase and Ultimate Project under Alternative 2f would not require the relocation of the SCE substation.

3.13.3.2 Permanent Impacts

Alternatives 1 and 2

Operation and maintenance of the new facilities under the Build Alternatives would not introduce new sources of hazardous materials and wastes, but instead would continue existing exposure to the transport of hazardous materials and wastes associated with vehicles currently using the project segments of SR-91 and I-15. Routine maintenance activities would continue after the completion of the Initial

Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations, and would be required to follow applicable regulations with respect to handling and disposal of potentially hazardous materials.

No new permanent impacts related to hazardous wastes/materials (direct or indirect) beyond existing conditions would occur during operation of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations. Therefore, implementation of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations would not result in permanent adverse impacts related to hazardous materials and wastes.

No Build Alternative

The No Build Alternative would not change the existing physical environment; therefore, no permanent impacts would occur as a result of the No Build Alternative. As with the Build Alternatives, routine maintenance activities would continue and would be required to follow applicable regulations with respect to handling and disposal of potentially hazardous materials.

3.13.3.3 Temporary Impacts

Alternatives 1 and 2

Based on the findings of the ISA, hazardous wastes/materials may be encountered during excavation and construction activities for the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations.

As shown in Table 3.13.2, the sites with potential hazardous wastes/materials that may be encountered during construction are all in the City of Corona. As a result, these properties would be impacted during the construction of the Initial Phases of Alternatives 1 and 2 because the majority of the improvements in the City of Corona would occur in the Initial Phases of the Build Alternatives. Any property impacted in the Initial Phases of Alternatives 1 and 2 would be fully mitigated in the Initial Phases based on the measures provided later in this section. Other measures, such as those associated with structures containing asbestos, would be implemented in both the Initial Phases and Ultimate Projects of Alternatives 1 and 2 at the time structures containing hazardous materials are affected.

Multiple industrial and automotive uses located in the disturbance limits of the project would be acquired. Hazardous wastes and materials are routinely present at these sites and would require relocation and/or removal and proper disposal at an off-site facility. Table 3.13.2 provides a summary of the potential impacts that may occur as a

result of construction of Alternatives 1 and 2 and their design variations. As shown in Table 3.13.2, Alternative 1 has one less site that would pose a potential concern during construction than Alternative 2.

As discussed previously, soil and/or groundwater contamination have been reported at the Mobil No. 18-FLM and Honda Cars of Corona sites in the ISA and DSI. Construction of Alternatives 1 and 2 would require partial acquisition of, and a TCE at, the Mobil No. 18-FLM site and full acquisition of the Honda Cars of Corona site. As a result of the acquisitions at these properties or the use of these properties as TCEs, there is a potential for contaminated soils and/or groundwater to be encountered during construction of the Build Alternatives.

Contact with hazardous materials during construction would be minimized through the sampling of suspected hazardous materials prior to construction.

Soils exceeding State criteria for hazardous waste are required to be disposed of at the appropriate State-certified disposal facility. The avoidance, minimization, and mitigation measures described later in Section 3.13.4 would prevent adverse impacts during construction of the proposed project.

Sites commonly affiliated with the release, storage, and/or handling of hazardous wastes/materials include former and active gasoline service stations, former and active industrial uses, and rail facilities. Previously unknown contaminants could be encountered at properties identified to be acquired as part of the Build Alternatives due to poor housekeeping, improperly stored chemicals, or past spills. If not handled properly, these contaminants could affect construction workers and the surrounding environment. Contaminated soils and/or groundwater resulting from hazardous wastes/materials spills associated with any property acquired for the Build Alternatives would be characterized and properly remediated.

As discussed earlier, the Honda Cars of Corona and Mobil No. 18-FLM sites named above were determined to be acquired or used for TCEs for the project. Therefore, Phase I ESAs were conducted for these two sites, and Phase II testing was conducted as part of the DSI for the Honda Cars of Corona site.

As shown in Table 3.13.2, Alternative 2 with design variations c, d, g, or h would require relocation of the SCE substation (APN 118-101-015). The SCE substation may include, but not be limited to, potential environmental concerns such as PCBs in transformers, PCBs in soils surrounding transformers, and ACMs in electric

insulators. There is a potential that such materials may be encountered during the process of the substation relocation. However, any needed environmental documentation for that relocation are within the purview of SCE only and would not be within the purview of either the RCTC or Department to assess or implement. As a result, the Department acknowledges that Alternative 2 with design variations c, d, g, or h would require relocation of the SCE substation and further acknowledges the potential for hazardous wastes/materials to be encountered during that relocation; however, any further analysis of, and identification of mitigation for, adverse effects would be addressed by SCE in its independent environmental documentation for the relocation. Refer to Measure HW-17 in Section 3.13.4, Avoidance, Minimization, and/or Mitigation Measures. Alternative 2f, the Preferred Alternative, would not require relocation of the SCE substation.

Soils along the BNSF railroad tracks within the project disturbance limits are assumed to be impacted by petroleum hydrocarbons, heavy metals, kerosene, chlorinated hydrocarbons, asbestos, herbicides, and pesticides. During grading or excavation within the railroad right-of-way, hazardous concentrations of the contaminants listed above could be released into the environment and affect construction workers.

Due to the historical and current agricultural land uses in the project disturbance limits, potential herbicides and pesticides may have been used for pest and weed control. Hazardous concentrations of herbicides and pesticides may be encountered during grading or excavation of soils that have remained undisturbed. Historical and current agricultural land use parcels located within the disturbance limits that may pose a potential environmental concern are identified in Table 3.13.3.

Table 3.13.3 Agricultural Land Use Parcels with Potential Soil Contamination

APN	Initial Phase of Alternative 1	Alternative 1	Initial Phase of Alternative 2	Alternative 2
Parcels Potentially Used for Historical Agricultural Purposes				
085-071-23	X	X	X	X
353-063-31	X	X	X	X
142-180-002	--	X	--	X
Parcels with Designated Areas of Farmland of Local Importance				
101-250-069	X	X	X	X
277-210-003	--	--	--	X
277-210-008	--	--	--	X

Source: Based on information provided in the *Final Community Impact Assessment* (December 2010) and *Final Initial Site Assessment* (July 2010).
APN = Assessor Parcel Number
-- = No impact

Based on the results of the DSI, low concentrations of dichlorodiphenyltrichloroethane (DDT), dichlorodiphenyldichoroethylene (DDE), dichlorodiphenyldichloroethane (DDD), chlordanes, and dieldrin were identified in near-surface soils on 11 properties identified in the ISA that were potentially contaminated with pesticides, herbicides, and metals. The detected concentrations were all below the current CHHSLs for both residential and commercial/industrial land uses; therefore, no further investigations are warranted at this time.

Building structures that would be demolished or renovated as part of Alternatives 1 and 2 may contain ACMs, PCBs, LBPs, and/or mercury. Road structures that would be demolished or renovated as part of the project may also contain ACMs and LBP. The disturbance of road or building structures may cause a release of these hazardous materials into the environment if they are not properly handled and removed for disposal. Demolition of any structure containing ACMs requires notification of the SCAQMD as indicated in Section 7-1.01F, Air Pollution Control, and Section 7-1.04, Permits and Licenses, of the Standard Specifications.

As discussed previously, ACM and LBP surveys for impacted road structures were also conducted as part of the *Final Asbestos, Lead-Based Paint, and Hazardous Materials Survey Report*. Twenty-one bridges were sampled for ACMs and LBPs. Of the 21 bridges sampled, 6 bridges contained ACMs and 3 bridges contained LBPs. The 6 bridges that contained ACMs are:

- **Prado Overhead (Bridge No. 56-0637) Railing Brace Pads (Spacers):** Northern and southern bridge railings measuring approximately 40 sf on each bridge (80 sf total)
- **East SR-91/North SR-71 Connector Separation (Bridge No. 56-0635) Railing Brace Pads (Spacers):** Northern railing only, measuring approximately 40 sf
- **West Grand Boulevard Undercrossing (Bridge No. 56-0445 L/R) Railing Brace Pads (Spacers):** Northern railing only, measuring approximately 40 sf
- **El Cerrito Road Undercrossing (Bridge No. 56-0635) Railing Brace Pads (Spacers):** Eastern and western bridge railings measuring approximately 40 sf on each bridge (80 sf total)
- **East SR-91/North SR-71 Separation (Bridge No. 56-0587) Railing Brace Pads (Spacers):** Northern railing only, measuring approximately 40 sf

- **Serfas Club Drive Undercrossing (Bridge No. 56-0368 L/R) Railing Brace Pads (Spacers):** Northern and southern railings measuring approximately 40 sf on each side (80 sf total)

The brace pads observed at the bridges appeared to be in good and/or fair condition at the time of the survey, were not friable, and therefore do not pose a potential for asbestos fiber release unless disturbed. The three bridges that contained LBPs are:

- **Main Street Undercrossing (Bridge No. 56-0448 L/R):** Gray anti-graffiti paint over blue graffiti paint at the northwestern-most column of the bridge
- **McKinley Street Undercrossing (Bridge No. 56-0368):** Light gray anti-graffiti paint at the northern side of the eastern wall
- **Buchanan Street Overcrossing (Bridge No. 56-0368):** Light gray anti-graffiti paint at the northern end of the bridge, at the western keyway and western side of the bridge

Any transformers that would be removed or relocated during construction of the project should be considered a PCB hazard unless tested and confirmed otherwise. Leaking transformers may have contaminated adjacent soils and could affect construction workers and the surrounding environment during construction.

Any wooden utility poles, railroad ties, or other wood treated waste material that would be removed or relocated during project construction should be tested for the presence of wood treatments. Soils adjacent to railroad ties should also be tested for the presence of wood treatments/preservatives. All contaminated soil and wood-treated materials will be considered hazardous waste and be removed and properly disposed of at an off-site at a Class I landfill facility.

Yellow traffic striping and pavement-marking materials (paint, thermoplastic, permanent tape, and temporary tape) that would be removed as part of the project may contain elevated concentrations of metals such as lead. Removal of these materials during project construction could affect construction workers and the surrounding environment.

As stated previously, based on the ADL studies conducted for the project, soils within the project limits to a depth of 3 ft bgs between Gypsum Canyon Road and Magnolia Avenue and 5 ft bgs along eastbound SR-91 starting east of the Weir Canyon Road undercrossing and extending east of the Gypsum Canyon Road undercrossing may be released to the contractor as nonhazardous soils and reused on site without

restrictions. However, if the project design is modified and excavations may occur deeper than 3 ft bgs between Gypsum Canyon Road and Magnolia Avenue and deeper than 5 ft bgs along eastbound SR-91 starting east of the Weir Canyon Road undercrossing and extending east of the Gypsum Canyon Road undercrossing then additional ADL sampling and laboratory analytical testing may be required to characterize those specific additional areas of disturbance. Should off-site disposal be required for soils within the project disturbance limits along SR-91, the soils should be treated as a California hazardous waste. All soil imported on site must be tested and be in conformance with Department Standard Specifications.

No Build Alternative

The No Build Alternative would not result in any construction and therefore would not result in temporary impacts related to hazardous materials and wastes.

3.13.4 Avoidance, Minimization, and/Mitigation Measures

The avoidance and minimization measures below would be required for the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations, and would substantially reduce adverse impacts related to hazardous materials and hazardous wastes during construction. The approximate cost to conduct the testing, analysis, inspection, and potential contaminant disposal listed below would be $500,000 ($350,000 for the Initial Phase and $150,000 for the Ultimate Project) and would take an estimated 6 months to complete the Initial Phases of Alternatives 1 and 2, and an additional estimated 3 months to complete the testing, analysis, inspections, and potential contaminant disposal for the measures applicable to the Ultimate Projects. In the event the study area identified in this EIR/EIS is revised, additional environmental evaluations and testing may be required. Individual properties will not be acquired for the project before complete testing is done and case closure is achieved to ensure that each property acquired is free of hazardous wastes.

Measure HW-1 applies to the Initial Phases of the SR-91 CIP Build Alternatives.

HW-1 A Phase I ESA was conducted for the Mobil No. 18-FLM site (616 Paseo Grande Street, Corona, California), and a Phase I ESA and Phase II Site Investigation were conducted for the Honda Cars of Corona site (231 South Lincoln Avenue, Corona, California) as part of the DSI, in accordance with ASTM Standard E 1527-05.

The DSI identified Recognized Environmental Conditions (RECs) associated with on-site releases. Based on the results of the DSI, the following measures will be implemented for these two sites of potential environmental concern:

- **Honda Cars of Corona Site:** During final design and prior to any ground disturbance, RCTC's Resident Engineer will require the design/build contractor to consult with regulators, confirm that the final confirmation sampling has been completed at the site, and that contaminant investigation for the site has received regulatory site closure. In addition, prior to the completion of final design, the RCTC Resident Engineer will require the design build/build contractor to properly abandon all monitoring wells and vapor extraction wells on the site in accordance with regulatory requirements.
- **Mobil No. 18-FLM Site:** During final design and prior to any ground disturbance, RCTC's Resident Engineer will require the design/build contractor to conduct further investigation on contaminants in soils on site after a work plan is prepared and additional information is available.

Measures HW-2 through HW-8 will be required for the Initial Phases and Ultimate Projects under the SR-91 Build Alternatives.

HW-2 During final design and prior to any ground disturbance activities, RCTC's Resident Engineer will require the design/build contractor to conduct site investigations for any new release sites that are within the project right-of-way. RCTC's Resident Engineer will require the design/build contractor to conduct these site investigations in compliance with applicable federal, State, and local regulations and in accordance with ASTM Standard E 1527-05. If contaminants are determined to be present during the site investigations, RCTC's Resident Engineer may require the design/build contractor to prepare and implement recommendations in one or more of the following specialized reports: Remedial Actions Options Report, Sensitive Receptor Survey, Human Health/Ecological Risk Assessment, and/or Quarterly Monitoring Report.

HW-3 During final design and prior to any ground disturbance activities, RCTC's Resident Engineer will require the design/build contractor to conduct an ADL study for soil if excavation will exceed 3 ft bgs in unpaved locations adjacent to the State right-of-way between Gypsum Canyon Road and Magnolia Avenue, or 5 ft bgs in unpaved locations in areas where there would be fiber-optic signage along eastbound SR-91 from east of the Weir Canyon Road undercrossing to east of the Gypsum Canyon Road undercrossing.

During construction, if soils within the project disturbance limits along SR-91 are removed off site, RCTC's Resident Engineer will require the design/build contractor to treat the soils as State hazardous waste and to properly dispose of those soils at an appropriate State-certified landfill facility. In addition, during construction, RCTC's Resident Engineer will require the design/build contractor to test all soils imported onto the site as fill. RCTC's Resident Engineer will require the design/build contractor to use only clean soils as imported fill on site.

HW-4 Predemolition asbestos and LBP surveys were conducted for 21 road structures that will be renovated or demolished during project construction.

Based on the results of the ACM surveys of the 21 freeway structures, the SR-91/SR-71 Separation (Bridge No. 56-0587), East SR-91/North SR-71 Connector Separation (Bridge No. 56-0635), Prado Overhead (Bridge No. 56-0637), West Grand Boulevard Undercrossing (Bridge No. 56-0445 L/R), El Cerrito Road Undercrossing (Bridge No. 56-0558 L/R), and Serfas Club Drive Undercrossing (Bridge No. 56-0368 L/R) contain ACMs. Therefore, prior to any disturbance associated with renovation or demolition of these bridges, RCTC's Resident Engineer will require the design/build contractor to have a licensed asbestos contractor properly remove and dispose of asbestos-containing railing brace pads from these structures.

Based on the results of the LBP surveys of the 21 freeway structures, the Main Street Undercrossing (Bridge No. 56-0448 L/R), McKinley Street Undercrossing (Bridge No. 56-0365), and Buchanan Street

Overcrossing (Bridge No. 56-0368) contain LBPs. Therefore, prior to any disturbance associated with renovation or demolition of these bridges, RCTC's Resident Engineer will inform the design/build contractor of the presence of LBPs in those structures. RCTC's Resident Engineer will require the design/build contractor to protect construction workers from exposure to lead dust when disturbing LBP during bridge renovation or demolition activities.

In addition, a hazardous materials survey identified two areas with potential hazardous materials. Based on the results of the visual hazardous materials survey of the bridges, light fixture components and possible lead metal railing braces may pose an additional concern. These components include:

- Light fixtures (some flush-mounted) on the undersides of many of the bridges. At a few of the bridges that cross over the freeway, there are light posts. The light bulbs in these fixtures may contain mercury.
- The Temescal Wash Bridge overhead has some metal braces and wire tension cable at joint locations on the underside of the bridge. While no suspected ACMs were observed or sampled at these locations, the presence of metal washers and spacers, which may contain lead, was noted.
- Soft metal railing brace pads that may be composed of lead metal were observed at the following bridges: Pierce Street Undercrossing (Bridge No. 56-0369 L/R) and Buchanan Street Overcrossing (Bridge No. 56-0368).

Therefore, during final design and prior to any disturbance of these facilities and materials, RCTC's Resident Engineer will inform the design/build contractor of the presence and location of the hazardous materials in the freeway structures described above.

Prior to any disturbance of freeway structures, RCTC's Resident Engineer will require the design/build contractor to have asbestos-containing railing brace pads removed and disposed of by a licensed asbestos abatement contractor. If abated, RCTC's Resident Engineer will require the design/build contractor to remove non-friable ACMs

in accordance with Category II asbestos abatement procedures as defined by the federal Occupational Safety and Health Administration (Fed-OSHA) 29 CFR 1926.1101. However, if mechanical means are utilized for abatement of ACMs, RCTC's Resident Engineer will require the design/build contractor to convert these non-friable materials into a friable state during removal activities and manage these materials under Class I asbestos abatement procedures.

Prior to any disturbance of freeway structures, RCTC's Resident Engineer will require the design/build contractor to properly test any areas that have not been previously tested, and properly remove and dispose of any materials from these structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate State-certified landfill facility.

During final design and prior to any ground disturbance, demolition, or renovation activities, RCTC's Project Engineer will require the design/build contractor to conduct predemolition asbestos, LBP, PCB, and/or mercury surveys of any buildings that will be renovated or demolished. During construction, RCTC's Resident Engineer will require the design/build contractor to properly remove and dispose of any materials from these structures that exceed California Health and Safety Code criteria for hazardous waste at an appropriate State-certified landfill facility.

HW-5 During final design and prior to any ground disturbance activities, RCTC's Resident Engineer will require the design/build contractor to conduct inspections for potential PCBs in utility pole-mounted transformers that will be relocated or removed as part of the project.

RCTC's Resident Engineer will require the design/build contractor to consider leaking transformers a PCB hazard unless tested and confirmed otherwise, and to handle them accordingly.

HW-6 During construction, RCTC's Resident Engineer will require the design/build contractor to test, remove, and dispose of any yellow traffic striping and pavement marking materials in accordance with the Department's Construction Manual, Chapter 7, Section 106.

HW-7 During final design and prior to any dewatering activities, RCTC's Resident Engineer will require the design/build contractor to conduct additional coordination with the Riverside County Department of Environmental Health when groundwater dewatering will occur in the vicinity of contaminated soils or contaminated groundwater sites.

HW-8 During final design and prior to any ground disturbance activities, RCTC's Project Engineer will require the design/build contractor to sample soil adjacent to the BNSF railroad tracks that will be disturbed during construction for the presence of petroleum hydrocarbons, metals, solvents, and other potential contaminants (e.g., PNAs, kerosene, ACMs, chlorinated hydrocarbons, pesticides, and herbicides). That testing will determine whether the soils require special handling and disposal during construction.

During construction, RCTC's Resident Engineer will require the design/build contractor to properly dispose of all soils exceeding the criteria for State or federal hazardous waste at an appropriate State-certified landfill facility.

Measures HW-9 through HW-14 will be required for the Initial Phases and Ultimate Projects under the SR-91 Build Alternatives.

HW-9 Prior to the start of construction, RCTC's Project Engineer will require the design/build contractor to prepare a site-specific Health and Safety Plan (HASP) by a certified industrial hygienist. The HASP will be based on evaluation of proposed construction activities, the potential hazards identified in the Phase I ESA and Phase II testing, and any future assessments prepared for the project. The HASP will outline specific procedures for encountering expected and unexpected contaminants. It will include safe work practices, contaminant monitoring, the need for personal protective equipment, emergency response procedures, and safety training requirements to protect construction workers and third parties working on site. The HASP will be in compliance with the requirements of 29 CFR 1910 and 1926 and all other applicable federal, State, and local regulations and requirements.

During construction, RCTC's Resident Engineer will require the design/build contractor to implement the requirements in the HASP.

HW-10 Prior to the start of construction, RCTC's Project Engineer will require the design/build contractor to prepare a soils and groundwater Contaminant Management Plan (CMP). The CMP will include procedures for contaminant monitoring and identification as well as temporary storage, handling, treatment, and disposal of hazardous waste and materials in accordance with applicable federal, State, and local regulations and requirements.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to implement the soils and groundwater CMP.

HW-11 Prior to the start of construction, RCTC's Project Engineer will require the design/build contractor to prepare a Construction Contingency Plan (CCP) in accordance with the Department's Unknown Hazards Procedures for Construction. The CCP will include provisions for emergency response in the event that unidentified USTs, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes are discovered during construction activities. The CCP will address UST decommissioning, field screening, contaminant materials testing methods, mitigation and contaminant management requirements, and health and safety requirements for construction workers.

RCTC's Resident Engineer will require the design/build contractor to implement the CCP during all construction activities.

During construction, RCTC's Resident Engineer will require the design/build contractor to cease work immediately if an unexpected release of hazardous substances is found in reportable quantities. If an unexpected release of hazardous substances is found in reportable quantities, RCTC's Resident Engineer will require the design/build contractor to notify the National Response Center by calling 1-800-424-8802. RCTC's Resident Engineer will require the design/build contractor to perform cleanup of unexpected releases under the appropriate federal, State, or local agency oversight.

HW-12 RCTC's Resident Engineer will require the design/build contractor to notify Underground Service Alert (USA) at least 2 days prior to excavation by calling 811 to require that all utility owners within the project disturbance limits identify the locations of underground transmission lines and facilities.

HW-13 RCTC's Resident Engineer will require the design/build contractor to submit the fees to SCAQMD at least 10 days prior to proceeding with any demolition or renovation of a structure (refer to SCAQMD Rule 1403). RCTC's Resident Engineer will require the design/build contractor to adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.

HW-14 During final design and prior to any ground disturbance, RCTC's Resident Engineer will require the design/build contractor to test all wooden utility poles, railroad ties, and other treated wood waste material that will be removed and disposed of as part of the project for wood treatments/preservatives. RCTC's Resident Engineer will also require the design/build contractor to test soils surrounding railroad ties for wood treatments/preservatives.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly dispose of all treated wood waste, as required by the Alternative Management Standards for Wood Treated Waste in Section 67386.6(a)(2)(B) 3 of the CCR. In addition, RCTC's Resident Engineer will require the design/build contractor to require that any personnel who come in contact with treated wood waste or contaminated soils to follow all applicable requirements under Section 67386.6(a)(2)(B) 3 of the CCR and be trained in the proper identification, disposal, and safe handling of treated wood waste and contaminated soils.

Alternative 2f, the Preferred Alternative, will not require the relocation of the SCE substation; therefore, Measure HW-15, below, does not apply to Alternative 2f. Measure HW-15 would apply to the Initial Phase of Alternative 2 with design variations c, d, g, or h only. As a result, this measure is included in this section but is not included in Appendix E, Environmental Commitments Record, which focuses on Alternative 2f.

HW-15 If Alternative 2 with design variations c, d, g, or h is selected as the Preferred Alternative, RCTC's Project Manager will coordinate with SCE to request SCE's preparation of environmental documentation for relocation of the SCE substation (APN 118-101-015) prior to completion of right-of-way acquisition for the project.

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

FIGURE 3.13-1
(Page 1 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

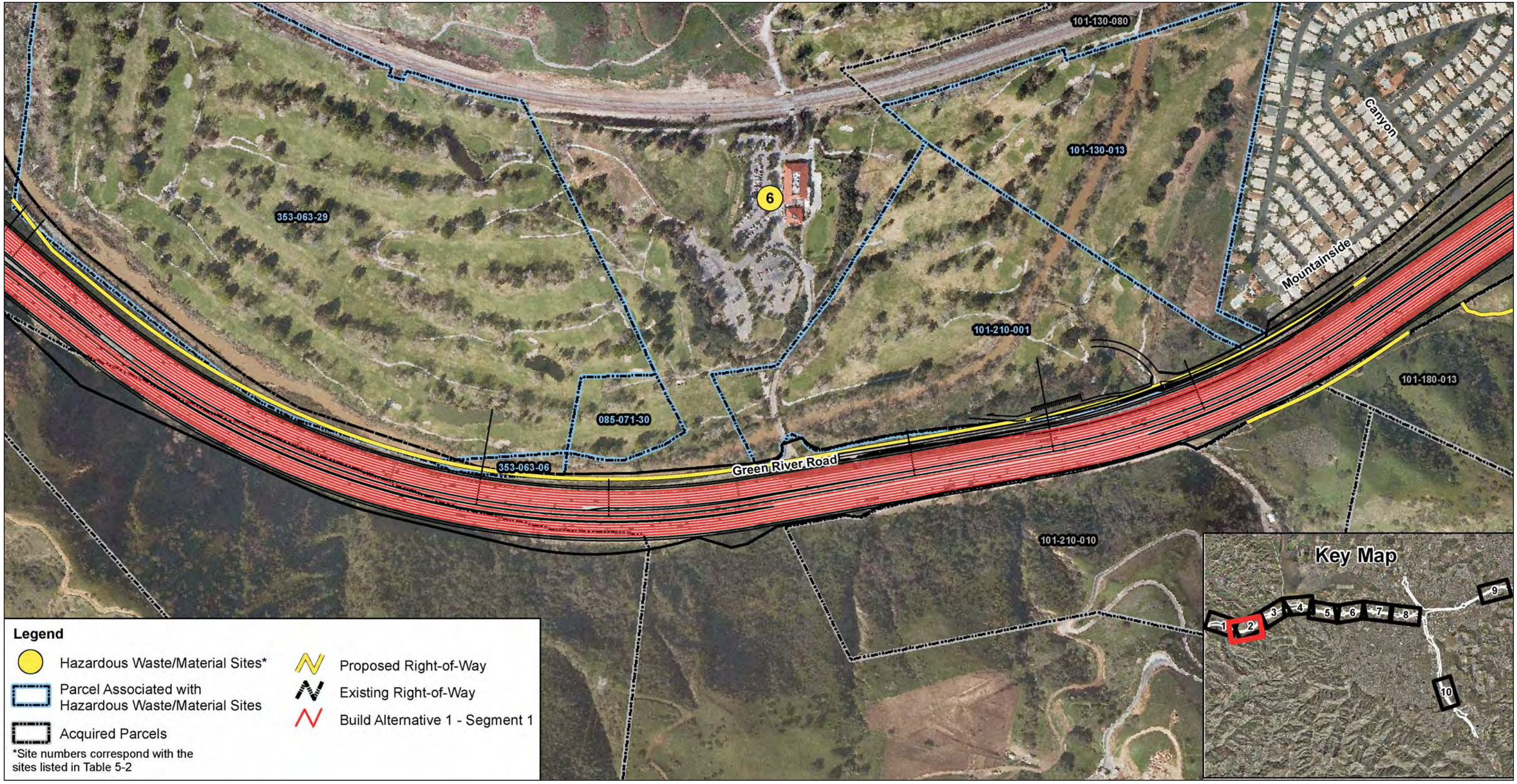


FIGURE 3.13-1
(Page 2 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

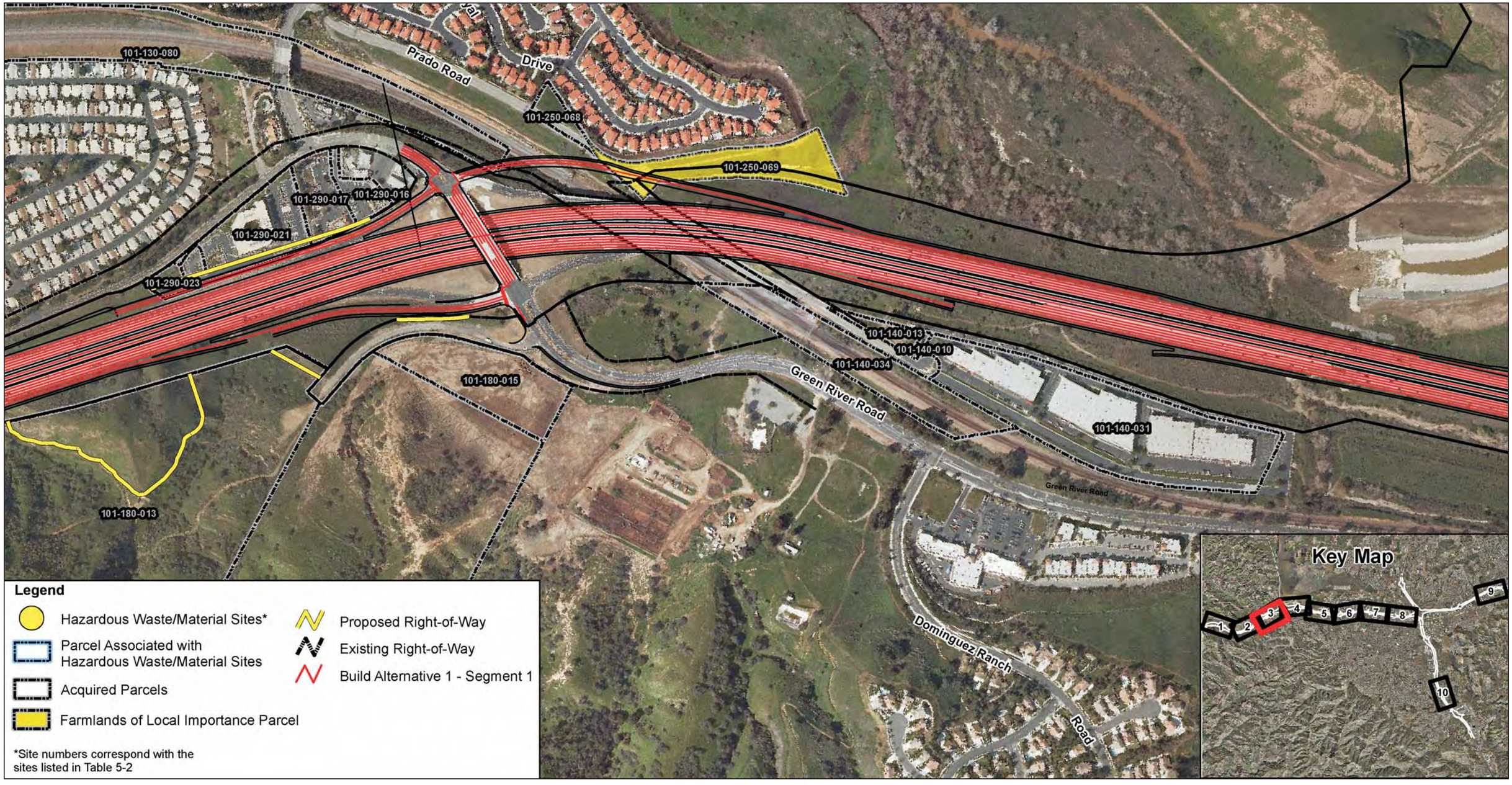


FIGURE 3.13-1
(Page 3 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 3 of 10] (3/28/2011)

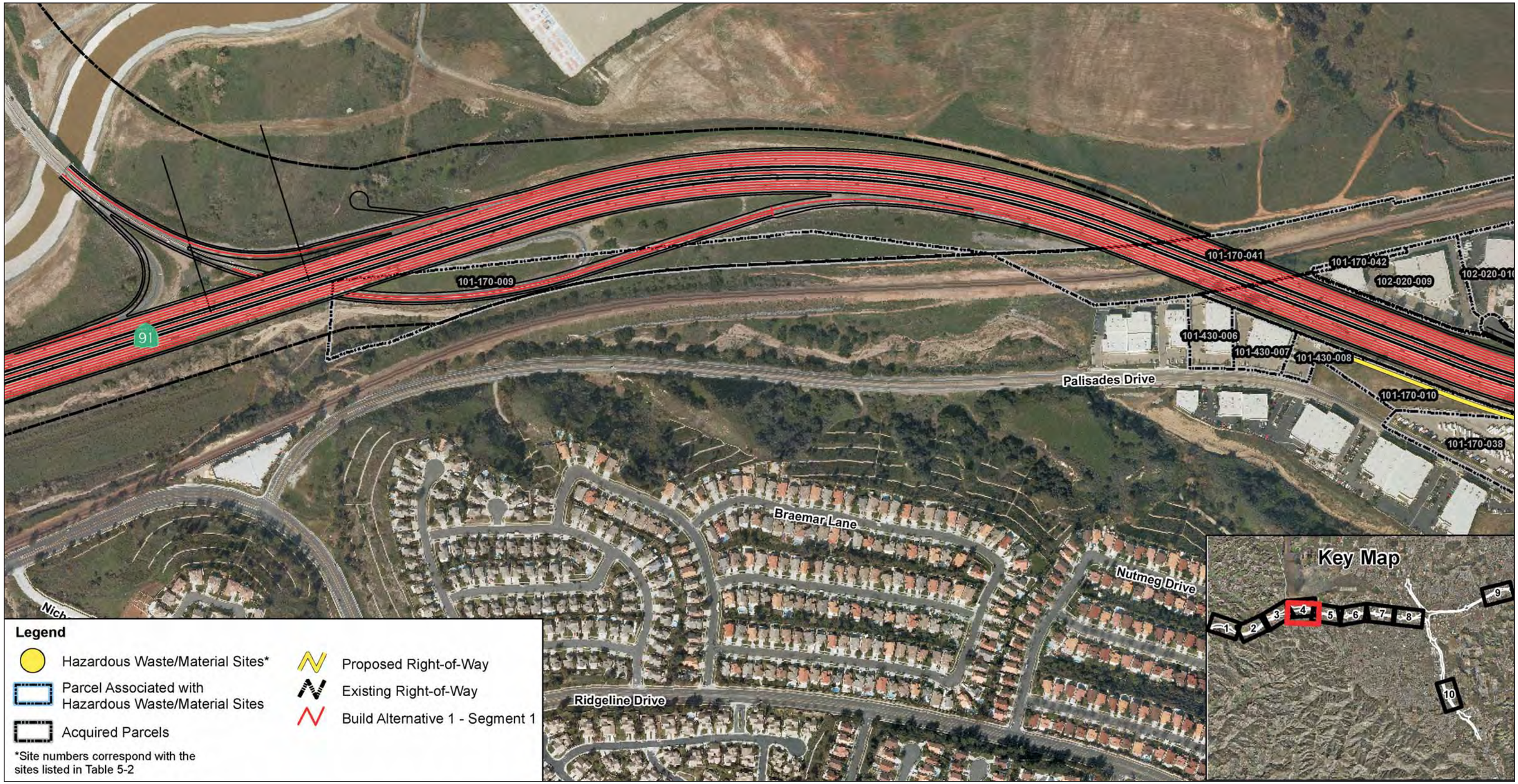


FIGURE 3.13-1
(Page 4 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

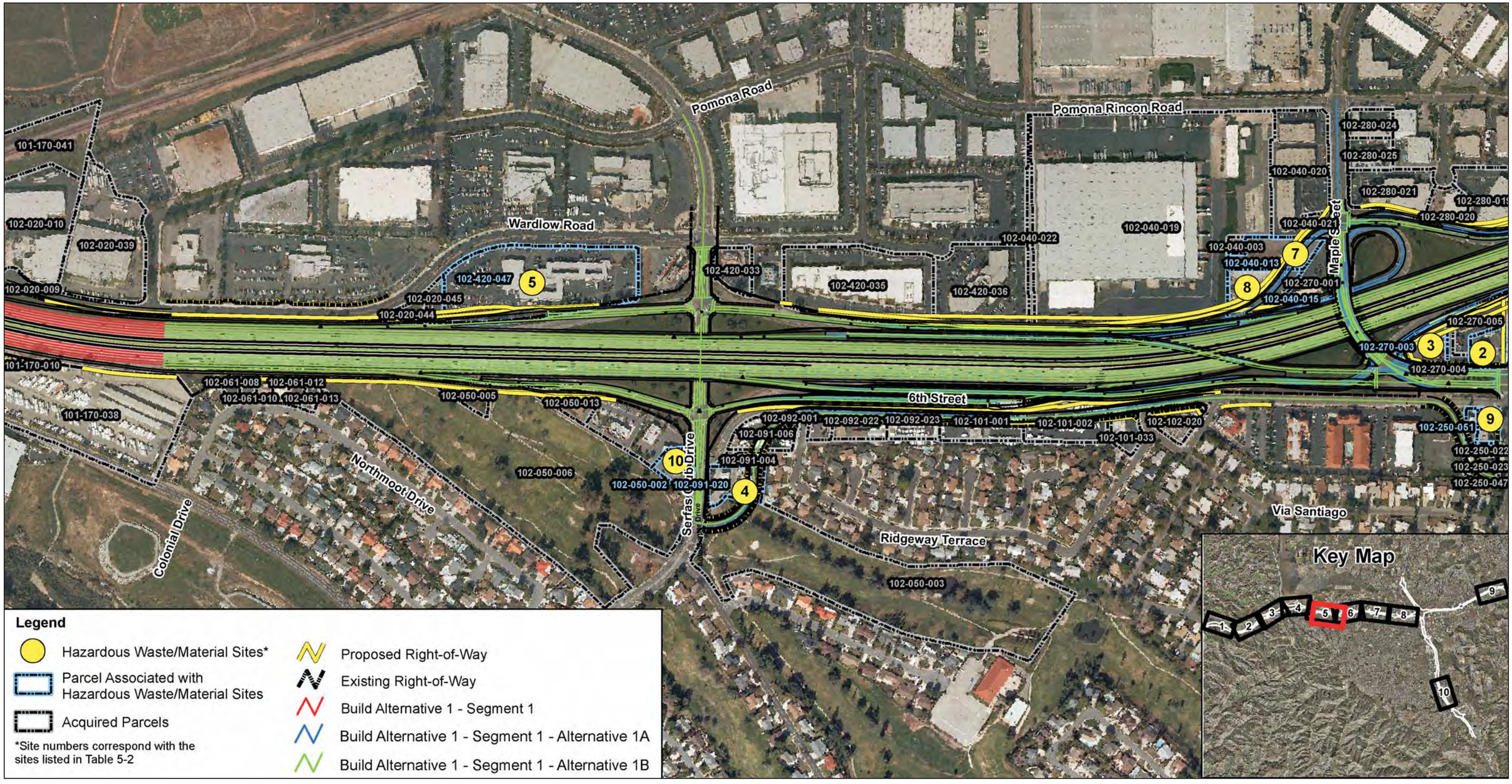


FIGURE 3.13-1
(Page 5 of 10)

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 5 of 10] (3/28/2011)

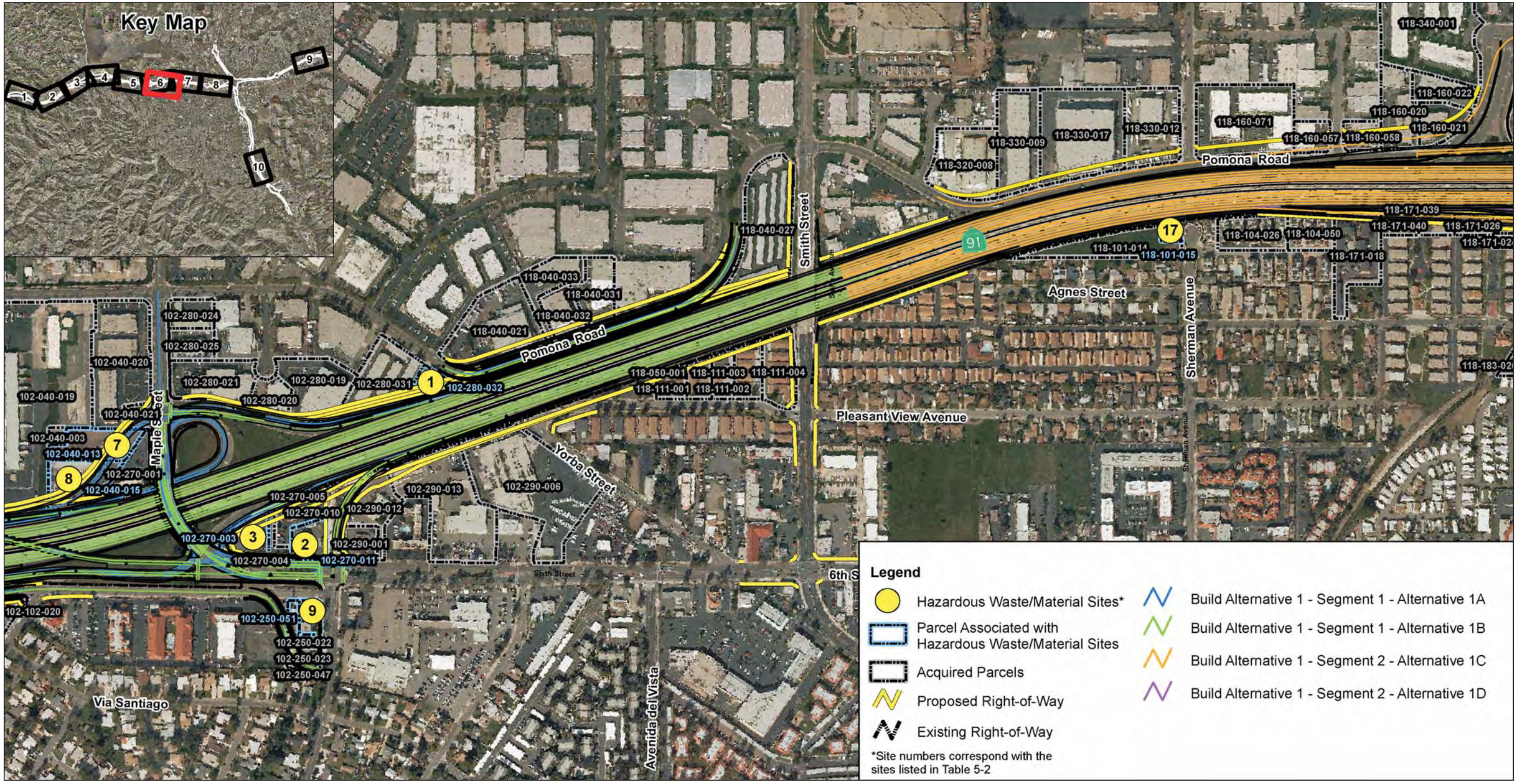


FIGURE 3.13-1
(Page 6 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

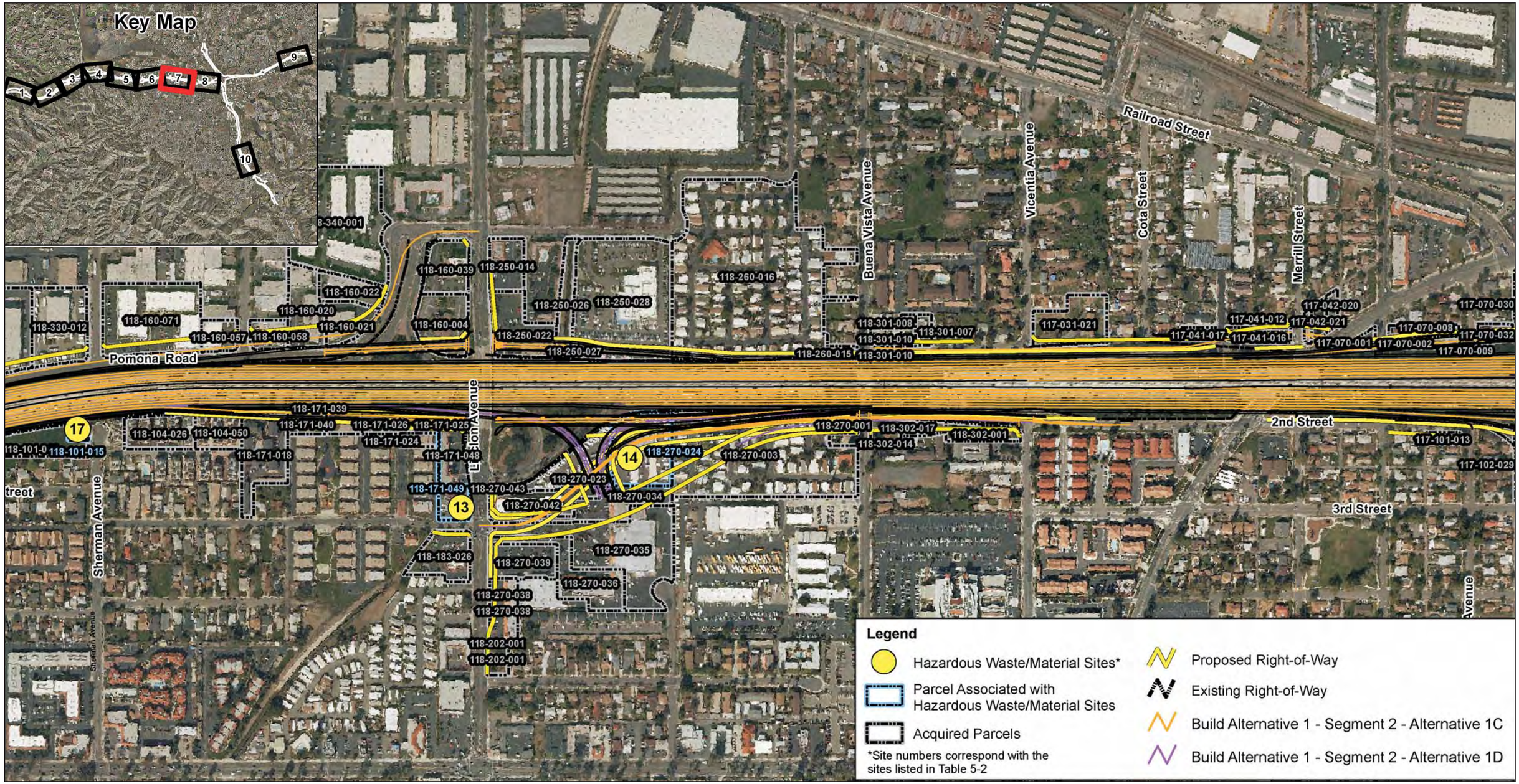


FIGURE 3.13-1
(Page 7 of 10)

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 7 of 10] (3/28/2011)

FIGURE 3.13-1
(Page 8 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 8 of 10] (3/28/2011)

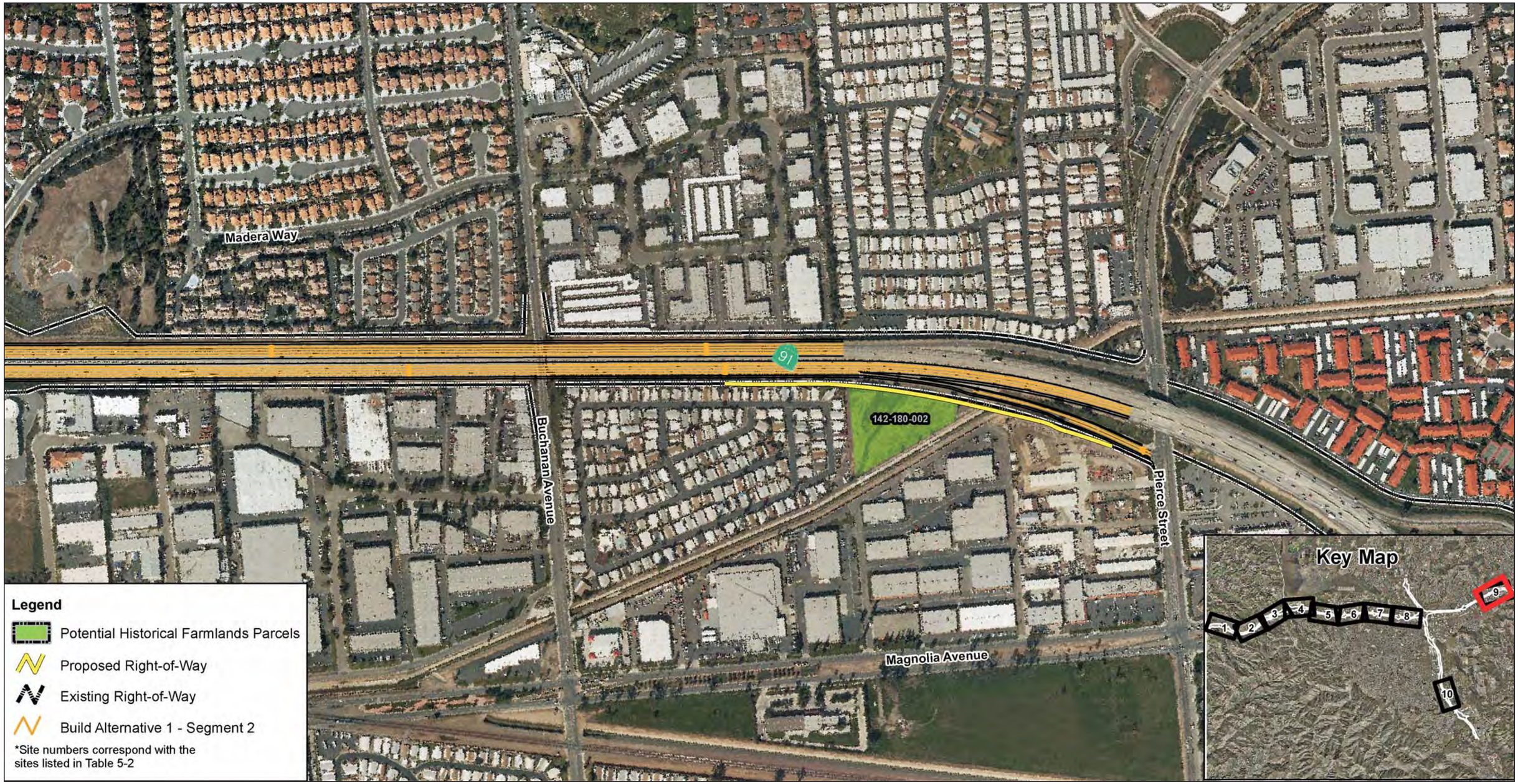


FIGURE 3.13-1
(Page 9 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

FIGURE 3.13-1
(Page 10 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 1

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 10 of 10] (3/28/2011)

FIGURE 3.13-2
(Page 1 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

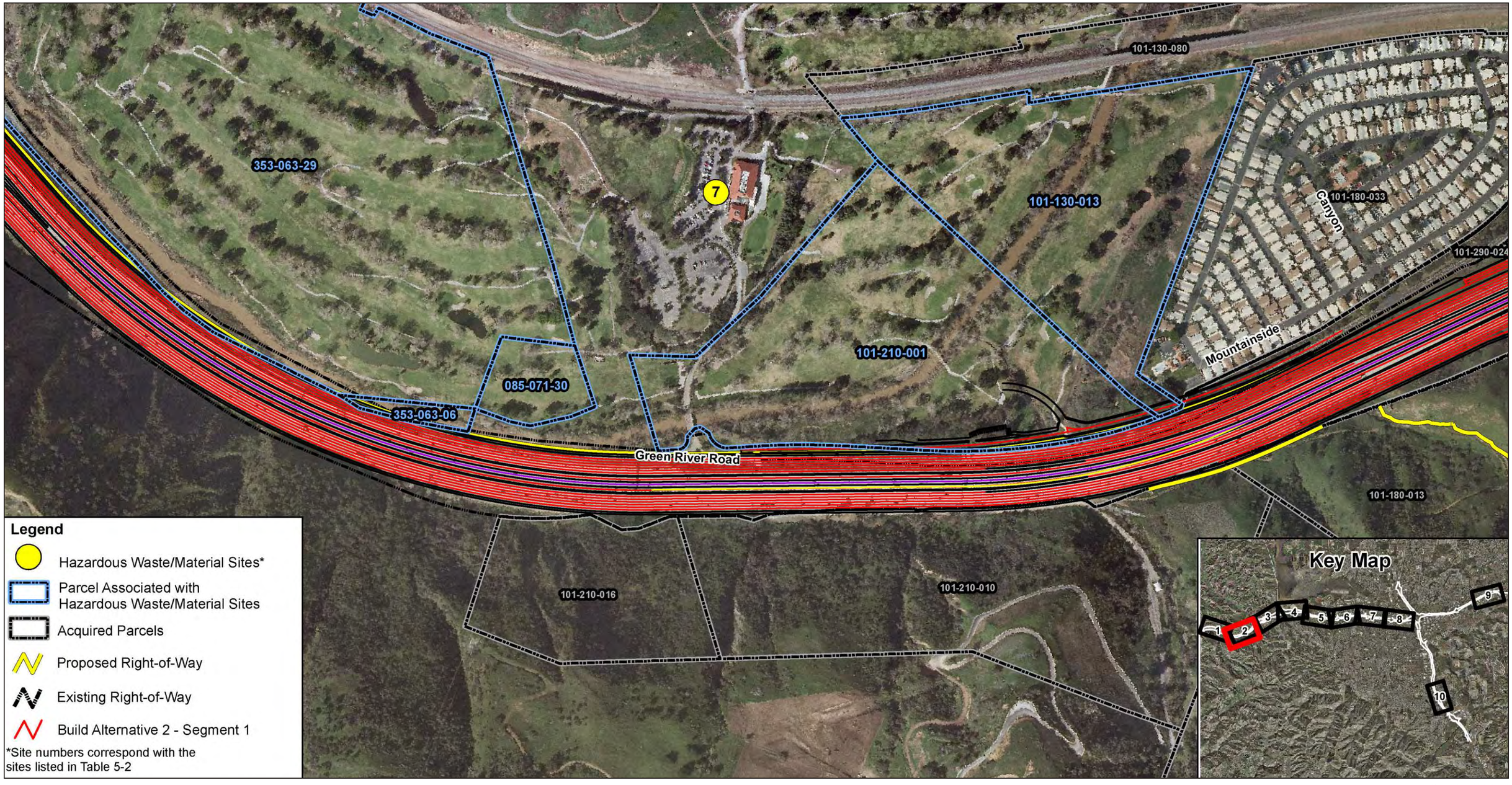


FIGURE 3.13-2
(Page 2 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

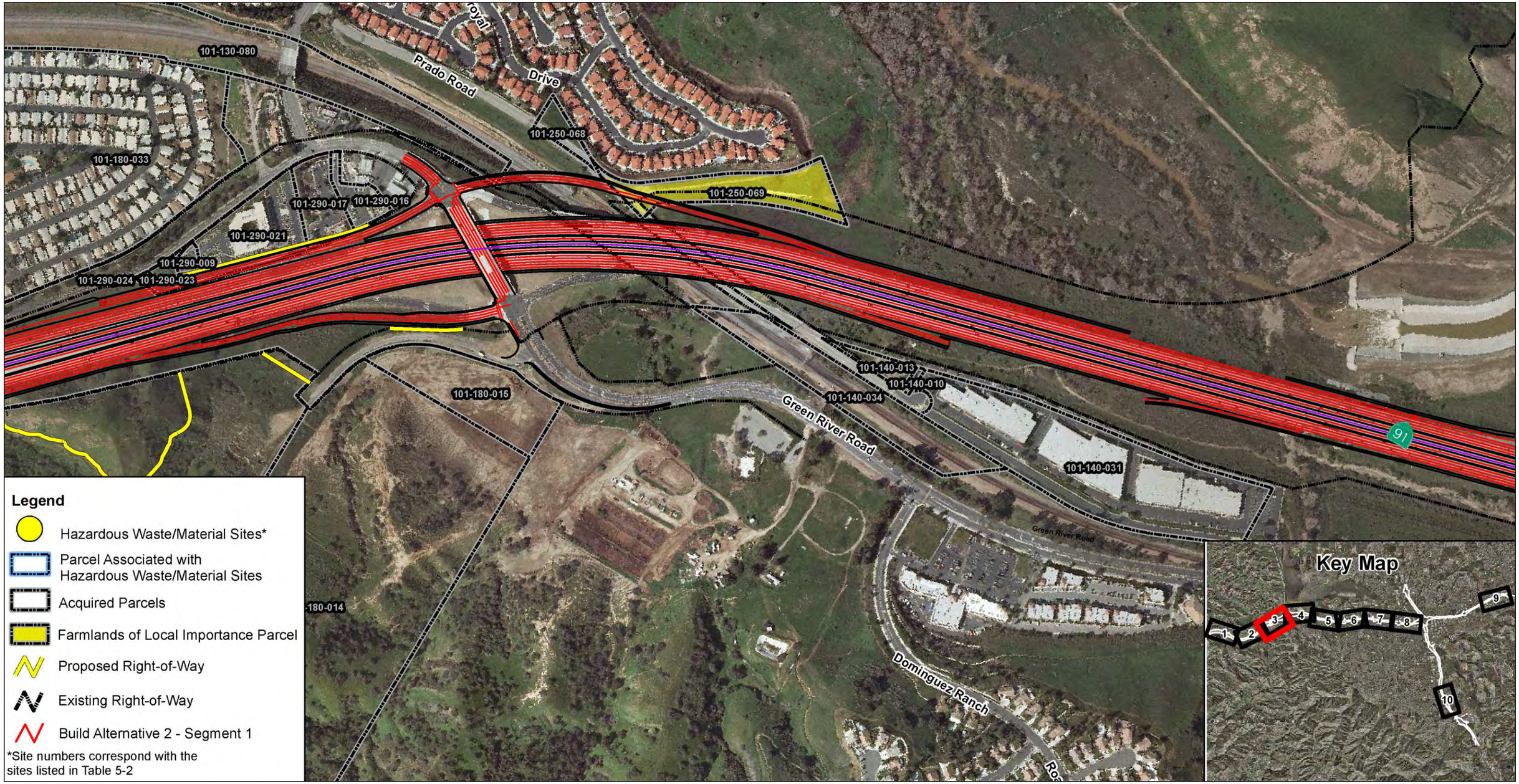


FIGURE 3.13-2
(Page 3 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

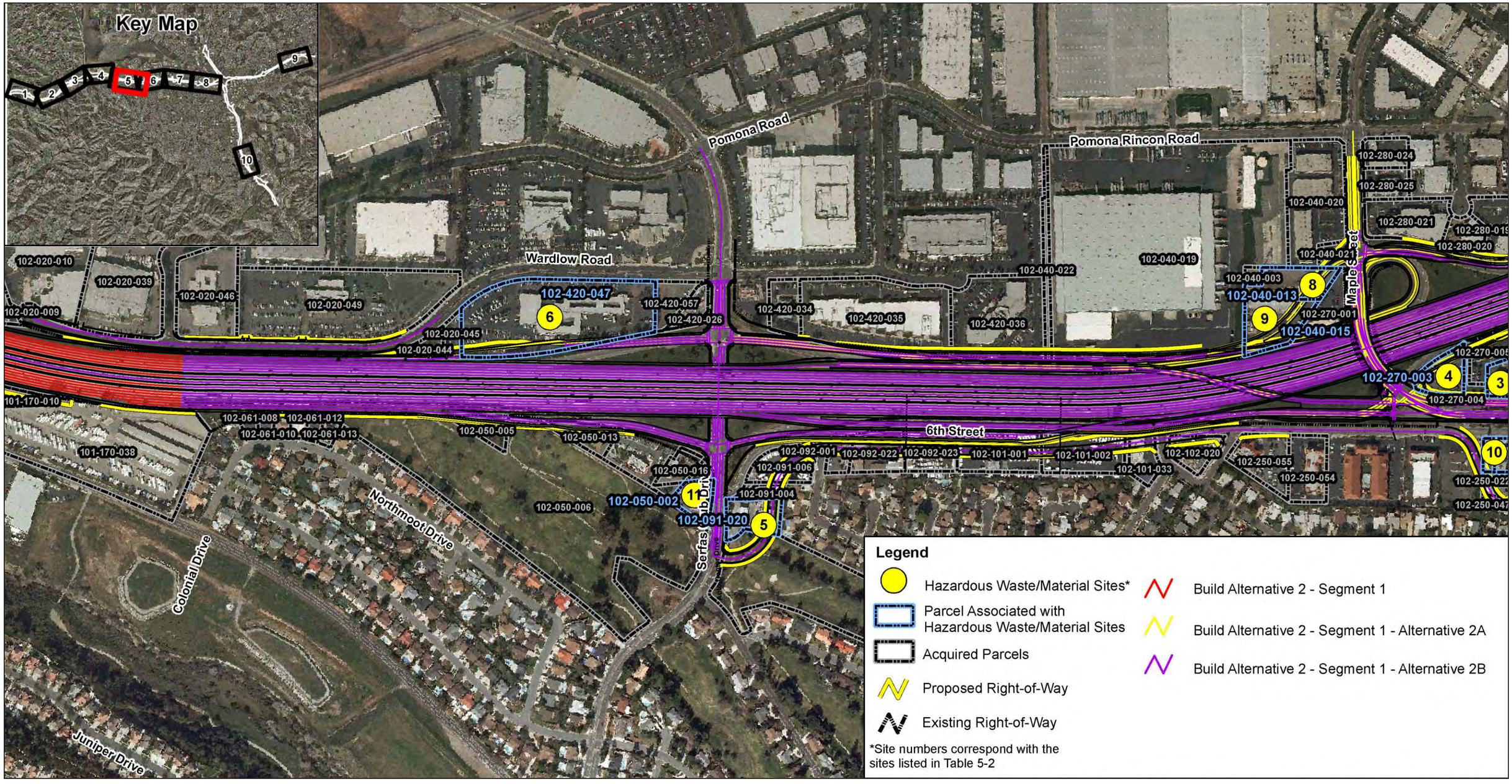
SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

FIGURE 3.13-2
(Page 4 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

FIGURE 3.13-2
(Page 5 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 5 of 10] (3/28/2011)

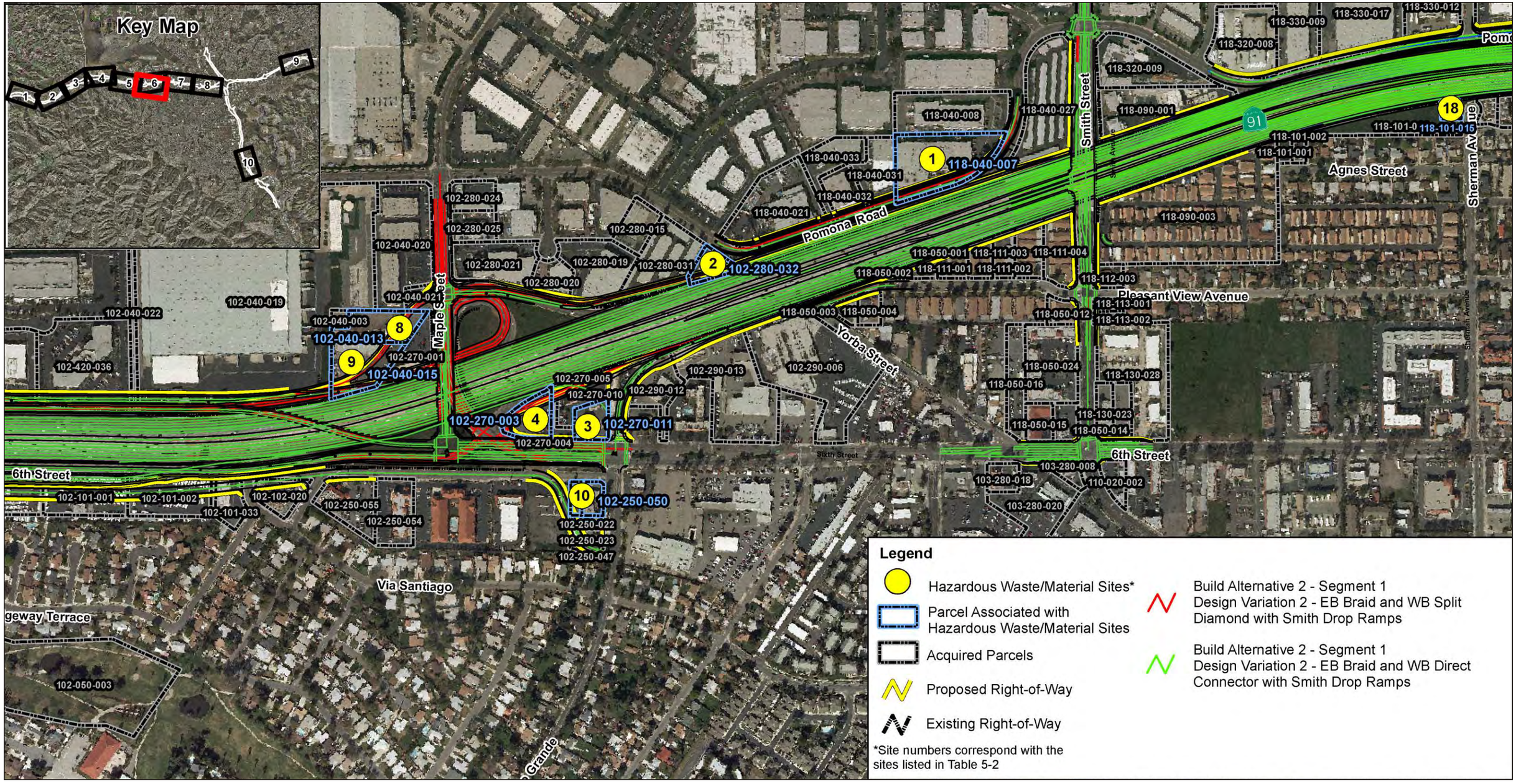


FIGURE 3.13-2
(Page 6 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 6 of 10] (3/28/2011)

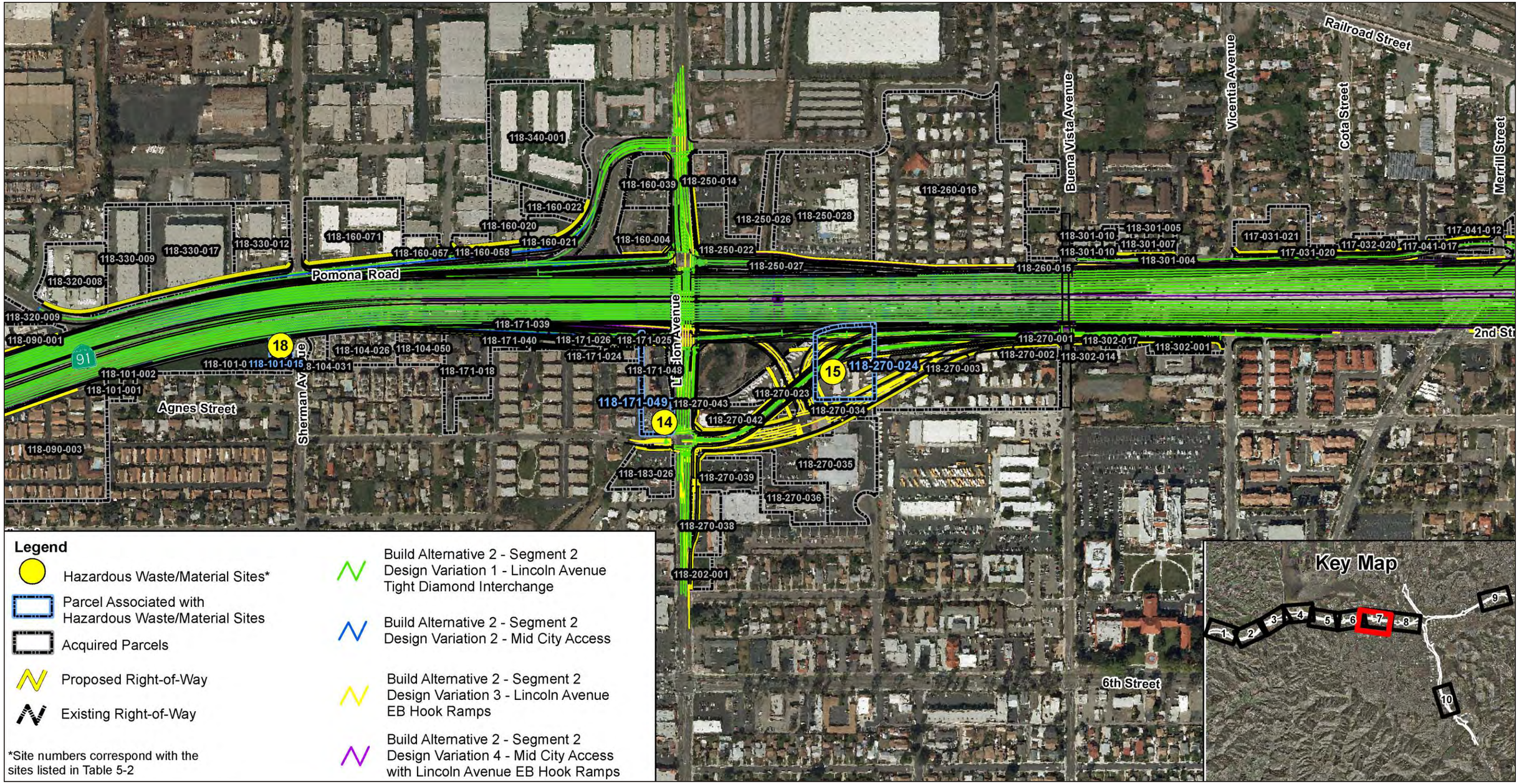


FIGURE 3.13-2
(Page 7 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

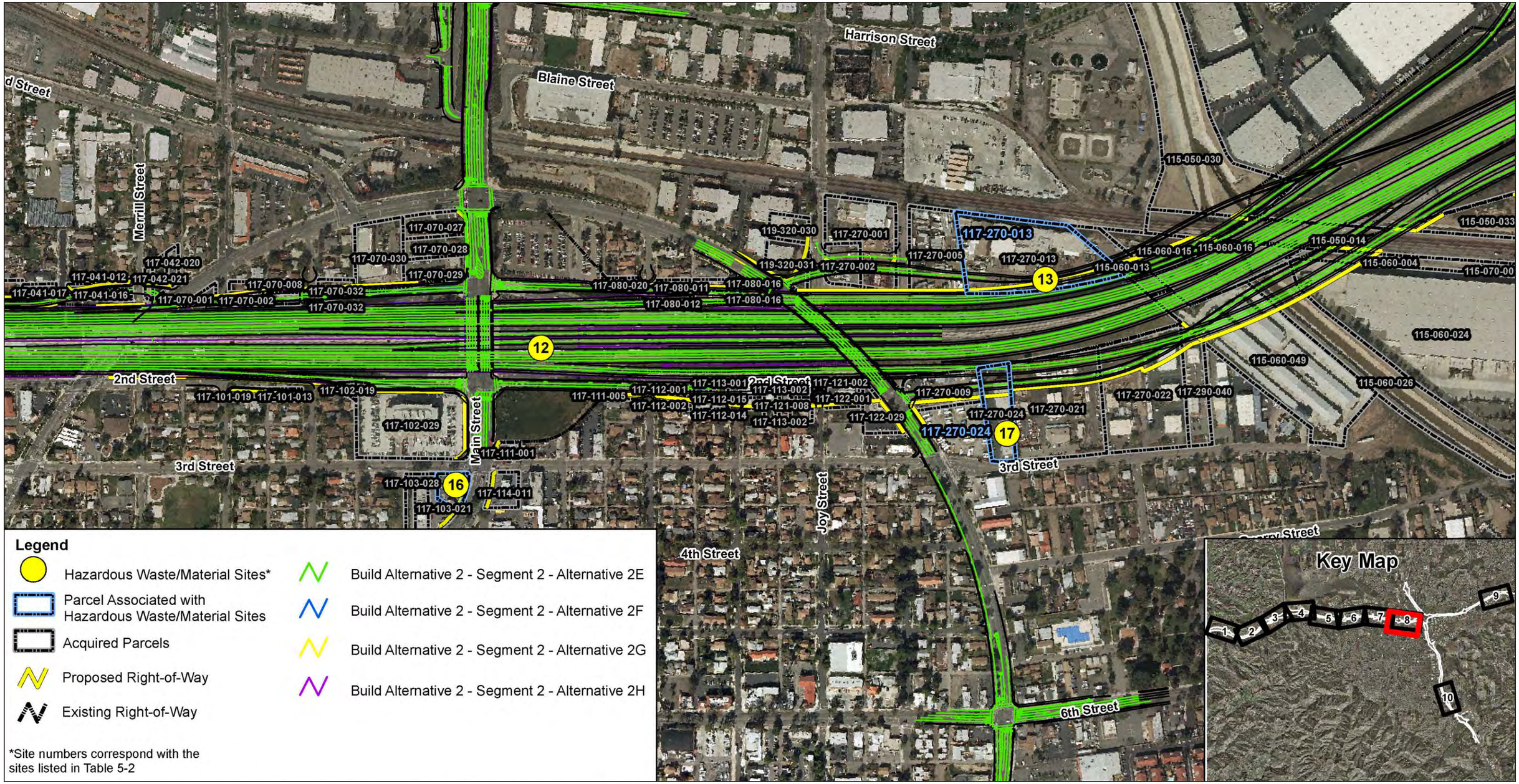


FIGURE 3.13-2
(Page 8 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

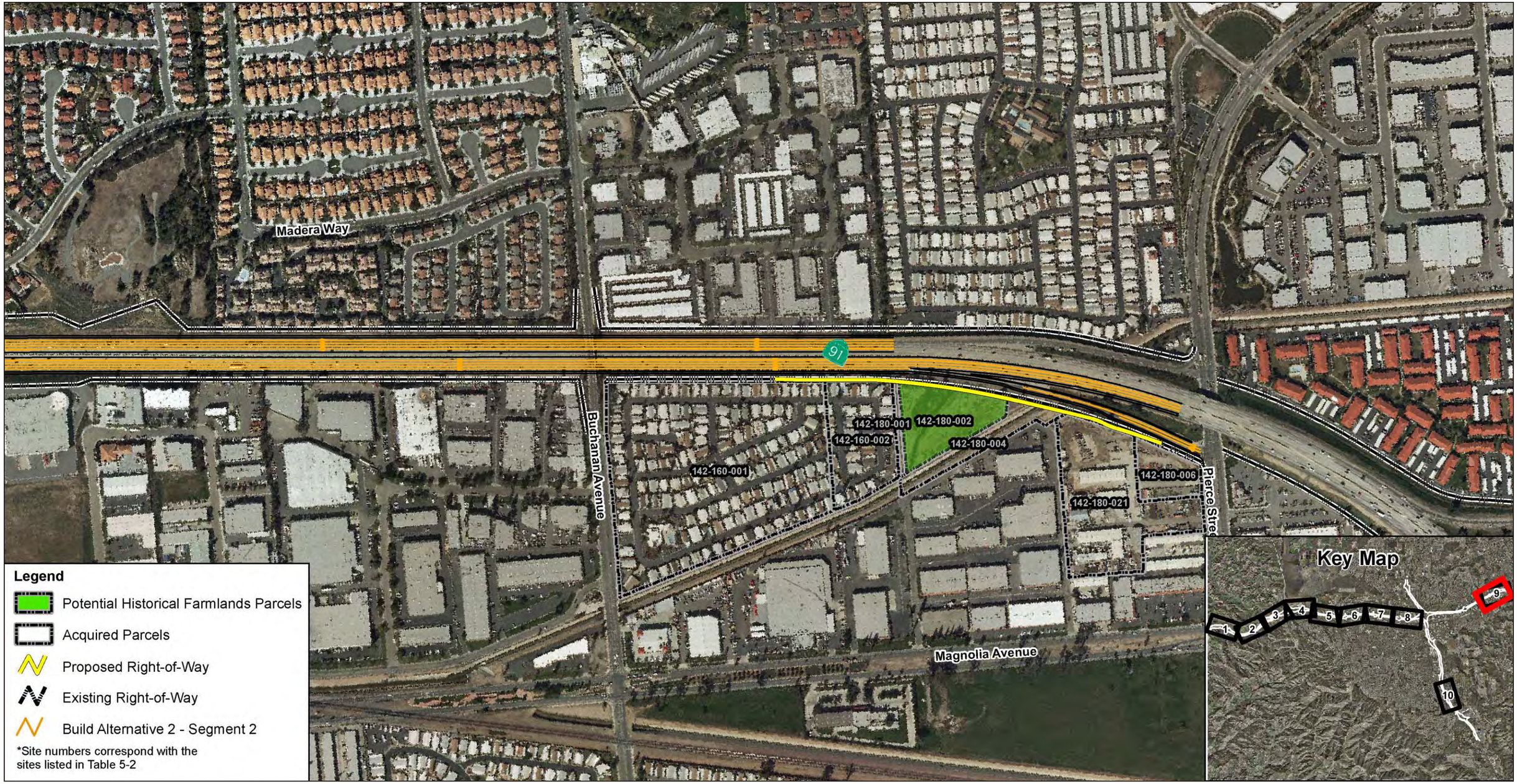


FIGURE 3.13-2
(Page 9 of 10)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

N

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 9 of 10] (3/28/2011)

FIGURE 3.13-2
(Page 10 of 10)

0 207.5 415
FEET

SOURCE: Final Initial Site Assessment (July 2010), PB Americas, Inc. (2010)

State Route 91 Corridor Improvement Project

Hazardous Waste/Materials Sites
of Potential Concern for Alternative 2

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\G\Haz Waste\Fig 3.1-2_Haz-Waste.cdr [Page 10 of 10] (3/28/2011)

3.14 Air Quality

3.14.1 Regulatory Setting

The Federal Clean Air Act (FCAA) as amended in 1990 is the federal law that governs air quality. The California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller – PM_{10} and particles of 2.5 micrometers and smaller - $PM_{2.5}$), lead (Pb), and sulfur dioxide (SO_2). In addition, State standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and State standards are set at a level that protects public health with a margin of safety, and are subject to periodic review and revision. Both State and Federal regulatory schemes also cover toxic air contaminants (air toxics). Some criteria pollutants are also air toxics or may include certain air toxics within their general definition.

Federal and State air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). In addition to this type of environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

FCAA Section 176(c) prohibits the U.S. Department of Transportation and other federal agencies from funding, authorizing, or approving plans, programs, or projects that are not first found to conform to State Implementation Plan (SIP) for achieving the goals of Clean Air Act requirements related to the NAAQS. “Transportation Conformity” Act takes place on two levels: the regional, or planning and programming, level, and the project level. The proposed project must conform at both levels to be approved. Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 CFR 93 govern the conformity process.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the standards set for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas sulfur dioxide (SO2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO2, and also has a nonattainment area for lead. However, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all of the transportation projects planned for a region over a period of at least 20 years for the RTP, and 4 years for the FTIP. RTP and FTIP conformity is based on use of travel demand and, air quality models to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO) and Federal Highway Administration (FHWA), and Federal Transit Administration (FTA), make determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept, scope, and open to traffic schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter (PM_{10} or $PM_{2.5}$). A region is "nonattainment" if one or more of the monitoring stations in the region measures violation of the relevant standard, and U.S. EPA officially designates the area nonattainment. Areas that were previously designated as nonattainment areas but subsequently meet the standard may be officially redesignated to attainment by the U.S. EPA, and are then called "maintenance" areas. "Hot spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA purposes. Conformity does include some specific procedural and documentation standards for projects that require a hot spot analysis. In general, projects must not cause the "hot spot"-related standard to be violated, and must not cause any increase in the number and severity of violations in nonattainment areas. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

3.14.2 Affected Environment

The information in this section is based on the project's *Final Air Quality Assessment Report* (May 2010), the *Supplemental Particulate Matter Hot-Spot Analysis* (March 2011), and the *Air Quality Conformity Analysis* (June 2012). The findings of that report are summarized in this section. The methodologies and assumptions for the air quality analysis are described in detail in the *Final Air Quality Assessment Report*.

3.14.2.1 Climatic Conditions

The project site is in Orange and Riverside Counties, an area within the South Coast Air Basin (Basin), which includes Orange County and the nondesert parts of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the Basin is administered by the SCAQMD.

The Basin climate is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary of the Basin, and high mountains surround the rest of the Basin. The region lies in the semipermanent high-pressure zone of the eastern Pacific Ocean. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur in the Basin.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological stations closest to the project limits for the project that monitor temperature are the Anaheim and Corona Stations.[1] The annual average maximum temperatures recorded at these stations range from 77.2°F to 78.2°F, and the annual average minimum temperatures range from 48.3°F to 55.3°F. December is typically the coldest month in this area of the Basin.

The majority of rainfall in the Basin occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern part of the Basin along the coastal side of the mountains. The climatological stations closest to the project limits that monitor precipitation are the Anaheim and Corona Stations. Average rainfall measured at these stations varied from a high of 2.62 to 3.66 in in February to 0.34 in

[1] Western Regional Climatic Center. 2008. http://www. wrcc.dri.edu, accessed December 3, 2008.

or less between May and September, with an average annual total of 12.71 to 12.95 in. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the vicinity of the project area blow predominantly from the east-southeast at relatively low velocities with wind speeds averaging about 4 mph. Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds together with a persistent temperature inversion limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, northerly or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. Santa Ana conditions tend to last for several days at a time.

Inversion layers have a substantial role in determining O_3 formation. O_3 and its precursors will mix and react to produce higher concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM_{10} is both directly emitted and created indirectly in the atmosphere as a result of chemical reactions. Concentration levels are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, when heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest concentration of pollutants. On days of no inversion or high wind speeds,

ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

3.14.2.2 Monitored Air Quality

The primary federal and State ambient air quality standards (AAQS) for pollutants are shown in Table 3.14.1. The project site is in the jurisdiction of the SCAQMD. As shown in Figure 3.14-1, the SCAQMD maintains ambient air quality monitoring stations throughout the Basin. The closest monitoring station to the project area is the Riverside-Rubidoux Station located at 5888 Mission Boulevard in Rubidoux. Table 3.14.2 provides monitoring data from that station for 2006, 2007, and 2008.

From the ambient air quality data provided in Table 3.14.2, it can be seen that CO, SO_2, and NO_2 levels are below the relevant State and federal standards at the Riverside-Rubidoux station. One-hour ozone levels exceeded the State standard in each of the past 3 years. Eight-hour ozone levels exceeded the federal standard in each of the past 3 years. The PM_{10} levels in the project area exceeded the State standards in each of the past 3 years and exceeded the federal PM_{10} standard in 2007. The federal 24-hour $PM_{2.5}$ standard was exceeded in each of the past 3 years. The federal and State annual $PM_{2.5}$ standards were also exceeded in each of the past 3 years.

Historical ambient air quality data are used to classify the attainment status for the Basin. More specifically, the data collected at the air quality monitoring stations are used by the EPA to identify regions as attainment or nonattainment, depending on whether the region met the requirements in the primary NAAQS. Nonattainment areas are imposed with additional restrictions as required by the EPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the State on a pollutant-by-pollutant basis. The classifications are used as a foundation to create air quality management strategies to improve air quality and comply with the NAAQS. The Basin's attainment status for each of the criteria pollutants is listed in Table 3.14.3.

Table 3.14.1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[2,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	No Federal standard	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Nondispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Nondispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	–
Nitrogen Dioxide (NO_2)[8]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb	None	
Lead[9]	30-day average	1.5 µg/m^3	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average[10]	–		0.15 µg/m^3		
Sulfur Dioxide (SO_2)[11]			Ultraviolet Fluorescence			Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		–	–	
	3-Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	–	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more (0.07–30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: California Air Resources Board (ARB) (September 8, 2010).

Table footnotes are provided on the following page.

Table 3.14.1 Footnotes:

[1] California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; suspended particulate matter, PM_{10}; and visibility-reducing particles are values not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 mg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current Federal policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

[8] To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

[9] The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[10] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

[11] On June 2, 2010, the U.S. EPA established a new 1-hour SO_2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older pararosaniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm, effective August 23, 2010. The secondary SO_2 standard was not revised at this time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm

EPA = United States Environmental Protection Agency
mg/m^3 = milligrams per cubic meter
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million
ppb = parts per billion
°C = degrees Celsius

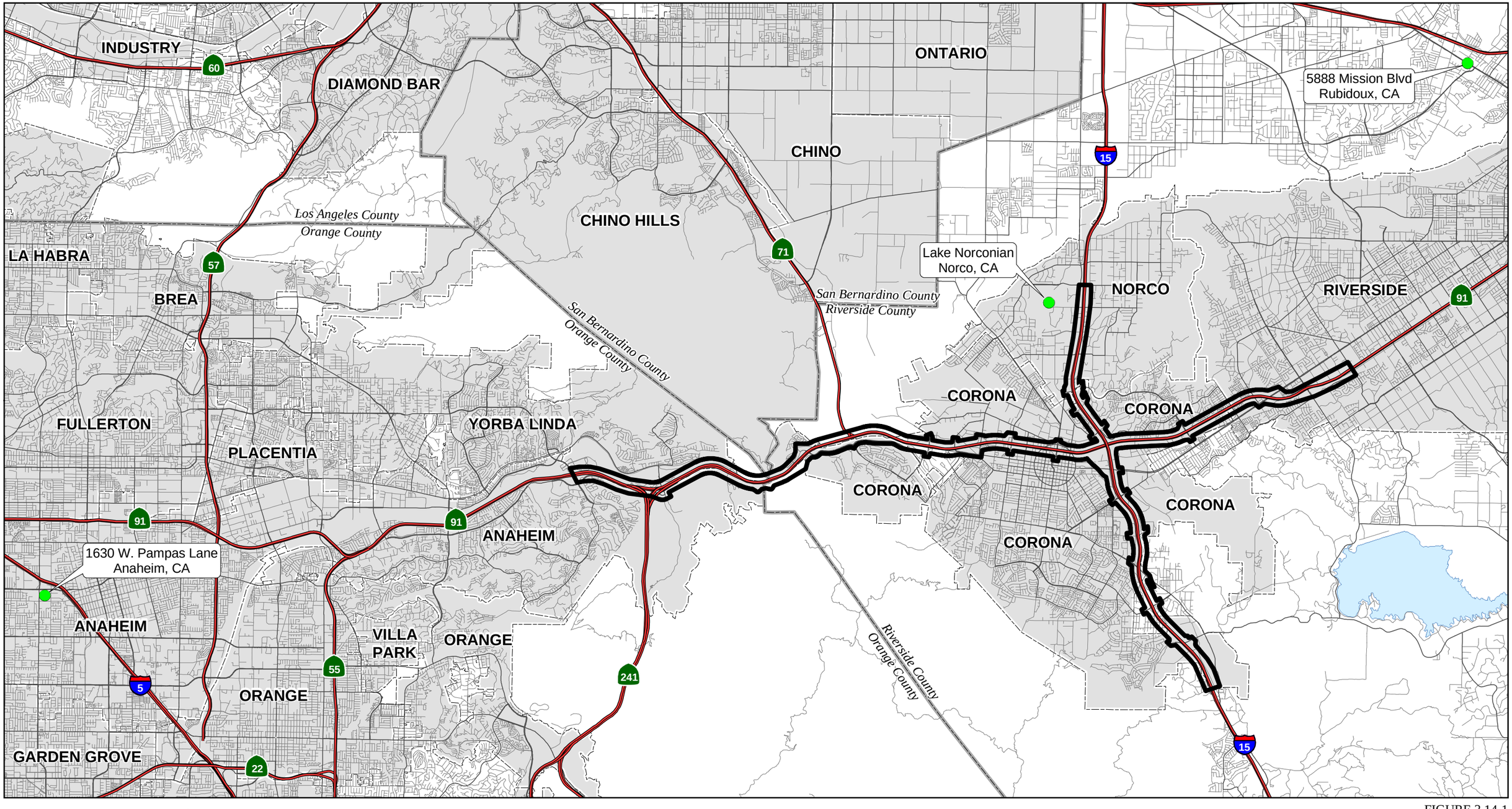
Table 3.14.2 Air Quality Levels Monitored at the Riverside-Rubidoux Station

Pollutant	Standard	2008	2007	2006
Carbon Monoxide				
Max 1-hr concentration (ppm)		2.7	3.8	2.7
No. days exceeded: State	> 20 ppm/1-hr	0	0	0
Federal	> 35 ppm/1-hr	0	0	0
Max 8-hr concentration (ppm)		1.9	2.9	2.3
No. days exceeded: State	.. 9.1 ppm/8-hr	0	0	0
Federal	.. 9.5 ppm/8-hr	0	0	0
Ozone				
Max 1-hr concentration (ppm)		0.146	0.131	0.151
No. days exceeded: State	> 0.09 ppm/1-hr	52	31	45
Ozone				
Max 8-hr concentration (ppm)		0.116	0.111	0.117
No. days exceeded: Federal[1]	> 0.075 ppm/8-hr	63	46	57
Particulates (PM_{10})				
Max 24-hr concentration ($\mu g/m^3$)		82	559	109
No. days exceeded: State	> 50 $\mu g/m^3$	7	65	69
Federal	> 150 $\mu g/m^3$	0	1	0
Annual avg. concentration ($\mu g/m^3$)		45.0	57.1	52.7
Exceeds Standard? State	> 20 $\mu g/m^3$	Yes	Yes	Yes
Particulates ($PM_{2.5}$)				
Max 24-hr concentration ($\mu g/m^3$)		47.9	75.6	68.4
No. days exceeded: Federal	> 35 $\mu g/m^3$	5	33	32
Annual avg. concentration ($\mu g/m^3$)		16	19	19
Exceeds Standard? State	> 12 $\mu g/m^3$	Yes	Yes	Yes
Federal	> 15 $\mu g/m^3$	Yes	Yes	Yes
Nitrogen Dioxide				
Max 1-hr concentration (ppm): State	> 0.18 ppm/1-hr	0.072	0.072	0.076
No. days exceeded		0	0	0
Annual avg. concentration: Federal	0.053 ppm annual avg.	0.020	0.020	0.020
No. days exceeded		0	0	0
Sulfur Dioxide				
Max 24-hr concentration (ppm)		0.003	0.004	0.003
No. days exceeded: State	0.04 ppm	0	0	0
Federal	0.14 ppm	0	0	0
Annual avg. concentration: Federal	0.030 ppm annual avg.	0.001	0.002	0.001
Exceed federal standard?		No	No	No

Sources: EPA and ARB (2006 to 2008).

[1] In 2008, the EPA revised the 8-hour ozone standard from 0.08 to 0.075 ppm.

$\mu g/m^3$ = micrograms per cubic meter
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppm = parts per million



LEGEND

- Study Area Boundary
- Gaseous and Particulate Monitoring Site

N

0 1 2
Miles

SOURCE: Thomas Bros (2010), PB (2010)

I:\PAZ0701\GIS\AirQuality\SCAQMD.mxd (3/29/2011)

FIGURE 3.14-1

SR-91 Corridor Improvement Project

Locations of Local Air Quality Monitoring Stations

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Table 3.14.3 Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 (1-hour)	Nonattainment	Revoked June 2005
O_3 (8-hour)	Nonattainment	Extreme Nonattainment[1]
PM_{10}	Nonattainment	Serious Nonattainment[2]
$PM_{2.5}$	Nonattainment	Nonattainment[3]
CO	Attainment	Attainment/Maintenance
NO_2	Attainment	Attainment/Maintenance
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board (ARB), http://www.arb.ca.gov/desig/desig.htm (2010).

[1] Effective June 2010, the federal 8-hour O_3 nonattainment status was changed to extreme with an attainment date of 2024.

[2] In October 2006, the EPA, in its final rule revision, eliminated the annual PM_{10} standard.

[3] The $PM_{2.5}$ nonattainment designation is based on the 1997 standard. In 2006, the EPA revised the 24-hour standard. The 2006 $PM_{2.5}$ new standard of 35 $\mu g/m^3$ applies 1 year after the effective date of the new designation (April 2010).

$\mu g/m^3$ = micrograms per cubic meter
CO = carbon monoxide
EPA = United States Environmental Protection Agency
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter
PM_{10} = particulate matter less than 10 microns in diameter
SCAQMD = South Coast Air Quality Management District

3.14.2.3 Regional Air Quality Conformity

The project is currently programmed in the 2012 RTP, which was found to conform by the FHWA/FTA on June 4, 2012. The project is also programmed in the SCAG financially constrained 2011 FTIP (through Amendment 24), which was also found to be conforming by the FHWA/FTA on June 4, 2012. The description of the project in the 2012 RTP is as follows: Project ID No. RIV071250; Description: Phase 1: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). Phase 2: on SR-91/I-15: SR91 – Add 1 mixed flow lane in each direction (SR241 – SR71)(I15 – Pierce); I15 – add toll express lane (TEL) median direct connector (SB15 to WB91 & EB91 to NB15), 1 TEL each direction from Hidden Valley –SR-91 direct connector and from Ontario Interchange to Cajalco Interchange.

The description of the Initial Phase (Phase 1 as described in the RTP) in the 2011 FTIP (Amendment 24) is as follows: Project ID No. RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at

various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 TEL and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94).

The approved 2012 RTP and 2011 FTIP (Amendment 24) project listings are provided in Appendix K.

3.14.2.4 Project-Level Air Quality Conformity

Because the project is within an attainment/maintenance area for CO and a nonattainment area for federal $PM_{2.5}$ and PM_{10} standards, local hot-spot analyses for CO, $PM_{2.5}$, and PM_{10} are required for conformity purposes. The results of these hot-spot analyses are provided in Section 3.14.3, Environmental Consequences.

In regards to the related interagency consultation required for this project, SCAG's Transportation Conformity Working Group (TCWG) deemed the Particulate Matter Hot-Spot Qualitative Analysis acceptable for NEPA circulation at their September 22, 2009 meeting. On April 24, 2012, the TCWG reviewed and concurred that the identified Preferred Alternative (Alternative 2f) meets the particulate matter conformity requirements. See Chapter 5 for a copy of review results posted by TCWG.

FHWA approved the regional air quality conformity determinations for the 2012 RTP and Amendment 24 to the 2011 FTIP on June 4, 2012. In a letter dated June 5, 2012, the Department submitted the *Air Quality Conformity Analysis* and requested that FHWA issue a project-level air quality conformity determination for the SR-91 CIP.

The *Air Quality Conformity Analysis* for the SR-91 CIP documents that all the transportation conformity requirements have been met. The interagency consultation requirement was met when the PM_{10} hot-spot analysis for the SR-91 CIP was first presented to the SCAG TCWG on September 22, 2009, and again on April 24, 2012. Opportunities for review were provided to the public when the Draft EIR/EIS was circulated for public review in May 2011.

One June 6, 2012, FHWA approved the project-level *Air Quality Conformity Analysis* for the SR-91 CIP in Orange and Riverside Counties. A separate project-level air quality conformity determination will be necessary prior to approval of a ROD for the Ultimate Project.

3.14.3 Environmental Consequences

3.14.3.1 Summary of Impacts

Alternatives 1 and 2 would improve traffic flow by reducing congestion in the project area. This improvement in traffic flow would reduce regional vehicle emissions. In addition, the Build Alternatives would not delay the attainment of CO, $PM_{2.5}$, or PM_{10} standards. Therefore, Alternatives 1 and 2 and their design variations would not result in long-term adverse impacts related to air quality.

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. Therefore, this Alternative would not result in the long-term reduction in regional air quality emissions.

The construction of Alternatives 1 and 2 has the potential to temporarily increase air quality emissions in the project area. Implementing the standard Department and SCAQMD measures would substantially reduce this short-term impact.

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. Therefore, this Alternative would not result in temporary air quality impacts.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Alternative 2f Initial Phase and Ultimate Project would improve traffic flow by reducing congestion in the project area and would result in reduced regional vehicle emissions. The Alternative 2f Initial Phase and Ultimate Project would not delay the attainment of CO, $PM_{2.5}$, or PM_{10} standards. Therefore, the Alternative 2f Initial Phase and Ultimate Project would not result in long-term adverse air quality impacts.

The construction of the Alternative 2f Initial Phase and Ultimate Project has the potential to temporarily increase air quality emissions in the project area. Implementing the standard Department and SCAQMD measures to control construction-related air quality emissions would substantially reduce this short-term impact of Alternative 2f.

3.14.3.2 Permanent Impacts

Alternatives 1 and 2

Regional Emissions

The SR-91 CIP proposes improvements to an existing highway and does not propose construction of a new highway. The purpose of the project is to alleviate existing and

future traffic congestion along SR-91 during peak hours. The Build Alternatives would not generate new vehicular traffic trips because they would not construct new homes or businesses. However, there is a possibility that some traffic currently using other routes would be attracted to use the improved facility, thus resulting in increased VMT on SR-91. Therefore, the potential impact of the Build Alternatives on regional vehicle emissions was calculated using traffic data for the project region and emission rates from the EMFAC2007 emission model.

Refer to Section 3.6.2.4, Baseline Traffic Conditions, for discussion regarding the use of 2007 traffic data for the Baseline/Existing conditions. The air quality analyses in this section also include existing conditions related to air quality, based on the Baseline/Existing (2007) traffic volumes.

As discussed in detail in Chapter 1, Project, the Initial Phase of the Build Alternatives was originally programmed to be open for operations in 2015. However, the opening date for the Initial Phase has been changed to 2017. The traffic analysis for the project described in this EIR/EIS is based on Baseline/Existing (2007) traffic data and 2015 and 2035 forecasts developed from the adopted regional traffic forecasting model. The air quality analysis in this section was conducted using the Baseline/Existing (2007), 2015, and 2035 traffic volumes from the project traffic study. Per the Supplemental Request for 20-year Period Design Exception approved by the Department on January 26, 2012, forecasted volumes for 2017 were estimated based on existing traffic counts for 2010. Because 2010 traffic counts are approximately 4 percent lower than 2007 traffic counts, 2017 forecasted volumes will be generally lower than the 2015 forecasted volumes used for the analysis of the SR-91 CIP. Because the opening year traffic volumes analyzed for 2015 are more conservative when compared to those for 2017, updating the traffic and air quality analyses for an opening year of 2017 was not necessary.

The project traffic analysis (January 2010) estimated the effect that the Build Alternatives would have on regional VMT and VHT. This VMT and VHT data, along with the EMFAC2007 emission rates, were used to calculate the CO, ROGs, NO_x, SO_x, PM_{10}, and $PM_{2.5}$ emissions for the 2035 regional conditions. The results of the modeling are included in Appendix D to the *Final Air Quality Assessment Report* and are summarized in Tables 3.14.4 and 3.14.5. As shown in those tables, the 2035 Alternatives 1 and 2 would reduce the vehicle emissions within the region. Therefore, the project would not contribute substantially to regional vehicle emissions.

Table 3.14.4 Alternative 1 Regional Vehicle Emissions (lbs/day)

Pollutant	Baseline/Existing (2007)	2035 Baseline Emissions	2035 Alternative 1 Project Emissions	Project-Related Change
CO	17,255	32,294	32,166	-128
ROG	4,630	1,638	1,619	-19
NO_X	23,792	7,463	7,451	-12
SO_X	97	194	190	-5
PM_{10}	1,264	1,657	1,650	-7
$PM_{2.5}$	841	1,065	1,053	-11

Sources: *Final Air Quality Assessment Report* (May 2010), and analysis of Baseline/Existing (2007) conditions conducted in March 2011.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 10 microns in size
ROG = reactive organic gases
SO_X = sulfur oxides

Table 3.14.5 Alternative 2 Regional Vehicle Emissions (lbs/day)

Pollutant	Baseline/Existing (2007)	2035 Baseline Emissions	2035 Alternative 2 Project Emissions	Project-Related Change
CO	17,255	32,294	32,031	-264
ROG	4,630	1,638	1,603	-35
NO_X	23,792	7,463	7,432	-31
SO_X	97	194	186	-8
PM_{10}	1,264	1,657	1,642	-15
$PM_{2.5}$	841	1,065	1,044	-20

Source: *Final Air Quality Assessment Report* (May 2010).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 10 microns in size
ROG = reactive organic gases
SO_X = sulfur oxides

Carbon Monoxide (CO)

The Caltrans *Transportation Project-Level Carbon Monoxide Protocol* (December 1997) was used to assess the project's impact on local CO concentrations. Based on this protocol, a screening analysis was conducted to determine whether the project would result in any CO hot spots. Localized emissions of CO may increase with implementation of the project. However, as described in detail in the *Final Air Quality Assessment Report*, the Build Alternatives are not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, the potential project CO impact has been sufficiently addressed and no further analysis is needed.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Projects of Air Quality Concern

The first step in the hot-spot analysis is to determine whether a project meets the standard for a project of air quality concern (POAQC). The EPA specified in 40

CFR 93.123(b)(1) of the 2006 Final Rule that POAQC are certain highway and transit projects that involve significant levels of diesel vehicle traffic, or any other project that is identified in the $PM_{2.5}$ and PM_{10} SIP as a localized air quality concern. The 2006 Final Rule defines the POAQC that require a $PM_{2.5}$ and PM_{10} hot-spot analysis in 40 CFR 93.123(b)(1) as:

i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;
ii. Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;
iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;
iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; or
v. Projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

The project would meet the criteria in items i and ii above, because it would expand an existing facility and affect local intersections with a significant number of diesel vehicles. Therefore, this project is considered to be a POAQC, and a qualitative project-level $PM_{2.5}$ and PM_{10} hot-spot analysis was conducted to assess whether the project would cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations, increase the frequency or severity of any existing violations, or delay timely attainment of the $PM_{2.5}$ and PM_{10} AAQS.

Types of Emissions Considered

In accordance with the EPA/FHWA Guidance, this hot-spot analysis is based on directly emitted and re-entrained, or resuspended, $PM_{2.5}$ and PM_{10} emissions. Tailpipe, brake wear, tire wear, and road dust $PM_{2.5}$ and PM_{10} emissions were considered in this hot-spot analysis.

Vehicles cause dust from paved and unpaved roads to be re-entrained in the atmosphere. According to the 2006 Final Rule, road dust emissions are to be considered for PM_{10} hot-spot analyses. For $PM_{2.5}$, road dust emissions are only to

be considered in hot-spot analyses if the EPA or the State air agency has made a finding that such emissions are a significant contributor to the $PM_{2.5}$ air quality problem (40 CFR 93.102(b)(3)). The EPA has published a guidance on the use of AP-42 for re-entrained road dust for SIP development and conformity (August 2007); therefore, re-entrained $PM_{2.5}$ is considered in this analysis.

Secondary particles formed through $PM_{2.5}$ and PM_{10} precursor emissions from a transportation project take several hours to form in the atmosphere, giving emissions time to disperse beyond the immediate project area of concern for localized analyses; therefore, they were not considered in this hot-spot analysis. Secondary emissions of $PM_{2.5}$ and PM_{10} are considered as part of the regional emission analysis prepared for the conforming RTP and FTIP.

According to the project schedule, no phase of construction would last more than 5 years, and construction-related emissions may be considered temporary; therefore, any construction-related $PM_{2.5}$ and PM_{10} emissions due to this project were not included in this hot-spot analysis. This project will comply with the applicable SCAQMD Fugitive Dust Rules for the control of fugitive dust during construction of this project. In addition, per Transportation Conformity Rule 93.117, the project will be required to comply with any applicable $PM_{2.5}$ and PM_{10} control measures in the SIP. Excavation, transportation, placement, and handling of excavated soils will result in no visible dust migration. A water truck or tank will be available within the project limits at all times to suppress and control the migration of fugitive dust from earthwork operations.

Analysis Method

According to the hot-spot methodology, estimates of future localized $PM_{2.5}$ and PM_{10} pollutant concentrations need to be determined. This analysis makes those estimates by extrapolating present $PM_{2.5}$ and PM_{10} pollutant concentrations from air quality data measured at monitoring stations in the vicinity of the project. The data from these stations are combined with projections from the 2003 and 2007 Air Quality Management Plans (AQMPs) prepared by the SCAQMD and examined for trends in order to predict future conditions in the project vicinity. Additionally, the impacts of the project and the likelihood of these impacts interacting with the ambient $PM_{2.5}$ and PM_{10} levels to cause hot spots are discussed.

Data Considered

The closest air quality monitoring station to the project within the County of Riverside is the Norco Station. This station is located within 4,000 ft of I-15. However, this station only monitors PM_{10} concentrations. The monitoring station closest to the project area that currently monitors $PM_{2.5}$ concentrations is the 1630 West Pampas Lane, Anaheim Station. This station is approximately 1,200 ft from I-5 and 1.3 mi from SR-91.

The existing truck volumes along I-5 and SR-91 in the vicinity of the Anaheim Station are 26,000 and 19,900 daily trips, respectively. The existing truck volume along I-15 in the vicinity of the Norco Station is 18,000 daily trips. These volumes are higher than the 16,500 to 18,000 daily truck trips along SR-91 and I-15, respectively, in the project area. The total vehicle trips along I-5, I-15, and SR-91 in the vicinity of these monitoring stations vary from 200,000 to 285,000, similar to or greater than the 200,000 to 272,000 existing daily trips along SR-91 and I-15, respectively, in the project area. Therefore, the air quality concentrations monitored at these stations are representative of the existing conditions in the project area.

Trends in Baseline $PM_{2.5}$ Concentrations

The monitored $PM_{2.5}$ concentrations at the Anaheim Station are shown in Table 3.14.6. These data show that, for the years 2005 to 2009, the federal 24-hour $PM_{2.5}$ AAQS (35 micrograms per cubic meter [$\mu g/m^3$]) was exceeded. The federal annual average $PM_{2.5}$ AAQS (15 $\mu g/m^3$) at the Anaheim Station was exceeded in 2 out of 5 years; however, the concentrations have been decreasing steadily overtime.

Table 3.14.6 Ambient $PM_{2.5}$ Monitoring Data ($\mu g/m^3$)

	2005	2006	2007	2008	2009
Anaheim Air Quality Monitoring Station					
3-year average 98th percentile	49.3	45.7	44.7	38.2	36.6
Exceeds federal 24-hour standard (35 $\mu g/m^3$)?	Yes	Yes	Yes	Yes	Yes
3-year National annual average	16.33	15.21	14.35	13.47	12.72
Exceeds federal annual average standard (15 $\mu g/m^3$)?	Yes	Yes	No	No	No

Source: EPA website: http://www.epa.gov/air/data/monvals.html?st~CA~California, accessed March 2011.
$\mu g/m^3$ = micrograms per cubic meter
EPA = United States Environmental Protection Agency
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

Projected 24-hour Concentrations

The levels of $PM_{2.5}$ in the project vicinity exceeded the federal 24-hour standard in each of the past 5 years. Table V-2-16 in the 2007 AQMP estimates that the 24-hour $PM_{2.5}$ concentration at the Anaheim Station would be 42.8 µg/m^3 in 2015. However, based on the data in Table 3.14.6, the concentrations in 2008 and 2009 are below the level that the AQMP has projected for 2015. Extrapolating from the data in Table 3.14.6, it is estimated that the concentration would not exceed the federal 24-hour standard of 35 µg/m^3 by 2011. By 2015, it is estimated that the 24-hour $PM_{2.5}$ level would be 27.6 µg/m^3, which is 21 percent below the federal standard.

Projected Annual Concentrations

While the levels of $PM_{2.5}$ in the project vicinity exceeded the federal annual standard twice between 2005 and 2009, indications are that levels in the future would continue to decrease. As shown in Table V-2-15c in the 2007 AQMP, the annual $PM_{2.5}$ concentration, with the California Air Resources Board (ARB) emission reduction plan and the SCAQMD emission reduction overlay, at the Anaheim Station is projected to be 12.3 µg/m^3 in 2014. This concentration would not exceed the federal annual average standard of 15 µg/m^3.

Trends in Baseline PM_{10} Concentrations

The monitored PM_{10} concentrations at the Norco Station, shown in Table 3.14.7, indicate that the federal 24-hour PM_{10} AAQS (150 µg/m^3) was exceeded once in 2007.

Table 3.14.7 Ambient PM_{10} Monitoring Data (µg/m^3)

	2005	2006	2007	2008	2009
Norco Air Quality Monitoring Station					
First Highest	79	74	332	86	79
Second Highest	64	71	93	85	68
Third Highest	59	67	92	76	66
Fourth Highest	57	66	87	76	65
No. of days above national 24-hour standard (150 µg/m^3)	0	0	1	0	0

Source: ARB website: http://www.arb.ca.gov/adam/welcome.html, accessed March 2011.
µg/m^3 = micrograms per cubic meter
ARB = California Air Resources Board
PM_{10} = particulate matter less than 10 microns in size

The 2007 AQMP reports that since the federal annual PM_{10} standard has been revoked, the Basin is expected to be declared in attainment for the 24-hour federal PM_{10} standard since 2000. Table V-3-1 in the 2007 AQMP lists the projected 24-hour PM_{10} concentrations at various stations within the Basin. It is estimated that the 24-hour concentration at the Anaheim Station (the closest station to the project area listed in the AQMP) would be 78 $\mu g/m^3$ by 2015, which is 48 percent below the federal standard.

Transportation and Traffic Conditions

Baseline/Existing (2007), interim (2015), and future (2035) No Build ADT volumes and average daily truck volumes for SR-91 and I-15 in the project area are shown in Table 3.14.8. The table indicates that SR-91 and I-15 each currently experience more than 10,000 trucks annual average daily traffic (AADT).

Table 3.14.8 Baseline/Existing (2007) and No Build Average Daily Traffic and Truck Volumes

Roadway Link	Baseline/Existing (2007)		2015 No Build		2035 No Build	
	Avg Daily Traffic Volumes	Avg Daily Truck Volumes	Avg Daily Traffic Volumes	Avg Daily Truck Volumes	Avg Daily Traffic Volumes	Avg Daily Truck Volumes
SR-91 from SR-241 to SR-71	280,000	15,500	320,300	17,500	325,200	18,900
SR-91 from SR-71 to I-15	272,000	14,500	305,900	16,800	305,900	16,800
SR-91 east of I-15	224,000	16,300	243,300	18,400	273,200	21,800
I-15 north of SR-91	171,000	17,900	201,500	23,000	319,800	31,600
I-15 south of SR-91	201,000	10,300	242,700	13,500	336,900	20,500

Source: Riverside County Transportation Commission (July 2009).
Avg = Average
I-15 = Interstate 15
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91

Table 3.14.9 summarizes the existing LOS for the intersections along SR-91 and I-15 in the project area. As shown, the LOS currently vary from LOS A to LOS F.

Traffic Changes Due to the Project

The project is a highway improvement project that would increase the capacity of SR-91 and I-15. Based on the *Traffic Study Report* (July 2010), the project would increase peak-hour and daily traffic volumes on SR-91 and I-15. The future traffic volumes for 2015 and 2035 are shown in Tables 3.14.10 and 3.14.11, respectively. The with project reduction in traffic along SR-91 east of I-15 is due to the new HOV connectors that would separate traffic from SR-91 until after McKinley Street, where traffic volumes are lower.

Table 3.14.9 Existing Intersection Levels of Service

Intersection		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS
1.	Green River Road/SR-91 WB Ramps	170.8	F	12.0	B
2.	Green River Road/SR-91 EB Ramps	11.8	B	14.6	B
3.	Auto Center Drive/SR-91 WB Ramps	34.9	C	13.6	B
4.	Maple Street/Pomona Drive	9.3	A	9.6	A
5.	6th Street/SR-91 EB Ramps	21.9	C	137.4	F
6.	Paseo Grande/6th Street	28.1	C	47.2	D
7.	SR-91 WB Ramps/Pomona Road	224.9	F	36.5	D
8.	Lincoln Avenue/SR-91 EB Ramps	22.1	C	243.1	F
9.	Main Street/Grand Boulevard	23.9	C	28.7	C
10.	Main Street/SR-91 WB Ramps	36.1	D	40.1	D
11.	Main Street/3rd Street	24.9	C	39.7	D
12.	McKinley Street/Griffin Way	36.7	D	175.9	F
13.	McKinley Street/Sampson Avenue	28.7	C	93.8	F
14.	Pierce Street/Magnolia Avenue	32.2	C	105.2	F
15.	Hamner Avenue/Hidden Valley Parkway	63.0	E	143.0	F
16.	Rimpau Avenue/Magnolia Avenue	98.7	F	94.9	F
17.	El Sobrante/Magnolia Avenue	168.0	F	65.4	E
18.	I-15 SB Ramps/Magnolia Avenue	63.4	E	64.3	E
19.	I-15 SB Ramps/Ontario Avenue	35.6	D	29.1	A
20.	Bedford Canyon/Cajalco Road	11.4	B	73.3	E

Source: Riverside County Transportation Commission (July 2009).
Delay = stopped time delay at intersection LOS = levels of service SR-91 = State Route 91
EB = eastbound SB = southbound WB = westbound
I-15 = Interstate 15 sec = seconds

Table 3.14.10 2015 Highway Traffic Volumes

Roadway Link	No Build		Alternative 1		Alternative 2	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91 from SR-241 to SR-71	320,300	17,500	329,600	18,100	333,500	18,300
SR-91 from SR-71 to I-15	305,900	16,400	310,400	16,800	327,300	17,700
SR-91 east of I-15	243,300	18,400	235,400	18,100	238,900	18,400
I-15 north of SR-91	201,500	23,000	208,400	24,200	209,600	24,300
I-15 south of SR-91	242,700	13,500	248,800	13,900	251,800	14,100

Source: Riverside County Transportation Commission (July 2009).
ADT = average daily traffic SR-241 = State Route 241 SR-91 = State Route 91
I-15 = Interstate 15 SR-71 = State Route 71

Table 3.14.11 2035 Highway Traffic Volumes

Roadway Link	No Build		Alternative 1		Alternative 2	
	ADT	Truck ADT	ADT	Truck ADT	ADT	Truck ADT
SR-91 from SR-241 to SR-71	325,200	18,900	334,800	19,400	361,900	21,000
SR-91 from SR-71 to I-15	305,900	16,800	307,000	16,900	344,700	19,000
SR-91 east of I-15	273,200	21,900	267,400	21,400	282,200	22,600
I-15 north of SR-91	319,800	31,700	333,000	33,000	334,900	33,200
I-15 south of SR-91	336,900	20,600	348,000	21,200	353,200	21,600

Source: Riverside County Transportation Commission (July 2009).
ADT = average daily traffic SR-241 = State Route 241 SR-91 = State Route 91
I-15 = Interstate 15 SR-71 = State Route 71

Tables 3.14.12 through 3.14.15 show the 2015 and 2035 LOS in the project area for the a.m. and p.m. peak hours. As shown, the project would worsen the LOS at various intersections along the project alignment.

Table 3.14.12 2015 A.M. Intersection Levels of Service

	Intersection	No Build		Alternative 1		Alternative 2	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	Green River Road/SR-91 WB Ramps	89.4	F	39.9	D	60.9	E
2.	Green River Road/SR-91 EB Ramps	31.2	C	30.8	C	32.2	C
3.	Auto Center Drive/SR-91 WB Ramps	31.7	C	33.1	C	38.3	D
4.	Maple Street/Pomona Drive	31.4	C	42.1	D	69.7	E
5.	6th Street/SR-91 EB Ramps	21.1	C	20.5	C	24.4	C
6.	Paseo Grande/6th Street	34.3	C	32.7	C	31.1	C
7.	SR-91 WB Ramps/Pomona Road	40.0	D	72.5	E	67.5	E
8.	Lincoln Avenue/SR-91 EB Ramps	24.8	C	100.0	F	91.1	F
9.	Main Street/Grand Boulevard	32.6	C	31.0	C	30.5	C
10.	Main Street/SR-91 WB Ramps	27.9	C	18.2	B	20.1	C
11.	Main Street/3rd Street	56.9	E	68.0	E	68.5	E
12.	McKinley Street/Griffin Way	27.9	C	28.8	C	31.7	C
13.	McKinley Street/Sampson Avenue	33.5	C	26.4	C	25.4	C
14.	Pierce Street/Magnolia Avenue	35.4	D	32.7	C	32.5	C
15.	Hamner Avenue/Hidden Valley Parkway	46.5	D	47.7	D	46.2	D
16.	Rimpau Avenue/Magnolia Avenue	54.6	D	55.0	D	55.4	E
17.	El Sobrante/Magnolia Avenue	72.9	E	70.2	E	71.5	E
18.	I-15 SB Ramps/Magnolia Avenue	45.1	D	47.5	D	45.1	D
19.	I-15 SB Ramps/Ontario Avenue	78.9	E	91.3	F	75.2	E
20.	Bedford Canyon/Cajalco Road	45.3	D	43.1	D	50.6	D

Source: Riverside County Transportation Commission (July 2009).
Delay = stopped time delay at intersection LOS = levels of service SR-91 = State Route 91
EB = eastbound SB = southbound WB = westbound
I-15 = Interstate 15 sec = seconds

Table 3.14.13 2015 P.M. Intersection Levels of Service

	Intersection	No Build		Alternative 1		Alternative 2	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	Green River Road/SR-91 WB Ramps	30.6	C	31.5	C	27.7	C
2.	Green River Road/SR-91 EB Ramps	96.2	F	104.7	F	129.6	F
3.	Auto Center Drive/SR-91 WB Ramps	18.6	B	18.0	B	17.4	B
4.	Maple Street/Pomona Drive	40.2	D	38.6	D	36.8	D
5.	6th Street/SR-91 EB Ramps	85.0	F	35.1	D	36.9	D
6.	Paseo Grande/6th Street	43.7	D	48.7	D	60.5	E
7.	SR-91 WB Ramps/Pomona Road	40.0	D	25.8	C	27.1	C
8.	Lincoln Avenue/SR-91 EB Ramps	146.1	F	98.4	F	107.4	F
9.	Main Street/Grand Boulevard	86.1	F	86.3	F	84.6	F
10.	Main Street/SR-91 WB Ramps	81.0	F	63.8	E	64.1	E
11.	Main Street/3rd Street	42.4	D	60.9	E	59.6	E
12.	McKinley Street/Griffin Way	52.3	D	56.1	E	73.1	E
13.	McKinley Street/Sampson Avenue	42.3	D	43.7	D	50.0	D
14.	Pierce Street/Magnolia Avenue	94.7	F	93.1	F	87.5	F
15.	Hamner Avenue/Hidden Valley Parkway	85.0	F	99.1	F	93.0	F
16.	Rimpau Avenue/Magnolia Avenue	50.1	D	52.6	D	49.4	D
17.	El Sobrante/Magnolia Avenue	28.3	C	28.7	C	26.8	C
18.	I-15 SB Ramps/Magnolia Avenue	85.1	F	89.3	F	90.4	F
19.	I-15 SB Ramps/Ontario Avenue	37.7	D	37.3	D	36.0	D
20.	Bedford Canyon/Cajalco Road	58.0	E	59.0	E	58.7	E

Source: Riverside County Transportation Commission (July 2009).
Delay = stopped time delay at intersection LOS = levels of service SR-91 = State Route 91
EB = eastbound SB = southbound WB = westbound
I-15 = Interstate 15 sec = seconds

Table 3.14.14 2035 A.M. Intersection Levels of Service

	Intersection	No Build		Alternative 1		Alternative 2	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	Green River Road/SR-91 WB Ramps	84.9	F	73.9	E	79.1	E
2.	Green River Road/SR-91 EB Ramps	42.6	D	39.1	D	41.5	D
3.	Auto Center Drive/SR-91 WB Ramps	82.0	F	64.4	E	59.4	E
4.	Maple Street/Pomona Drive	79.2	E	67.1	E	79.6	E
5.	6th Street/SR-91 EB Ramps	24.4	C	28.3	C	23.8	C
6.	Paseo Grande/6th Street	38.0	D	38.3	D	36.1	D
7.	SR-91 WB Ramps/Pomona Road	40.5	D	97.3	F	82.8	F
8.	Lincoln Avenue/SR-91 EB Ramps	36.1	D	181.1	F	167.6	F
9.	Main Street/Grand Boulevard	36.0	D	41.9	D	38.8	D
10.	Main Street/SR-91 WB Ramps	25.2	C	42.8	D	17.4	B
11.	Main Street/3rd Street	61.9	E	79.0	E	36.3	D
12.	McKinley Street/Griffin Way	33.8	C	31.3	C	33.1	C
13.	McKinley Street/Sampson Avenue	43.5	D	46.0	D	40.4	D
14.	Pierce Street/Magnolia Avenue	58.1	E	46.4	D	49.6	D
15.	Hamner Avenue/Hidden Valley Parkway	191.9	F	187.7	F	175.4	F
16.	Rimpau Avenue/Magnolia Avenue	133.0	F	115.9	F	117.0	F
17.	El Sobrante/Magnolia Avenue	160.7	F	163.4	F	156.7	F
18.	I-15 SB Ramps/Magnolia Avenue	111.5	F	114.7	F	106.7	F
19.	I-15 SB Ramps/Ontario Avenue	75.2	E	59.7	E	58.1	E
20.	Bedford Canyon/Cajalco Road	28.0	C	27.5	C	28.0	C

Source: Riverside County Transportation Commission (July 2009).
Delay = stopped time delay at intersection LOS = levels of service SR-91 = State Route 91
EB = eastbound SB = southbound WB = westbound
I-15 = Interstate 15 sec = seconds

Table 3.14.15 2035 P.M. Intersection Levels of Service

	Intersection	No Build		Alternative 1		Alternative 2	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	Green River Road/SR-91 WB Ramps	29.8	C	31.8	C	32.0	C
2.	Green River Road/SR-91 EB Ramps	158.4	F	163.3	F	144.8	F
3.	Auto Center Drive/SR-91 WB Ramps	19.7	B	22.4	C	14.3	B
4.	Maple Street/Pomona Drive	49.9	D	22.7	C	45.8	D
5.	6th Street/SR-91 EB Ramps	97.2	F	36.0	D	38.4	D
6.	Paseo Grande/6th Street	65.2	E	47.2	D	56.0	E
7.	SR-91 WB Ramps/Pomona Road	30.2	C	30.6	C	32.7	C
8.	Lincoln Avenue/SR-91 EB Ramps	68.3	E	123.1	F	133.5	F
9.	Main Street/Grand Boulevard	124.3	F	97.0	F	152.7	F
10.	Main Street/SR-91 WB Ramps	141.3	F	119.2	F	37.8	D
11.	Main Street/3rd Street	68.8	E	109.2	F	75.3	E
12.	McKinley Street/Griffin Way	69.1	E	72.5	E	71.4	E
13.	McKinley Street/Sampson Avenue	60.5	E	71.3	E	72.4	E
14.	Pierce Street/Magnolia Avenue	183.3	F	141.1	F	136.4	F
15.	Hamner Avenue/Hidden Valley Parkway	178.6	F	189.8	F	184.6	F
16.	Rimpau Avenue/Magnolia Avenue	91.4	F	83.1	F	81.2	F
17.	El Sobrante/Magnolia Avenue	202.8	F	141.5	F	141.7	F
18.	I-15 SB Ramps/Magnolia Avenue	156.4	F	141.7	F	140.3	F
19.	I-15 SB Ramps/Ontario Avenue	37.7	D	35.1	D	35.2	D
20.	Bedford Canyon/Cajalco Road	208.7	F	185.3	F	211.0	F

Source: Riverside County Transportation Commission (July 2009).
Delay = stopped time delay at intersection LOS = levels of service SR-91 = State Route 91
EB = eastbound SB = southbound WB = westbound
I-15 = Interstate 15 sec = seconds

Daily Vehicle Emission Changes Due to the Project

The Traffic Study Report calculated the daily VMT, daily VHT, and daily vehicle delay for all the vehicle trips along the SR-91 corridor and within the project region. These traffic data, in conjunction with the EMFAC2007 emission model, were used to calculate the $PM_{2.5}$ and PM_{10} exhaust, tire wear, and brake wear emissions for each of the project alternatives. EMFAC2007 does not estimate road dust emissions; therefore, the emission rates listed in Section 13.2.1 of EPA's AP-42 were used to calculate the road dust $PM_{2.5}$ and PM_{10} emissions under each alternative. The exhaust and dust emissions generated along the SR-91 corridor are listed in Tables 3.14.16 and 3.14.17 for $PM_{2.5}$ and PM_{10}, respectively. The exhaust and dust emissions generated within the RCTC region are listed in Tables 3.14.18 and 3.14.19 for $PM_{2.5}$ and PM_{10}, respectively. The results of the modeling are provided in Attachment A of the $PM_{2.5}$ and PM_{10} Analysis.

Table 3.14.16 Daily $PM_{2.5}$ Emissions Along the SR-91 Corridor (lbs/day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Baseline/Existing (2007)	1,121	40	64	128	4,493	5,845	-
2015 No Build	787	59	79	159	5,582	6,666	-
2015 Alt 1	775	54	80	162	5,673	6,744	78 (+1.2%)
2015 Initial Phase of Alt 2	767	54	79	159	5,579	6,638	-28 (-0.4%)
2015 Alt 2	760	51	80	161	5,671	6,724	58 (+0.9%)
2035 No Build	848	48	97	196	6,870	8,059	-
2035 Alt 1	828	45	98	197	6,913	8,080	21 (+0.3%)
2035 Alt 2	813	43	98	197	6,936	8,088	29 (+0.4%)

Source: *Final Air Quality Assessment Report* (May 2010).
Alt = Alternative
lbs/day = pounds per day
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
SR-91 = State Route 91

Table 3.14.17 Daily PM_{10} Emissions Along the SR-91 Corridor (lbs/day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Baseline/Existing (2007)	1,218	33	254	330	9,848	11,682	-
2015 No Build	1,057	49	315	409	12,234	14,065	-
2015 Alt 1	1,040	45	320	416	12,434	14,255	190 (+1.4%)
2015 Initial Phase of Alt 2	1,029	45	315	409	12,227	14,025	-40 (-0.3%)
2015 Alt 2	1,019	42	320	416	12,430	14,228	163 (+1.2%)
2035 No Build	915	53	388	504	15,058	16,918	-
2035 Alt 1	894	50	390	507	15,151	16,992	74 (+0.4%)
2035 Alt 2	878	48	391	509	15,202	17,028	110 (+0.7%)

Source: *Final Air Quality Assessment Report* (May 2010).
Alt = Alternative
lbs/day = pounds per day
PM_{10} = particulate matter less than 10 microns in size
SR-91 = State Route 91

Table 3.14.18 Daily $PM_{2.5}$ Emissions in the South Coast Air Basin (lbs/day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Baseline/Existing (2007)	40,918	1,003	2,278	4,580	160,832	209,610	-
2015 No Build	26,381	1,454	2,668	5,362	188,324	224,190	-
2015 Alt 1	26,367	1,454	2,666	5,359	188,193	224,038	-152 (-0.1%)
2015 Initial Phase of Alt 2	26,397	1,460	2,667	5,361	188,276	224,162	-28 (-0.01%)
2015 Alt 2	26,336	1,449	2,665	5,357	188,146	223,953	-237 (-0.1%)
2035 No Build	28,262	1,342	3,130	6,292	220,959	259,984	-
2035 Alt 1	28,152	1,329	3,128	6,287	220,803	259,699	-285 (-0.1%)
2035 Alt 2	28,164	1,330	3,129	6,289	220,866	259,778	-206 (-0.1%)

Source: *Final Air Quality Assessment Report* (May 2010).
Alt = Alternative
lbs/day = pounds per day
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

Table 3.14.19 Daily PM_{10} Emissions in the South Coast Air Basin (lbs/day)

Traffic Condition	Exhaust Emissions	Vehicle Delay	Tire Wear	Brake Wear	Road Dust	Total	Change from No Build
Baseline/Existing (2007)	44,493	834	9,078	11,796	352,508	418,709	-
2015 No Build	35,406	1,209	10,630	13,812	412,766	473,823	-
2015 Alt 1	35,387	1,209	10,623	13,802	412,477	473,498	-325 (-0.1%)
2015 Initial Phase of Alt 2	35,428	1,214	10,627	13,809	412,660	473,739	-84 (-0.02%)
2015 Alt 2	35,345	1,205	10,620	13,799	412,374	473,343	-480 (-0.1%)
2035 No Build	30,483	1,492	12,472	16,206	484,294	544,947	-
2035 Alt 1	30,366	1,478	12,463	16,194	483,952	544,454	-493 (-0.1%)
2035 Alt 2	30,379	1,479	12,467	16,199	484,090	544,614	-333 (-0.1%)

Source: *Final Air Quality Assessment Report* (May 2010).
Alt = Alternative
lbs/day = pounds per day
PM_{10} = particulate matter less than 10 microns in size

As shown in Tables 3.14.16 and 3.14.17, implementation of both project alternatives would result in a net increase in $PM_{2.5}$ and PM_{10} emissions in 2015 and 2035 along the SR-91 corridor. However, by 2015 the project region is expected to be 21 percent below the 24-hour $PM_{2.5}$ standard, 34 percent below the annual $PM_{2.5}$ standard, and 48 percent below the federal PM_{10} standard. Therefore, the 0.3 to 1.4 percent increase in PM emissions along SR-91 would not delay the attainment of the $PM_{2.5}$ or PM_{10} air quality standards within the Basin. In addition, as shown in Tables 3.14.18 and 3.14.19, implementation of both Build Alternatives would result in a net decrease in regional $PM_{2.5}$ and PM_{10} emissions in 2015 and 2035.

Conclusion

Transportation conformity is required under Section 176(c) of the federal CAA to ensure that federally supported highway and transit project activities are consistent with the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities would not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant AAQS. As required by the 2006 Final Rule, the qualitative $PM_{2.5}$ and PM_{10} hot-spot analysis demonstrates that this project meets CAA conformity requirements to support State and local air quality goals with respect to potential localized air quality impacts.

It is not expected that changes to $PM_{2.5}$ and PM_{10} emissions levels associated with the Build Alternatives would result in new violations of the NAAQS for the following reasons:

- The traffic volumes in the vicinity of the Norco and Anaheim air quality monitoring stations are consistent with the existing traffic volumes along I-15 and SR-91.
- The ambient PM_{10} concentrations at the Norco Station exceeded the 24-hour federal standard only once within the past 5 years and is projected to be 48 percent below the NAAQS by 2015.
- Based on the local monitoring data and the 2007 AQMP, the 24-hour and annual average $PM_{2.5}$ concentrations in the project area would be reduced to below the federal 24-hour and annual NAAQS by 2015. The ambient $PM_{2.5}$ concentrations at the Anaheim Station are projected to be 65 percent of the 24-hour standard and 82 percent of the annual standard by 2014.
- The 0.3 to 1.2 percent increase in $PM_{2.5}$ emissions along the SR-91 corridor associated with Alternatives 1 and 2 would not result in new exceedances of the NAAQS. The Initial Phase of Alternative 2 would result in a slight decrease in the 2015 $PM_{2.5}$ emissions along the SR-91 corridor. $PM_{2.5}$ emissions along the SR-91 corridor for Baseline/Existing (2007) conditions and 2015 and 2035 with and without the Build Alternatives are listed in Table 3.14.16.
- The 0.4 to 1.4 percent increase in PM_{10} emissions along the SR-91 corridor associated with Alternatives 1 and 2 would not result in new exceedances of the NAAQS. The Initial Phase of Alternative 2 would result in a slight decrease in the 2015 PM_{10} emissions along the SR-91 corridor. PM_{10} emissions along the SR-91 corridor for Baseline/Existing (2007) conditions

and 2015 and 2035 with and without the Build Alternatives are listed in Table 3.14.17.

- Alternatives 1 and 2 and the Initial Phase of Alternative 2 would result in a net decrease in $PM_{2.5}$ emissions in the Basin. The $PM_{2.5}$ emissions in the Basin for Baseline/Existing (2007) conditions and 2015 and 2035 with and without the Build Alternatives are listed in Table 3.14.18.
- Alternatives 1 and 2 and the Initial Phase of Alternative 2 would result in a net decrease in PM_{10} emissions within the Basin. The PM_{10} emissions in the Basin for Baseline/Existing (2007) conditions and 2015 and 2035 with and without the Build Alternatives are listed in Table 3.14.19.

For these reasons, future new or worsened $PM_{2.5}$ and PM_{10} violations of any standards are not anticipated; therefore, the Build Alternatives meet the conformity hot-spot requirements in 40 CFR 93-116 and 93-123 for both $PM_{2.5}$ and PM_{10}.

Federal Highway Administration Air Quality Conformity Analysis Determination

Section 3.14.2.3, Regional Air Quality Conformity, provides the description of the SR-91 CIP in the 2012 RTP. A project-level *Air Quality Conformity Analysis* was prepared and concluded that the project's design concept and scope have not changed from what was analyzed in the 2012 RTP. The 2012 RTP was approved by SCAG in April 2012. FHWA approved the regional air quality conformity for the 2012 RTP on June 4, 2012. The individual projects contained in the RTP will be conforming projects and will have air quality impacts consistent with those identified in the SIP for achieving the NAAQS.

The SR-91 CIP Alternative 2 Initial Phase is also included in Amendment 24 to the 2011 FTIP and is described as follows: Project ID: RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). The project's open-to-the-public year of 2017 is consistent with (within the same regional emission period as) the construction completion date identified in the 2012 RTP and 2011 FTIP (Amendment 24). The FTIP gives priority to eligible TCMs identified in the SIP and

provides sufficient funds to provide for their implementation. FHWA approved the air quality conformity for Amendment 24 to the 2011 FTIP on June 4, 2012.

As discussed in Section 3.14.2.4, in a letter dated June 5, 2012, the Department requested that FHWA issue a project-level air quality conformity determination for the SR-91 CIP, and on June 6, 2012, FHWA determined the SR-91 CIP, in Orange and Riverside Counties, conforms to the SIP in accordance with 40 CFR Part 93. A copy of the FHWA letter is provided in Attachment 5.H of Chapter 5, Comments and Coordination. A separate project-level air quality conformity determination will be necessary prior to approval of the ROD for the Ultimate Project.

Mobile Source Air Toxics

In addition to the criteria air pollutants for which there are NAAQS, the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, other mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

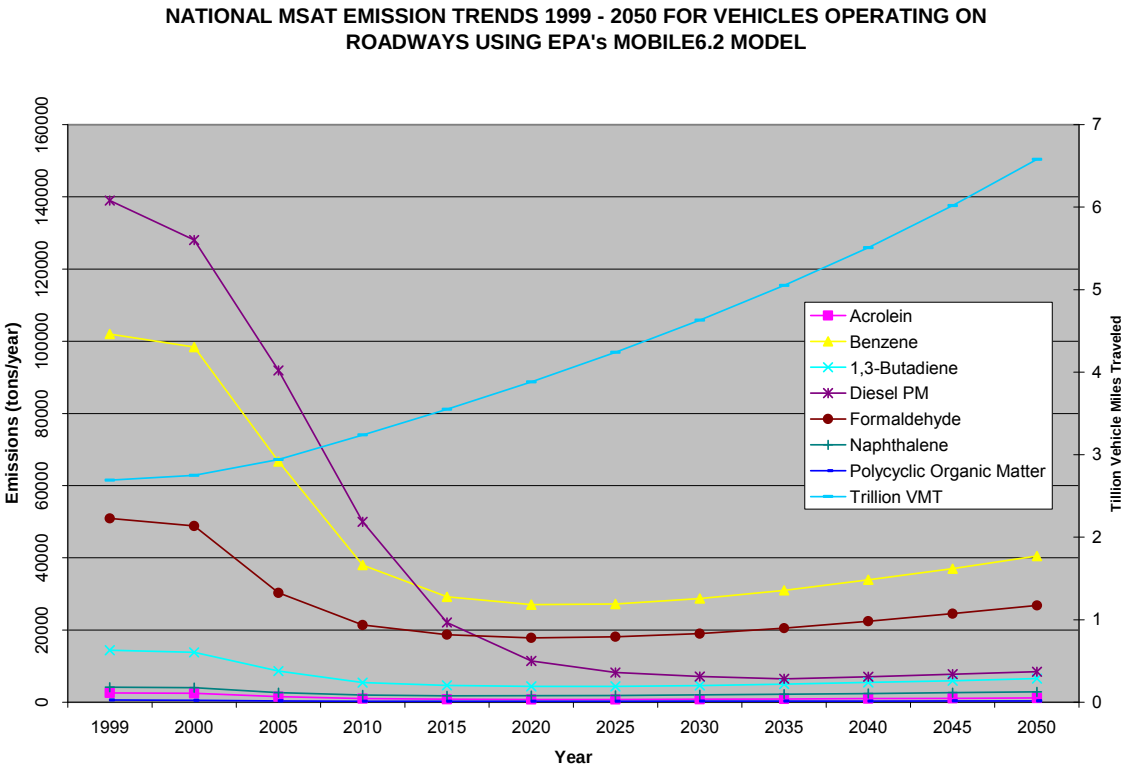
Controlling air toxic emissions became a national priority with the passage of the CAA Amendments of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA assessed this expansive list in their latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8,430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in their Integrated Risk Information System (IRIS).[1] In addition, the EPA identified the following seven compounds with substantial contributions from mobile sources that are among the national- and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA)[2]: acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (DPM), formaldehyde, naphthalene, and polycyclic organic matter (POM). While FHWA considers these to be the priority MSAT, the list is subject to change and may be adjusted in response to future EPA rules.

The 2007 EPA rule mentioned above requires controls that would dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if VMT increases by 145

1 http://www.epa.gov/ncea/iris/index.html.

2 http://www.epa.gov/ttn/atw/nata1999/.

percent as assumed, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050, as shown in Figure 3.14-2.



Source: http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm.

Figure 3.14-2 National MSAT Emission Trends

The projected reduction in MSAT emissions would be slightly different in California due to the use of the EMFAC2007 emission model in place of the MOBILE6.2 model.

Air toxics analysis is a continuing area of research. While much work has been done to assess the overall health risk of air toxics, many questions remain unanswered. In particular, the tools and techniques for assessing project-specific health outcomes as a result of lifetime MSAT exposure remain limited. These limitations impede the ability to evaluate how the potential health risks posed by MSAT exposure should be factored into project-level decision-making within the context of NEPA.

In September 2009, the FHWA issued a memorandum titled Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents[1] to advise FHWA division offices as to when and how to analyze MSAT in the NEPA process for highways. This document is an update to the previous guidance released in February 2006. The guidance is described as interim because MSAT science is still evolving. As the science progresses, FHWA will update the guidance. This analysis follows the FHWA guidance.

Incomplete or Unavailable Information for Project-Specific MSAT Health Impacts Analysis

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is also the lead authority for administering the CAA and its amendments and has specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. The EPA maintains the IRIS, which is "...a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects."[2] Each report contains assessments of noncancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the

1 http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm.

2 EPA, http://www.epa.gov/ncea/iris/index.html.

respiratory tract, including the exacerbation of asthma. Less obvious are the potential adverse human health effects of MSAT compounds at current environmental concentrations[1] or in the future as vehicle emissions substantially decrease.[2]

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts, with each step in the process building on the model predictions obtained in the previous step. All are encumbered by uncertain science or technical shortcomings that prevent a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime assessments (i.e., 70 years), particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affect emissions rates) over that time frame, because that type of information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's EMFAC2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 substantially underestimates DPM emissions and substantially overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in a National Cooperative Highway Research Program (NCHRP) study,[3] which documents poor model performance at 10 sites across the country: 3 sites where intensive monitoring was conducted plus an additional 7 sites with less intensive monitoring. The study indicates a bias of the CAL3QHC model to overestimate concentrations near highly congested intersections and to underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with NAAQS for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast

1 HEI, http://pubs.healtheffects.org/view.php?id=282.

2 HEI, http://pubs.healtheffects.org/view.php?id=306.

3 EPA, http://www.epa.gov/scram001/dispersion_alt.htm#hyroad.

MSAT exposure near roads and to determine the part of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, which is a concern expressed by HEI.[1] As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for DPM. The EPA[2] and the HEI[3] have not established a basis for quantitative risk assessment of DPM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the CAA to determine whether more stringent controls are required to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires the EPA to determine a safe or acceptable level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the United States Court of Appeals for the District of Columbia Circuit upheld the EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the

1 http://pubs.healtheffects.org/view.php?id=282.

2 http://www.epa.gov/risk/basicinformation.htm#g.

3 http://pubs.healtheffects.org/getfile.php?u=395.

impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against project benefits (e.g., reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response) that are better suited for quantitative analysis.

Depending on the specific project circumstances, the FHWA has identified three levels of analysis:

- **Exempt Projects or Projects with No Meaningful MSAT Impacts:** Exempt projects typically include those with no effects on traffic volumes or vehicle mix. Projects qualifying as categorical exclusions under 23 CFR 771.117I or that are exempt from CAA conformity under 40 CFR 93.126 are also considered projects with no meaningful MSAT impacts.
- **Projects with Low Potential MSAT Effects:** These projects have average annual daily trips less than 140,000 per day and for which the project does not add substantially to the total number of trips. In California, the corresponding AADT thresholds are 100,000 on urban non-freeways and 50,000 on rural non-freeways. In addition, California has a third criterion, which states that if freeway modifications are to be completed more than 500 to 1,000 ft from a sensitive land use (e.g., residences, schools, day care centers, playgrounds, and medical facilities), the project would result in low potential MSAT effects (Brady pers. comm. 2010). These projects are usually evaluated qualitatively.
- **Projects with Higher Potential MSAT Effects:** These projects typically are those that have average annual daily trips exceeding 140,000 per day and that have the potential to substantially increase DPM exhaust. In California, the corresponding AADT thresholds are 100,000 on urban non-freeways and 50,000 on rural non-freeways. In addition, California considers a project to have a higher potential MSAT effect if modifications to freeways are proposed to take place within 500 to 1,000 ft of sensitive land uses (Brady pers. comm. 2010). These projects require a quantitative evaluation.

The project widens an existing highway with average annual daily trips exceeding 140,000 per day located within 500 ft of sensitive land uses. Consequently, based on the FHWA's 2009 MSAT guidance and the ARB's *Air Quality and Land Use Handbook* (April 2005), this project is considered to have higher potential MSAT effects, and a quantitative analysis of MSAT emissions is required (FHWA 2009; ARB 2005).

MSAT Analysis Methodology

The basic procedure for analyzing emissions for on-road MSAT is to calculate emission factors using EMFAC2007 and apply the emission factors to speed and VMT data specific to the project. EMFAC2007 is the emission inventory model developed by the ARB that calculates emission inventories for motor vehicles operating on roads in California. The emission factors information used in this analysis is from EMFAC2007 and is specific to the Basin.

This analysis focuses on the seven MSAT pollutants identified by the EPA as being the highest priority MSAT: acrolein, benzene, 1,3-butadiene, DPM, formaldehyde, naphthalene, and POM. EMFAC2007 provides emission factor information for DPM, but does not provide emission factors for the remaining six MSAT. Each of the remaining six MSAT, however, is a constituent of motor vehicle total organic gas (TOG) emissions, and EMFAC2007 provides emission factors for TOG. ARB has supplied the Department with speciation factors for each of the remaining six MSAT not directly estimated by EMFAC2007.[1] Each speciation factor represents the portion of TOG emissions estimated to be a given MSAT. For example, if a speciation factor of 0.03 is provided for benzene, its emissions level is estimated to be 3 percent of total TOG emissions, utilizing the speciation factor as a multiplier once TOG emissions are known. This analysis used the ARB-supplied speciation factors to estimate emissions of the aforementioned six MSAT as a function of TOG emissions.

The University of California, Davis, in cooperation with the Department, developed a spreadsheet tool that incorporates EMFAC2007 emission factors, ARB speciation factors, and project-specific traffic activity data such as peak- and off-peak-hour VMT, speed, travel times, and traffic volumes. The spreadsheet tool applies the traffic activity data to the emission factors and estimates MSAT emissions for base-case (with No Build Alternative) and Build Alternative scenarios. Results were produced for the opening year (2015) and the horizon year (2035). The 2015 and 2035 analyses compared No Build conditions to expected conditions resulting from implementation of the project. The spreadsheet used in this analysis is based on FHWA's 2006 MSAT guidance. Once speciation factors for naphthalene and POM have been established, a new spreadsheet will

[1] As of December 2009, speciation factors were not available for naphthalene and POM.

be developed that is capable of calculating a project's emissions for all seven MSATs.

MSAT Analysis Results

As described above, emission factors for DPM and TOG have been obtained for the Basin using EMFAC2007. The spreadsheet tool developed by the University of California, Davis, was then utilized in applying the emission factors, speciation factors from ARB, and the traffic activity data for the Build Alternatives. The results of that analysis are included in Appendix C to the *Final Air Quality Assessment Report* and are summarized in Tables 3.14.20 through 3.14.24. As speciation factors are not available for naphthalene and POM, the emissions for these pollutants are not included in Tables 3.14.20 through 3.14.24. However, as with benzene, 1,3-butadiene, acrolein, and formaldehyde, these pollutants are a subset of TOG. Therefore, the future with and without project naphthalene and POM emissions would have a similar increase or decrease as the other MSAT.

As shown in Tables 3.14.20 through 3.14.23, implementation of the Build Alternatives would result in a slight increase in the MSAT emissions compared to the No Build Alternative. However, the emissions from the No Build and Build Alternatives would be lower than the Baseline/Existing (2007) emissions for all MSAT pollutants. As shown in Table 3.14.24, Alternative 2 would reduce MSAT emissions in 2035.

Table 3.14.20 2015 Initial Phase of Alternative 1 Changes in MSAT Emissions

Toxic Air Contaminant	Baseline/Existing (2007) Emissions (gms/day)	2015 No Build Emissions (gms/day)	2015 Build Emissions[1]		
			gms/day	Change from Baseline/ Existing (2007)	Change from No Build
Diesel Particulate Matter	83,743	59,801	58,280	-25,463	-1,521
Benzene	77,664	40,983	41,247	-36,418	264
1,3-Butadiene	15,014	6,933	7,039	-7,976	106
Naphthalene[2]	N/A	N/A	N/A	N/A	N/A
POM[2]	N/A	N/A	N/A	N/A	N/A
Acrolein	3,407	1,566	1,593	-1,814	27
Formaldehyde	68,739	40,343	40,187	-28,551	-156
Average Percent Change	–	–	–	-40.3%	-0.9%

Source: *Final Air Quality Assessment Report* (May 2010).

[1] The project *Traffic Study Report* (July 2010) did not include the Initial Phase of the Alternative 1 Project in 2015. Therefore, no MSAT emissions analysis for the Initial Phase of the Alternative 1 Project in 2015 was conducted.

[2] The emissions for these pollutants are not included because speciation factors are not available.

gms/day = grams per day N/A = Not Available
MSAT = Mobile Source Air Toxics POM = polycyclic organic matter

Table 3.14.21 2015 Initial Phase of Alternative 2 Changes in MSAT Emissions

Toxic Air Contaminant	Baseline/Existing (2007) Emissions (gms/day)	2015 No Build Emissions (gms/day)	2015 Build Emissions		
			gms/day	Change from Baseline/ Existing (2007)	Change from No Build
Diesel Particulate Matter	83,743	59,801	54,034	-29,710	-5,768
Benzene	77,664	40,983	40,507	-37,157	-476
1,3-Butadiene	15,014	6,933	6,915	-8,100	-18
Naphthalene[1]	N/A	N/A	N/A	N/A	N/A
POM[1]	N/A	N/A	N/A	N/A	N/A
Acrolein	3,407	1,566	1,568	-1,839	2
Formaldehyde	68,739	40,343	38,450	-30,289	-1,894
Average Percent Change	–	–	–	-43.1%	-5.4%

Source: *Final Air Quality Assessment Report* (May 2010).
[1] The emissions for these pollutants are not included because speciation factors are not available.
gms/day = grams per day N/A = Not Available
MSAT = Mobile Source Air Toxics POM = polycyclic organic matter

Table 3.14.22 2015 Alternative 2 Changes in MSAT Emissions

Toxic Air Contaminant	Baseline/Existing (2007) Emissions (gms/day)	2015 No Build Emissions (gms/day)	2015 Build Emissions		
			gms/day	Change from Baseline/ Existing (2007)	Change from No Build
Diesel Particulate Matter	83,743	59,801	56,595	-27,148	-3,207
Benzene	77,664	40,983	40,983	-36,682	0
1,3-Butadiene	15,014	6,933	7,031	-7,983	98
Naphthalene[1]	N/A	N/A	N/A	N/A	N/A
POM[1]	N/A	N/A	N/A	N/A	N/A
Acrolein	3,407	1,566	1,594	-1,814	27
Formaldehyde	68,739	40,343	39,630	-29,108	-713
Average Percent Change	–	–	–	-41.3%	-2.5%

Source: *Final Air Quality Assessment Report* (May 2010).
[1] The emissions for these pollutants are not included because speciation factors are not available.
gms/day = grams per day N/A = Not Available
MSAT = Mobile Source Air Toxics POM = polycyclic organic matter

Table 3.14.23 2035 Alternative 1 Changes in MSAT Emissions

Toxic Air Contaminant	Baseline/Existing (2007) Emissions (gms/day)	2035 No Build Emissions (gms/day)	2035 Build Emissions		
			gms/day	Change from Baseline/ Existing (2007)	Change from No Build
Diesel Particulate Matter	83,743	30,374	29,272	-54,472	-1,103
Benzene	77,664	22,571	22,443	-55,221	-128
1,3-Butadiene	15,014	3,137	3,150	-11,865	13
Naphthalene[1]	N/A	N/A	N/A	N/A	N/A
POM[1]	N/A	N/A	N/A	N/A	N/A
Acrolein	3,407	704	709	-2,698	5
Formaldehyde	68,739	22,453	22,005	-46,733	-447
Average Percent Change	–	–	–	-68.8%	-2.1%

Source: *Final Air Quality Assessment Report* (May 2010).
[1] The emissions for these pollutants are not included because speciation factors are not available.
gms/day = grams per day N/A = Not Available
MSAT = Mobile Source Air Toxics POM = polycyclic organic matter

Table 3.14.24 2035 Alternative 2 Changes in MSAT Emissions

Toxic Air Contaminant	Baseline/Existing (2007) Emissions (gms/day)	2035 No Build Emissions (gms/day)	2035 Build Emissions		
			gms/day	Change from Baseline/ Existing (2007)	Change from No Build
Diesel Particulate Matter	83,743	30,374	26,471	-57,272	-3,904
Benzene	77,664	22,571	20,221	-57,443	-2,350
1,3-Butadiene	15,014	3,137	2,714	-12,300	-422
Naphthalene[1]	N/A	N/A	N/A	N/A	N/A
POM[1]	N/A	N/A	N/A	N/A	N/A
Acrolein	3,407	704	610	-2,797	-94
Formaldehyde	68,739	22,453	18,739	-50,000	-3,714
Average Percent Change	–	–	–	-72.3%	-13.2%

Source: *Final Air Quality Assessment Report* (May 2010).
[1] The emissions for these pollutants are not included because speciation factors are not available.
gms/day = grams per day N/A = Not Available
MSAT = Mobile Source Air Toxics POM = polycyclic organic matter

In summary, while the Build Alternatives would result in a small increase in localized MSAT emissions in 2015, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that would cause regionwide MSAT levels to be substantially lower than they are today.

3.14.3.3 Temporary Impacts

As discussed in Chapter 2, the Initial Phases of Alternatives 1 and 2 would generally implement shorter segments of the Alternative 1 and 2 improvements on SR-91 and I-15; the initial phases of Alternatives 1 and 2 are estimated to have a construction duration of 4 years. The subsequent phases for Alternatives 1 and 2 would likely be constructed as independent construction contracts, each with estimated construction durations of 1 to 2 years. The shorter durations for those subsequent phases of project implementation are based on the amount of work that would be completed in those phases and not necessarily based on funding.

The air quality analysis for construction impacts described in this section focuses on short-term air quality impacts associated with construction activities lasting 5 years or less. If a construction period lasts more than 5 years, the potential air quality impacts during that time would be considered permanent and would need to be analyzed as permanent and not temporary impacts. Because no phase of construction for Alternatives 1 and 2 is anticipated to last more than 4 years, the analysis of permanent air quality effects of the Build Alternatives does not include any construction-related effects.

No temporary road or intersection closures during construction are anticipated to last longer than 2 years. As a result, no hot-spot analysis of short-term air quality effects associated with temporary road or intersection closures is provided.

Alternatives 1 and 2

Short-term air pollutant emissions would occur as a result of construction activities and would include fugitive dust from grading/site preparation, equipment exhaust, and use of emulsified asphalt paving materials. Because no phase of project construction would require more than 5 years to complete at any location, a detailed construction emissions analysis was not required for conformity purposes for the Build Alternatives.

Exhaust Emissions

Construction activities produce combustion emissions from various sources such as grading equipment, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting construction crews. Exhaust emissions during construction of the Build Alternatives would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions. Caltrans Standard Specifications for Construction (Sections 10 and 18 for dust control and Section 39-3.06 for asphalt concrete plant) would be adhered to during all project construction activities to reduce emissions as a result of construction equipment.

Fugitive Dust

The SCAQMD has established Rule 403 for reducing fugitive dust emissions (PM_{10}). If a Build Alternative is selected for implementation, the best available control measures (BACM), as specified in SCAQMD Rule 403, would be incorporated in that Alternative. With implementation of the standard construction measures in Rule 403 (providing 50 percent effectiveness) such as frequent watering (minimum twice per day), fugitive dust emissions from construction activities for the Initial Phases of Alternatives 1 and 2 and the completed Alternatives 1 and 2 would not result in adverse air quality impacts.

Naturally Occurring Asbestos

The project is located in Orange and Riverside Counties, which are not among the counties listed as containing serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos during project construction of Alternatives 1 and 2 would be minimal to none.

3.14.4 Avoidance, Minimization, and/or Mitigation Measures

The operation of the Build Alternatives would not result in adverse long-term air quality impacts; therefore, no avoidance, minimization or mitigation measures are required. However, construction of the Build Alternatives may result in adverse impacts related to fugitive dust and construction equipment and vehicle emissions. The standard conditions and SCAQMD Rule 403 described below would substantially reduce potential adverse short-term air quality impacts during construction of Alternatives 1 and 2.

3.14.4.1 Standard Conditions

The following standard conditions and measures would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

Construction Measures

SC-1 **Construction Emissions Mitigation Plan.** Prior to any site preparation, grading and/or construction activities, the RCTC Project Engineer will require the design/build contractor to finalize the project-specific Construction Emissions Mitigation Plan. That plan will specifically incorporate measures for controlling particulate and other emissions during construction from the following sources:

- Department's Standard Specifications Sections 10 and 18 (Dust Control)
- Department's Standard Specifications Section 39-3.06 (Asphalt Concrete Plant Emissions)
- SCAQMD Rule 403, including control measures from Tables 1, 2, and 3 in that rule

The plan will also include the following measures:

- Control of ozone precursor emissions from construction equipment vehicles by maintaining equipment engines in good condition and in proper tune per the manufacturers' specifications.
- Control of material on all trucks hauling excavated or graded material from the site by compliance with State Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads.

SC-2 **Implementation of the Construction Emissions Mitigation Plan.** During all site preparation, grading, construction, clean-up, and other activities during construction, RCTC's Resident Engineer will require the design/build contractor to comply with the measures in the Construction Emissions Mitigation Plan. RCTC's Resident Engineer will conduct site inspections at least once a month to ensure that the design/build contractor is complying with the provisions of the Construction Emissions Mitigation Plan.

SC-3 Prior to any construction activities, RCTC's Project Engineer will ensure that the grading plans and project specifications show the anticipated duration of construction in individual construction areas along the project alignment.

SC-4 During final design and prior to any ground disturbance, RCTC's Project Geologist will conduct appropriate testing to determine whether there are ACMs present in the project disturbance limits.

SC-5 If RCTC's Project Geologist determines that ACMs are present in the project disturbance limits during that final preconstruction inspection, RCTC's Resident Engineer will require the design/build contractor to properly remove and dispose of those ACMs.

Operational Measures

There are no measures required because the Build Alternatives would not result in adverse operational air quality impacts.

3.14.5 Climate Change

Climate change is analyzed in detail in Chapter 4. Neither the EPA nor the FHWA has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website (http://www.fhwa.dot.gov/hep/climate/index.htm), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will facilitate decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project level decision-making. Climate change considerations can easily be integrated into many planning factors, such as supporting economic vitality and

global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

Because there have been more requirements set forth in California legislation and executive orders regarding climate change, the issue is addressed in detail in the CEQA chapter of this environmental document and may be used to inform the NEPA decision. The four strategies set forth by FHWA to lessen climate change impacts do correlate with efforts that the State has undertaken and is undertaking to deal with transportation and climate change; the strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and reduction in the growth of vehicle hours traveled.

This page intentionally left blank

3.15 Noise

3.15.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

3.15.1.1 California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless such measures are not feasible. The rest of this section will focus on the NEPA-23 CFR 772 noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

3.15.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and the Department, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 3.15.1 lists the noise abatement criteria for use in the NEPA-23 CFR 772 analysis.

Table 3.15.2 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction, and Reconstruction Projects, August 2006*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with

the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. The reasonableness determination is a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978, and the cost per benefited residence.

3.15.2 Affected Environment

This section is based on the *Final Noise Study Report* (NSR; April 2010) and the *Noise Abatement Decision Report* (NADR; July 2010) prepared for the project.

3.15.2.1 Surrounding Land Uses and Sensitive Receivers

The study area was divided into 44 acoustically equivalent analysis areas (A to S1) for the noise analysis, as shown on Figure 3.15-1. (Figure 3.15-1 contains 17 sheets and is provided following the last page of text in this section to minimize disruptions in the text for the reader.)

Land uses in the project vicinity include a mix of residential, commercial, and open space uses, and some undeveloped land as shown on Figure 3.15-1.

As shown in Table 3.15.1, there are four activity categories with specific NAC. Single-family residences, multifamily residences, and hotels in the study area are considered Activity Category B land uses. Commercial uses are considered Activity Category C land uses. Noise abatement is only considered for areas of frequent human use that would benefit from a lowered noise level. For this reason, the impact

analysis focused on locations with defined outdoor activity areas, such as residential backyards and common use areas at multifamily residences.

There are no areas of frequent human activity in noise analysis areas B, D, F, H, J, L, N, X, Y, A1, C1, I1, L1, M1, and O1. The remaining noise analysis areas contain areas of frequent human activity considered to be noise-sensitive land uses.

3.15.2.2 Noise Level Measurements

The primary source of noise in the noise analysis areas is traffic on SR-91, the SR-91 ramps, I-15, the I-15 ramps, and adjacent local roads. Short- and long-term noise-level measurements were conducted from September 8, 2008, to September 19, 2008, to document the existing noise environment at representative noise-sensitive land uses. Short-term noise measurements were taken at 55 measurement sites. Those noise measurement sites are shown on Figure 3.15-1. Table 3.15.3 summarizes the short-term noise measurements at those sites.

Long-term monitoring was conducted at eight sites (2, 7, 16, 26, 31, 34, 41, and 47) using Larson-Davis Type 2 sound level meters: Model 700 (Serial No. 0218), Model 712 (Serial No. 0343 and 0218), Model 705 (Serial No. 40722), and Model 720 (Serial No. 0460). The purpose of these measurements was to document variations in sound levels throughout the day rather than absolute sound levels at a specific receptor. The long-term sound level data were collected over several 24-hour periods, beginning Monday, September 8, 2008, and ending Friday, September 12, 2008.

The results of the long-term 24-hour monitoring at the eight sites are shown in Tables 3.15.4 through 3.15.11. The numbers in bold represent the loudest-hour sound level measured. The locations of the eight monitoring sites are shown on Figure 3.15.1.

3.15.2.3 Existing Noise Levels

The results of the existing traffic noise modeling are shown in Table 3.15.12. Of the 191 modeled receiver locations, 111 receivers currently approach or exceed the 67 dBA equivalent noise level (L_{eq}) NAC. Figure 3.15-1 shows the locations of the modeled receiver locations.

3.15.3 Environmental Consequences

3.15.3.1 Summary of Impacts

Based on the design variations for Build Alternatives 1 and 2, six to seven receiver locations would result in a noise level increase of 12 dBA or more in 2035 compared to existing noise conditions, which would be an impact of the project.

In 2035, Alternative 1 would result in noise levels greater than 67 dBA at up to 38 locations, and Alternative 2 would result in noise levels greater than 67 dBA at up to 41 locations, depending on the design variations.

In 2035, Alternative 1 would result in noise levels 75 dBA or greater at 34 to 37 receivers depending on the design variation. In 2035, Alternative 2 would result in noise levels 75 dBA or greater at 37 to 41 receivers, depending on the design variation.

Noise Barriers (NBs) K-1, M-1, M-2, O-1, O-2, P-1, Q-1, T-1, V-1, W-1, and K1-A will be constructed during the Initial Phase of the project. NBs E-1 and D1-B will be constructed for the Ultimate Project (refer to Tables 3.15.25 through 3.15.28 later in this section).

During construction of Alternatives 1 and 2, and the Initial Phases of Alternatives 1 and 2, noise from construction equipment and activities would be generated. The noise levels during construction would not be considered adverse based on compliance with Caltrans' Standard Specifications Section 14-08.02, "Noise Control," and SSP S5-310, and compliance with local noise ordinances (Cities of Anaheim, Corona, Norco, and Riverside).

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f, under the Initial Phase in 2015 and under the Ultimate Project in 2035, would result in noise levels greater than 67 dBA at up to 87 locations; of the 87 locations, 46 are predicted to have noise levels 75 dBA or greater before the construction of noise barriers as mitigation. NBs K-1, M-1, M-2, O-1, O-2, P-1, Q-1, T-1, V-1, W-1, and K1-A will be constructed during the Initial Phase of the project. NBs E-1 and D1-B will be constructed for the Ultimate Project.

The temporary noise impacts during construction of Alternative 2f would be similar to those described above for Alternative 2. The noise levels during construction of Alternative 2f are not considered adverse based on compliance with Caltrans

Standard Specifications Section 14-8.02, "Noise Control" and SSP S5-310 and compliance with local noise ordinances (Cities of Anaheim, Corona, Norco and Riverside).

3.15.3.2 Permanent Impacts

Alternatives 1 and 2

Potential long-term noise impacts associated with project operations are solely from traffic noise. Traffic noise was evaluated for the future No Build Alternative and Alternatives 1 and 2 for worst-case conditions.

The predicted future worst-case traffic noise levels for Alternatives 1 and 2 at the representative sensitive receiver locations within the project area were determined assuming the existing noise walls were in place, and with no new modeled barriers using the worst-case traffic volumes. The traffic condition is assumed to be LOS D/E, which corresponds to 1,950 vplph on mixed-flow lanes for the SR-91 toll lanes, and the SR-91 and I-15 mainlines. For freeway ramps, the worst-case traffic volume assumes 1,500 vplph. Vehicle speeds on the SR-91 express lanes and SR-91 and I-15 mainlines were modeled using 65 mph. Off-ramp vehicle speeds were modeled using 40 mph. On-ramp vehicle speeds were modeled using 65 mph with flow control devices at the start of the ramps. The vehicle mix (percentage of autos,[1] medium truck,[2] and heavy trucks[3]), which was based on the traffic counts, was 90 percent autos, 5 percent medium trucks, and 5 percent heavy trucks. The Department's Annual Average Daily Truck Traffic index was also consulted (http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/index.htm) to determine if the vehicle mix based on the traffic counts was reasonable. Table 3.15.13 shows the noise level model results for existing, future No Build Alternative, and Alternatives 1 and 2 and their design variations under the worst-case traffic conditions.

The modeled noise levels for Alternatives 1 and 2 under the worst-case traffic conditions were compared to the modeled existing noise levels (after calibration) from Traffic Noise Model (TNM) 2.5 to determine whether a substantial noise increase would occur. The modeled future noise levels for Alternatives 1 and 2 under worst-case conditions were also compared to the NAC to determine whether a traffic noise impact would occur.

---

1 Vehicles with two axles and four wheels.

2 Vehicles with two axles and more than four wheels.

3 Vehicles with more than two axles.

Traffic noise impacts occur when either of the following occurs: (1) the traffic noise level at a sensitive receiver location is predicted to approach or exceed its NAC for that land use, or (2) the predicted traffic noise level is 12 dBA or more higher than the corresponding modeled existing noise level at the sensitive receiver location analyzed. When traffic noise impacts are identified, noise abatement measures must be considered. In Table 3.15.13, receivers that would approach or exceed the 67 dBA L_{eq} NAC under Activity Category B for Alternatives 1 and 2 and their design variations are shown in **bold face** type. Of the 191 modeled receivers, 6 to 7 receivers would experience a substantial noise increase of 12 dBA or more over their corresponding existing noise level for Alternatives 1 and 2 and their design variations, respectively. Those receivers are also shown in **bold face** type in Table 3.15.13. Noise barriers were identified adjacent to the noise sensitive areas for which they were evaluated. Table 3.15.12 lists the noise sensitive areas along with each receiver, and Figure 3.15.1 (Sheets 1 through 17) shows the receivers, noise sensitive areas, and modeled noise barriers.

In addition, the modeled receiver locations shown in Table 3.15.13 indicate that 37 to 38 and 34 to 35 receivers for Alternative 1, respectively, depending on the design variation, would experience a severe traffic noise impact of 75 dBA L_{eq} or higher. For Alternative 2, 37 to 41 and 36 to 40 receivers, respectively, depending on the design variation, would experience a severe traffic noise impact of 75 dBA L_{eq} or higher. For those locations, unusual and extraordinary abatement measures such as feasible sound barriers (reducing noise levels by 5 dBA or more) that have an estimated construction cost exceeding the total reasonable allowance or interior noise abatement should be considered. Unusual and extraordinary abatement measures are subject to approval by FHWA when those noise barriers are proposed to be funded with federal transportation funds.

Noise Abatement Consideration

In accordance with 23 CFR 772 and the Caltrans *Traffic Noise Analysis Protocol*, noise abatement (reduction) is considered where noise impacts are predicted in areas of frequent human use that would benefit from a lowered noise level. Potential noise abatement measures identified in the Caltrans *Traffic Noise Analysis Protocol* include:

- Avoiding the impact by using design alternatives such as altering the horizontal and/or vertical alignments of the project
- Constructing noise barriers

- Acquiring property to serve as a buffer zone between the noise source and the receiver
- Using traffic management measures to regulate the types of vehicles and their speeds on the transportation facility
- Acoustically insulating public-use or nonprofit institutional structures

The Caltrans *Traffic Noise Analysis Protocol* establishes a process for assessing the reasonableness and feasibility of noise abatement. Noise abatement is considered to be acoustically feasible if it provides noise reduction of at least 5 dBA at the noise impacted receivers. Other nonacoustical factors relating to geometric standards (e.g., sight distances), safety, maintenance, and security can also affect the feasibility of noise abatement. Before publication of a Draft EIR/EIS, a *preliminary noise abatement decision* is made. The preliminary noise abatement decision is based on the *feasibility* of evaluated abatement and the *preliminary reasonableness determination.*

23 CFR 772 requires that noise abatement measures that are reasonable and feasible, and that are likely to be incorporated into the project, be identified before adoption of the Final EIR/EIS. The assessment of whether a noise abatement measure is reasonable and feasible, and key information on abatement, is provided in a NADR.

The NADR presents the preliminary noise abatement decision based on acoustical and nonacoustical feasibility factors and the relationship between noise abatement allowances and the engineer's cost estimate for the noise abatement features. The NADR does not present the final decision regarding noise abatement. It presents information on abatement to be considered throughout the environmental review process, which is based on the best available information at the time the Draft EIR/EIS is published. The final noise abatement decision takes this information into account, along with other reasonableness factors identified during the environmental review process. These factors include:

- Impacts of abatement construction,
- Public and local agency input,
- Life cycle of abatement measures,
- Views/opinions of impacted residents, and
- Social, economic, environmental, legal, and technological factors.

All the noise abatement options were considered for the Build Alternatives. However, because of the configuration and location of the project, abatement in the form of noise barriers is the only abatement considered to be feasible.

Noise abatement was considered for each site where a traffic noise impact would occur.

Feasibility

Table 3.15.13 shows the receiver locations that would approach or exceed the 67 dBA L_{eq} NAC for Alternatives 1 and 2 and their design variations. Noise barriers were analyzed for each of these sensitive receiver locations. At each location, six noise barrier heights were analyzed: 6, 8, 10, 12, 14, and 16 ft. The detailed results of the noise barrier modeling for Alternative 1 are shown in Tables B-1 and B-2 in Appendix B of the *Final Noise Study Report*. The detailed results of the noise barrier modeling for Alternative 2 are shown in Tables B-3 and B-4 in Appendix B of the *Final Noise Study Report*. The locations of the modeled barriers for Alternatives 1 and 2 are shown on Figure 3.15-1.

Each noise barrier evaluated was evaluated for feasibility based on achievable noise reduction of 5 dBA or more. For each noise barrier found to be acoustically feasible, reasonable cost allowances were calculated using Worksheet C to determine the total allowance for the barrier per benefited residence. Worksheet C is provided in Appendix C of the *Final Noise Study Report*.

Reasonableness

For a noise barrier to be considered reasonable from a cost perspective, the estimated construction cost of the barrier should be equal to or less than the total cost allowance calculated for that barrier. Of the noise barriers evaluated for Alternative 1 and the Initial Phase of Alternative 1, Tables 3.15.14 and 3.15.15 respectively identify in **bold face** type those barriers that are both feasible and reasonable.

Of the noise barriers evaluated in Alternative 2 and in the Initial Phase of Alternative 2, Tables 3.15.16 and 3.15.17 respectively identify in **bold face** type those barriers that are both feasible and reasonable.

There are many receivers that are projected to experience a traffic noise level of 75 dBA L_{eq} or higher, but they would be shielded by feasible and reasonable noise barriers. As discussed earlier, unusual and extraordinary abatement measures would

be considered for receivers that would experience a severe traffic noise impact of 75 dBA L_{eq} or higher and are in locations where noise barriers were determined to be not reasonable. Feasible noise barrier heights that have an estimated construction cost exceeding the total reasonable allowance or interior noise abatement can be provided for these receivers. Those receivers are located behind NBs M3 and D1-B for Alternatives 1 and 2 and their design variations. Unusual and extraordinary abatement measures for residences projected to experience severe traffic noise impacts would be evaluated on a case-by-case basis. Severely impacted receivers are shown in Table 3.15.18.

Some receivers would experience a severe traffic noise impact of 75 dBA L_{eq} or higher in areas where noise barriers would not have a useful life of 20 years or more due to future planned and programmed highway projects along I-15. Those receivers are located behind NBs N1-A, N1-B, N1-C, N1-D, N1-D and P1-A, Q1-A, and S1-A and S1-B for Alternatives 1 and 2 and their design variations. Because these barriers would not meet the required 20-year minimum life cycle, these barriers are not considered feasible and, therefore, would not be constructed as part of this project. However, if the proposed improvements for I-15, as part of a separately funded project (I-15 Project), are not constructed within 5 years from the completion of the construction of the SR-91 CIP, the RCTC would initiate a separate project to construct these barriers.

NB K1-A was considered reasonable under Alternatives 1 and 2 and their design variations. However, like NBs N1-A, N1-B, N1-C, N1-D, P1-A, Q1-A, S1-A, and S1-B discussed above, this barrier within the project footprint and along I-15 would not meet the required 20-year minimum life cycle and therefore was not considered reasonable prior to the circulation of the Draft EIR/EIS. However, based on public comments received on the Draft EIR/EIS related to NB K1-A and previous commitments made as part of previous projects in the area, RCTC decided to make a special exception and fund the construction of NB K1-A even though that noise barrier did not meet the required 20-year minimum life cycle.

Nonacoustical Factors Related to Feasibility

The location and length of the modeled noise abatement is the same for all alternatives, so the nonacoustical factors for the noise abatement are presented as the same for each alternative. Nonacoustical factors relating to the feasibility of the 32 acoustically feasible noise barriers were evaluated.

Placement of the barriers in the modeled locations is feasible and would not cause concerns regarding safety, security, geotechnical considerations, or utility relocations based on current knowledge.

The design standards limit the height of noise barriers within 15 ft of the travel way to 14 ft; because of this limit, a wall located on the edge of shoulder (EOS) would have a maximum height of 14 ft. This affects NBs E-1, K-1, O-1, O-2, O-3, P-1, Q-1, T-1, V-1, F-1A, J1-A, J1-B, K1-A, N1-A, N1-B, N1-C, N1-D, P1-A, R1-B, S1-A, and S1-B.

Maintenance of barriers outside the State right-of-way is also a concern. RCTC would need to reach an agreement with all property owners regarding who would be responsible for the maintenance of the barriers that are not located on State right-of-way before the walls can be built. This affects NBs I-1, I-2, Z-1, D1-B, and J1-C.

Overall feasibility and reasonableness of the noise abatement should also consider future road improvements planned and programmed in the project area. Noise barriers are required to have a minimum useful life of 20 years to be considered reasonable. For this reason, placement of barriers on the EOS of I-15 are not considered feasible or reasonable for this project because improvements to I-15 are being planned within 20 years of the completion of the project.

Based on the studies completed to date and the information provided in the NADR for the project, RCTC intends to incorporate noise abatement measures in the form of noise barriers that are both feasible and reasonable as identified in Tables 3.15.19 and 3.15.20 for Alternative 1 and the Initial Phase of Alternative 1, respectively. Feasible and reasonable noise barriers are identified in Tables 3.15.21 and 3.15.22 for Alternative 2 and the Initial Phase of Alternative 2, respectively. Tables 3.15.19 through 3.15.22 show the recommended height, number of benefited residences, the total reasonable allowance, and the estimated construction cost for each barrier.

If conditions have changed substantially during final design, noise abatement may not be necessary at some of these locations. The final decision of the noise abatement would be made on completion of the project design and the public involvement processes.

Noise Barrier Survey Public Outreach Efforts

Permanent noise impacts were identified at 416 properties. In accordance with Department procedures, certified mail was sent to each property owner on May 20, 2011. The following material was included in each package:

- Noise barrier survey letter and survey form
- Map of the noise barrier being considered specific to the property
- Postage paid return envelope
- Notice of Availability of the Draft EIR/EIS
- Electronic copy of the Draft EIR/EIS on a compact disc

Of the 416 packages sent, 320 went unclaimed and were returned. Only 24 completed surveys were received. The noise barrier mailing list was cross referenced with updated property information and the contacts and addresses were updated as appropriate.

Based on the low number of completed surveys returned as part of the first noise barrier survey mail-out and the fact that several residents had requested additional clarification on the purpose of the noise barrier survey and the voting process, RCTC initiated an additional noise barrier public outreach effort that included a focused meeting for property owners affected by NBs D1-B, I-1, and I-2, and a second mail-out of noise barrier survey information to all property owner addresses on the updated noise barrier mailing list.

The second noise barrier survey mail-out occurred on August 5, 2011. During the second round mail-out, 319 property owners received a package that included a noise barrier survey letter, noise barrier survey form, a map of the sound barrier location, and a pre-stamped return envelope. Of the 319 packages sent by both certified mail and regular first class mail, 45 went unclaimed and were returned, and 74 completed surveys were received.

Invitations to two noise barrier focus meetings were also sent on August 5, 2011, to residents affected by NBs D1-B, I-1, and I-2. A second mailing for the noise barrier focus meeting was sent on August 17, 2011, to the same residents as a reminder of the upcoming focus meetings.

The first noise barrier focus meeting for property owners affected by NBs I-1 and I-2, was held at The Veranda at the Green River Golf Club, 5215 Green River Road, Corona, on August 23, 2011, from 7:00 p.m. to 8:00 p.m. A similar meeting with the

same format and handouts was held for property owners affected by NB D1-B from 7:00 p.m. to 8:00 p.m. on August 25, 2011, in the Multipurpose Room in Corona City Hall, at 400 South Vicentia Avenue, Corona. All property owners were requested to provide their votes by September 9, 2011.

Due to a large number of no responses received from affected property owners, there were not enough votes to constitute a 100 percent (for noise barriers on private property) or a majority (for noise barriers in State right-of-way) vote in support of or against for all noise barriers. Therefore, RCTC and the Department conducted a third round of public outreach efforts. RCTC and the Department distributed a cover letter and noise barrier survey during door-to-door home visits conducted between the hours of 3:30 p.m. and 7:30 p.m. on September 30, 2011, and October 4, 2011. All teams that made personal visits to property owners were bilingual and provided noise barrier surveys with self-addressed stamped envelopes that requested the completed surveys be returned and postmarked no later than October 5, 2011. A total of 140 homes were visited during the third round public outreach process. A total of 39 noise barrier surveys were returned.

A focused effort was made to inform the Villaggio Condo Homeowners Association (HOA) about the proposed location of NB D1-B. RCTC and the Department held a meeting with the Villagio HOA and interested residents at the Villaggio community pool on Saturday, November 12, 2011, from 11:00 am to 12:30 pm. Six agency and consultant staff and 15 homeowners attended the meeting. After the meeting, the HOA was asked to vote in support or against the construction of NB D1-B.

Based on public comments and previous commitments as a part of previous projects, RCTC decided to fund the construction of NB K1-A.

A noise barrier survey package was sent by certified mail and regular first class mail to 53 property owners potentially affected by the construction of NB K1-A on December 7 and 8, 2011. Property owners were asked to return their surveys no later than December 20, 2011. In an effort to obtain enough votes for a majority approval of NB K1-A, an additional public outreach effort was conducted through door-to-door surveys on January 12, 2012. Property owners were asked to return their surveys no later than January 19, 2012.

Detailed discussion regarding the outcome of the noise barrier survey vote and additional public outreach efforts is provided later in Section 5.2.7, Noise Barrier Public Outreach.

Noise Barrier Survey Results

For proposed noise barrier locations outside the State right-of-way, all (100 percent) of the affected property owners must be supportive of the proposed barrier, the location, and the material to be used for construction. Additionally, a permanent easement must be secured for all (100 percent) of the affected properties to construct and maintain the barrier. All proposed barrier locations within the State right-of-way require a majority of votes (51 percent or greater) in support of the noise barrier for the noise barrier to be approved for construction. The voting results for each barrier are shown in Table 3.15.23 and are summarized as follows:

- NBs E-1, K-1, M-1, M-2, O-2, P-1, T-1, Q-1, V-1, W-1, K1-A, and Z-1 are all within State right-of-way and require a majority vote from the adjacent property owners to be approved for construction.
- NBs E-1, K-1, M-1, M-2, O-2, P-1, T-1, Q-1, V-1, K1-A, and W-1 received votes indicating a majority of adjacent property owners are in support of these noise barriers. NB Z-1 received votes indicating a majority against the construction of that noise barrier. Therefore, NBs E-1, K-1, M-1, M-2, O-2, T-1, Q-1, V-1, K1-A, and
- W-1 will be carried through during construction, and NB Z-1 was eliminated from further consideration by RCTC and the Department.
- NBs J1-C, I-1, I-2, and D1-B are proposed on private property and will require 100 percent approval from those property owners in order for the barrier to be constructed. Based on the noise barrier surveys received, NBs J-C, I-1, and I-2 were eliminated from further consideration. However, NB D1-B will be carried through during construction.

Addresses that were determined to be invalid based on returned packages were eliminated during the two subsequent noise barrier public outreach efforts. The final noise barrier mailing list included only 302 valid property addresses. The number of packages sent out during the three survey efforts conducted for the SR-91 CIP are summarized in Table 3.15.24.

Although NB M-3 was considered along with NBs M-1 and M-2, NB M-3 was removed from further consideration due to the visual impacts related to Miguel's Restaurant and the Ayres Suites hotel. In addition, according to the NADR, NB M-3 is considered feasible but not reasonable.

Noise barriers that would not meet a minimum life span of 20 years are not considered reasonable by the Department and therefore were not considered for inclusion in the final design for the SR-91 CIP. Based on comments received during the public review period of the Draft EIR/EIS and prior commitments made by previous Department projects to build NB K1-A, along I-15, a noise barrier survey was conducted for property owners affected by the construction of NB K1-A. Based on the surveys submitted by affected property owners, NB K1-A received a majority approval and will be constructed as part of the SR-91 CIP. If noise barriers along I-15 other than NB K1-A are not constructed as part of the separate I-15 Project within 5 years from the completion of the SR-91 CIP, RCTC will initiate a separate project to construct these noise barriers. Mitigation Measure N-4 in Section 3.15.4.3, Mitigation for Operational Noise on I-15, confirms RCTC's commitment regarding these other noise barriers along I-15.

The final barrier height, length, location, number of benefitted residents, total reasonable allowance, and estimated construction cost for the Initial Phases and Ultimate Projects of Alternatives 1 and 2 are shown in Tables 3.15.25 through 3.15.28.

Based on design refinements after the identification of the preferred Alternative, the values for the final recommended barriers in Tables 3.15.25 through 3.15.28 changed from the values shown for the initial recommended barriers shown in Tables 3.15.19 through 3.15.22.

Ground-borne Vibration Impacts

Ground-borne vibrations are mostly associated with passenger vehicles and trucks traveling on roads with poor surface conditions, including potholes, bumps, expansion joints, and/or other discontinuities in the road surface. Passenger vehicles and trucks would cause effects such as the rattling of windows, and the source is almost always ground-borne noise. Because Alternatives 1 and 2 include the use of new asphalt pavement, there will be no potholes, bumps, expansion joints, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling the project segments of SR-91 and I-15. Therefore, ground-borne vibration impacts generated by vehicles traveling on those freeway segments under Alternatives 1 and 2 would be negligible.

No Build Alternative

Long-term noise impacts under the No Build Alternative would be from traffic noise. The 2035 noise levels without the Build Alternatives are not expected to change from the existing noise levels. Of the 191 modeled receivers, 111 receivers currently approach or exceed the 67 dBA L_{eq} NAC under future traffic noise conditions without the project.

Ground-borne Vibration Impacts

The No Build Alternative would not result in ground-borne vibration impacts beyond the impacts currently experienced as a result of vehicles traveling on the project segments of SR-91 and I-15.

3.15.3.3 Temporary Impacts

Alternatives 1 and 2

Construction noise represents a short-term impact on noise-sensitive receivers. Receivers affected by freeway noise could also be adversely affected by project construction noise. Construction noise is not generally considered a substantial impact because of the temporary nature and limited nighttime exposure. Although the total construction period for the Initial Phases and Ultimate Projects for Alternatives 1 and 2 would be several years, the construction duration for the project improvements at any given location along SR-91 and I-15 would be substantially less than the total construction period. As a result, project-related construction noise is not considered a substantial impact.

Typical construction equipment expected to be used during construction of the project and the noise levels generated by that equipment are shown in Table 3.15.29.

As described later in Measure N-2, sound control during construction will conform to the provisions in Section 14-8.02 of the Department “Sound Control Requirements” and adhere to the updated SSP S5-310, which will be edited specifically for this project during the PS&E Phase. The content of SSP S5-310 is provided at http://www.dot.ca.gov/hq/esc/oe/specifications/SSPs/2006-SSPs/Sec_05_Gens/District/S5-310_E_A06-05-09.doc.

The design/build contractor would also be responsible for complying with the applicable ordinances for the Cities of Anaheim, Corona, Norco, and Riverside, which all prohibit excessive noise between 7:00 p.m. and 7:00 a.m. during construction days.

The noise level requirement will apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the design/build contractor. The use of loud sound signals will be avoided in favor of light warnings except those required by safety laws for the protection of personnel. Full compensation for conforming to the requirements of this section will be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

No adverse noise impacts from the construction of Alternatives 1 and 2 are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications Section 14-08.02, "Noise Control," SSP S5-310, and applicable local noise standards.

Construction-related Ground-borne Vibration Impacts

Vibration generated by construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance from the piece of construction equipment. The response of buildings near an active construction area to construction-related vibrations range from no perception to low rumbling sounds with perceptible vibrations and slight damage at the highest vibration levels. Typically, construction-related vibrations do not reach levels that would result in damage to nearby structures. However, old and fragile structures would require special consideration to avoid damage.

Table 3.15.30 shows the vibration damage potential threshold criteria for various types of structures. As shown, the vibration damage threshold is 0.3 peak particle velocity (PPV) (inches per second [in/sec]) for older residential structures and 0.5 PPV (in/sec) for newer residential structures. Table 3.15.31 shows the vibration annoyance potential criteria. Tables 3.15.30 and 3.15.31 were used to evaluate the potential for short-term, construction-related ground-borne vibration during construction of Alternatives 1 and 2.

The construction of Alternatives 1 and 2 may require the use of a vibratory steel wheel roller to compact the new asphalt concrete. Other heavy-tracked construction equipment may be required during construction. As shown in Table 3.15.32, a typical vibratory steel wheel roller would generate approximately 0.210 PPV (in/sec) when measured at 25 ft from the roller. Table 3.15.32 also shows that typical heavy-tracked

construction equipment would generate approximately 0.003 to 0.089 PPV (in/sec) when measured at 25 ft from the piece of equipment. In addition, the project construction will include CIDH piles as an alternative to using pile drivers.

Vibration generated from drilling using the CIDH method would be negligible. Therefore, no ground-borne vibration impacts from the installation of CIDH piles would occur.

The closest existing home to the SR-91 CIP construction areas is estimated at approximately 25 ft. A home 25 ft from a piece of heavy construction equipment would be exposed to ground-borne vibration levels of 0.210 PPV (in/sec) and 0.089 PPV (in/sec) from potential asphalt concrete placement and heavy-tracked construction equipment, respectively. As shown in Table 3.15.32, short-term construction-related vibration levels from heavy-tracked construction equipment will be well below 0.3 PPV (in/sec) for older residential structures.

No Build Alternative

The No Build Alternative would not result in construction of improvements to SR-91 and I-15 and, therefore, would not result in temporary noise impacts.

The No Build Alternative includes no project-related construction and, therefore, would not result in short-term, construction-related, ground-borne vibration impacts.

3.15.4 Avoidance, Minimization, and/or Mitigation Measures

3.15.4.1 Measure for Operational Noise

Measure N-1 would be required for the Initial Phases of the SR-91 Build Alternatives.

N-1 Based on studies completed to date, RCTC intends to incorporate noise abatement in the form of reasonable and feasible barriers at 15 to 16 locations, depending on the selected alternative, ranging in height from 8 ft to 14 ft, depending on the alternative and the design variations. Calculations based on preliminary design data indicate that the barriers will reduce noise levels by 5 to 15 dBA for 333 to 419 homes and the Green River Golf Club, depending on the design variation. If during final design conditions have substantially changed, noise abatement at some of these locations may not be necessary. The final decision on noise abatement will be made on completion of the project design and the public involvement processes for the environmental document.

RCTC's Resident Engineer will require the design/build contractor to construct the noise abatement measures included in the final design and project specifications.

3.15.4.2 Measures for Construction Noise

Measures N-2 and N-3 would be required for the Initial Phases and Ultimate Projects under the SR-91 Build Alternatives.

N-2 RCTC's Resident Engineer will require the design/build contractor to control noise from construction activity consistent with the Department's Standard Specifications, Section 14-8.02, "Noise Control," and Standard Special Provisions S5-310. RCTC's Resident Engineer will require the design/build contractor to ensure that noise levels from construction operations within the State right-of-way between the hours of 9:00 p.m. and 6:00 a.m. not exceed 86 dBA at a distance of 50 ft. The noise level requirement will apply to the equipment on the job site or related to the job, including, but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.

RCTC's Resident Engineer will require the design/build contractor to use an alternative warning method instead of a sound signal unless required by safety laws. In addition, RCTC's Resident Engineer will require the design/build contractor to equip all internal combustion engines with the manufacturer-recommended mufflers and not operate any internal combustion engine on the job site without the appropriate mufflers. As directed by RCTC's Resident Engineer, the design/build contractor will implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

N-3 In accordance with the Municipal Codes of the Cities of Anaheim, Corona, Riverside, and Norco, RCTC's Resident Engineer will require the design/build contractor to limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday,

excluding weekends and holidays. If construction is needed outside those hours or days, RCTC's Resident Engineer will require the design/build contractor to coordinate with the affected local jurisdiction. If the local jurisdiction approves construction hours that are different from those imposed by this measure, then the design/build contractor will immediately request that RCTC's Resident Engineer consider a modification to this measure in accordance with CEQA to allow construction during the new hours that the local jurisdiction approved.

In addition to Measure N-3, Measure GEO-3 specifically addresses potential noise control in the event blasting is necessary during construction along SR-91 east of I-15.

3.15.4.3 Abatement for Operational Noise on I-15

N-4 If noise barriers proposed for I-15 (with the exception of NB K1-A), as part of a separate project, are not constructed within 5 years of completion of the construction of the SR-91 CIP, the RCTC will initiate a separate project to construct those walls.

3.15.4.4 Unusual and Extraordinary Abatement

N-5 Residences that would experience a severe traffic noise impact of 75 dBA L_{eq} or higher would qualify for consideration of unusual and extraordinary abatement under Alternative 2f. NBs M-3 and D1-B are considered unusual and extraordinary noise abatement. During the design/build phase, RCTC will contract with a qualified acoustical specialist to conduct interior noise analyses at residences projected to experience severe traffic noise impacts. Interior noise abatement for each of these homes will be evaluated on a case-by-case basis per the guidance on "Unusual and Extraordinary Abatement" in the Department's *Traffic Noise Analysis Protocol* (August 2006).

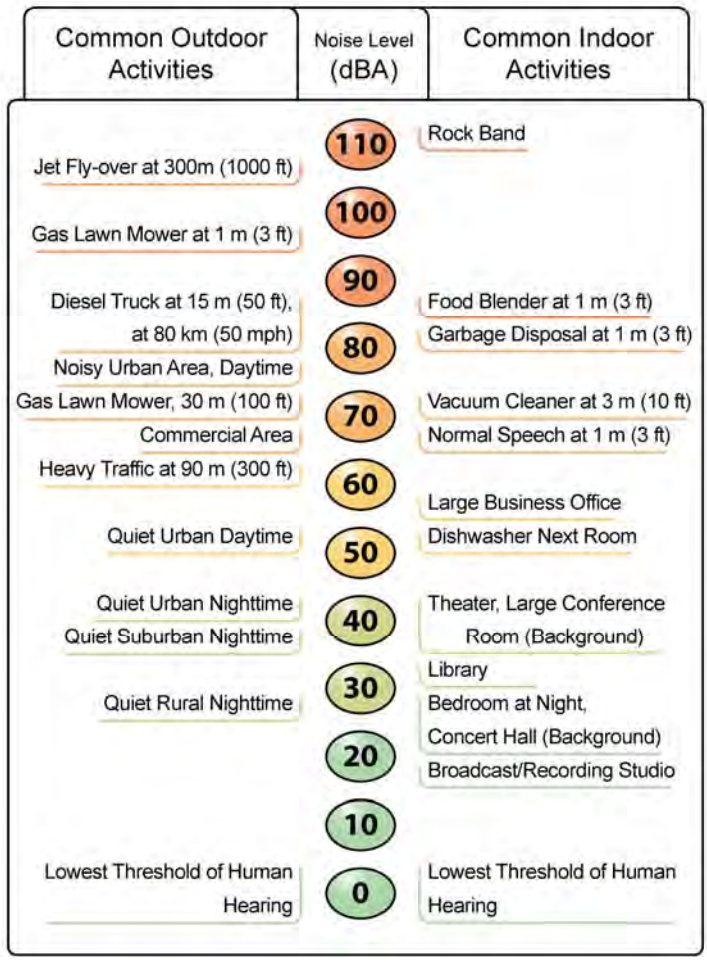
Table 3.15.1 Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, dBA $L_{eq}(h)$	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above
D	–	Undeveloped lands
E	52 Interior	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums

Source: Traffic Noise Analysis Protocol for New Highway Construction, Reconstruction, and Retrofit Barrier Projects (California Department of Transportation 2006).

CFR = Code of Federal Regulations
dBA = A-weighted decibels
$L_{eq}(h)$ = equivalent continuous noise level over a specified period of time
NAC = Noise Abatement Criteria
NEPA = National Environmental Policy Act

Table 3.15.2 Noise Levels of Common Activities



Source: California Department of Transportation (1998).

Table 3.15.3 Summary of Short-Term Measurements

Measurement Site	Address	Area	Figure 3.15-1 Sheet No.	Land Uses	Start Time	Duration (minutes)	Measured dBA L_{eq}
1	24001 Santa Ana Canyon Road – Campsite 21	A	1	campground	10:30 A.M.	10	63.4
3	25580 Aragon	C	1	SFR	1:20 P.M.	10	54.5
4	25636 Corsica Way	C	1,2	SFR	10:55 A.M.	10	53.3
5	28610 Brush Canyon Drive	C	2	SFR	9:30 A.M.	10	54.8
6	Green River Golf Course	E	3	golf course	1:00 P.M.	10	66.4
8	4901 Green River Drive	E	3	mobile home	11:20 A.M.	10	64.9
61	4901 Green River Drive	E	3	mobile home	2:50 P.M.	10	59.0
9	4521 Pennyroyal Drive	G	3, 4	SFR	11:00 A.M.	10	60.4
10	940 Manor Way	I	4	SFR	1:35 P.M.	10	61.2
11	710 Meridian Circle	I	4	SFR	12:15 P.M.	10	70.4
12	737 Highland View Drive	I	4	SFR	10:30 A.M.	10	64.3
13	3315 Braemar Lane	I	4	SFR	10:50 A.M.	10	65.1
14	3195 Nutmeg Drive	I	4	SFR	11:20 A.M.	10	63.5
15	No Measurement Taken	I	4	SFR	No Measurement Taken		
17	2391 Northmoor Drive	K	5, 6	SFR	12:30 P.M.	10	58.1
18	700 Butternut Lane	M	5, 6	SFR	11:55 A.M.	10	57.8
19	2020 Ridgeview Terrace	M	5, 6	SFR	12:05 P.M.	10	67
20	1559 Pleasant View Avenue	O	7, 8	SFR/MFR	1:05 P.M.	10	70.6
21	307 South Smith Street	O	7, 8	mobile home	11:05 A.M.	10	70.5
22	1343 Agnes Street	O	7, 8	SFR	1:20 P.M.	10	66.2
23	205 Magdalena Circle	O	7, 8	mobile home	10:30 A.M.	10	67.6
24	995 Pomona Road	P	7, 8	mobile home	1:20 P.M.	10	64.8
25	101 North Vicentia Avenue	R	9	SFR	1:30 P.M.	10	66.6
27	205 South Vicentia Avenue	S	9	SFR	2:15 P.M.	10	70.7
28	201 Second Street	U	9	SFR	1:15 P.M.	10	64.8
29	112 School Street	R	9	SFR	1:40 P.M.	10	66.9
30	104 North Belle Avenue	T	9	SFR	12:45 P.M.	10	64.8
32	318 East Second Street	W	9	SFR	12:45 P.M.	10	65
33	1324 Cresta Road	Z	10, 14	SFR	1:15 P.M.	10	64.9
62	1466 Ripchak Road	Z	10, 14	SFR	12:09 P.M.	10	60.2
35	374 South Arthur Circle	B1	10	SFR	10:50 A.M.	10	64.9
36	366 Glacier Circle	B1	10, 11	SFR	10:50 A.M.	10	61.6
37	370 Hendricks Circle	D1	11	SFR	2:20 P.M.	10	62.1

Table 3.15.3 Summary of Short-Term Measurements

Measurement Site	Address	Area	Figure 3.15-1 Sheet No.	Land Uses	Start Time	Duration (minutes)	Measured dBA L_{eq}
38	370 Berkley Circle	D1	11	SFR	2:35 P.M.	10	63.6
39	2900 Via Milano #101	D1	11, 12	MFR	1:25 P.M.	10	69.7
40	317 Camden	D1	12	SFR	12:40 P.M.	10	64.4
42A	4000 Pierce Street #169	D1	12	mobile home	1:15 P.M.	10	61.2
42B	4000 Pierce Street #163	D1	12	mobile home	1:30 P.M.	10	61.5
43	3887 Pierce Street	F1	12	MFR	12:45 P.M.	10	67.7
44	1323 Valley View	H1	13	SFR	11:45 A.M.	10	65.6
45	495 New Hall Drive	K1	13	SFR	12:10 P.M.	10	56.7
46	822 Corona	J1	13	SFR	11:50 A.M.	10	61.9
48	935 Mandevilla Way	J1	13, 14	SFR	1:20 P.M.	10	63.7
49	Cresta Verde Golf Course	Z	10, 14	golf course	11:24 A.M.	10	67.1
50	Parcel 107-230-017 Bel Air	N1	15	SFR	12:30 P.M.	10	73.9
51	7335 Bel Air Street	N1	16	SFR	2:25 P.M.	10	74.7
52	18890 State Street	N1	16	SFR	11:45 A.M.	10	55.0
53	19260 State Street	P1	16	SFR	3:00 P.M.	10	70.2
54	2520 State Street	Q1	16	SFR	3:30 P.M.	10	73.4
55	7255 Piute Creek Drive	P1	16	SFR	11:17 A.M.	10	66.4
56	7306 Calico Circle	Q1	16	SFR	11:45 A.M.	10	60.8
57	19835 Bedford Canyon	S1	16, 17	SFR	1:00 P.M.	10	67.5
58	7570 Liberty Avenue	R1	16	SFR	1:50 P.M.	10	68
59	20131 Bedford Canyon	S1	16	SFR	1:15 P.M.	10	71.6
60	20225 Bedford Canyon	S1	16	SFR	1:30 P.M.	10	69.1

Source: *Final Noise Study Report* (April 2010).
Note: Refer to Figure 3.15-1 (sheets 1–17) for the measurement site locations and the boundaries of each noise analysis area.
dBA = A-weighted decibels
L_{eq} = equivalent noise level
MFR = multifamily residence
SFR = single-family residence

Table 3.15.4 Summary of Long-Term Monitoring at Location 2

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	55.1	-10.0
1:00 a.m.	54.8	-10.3
2:00 a.m.	55.2	-9.9
3:00 a.m.	57.0	-8.1
4:00 a.m.	60.1	-5.0
5:00 a.m.	62.4	-2.7
6:00 a.m.	**65.1**	0.0
7:00 a.m.	64.8	-0.3
8:00 a.m.	64.1	-1.0
9:00 a.m.	62.5	-2.6
10:00 a.m.	61.5	-3.6
11:00 a.m.	62.0	-3.1
12:00 p.m.	62.1	-3.0
1:00 p.m.	64.0	-1.1
2:00 p.m.	63.5	-1.6
3:00 p.m.	64.5	-0.6
4:00 p.m.	64.8	-0.3
5:00 p.m.	**65.1**	0.0
6:00 p.m.	64.7	-0.4
7:00 p.m.	62.7	-2.4
8:00 p.m.	60.0	-5.1
9:00 p.m.	59.0	-6.1
10:00 p.m.	58.5	-6.6
11:00 p.m.	57.3	-7.8

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.5 Summary of Long-Term Monitoring at Location 7

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	56.2	-10.0
1:00 a.m.	56.0	-10.3
2:00 a.m.	54.6	-9.9
3:00 a.m.	57.5	-8.1
4:00 a.m.	61.4	-5.0
5:00 a.m.	61.2	-2.7
6:00 a.m.	60.1	0.0
7:00 a.m.	61.1	-0.3
8:00 a.m.	60.8	-1.0
9:00 a.m.	59.5	-2.6
10:00 a.m.	61.6	-3.6
11:00 a.m.	63.5	-3.1
12:00 p.m.	63.0	-3.0
1:00 p.m.	70.2	-1.1
2:00 p.m.	70.3	-1.6
3:00 p.m.	68.7	-0.6
4:00 p.m.	68.1	-0.3
5:00 p.m.	**72.2**	0.0
6:00 p.m.	69.3	-0.4
7:00 p.m.	69.5	-2.4
8:00 p.m.	68.0	-5.1
9:00 p.m.	59.5	-6.1
10:00 p.m.	58.8	-6.6
11:00 p.m.	57.8	-7.8

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.6 Summary of Long-Term Monitoring at Location 16

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	64.2	-5.3
1:00 a.m.	63.4	-6.1
2:00 a.m.	63.2	-6.3
3:00 a.m.	64.9	-4.6
4:00 a.m.	67.6	-1.9
5:00 a.m.	68.0	-1.5
6:00 a.m.	68.8	-0.7
7:00 a.m.	69.0	-0.5
8:00 a.m.	69.4	-0.1
9:00 a.m.	**69.5**	0.0
10:00 a.m.	69.2	-0.3
11:00 a.m.	69.0	-0.5
12:00 p.m.	68.5	-1.0
1:00 p.m.	68.5	-1.0
2:00 p.m.	68.4	-1.1
3:00 p.m.	67.5	-2.0
4:00 p.m.	67.6	-1.9
5:00 p.m.	67.7	-1.8
6:00 p.m.	68.7	-0.8
7:00 p.m.	68.0	-1.5
8:00 p.m.	67.7	-1.8
9:00 p.m.	67.8	-1.7
10:00 p.m.	67.8	-1.7
11:00 p.m.	65.8	-3.7

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.7 Summary of Long-Term Monitoring at Location 26

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	62.2	-12.1
1:00 a.m.	61.2	-13.1
2:00 a.m.	62.0	-12.3
3:00 a.m.	64.0	-10.3
4:00 a.m.	66.6	-7.7
5:00 a.m.	66.3	-8.0
6:00 a.m.	67.8	-6.5
7:00 a.m.	67.3	-7.0
8:00 a.m.	66.9	-7.4
9:00 a.m.	67.4	-6.9
10:00 a.m.	66.9	-7.4
11:00 a.m.	66.8	-7.5
12:00 p.m.	67.6	-6.7
1:00 p.m.	70.7	-3.6
2:00 p.m.	**74.3**	0.0
3:00 p.m.	73.0	-1.3
4:00 p.m.	73.9	-0.4
5:00 p.m.	73.9	-0.4
6:00 p.m.	71.8	-2.5
7:00 p.m.	69.6	-4.7
8:00 p.m.	65.9	-8.4
9:00 p.m.	65.5	-8.8
10:00 p.m.	65.2	-9.1
11:00 p.m.	64.1	-10.2

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.8 Summary of Long-Term Monitoring at Location 31

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	63.5	-10.9
1:00 a.m.	63.8	-10.6
2:00 a.m.	63.1	-11.3
3:00 a.m.	64.4	-10.0
4:00 a.m.	68.1	-6.3
5:00 a.m.	66.4	-8.0
6:00 a.m.	63.5	-10.9
7:00 a.m.	63.7	-10.7
8:00 a.m.	66.2	-8.2
9:00 a.m.	65.3	-9.1
10:00 a.m.	69.2	-5.2
11:00 a.m.	68.4	-6.0
12:00 p.m.	70.1	-4.3
1:00 p.m.	71.3	-3.1
2:00 p.m.	73.7	-0.7
3:00 p.m.	72.4	-2.0
4:00 p.m.	74.0	-0.4
5:00 p.m.	**74.4**	0.0
6:00 p.m.	70.4	-4.0
7:00 p.m.	68.2	-6.2
8:00 p.m.	67.8	-6.6
9:00 p.m.	66.2	-8.2
10:00 p.m.	65.4	-9.0
11:00 p.m.	64.8	-9.6

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.9 Summary of Long-Term Monitoring at Location 34

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	60.3	-5.0
1:00 a.m.	61.0	-4.3
2:00 a.m.	60.7	-4.6
3:00 a.m.	61.7	-3.6
4:00 a.m.	64.7	-0.6
5:00 a.m.	64.1	-1.2
6:00 a.m.	**65.3**	0.0
7:00 a.m.	64.3	-1.0
8:00 a.m.	64.8	-0.5
9:00 a.m.	62.9	-2.4
10:00 a.m.	64.2	-1.1
11:00 a.m.	64.4	-0.9
12:00 p.m.	64.3	-1.0
1:00 p.m.	64.7	-0.6
2:00 p.m.	63.9	-1.4
3:00 p.m.	63.9	-1.4
4:00 p.m.	63.1	-2.2
5:00 p.m.	63.0	-2.3
6:00 p.m.	63.7	-1.6
7:00 p.m.	64.4	-0.9
8:00 p.m.	64.1	-1.2
9:00 p.m.	63.3	-2.0.
10:00 p.m.	62.3	-3.0
11:00 p.m.	61.4	-3.9

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.10 Summary of Long-Term Monitoring at Location 41

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	65.7	-8.3
1:00 a.m.	63.3	-10.7
2:00 a.m.	66.0	-8.0
3:00 a.m.	62.2	-11.8
4:00 a.m.	66.2	-7.8
5:00 a.m.	70.2	-3.8
6:00 a.m.	72.2	-1.8
7:00 a.m.	73.4	-0.6
8:00 a.m.	72.1	-1.9
9:00 a.m.	71.5	-2.5
10:00 a.m.	71.4	-2.6
11:00 a.m.	71.9	-2.1
12:00 p.m.	71.5	-2.5
1:00 p.m.	72.1	-1.9
2:00 p.m.	**74.0**	0.0
3:00 p.m.	73.1	-0.9
4:00 p.m.	73.0	-1.0
5:00 p.m.	73.3	-0.7
6:00 p.m.	71.4	-2.6
7:00 p.m.	70.1	-3.9
8:00 p.m.	70.1	-3.9
9:00 p.m.	69.3	-4.7
10:00 p.m.	69.2	-4.8
11:00 p.m.	66.5	-7.5

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.11 Summary of Long-Term Monitoring at Location 47

Beginning Hour	Noise Level, dBA $L_{eq}(h)$	Difference from Loudest Hour (dBA)
12:00 a.m.	61.9	-10.3
1:00 a.m.	61.2	-11.0
2:00 a.m.	61.1	-11.1
3:00 a.m.	61.7	-10.5
4:00 a.m.	65.1	-7.1
5:00 a.m.	66.8	-5.4
6:00 a.m.	67.7	-4.5
7:00 a.m.	68.2	-4.0
8:00 a.m.	67.8	-4.4
9:00 a.m.	67.9	-4.3
10:00 a.m.	67.3	-4.9
11:00 a.m.	67.1	-5.1
12:00 p.m.	65.8	-6.4
1:00 p.m.	66.1	-6.1
2:00 p.m.	66.4	-5.8
3:00 p.m.	68.2	-4.0
4:00 p.m.	70.3	-1.9
5:00 p.m.	71.8	-0.4
6:00 p.m.	**72.2**	0.0
7:00 p.m.	68.3	-3.9
8:00 p.m.	65.8	-6.4
9:00 p.m.	64.9	-7.3
10:00 p.m.	63.9	-8.3
11:00 p.m.	63.7	-8.5

Source: *Final Noise Study Report* (April 2010).
Note: Worst-noise hour level is in **bold.**
dBA = A-weighted decibel $L_{eq}(h)$ = equivalent continuous noise level over a specified period of time

Table 3.15.12 Existing Noise Levels, dBA L_{eq}

Receiver ID	Address	Area	Land Use	Number of Representative Units	Activity Category	Existing Noise Level
1M	24001 Santa Ana Canyon Road	A	Park	1,950 feet of Frontage (20)	B (67)	67
1	24001 Santa Ana Canyon Road	A	Park	1,500 Feet of Frontage (15)	B (67)	67
2M	24001 Santa Ana Canyon Road	A	Park	1,000 feet of Frontage (10)	B (67)	67
3M	24001 Santa Ana Canyon Road	C	Park	1,300 Feet of Frontage (13)	B (67)	67
2	24001 Santa Ana Canyon Road	C	Park	1,350 feet of Frontage (14)	B (67)	65
4M	25530 Aragon Way	C	SFR	8	B (67)	55
3	25580 Argon Way	C	SFR	10	B (67)	56
5M	25606 Argon Way	C	SFR	10	B (67)	55
4	25636 Corsica Way	C	SFR	9	B (67)	55
6M	25652 Cross Creek Drive	C	MFR	4	B (67)	63
7M	25644 River Bank Drive	C	MFR	3	B (67)	62
8M	28616 Brush Canyon Drive	C	SFR	11	B (67)	59
5	28610 Brush Canyon Drive	C	SFR	12	B (67)	59
9M	28672 Brush Canyon Drive	C	SFR	5	B (67)	53
124M	Green River Golf Course	E	Golf Course	1,800 feet of Frontage (18)	B (67)	62
125M	Green River Golf Course	E	Golf Course	1,500 feet of Frontage (15)	B (67)	68
6	Green River Golf Course	E	Golf Course	1,500 feet of Frontage (15)	B (67)	68
126M	Green River Golf Course	E	Golf Course	1,300 feet of Frontage (13)	B (67)	67
7	Green River Village (16)	E	Mobile Home	7	B (67)	66
10M	Green River Village (9)	E	Mobile Home	12	B (67)	66
11M	Green River Village (19)	E	Mobile Home	10	B (67)	64
8	Green River Village (333)	E	Mobile Home	11	B (67)	64
12M	Green River Village (308)	E	Mobile Home	16	B (67)	64
13M	Green River Village (190)	E	Mobile Home	20	B (67)	65
61	Green River Village (315)	E	Mobile Home	10	B (67)	60
9	4521 Pennyroyal Drive	G	SFR	9	B (67)	61
14M	4455 Pennyroyal Drive	G	SFR	9	B (67)	63
15M	4508 Feather River Road	G	SFR	10	B (67)	61
10	940 Manor Way	I	SFR	8	B (67)	65
11	724 Meridian Circle	I	SFR	9	B (67)	69
12	737 Highland Drive	I	SFR	5	B (67)	68
16M	7873 Via Bernardo	I	SFR	10	B (67)	59
13	3315 Braemar Lane	I	SFR	10	B (67)	64
17M	3207 Braemar Lane	I	SFR	7	B (67)	61
14	3195 Nutmeg Drive	I	SFR	6	B (67)	63
18M	3125 Nutmeg Drive	I	SFR	10	B (67)	62
19M	661 Colonial Drive	K	SFR	5	B (67)	61
20M	2593 Monterey Peninsula Drive	K	SFR	7	B (67)	62
16	2561 Northmoor Drive	K	SFR	7	B (67)	69
21M	2493 Northmoor Drive	K	SFR	9	B (67)	64
127M	Mountain View County Club	K	Golf Course	1,200 feet of Frontage (12)	B (67)	66
17	2391 Northmoor Drive	K	SFR	7	B (67)	62
22M	716 Sugar Lane	M	SFR	4	B (67)	65
18	700 Butternut Lane	M	SFR	4	B (67)	62
23M	714 Poplar Lane	M	SFR	4	B (67)	63
24M	714 Balsam Lane	M	SFR	4	B (67)	63
19	2020 Ridgeview Terrace	M	SFR	4	B (67)	69
25M	2048 Ridgeview Terrace	M	SFR	3	B (67)	64
26M	1972 Via Santiago	M	SFR	7	B (67)	65
20	1559 Pleasant View Avenue	O	MFR	8	B (67)	72

Table 3.15.12 Existing Noise Levels, dBA L_{eq}

Receiver ID	Address	Area	Land Use	Number of Representative Units	Activity Category	Existing Noise Level
27M	1555 Pleasant View Avenue	O	SFR	6	B (67)	67
28M	1504 Pleasant View Avenue	O	MFR	5	B (67)	70
21	307 Smith Avenue	O	Trailer Park	5	B (67)	73
29M	Countrywood Estates	O	Trailer Park	7	B (67)	68
30M	Countrywood Estates	O	Trailer Park	22	B (67)	65
22	1343 Agnes Street	O	SFR	8	B (67)	67
31M	1302 Agnes Street	O	SFR	10	B (67)	69
32M	1264 D Street	O	SFR	15	B (67)	64
23	205 Magdalena Circle	O	MFR	5	B (67)	68
33M	217 Isabella Way	O	MFR	4	B (67)	70
34M	228 Magdalena Circle	O	MFR	4	B (67)	68
43M	Corona West Mobile Estates	P	Trailer Park	5	B (67)	78
24	Corona West Mobile Estates	P	Trailer Park	5	B (67)	66
41M	Corona West Mobile Estates	P	Trailer Park	5	B (67)	70
44M	Corona West Mobile Estates	P	Trailer Park	5	B (67)	74
35M	Buena Vista Mobile Manor	Q	Trailer Park	7	B (67)	68
36M	Buena Vista Mobile Manor	Q	Trailer Park	7	B (67)	71
37M	Buena Vista Mobile Manor	Q	Trailer Park	7	B (67)	69
26	128 Buena Vista Avenue	Q	SFR	7	B (67)	71
45M	840 Bollero Place	R	SFR	6	B (67)	71
46M	101 N Vicentia Avenue	R	SFR	6	B (67)	73
25	102 N Vicentia Avenue	R	SFR	4	B (67)	68
42M	102 Cota Street	R	SFR	2	B (67)	73
29	112 School Street	R	SFR	2	B (67)	73
47M	122 School Street	R	SFR	4	B (67)	72
40M	129 Buena Vista Avenue	S	MFR	3	B (67)	79
38M	776 2nd Street	S	MFR	2	B (67)	76
27	205 S. Vicentia Avenue	S	MFR	3	B (67)	73
39M	658 2nd Street	S	MFR	2	B (67)	77
50M	205 S. Vicentia Avenue	S	MFR	6	B (67)	73
48M	130 Merrill Street	T	SFR	2	B (67)	76
49M	Sheridan Street	T	SFR	3	B (67)	78
30	Belle Avenue	T	SFR	5	B (67)	67
51M	488 2nd Street	U	SFR/School	4	B (67)	74
28	301 2nd Street	U	SFR	4	B (67)	68
52M	202 Belle Avenue	U	SFR	4	B (67)	76
53M	214 Sheridan Street	U	SFR	6	B (67)	69
54M	Victoria Avenue	V	SFR	3	B(67)	76
55M	Victoria Avenue	V	SFR	4	B (67)	73
31	Howard Street	V	MFR	4	B (67)	69
56M	202 Victoria Avenue	W	SFR	2	B (67)	76
32	318 2ND Street	W	SFR	5	B (67)	66
57M	209 Victoria Avenue	W	SFR	8	B (67)	72
58M	204 Joy Street	W	SFR	4	B (67)	72
128M	912 3rd Street	W	SFR	12	B (67)	64
92M	1302 Cresta Road	Z	SFR	5	B (67)	70
33	1324 Cresta Road	Z	SFR	5	B (67)	67
59M	1327 Cresta Road	Z	SFR	6	B (67)	65
60M	1416 Ripchak Road	Z	SFR	7	B (67)	66
62	1466 Ripchak Road	Z	SFR	10	B (67)	63
120M	1447 Ripchak Road	Z	SFR	10	B (67)	57
61M	1482 Ripchak Road	Z	SFR	6	B (67)	59
34	405 Wynola Court	Z	SFR	6	B (67)	64
62M	426 Wynola Court	Z	SFR	4	B (67)	61
63M	372 Colfax Circle	B1	SFR	6	B (67)	60
35	374 Arthur Circle	B1	SFR	6	B (67)	66
64M	380 Arthur Circle	B1	SFR	4	B (67)	62
65M	374 Yellowstone Circle	B1	SFR	4	B (67)	64
36	366 Glacier Circle	B1	SFR	4	B (67)	63

Table 3.15.12 Existing Noise Levels, dBA L_{eq}

Receiver ID	Address	Area	Land Use	Number of Representative Units	Activity Category	Existing Noise Level
66M	Collett Avenue	B1	MFR	4	B (67)	62
67M	2482 Griffin Way	D1	SFR	6	B (67)	62
37	370 Hendricks Circle	D1	SFR	4	B (67)	65
121M	390 Hendricks Circle	D1	SFR	4	B (67)	65
68M	370 Dylan Circles	D1	SFR	5	B (67)	65
38	370 Berkley Circle	D1	SFR	5	B (67)	66
69M	392 Berkley Circle	D1	SFR	4	B (67)	64
39	2900 Via Milano #101	D1	MFR	6	B (67)	73
70M	2916 Via Milano	D1	MFR	6	B (67)	71
71M	310 Oakwood Court	D1	SFR	4	B (67)	67
72M	324 Cypress Court	D1	SFR	8	B (67)	66
40	317 Camden Court	D1	SFR	4	B (67)	66
76M	The Meadows Mobile Home Park	D1	Trailer Park	7	B (67)	62
42A	4 The Meadows Mobile Home Park #169	D1	Trailer Park	7	B (67)	62
42B	The Meadows Mobile Home Park #163	D1	Trailer Park	7	B (67)	64
77M	The Meadows Mobile Home Park	D1	Trailer Park	17	B (67)	64
78M	The Meadows Mobile Home Park	D1	Trailer Park	7	B (67)	61
73M	Sierra Pine Mobile Home Park	E1	Trailer Park	10	B (67)	69
74M	Sierra Pine Mobile Home Park	E1	Trailer Park	10	B (67)	69
75M	Sierra Pine Mobile Home Park	E1	Trailer Park	15	B (67)	66
41	Sierra Pine Mobile Home Park	E1	Trailer Park	10	B (67)	67
79M	3887 Pierce Street (Pinnacle Riverwalk)	F1	MFR	2	B (67)	67
43	3887 Pierce Street (Pinnacle Riverwalk)	F1	MFR	4	B (67)	69
80M	3887 Pierce Street (Pinnacle Riverwalk)	F1	MFR	3	B (67)	68
81M	3887 Pierce Street (Pinnacle Riverwalk)	F1	MFR	4	B (67)	64
129M	Farmer Bros.	G1	Bus	0	C(72)	71
44	1323 Valley View	H1	SFR	5	B (67)	67
82M	1420 Valley View	H1	SFR	3	B (67)	64
46	822 Corona Avenue	J1	SFR	3	B (67)	66
83M	Corona Avenue	J1	SFR	3	B (67)	59
88M	890 Mandevilla Way	J1	SFR	5	B (67)	66
48	935 Mandevilla Way	J1	SFR	6	B (67)	66
89M	955 Mandevilla Way	J1	SFR	2	B (67)	63
84M	Corona City	K1	SFR	6	B (67)	61
86M	455 Newhall Drive	K1	SFR	6	B (67)	64
45	495 Newhall Drive	K1	SFR	6	B (67)	59
85M	452 Newhall Drive	K1	SFR	17	B (67)	61
87M	801 Laguna Drive	K1	SFR	9	B (67)	65
47	801 Laguna Drive	K1	SFR	7	B (67)	70
90M	817 Laguna Drive	K1	SFR	2	B (67)	69
91M	810 San Jacinto Circle	K1	SFR	3	B (67)	65
49	Cresta Verde Golf Course	Z	Golf Course	1,300 feet of Frontage (13)	B (67)	69
93M	1678 Bel Air Street	N1	SFR	7	B (67)	73
122M	1691 Bel Air Street	N1	SFR	11	B (67)	63
94M	1632 Bel Air Street	N1	SFR	7	B (67)	75
50	1694 Bel Air Street	N1	SFR	4	B (67)	75
95M	1892 Bel Air Street	N1	SFR	5	B (67)	77
96M	7171 Bel Air Street	N1	SFR	6	B (67)	75
51	7335 Bel Air Street	N1	SFR	2	B (67)	76
97M	7320 Bel Air Street	N1	SFR	3	B (67)	64

Table 3.15.12 Existing Noise Levels, dBA L_{eq}

Receiver ID	Address	Area	Land Use	Number of Representative Units	Activity Category	Existing Noise Level
98M	18745 State Street	N1	SFR	3	B (67)	67
52	18875 State Street	N1	SFR	4	B (67)	73
99M	18989 State Street	N1	SFR	2	B (67)	65
101M	2304 State Street	P1	SFR	4	B (67)	67
100M	2308 State Street	P1	SFR	2	B (67)	73
53	19620 State Street	P1	SFR	4	B (67)	71
55	7255 Piute Creek Drive	P1	SFR	4	B (67)	68
123M	7248 Piute Creek Drive	P1	SFR	6	B (67)	65
103M	7285 Piute Creek Drive	P1	SFR	4	B (67)	66
104M	El Cerrito Sports Park[1]	P1	Park	700 feet of Frontage (7)	B (67)	66
130M	El Cerrito Sports Park[1]	P1	Park	900 feet of Frontage (9)	B (67)	68
54	2520 State Street	Q1	SFR	2	B (67)	75
105M	19414 Dry Gulch Road	Q1	SFR	5	B (67)	73
107M	7375 Calico Circle	Q1	SFR	6	B (67)	74
106M	7260 Whiskey Creek Circle	Q1	SFR	7	B (67)	62
56	7315 Calico Circle	Q1	SFR	4	B (67)	62
108M	7279 Calico Circle	Q1	SFR	4	B (67)	62
109M	19726 Long Branch Way	Q1	SFR	3	B (67)	58
110M	19740 Long Branch Way	Q1	SFR	2	B (67)	58
112M	19801 Frances Street	R1	SFR	5	B (67)	71
58	7450 Liberty Avenue	R1	SFR	2	B (67)	69
113M	19890 Katy Way	R1	SFR	4	B (67)	67
114M	7630 Liberty Avenue	R1	SFR	3	B (67)	68
115M	7450 Liberty Avenue	R1	SFR	2	B (67)	63
57	19835 Bedford Canyon Road	S1	SFR	4	B (67)	68
111M	19905 Bedford Canyon Road	S1	SFR	2	B (67)	70
116M	20031 Bedford Canyon Road	S1	SFR	4	B (67)	74
59	20111 Corona Street	S1	SFR	3	B (67)	74
117M	20110 Klyne Street	S1	SFR	4	B (67)	71
118M	20141 Bedford Canyon Road	S1	SFR	4	B (67)	71
60	20225 Bedford Canyon Road	S1	SFR	3	B (67)	71
119M	7665 Boyd Street	S1	SFR	1	B (67)	68

Source: *Final Noise Study Report* (April 2010).

[1] This park was planned but not in operation when the noise modeling was conducted in 2008.

Bus = business
dBA = A-weighted decibel
L_{eq} = equivalent noise level
MFR = multifamily residential
SFR = single-family residential

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
1M	24001 Santa Ana Canyon Road	67	67	**67**	0	**67**	0	**67**	0	**67**	0
1	24001 Santa Ana Canyon Road	67	67	**67**	1	**67**	1	**67**	1	**67**	1
2M	24001 Santa Ana Canyon Road	67	67	**68**	1	**68**	1	**68**	1	**68**	1
3M	24001 Santa Ana Canyon Road	67	67	**68**	2	**69**	2	**68**	2	**69**	2
2	24001 Santa Ana Canyon Road	65	65	65	0	66	1	66	1	66	1
4M	25530 Aragon Way	55	55	55	0	55	0	55	0	55	0
3	25580 Argon Way	56	56	57	1	56	0	56	0	56	0
5M	25606 Argon Way	55	55	56	1	56	1	56	1	56	1
4	25636 Corsica Way	55	55	56	1	56	1	56	1	56	1
6M	25652 Cross Creek Drive	63	63	64	1	64	1	64	1	64	1
7M	25644 River Bank Drive	62	62	62	0	62	0	62	0	62	0
8M	28616 Brush Canyon Drive	59	59	60	1	60	1	60	1	60	1
5	28610 Brush Canyon Drive	59	59	60	1	60	1	60	1	60	1
9M	28672 Brush Canyon Drive	53	53	54	1	54	1	54	1	54	1
124M	Green River Golf Course	62	62	63	1	64	2	65	3	64	2
125M	Green River Golf Course	68	68	**70**	2	**70**	2	**71**	3	**70**	2

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
6	Green River Golf Course	68	68	**72**	4	**69**	1	**69**	1	**69**	1
126M	Green River Golf Course	67	67	**69**	2	63	-4	64	-3	63	-4
7	Green River Village (16)	66	66	**67**	1	64	-2	**67**	1	64	-2
10M	Green River Village (9)	66	66	**67**	1	64	-2	**67**	1	64	-2
11M	Green River Village (19)	64	64	66	2	66	2	66	2	66	2
8	Green River Village (333)	64	64	66	2	61	-3	61	-3	61	-3
12M	Green River Village (308)	64	64	**67**	3	65	1	65	1	65	1
13M	Green River Village (190)	65	65	**68**	3	66	1	66	1	66	1
61	Green River Village (315)	60	60	63	3	60	1	62	2	60	1
9	4521 Pennyroyal Drive	61	61	62	1	63	2	63	2	63	2
14M	4455 Pennyroyal Drive	63	63	62	-1	62	-1	63	0	62	-1
15M	4508 Feather River Road	61	61	61	0	61	0	61	0	61	0
10	940 Manor Way	65	65	66	1	66	1	67	2	67	2
11	724 Meridian Circle	69	69	**70**	1	**70**	1	**71**	2	**71**	2
12	737 Highland Drive	68	68	**69**	1	**69**	1	**69**	1	**69**	1
16M	7873 Via Bernardo	59	59	60	1	60	1	60	1	60	1
13	3315 Braemar Lane	64	64	65	1	65	1	65	1	65	1
17M	3207 Braemar Lane	61	61	62	1	62	1	63	2	63	2
14	3195 Nutmeg Drive	63	63	64	1	64	1	65	2	65	2
18M	3125 Nutmeg Drive	62	62	63	1	63	1	65	3	65	3

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
19M	661 Colonial Drive	61	61	**67**	6	**67**	6	**67**	6	**67**	6
20M	2593 Monterey Peninsula Drive	62	62	**67**	5	**67**	5	**67**	5	**67**	5
16	2561 Northmoor Drive	69	69	**81**	**12**	**81**	**12**	**79**	10	**79**	10
21M	2493 Northmoor Drive	64	64	**73**	9	**73**	9	**74**	10	**74**	10
127M	Mountain View County Club	66	66	**81**	**15**	**81**	**15**	**82**	**16**	**82**	**16**
17	2391 Northmoor Drive	62	62	66	4	66	4	66	4	66	4
22M	716 Sugar Lane	65	65	**68**[3]	3[3]	**68**[3]	3[3]	**68**[3]	3[3]	**68**[3]	3[3]
				67[4]	2[4]	**67**[4]	2[4]	**68**[4]	3[4]	**68**[4]	3[4]
18	700 Butternut Lane	62	62	**69**[3]	7[3]	**69**[3]	7[3]	**73**[3]	11[3]	**73**[3]	11[3]
				63[4]	1[4]	63[4]	1[4]	65[4]	3[4]	65[4]	3[4]
23M	714 Poplar Lane	63	63	64[3]	1[3]	64[3]	1[3]	75[3]	12[3]	75[3]	12[3]
				64[4]	1[4]	64[4]	1[4]	67[4]	4[4]	67[4]	4[4]
24M	714 Balsam Lane	63	63	65[3]	2[3]	65[3]	2[3]	73[3]	10[3]	73[3]	10[3]
				65[4]	2[4]	65[4]	2[4]	67[4]	4[4]	67[4]	4[4]
19	2020 Ridgeview Terrace	69	69	**75**[3]	6[3]	**75**[3]	6[3]	**78**[3]	9[3]	**78**[3]	9[3]
				75[4]	6[4]	**75**[4]	6[4]	**77**[4]	8[4]	**77**[4]	8[4]
25M	2048 Ridgeview Terrace	64	64	**69**[3]	5[3]	**69**[3]	5[3]	**73**[3]	9[3]	**73**[3]	9[3]
				67[4]	3[4]	**67**[4]	3[4]	**70**[4]	6[4]	**70**[4]	6[4]
26M	1972 Via Santiago	65	65	**67**[3]	2[3]	**67**[3]	2[3]	**68**[3]	3[3]	**68**[3]	3[3]
				67[4]	2[4]	**67**[4]	2[4]	**71**[4]	6[4]	**71**[4]	6[4]
20	1559 Pleasant View Avenue	72	72	**83**	11	**83**	11	**84**	**12**	**84**	**12**
27M	1555 Pleasant View Avenue	67	67	**74**	7	**74**	7	**74**	7	**74**	7
28M	1504 Pleasant View Avenue	70	70	**83**	13	**83**	**13**	**83**	**13**	**83**	**13**
21	307 Smith Avenue	73	73	**83**	10	**83**	10	**84**	11	**84**	11

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
29M	Countrywood Estates	68	68	**81**	13	**81**	**13**	82	**14**	**82**	**14**
30M	Countrywood Estates	65	65	**71**	6	**71**	6	**71**	6	**71**	6
22	1343 Agnes Street	67	67	**81**	14	**81**	**14**	**81**	**14**	**81**	**14**
31M	1302 Agnes Street	69	69	**74**	5	**74**	5	**75**	6	**75**	6
32M	1264 D Street	64	64	**68**	4	**68**	4	**68**	4	**68**	4
23	205 Magdalena Circle	68	68	NA[5]	NA	NA	NA	NA	NA	NA	NA
				80[6]	**12[6]**	**80[6]**	**12[6]**	**83[6]**	**15[6]**	**83[6]**	**15[6]**
33M	217 Isabella Way	70	70	**71[7]**	1[7]	**71[7]**	1[7]	**73[7]**	3[7]	**73[7]**	3[7]
				74[6]	4[6]	**74[6]**	4[6]	**78[6]**	8[6]	**78[6]**	8[6]
34M	228 Magdalena Circle	68	68	**76[7]**	8[7]	**76[7]**	8[7]	**77[7]**	9[7]	**77[7]**	9[7]
				75[6]	7[6]	**75[6]**	7[6]	**77[6]**	9[6]	**77[6]**	9[6]
43M	Corona West Mobile Estates	78	78	**71**	-7	**71**	-7	**71**	-7	**71**	-7
24	Corona West Mobile Estates	66	66	NA	NA	NA	NA	NA	NA	NA	NA
41M	Corona West Mobile Estates	70	70	**70**	0	**70**	0	**71**	1	**71**	1
44M	Corona West Mobile Estates	74	74	**79**	5	**79**	5	**80**	6	**80**	6
35M	Buena Vista Mobile Manor	68	68	**70[7]**	2[7]	**70[7]**	2[7]	**70[7]**	2[7]	**70[7]**	2[7]
				71[6]	3[6]	**71[6]**	3[6]	**75[6]**	7[6]	**75[6]**	7[6]
36M	Buena Vista Mobile Manor	71	71	**77[7]**	6[7]	**77[7]**	6[7]	**77[7]**	6[7]	**77[7]**	6[7]
				77[6]	6[6]	**77[6]**	6[6]	**80[6]**	9[6]	**80[6]**	9[6]
37M	Buena Vista Mobile Manor	69	69	**73[7]**	4[7]	**73[7]**	4[7]	**74[7]**	5[7]	**74[7]**	5[7]
				74[6]	5[6]	**74[6]**	5[6]	**77[6]**	8[6]	**77[6]**	8[6]
26	128 Buena Vista Avenue	71	71	**72[7]**	1[7]	**72[7]**	1[7]	**71[7]**	0[7]	**71[7]**	0[7]
				72[6]	1[6]	**72[6]**	1[6]	**76[6]**	5[6]	**76[6]**	5[6]
45M	840 Bollero Place	71	71	**78[7]**	7[7]	**78[7]**	7[7]	**73[7]**	2[7]	**73[7]**	2[7]
				78[6]	7[6]	**78[6]**	7[6]	**73[6]**	2[6]	**73[6]**	2[6]

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
46M	101 N Vicentia Avenue	73	73	**79**[7]	6[7]	**79**[7]	6[7]	**73**[7]	0[7]	**73**[7]	0[7]
				79[6]	6[6]	**79**[6]	6[6]	**73**[6]	0[6]	**73**[6]	0[6]
25	102 N Vicentia Avenue	68	68	**75**[7]	7[7]	**75**[7]	7[7]	**76**[7]	8[7]	**76**[7]	8[7]
				75[6]	7[6]	**75**[6]	7[6]	**76**[6]	8[6]	**76**[6]	8[6]
42M	102 Cota Street	73	73	**74**[7]	1[7]	**74**[7]	1[7]	**78**[7]	5[7]	**78**[7]	5[7]
				74[6]	1[6]	**74**[6]	1[6]	**76**[6]	3[6]	**76**[6]	3[6]
29	112 School Street	73	73	NA	NA	NA	NA	**70**[7]	-3[7]	**70**[7]	-3[7]
				NA	NA	NA	NA	**71**[6]	-2[6]	**71**[6]	-2[6]
47M	122 School Street	72	72	**71**[7]	-1[7]	**71**[7]	-1[7]	**73**[7]	1[7]	**73**[7]	1[7]
				71[6]	-1[6]	**71**[6]	-1[6]	**73**[6]	1[6]	**73**[6]	1[6]
40M	129 Buena Vista Avenue	79	79	**81**	2	**81**	2	**83**	4	**83**	4
38M	776 2nd Street	76	76	**77**	1	**77**	1	**80**	4	**80**	4
27	205 S. Vicentia Avenue	73	73	**70**	-3	**70**	-3	**71**	-2	**71**	-2
39M	658 2nd Street	77	77	**74**	-3	**74**	-3	**78**	1	**78**	1
50M	205 S. Vicentia Avenue	73	73	**73**	0	**73**	0	**75**	2	**75**	2
48M	130 Merrill Street	76	76	**78**	2	**78**	2	**78**	2	**78**	2
49M	Sheridan Street	78	78	**83**	5	**83**	5	**84**	6	**84**	6
30	Belle Avenue	67	67	**68**	1	**68**	1	**68**	1	**68**	1
51M	488 2nd Street	74	74	**76**	2	**76**	2	**78**	4	**78**	4
28	301 2nd Street	68	68	**78**	10	**78**	10	**70**	3	**70**	3
52M	202 Belle Avenue	76	76	**81**	5	**81**	5	**82**	6	**82**	6
53M	214 Sheridan Street	69	69	**74**	5	**74**	5	**75**	6	**75**	6
54M	Victoria Avenue	76	76	**80**	4	**80**	4	NA	NA	NA	NA
55M	Victoria Avenue	73	73	**75**	2	**75**	2	**76**	3	**76**	3
31	Howard Street	69	69	NA	NA	NA	NA	NA	NA	NA	NA
56M	202 Victoria Avenue	76	76	**75**	-1	**75**	-1	**76**	0	**76**	0
32	318 2nd Street	66	66	**73**	7	**73**	7	**73**	7	**73**	7

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
57M	209 Victoria Avenue	72	72	**74**	2	**74**	2	**74**	2	**74**	2
58M	204 Joy Street	72	72	**74**	2	**74**	2	**74**	2	**74**	2
128M	912 3rd Street	64	64	**67**	3	**67**	3	**69**	5	**69**	4
92M	1302 Cresta Road	70	70	**71**	1	**71**	1	**70**	0	**71**	1
33	1324 Cresta Road	67	67	**72**	5	**72**	5	**72**	5	**72**	5
59M	1327 Cresta Road	65	65	66	1	66	1	66	1	66	1
60M	1416 Ripchak Road	66	66	**67**	1	**68**	2	**67**	1	**68**	2
62	1466 Ripchak Road	63	63	64	1	64	1	64	1	64	1
120M	1447 Ripchak Road	57	57	58	1	57	0	58	1	57	0
61M	1482 Ripchak Road	59	59	59	0	59	0	60	1	59	0
34	405 Wynola Court	64	64	65	1	65	1	65	1	65	1
62M	426 Wynola Court	61	61	62	1	61	0	63	2	61	0
63M	372 Colfax Circle	60	60	62	2	61	1	62	2	61	1
35	374 Arthur Circle	66	66	**67**	1	**67**	1	**67**	1	**67**	1
64M	380 Arthur Circle	62	62	63	1	63	1	64	2	63	1
65M	374 Yellowstone Circle	64	64	66	2	65	1	66	2	65	1
36	366 Glacier Circle	63	63	65	2	65	2	65	2	65	2
66M	Collett Avenue	62	62	64	2	63	1	63	1	63	1
67M	2482 Griffin Way	62	62	63	1	63	1	63	1	63	1
37	370 Hendricks Circle	65	65	66	1	65	0	66	1	65	0
121M	390 Hendricks Circle	65	65	66	1	65	0	66	1	65	0
68M	370 Dylan Circles	65	65	66	1	65	0	66	1	65	0
38	370 Berkley Circle	66	66	**67**	1	**67**	1	**68**	2	**67**	1
69M	392 Berkley Circle	64	64	65	1	64	0	65	1	64	0
39	2900 Via Milano #101	73	73	**80**	7	**73**	0	**80**	7	**73**	0
70M	2916 Via Milano	71	71	**74**	3	**71**	0	**73**	2	**71**	0
71M	310 Oakwood Court	67	67	**69**	2	**68**	1	**69**	2	**68**	1
72M	324 Cypress Court	66	66	**67**	1	**67**	1	**68**	2	**67**	1

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
40	317 Camden Court	66	66	**68**	2	**67**	1	**68**	2	**67**	1
76M	The Meadows Mobile Home Park	62	62	63	1	63	1	63	1	63	1
42A	4 The Meadows Mobile Home Park #169	62	62	62	0	62	0	62	0	62	0
42B	The Meadows Mobile Home Park #163	64	64	64	0	64	0	65	1	64	0
77M	The Meadows Mobile Home Park	64	64	65	1	65	1	65	1	65	1
78M	The Meadows Mobile Home Park	61	61	61	0	61	0	61	0	61	0
73M	Sierra Pine Mobile Home Park	69	69	**71**	2	**69**	0	**70**	1	**69**	0
74M	Sierra Pine Mobile Home Park	69	69	**68**	-1	**69**	0	**69**	0	**69**	0
75M	Sierra Pine Mobile Home Park	66	66	**70**	3	**67**	1	**67**	1	**67**	1
41	Sierra Pine Mobile Home Park	67	67	**70**	3	**67**	0	**67**	0	**67**	0
79M	3887 Pierce Street (Pinnacle Riverwalk)	67	67	**67**	0	**67**	0	**67**	0	**67**	0
43	3887 Pierce Street (Pinnacle Riverwalk)	69	69	**69**	0	**69**	0	**69**	0	**69**	0
80M	3887 Pierce Street (Pinnacle Riverwalk)	68	68	**70**	2	**70**	2	**70**	2	**70**	2
81M	3887 Pierce Street (Pinnacle Riverwalk)	64	64	65	1	64	0	65	1	64	0
129M	Farmer Bros.	71	71	**71**	0	**71**	0	**71**	0	**71**	0
44	1323 Valley View	67	67	**67**	0	**67**	0	**67**	0	**67**	0

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
82M	1420 Valley View	64	64	64	0	64	0	64	0	64	0
46	822 Corona Avenue	66	66	**67**	1	66	0	**67**	1	66	0
83M	Corona Avenue	59	59	59	0	60	1	61	2	60	1
88M	890 Mandevilla Way	66	66	66	0	66	0	67	1	66	0
48	935 Mandevilla Way	66	66	**67**	1	**67**	1	**69**	3	**67**	1
89M	955 Mandevilla Way	63	63	65	2	65	2	66	3	65	2
84M	Corona City	61	61	63	2	63	2	64	3	63	2
86M	455 Newhall Drive	64	64	66	2	66	2	66	2	66	2
45	495 Newhall Drive	59	59	62	3	62	3	62	3	62	3
85M	452 Newhall Drive	61	61	62	1	62	1	63	2	62	1
87M	801 Laguna Drive	65	65	**67**	2	**67**	2	**67**	2	**67**	2
47	801 Laguna Drive	70	70	**74**	4	**71**	1	**74**	1	**71**	1
90M	817 Laguna Drive	69	69	**71**	2	**71**	2	**71**	2	**71**	2
91M	810 San Jacinto Circle	65	65	65	0	65	0	66	1	65	0
49	Cresta Verde Golf Course	69	69	**69**	0	**69**	0	**70**	1	**69**	0
93M	1678 Bel Air Street	73	73	**76**	3	**76**	3	**76**	3	**76**	3
122M	1691 Bel Air Street	63	63	65	2	65	2	65	2	65	2
94M	1632 Bel Air Street	75	75	**79**	4	**79**	4	**79**	4	**79**	4
50	1694 Bel Air Street	75	75	**78**	3	**78**	3	**78**	3	**78**	3
95M	1892 Bel Air Street	77	77	**76**	-1	**76**	-1	**76**	-1	**76**	-1
96M	7171 Bel Air Street	75	75	**79**	4	**79**	4	**79**	4	**79**	4
51	7335 Bel Air Street	76	76	**78**	2	**78**	2	**78**	2	**78**	2
97M	7320 Bel Air Street	64	64	**68**	3	**68**	4	**68**	4	**68**	5
98M	18745 State Street	67	67	**70**	3	**70**	3	**70**	3	**70**	3
52	18875 State Street	73	73	**75**	2	**75**	2	**75**	2	**75**	2
99M	18989 State Street	65	65	**67**	2	66	1	**67**	2	66	1
101M	2304 State Street	67	67	**69**	2	**69**	2	**69**	2	**69**	2

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
100M	2308 State Street	73	73	**74**	1	**74**	1	**74**	1	**74**	1
53	19620 State Street	71	71	**75**	4	**75**	4	**75**	4	**75**	4
55	7255 Piute Creek Drive	68	68	**68**	0	**68**	0	**68**	0	**68**	0
123M	7248 Piute Creek Drive	65	65	66	1	66	1	66	1	66	1
103M	7285 Piute Creek Drive	66	66	**67**	1	**67**	1	**67**	1	**67**	1
104M	Future Park	66	66	**67**	1	**67**	1	**67**	1	**67**	1
130M	Future Park	68	68	**68**	0	**68**	0	**68**	0	**68**	0
54	2520 State Street	75	75	**77**	2	**77**	2	**77**	2	**77**	2
105M	19414 Dry Gulch Road	73	73	**74**	1	**74**	1	**74**	1	**74**	1
107M	7375 Calico Circle	74	74	**74**	0	**74**	0	**74**	0	**74**	0
106M	7260 Whiskey Creek Circle	62	62	63	1	63	1	63	1	63	1
56	7315 Calico Circle	62	62	62	0	62	0	62	0	62	0
108M	7279 Calico Circle	62	62	62	0	62	0	62	0	62	0
109M	19726 Long Branch Way	58	58	58	0	58	0	58	0	58	0
110M	19740 Long Branch Way	58	58	58	0	58	0	58	0	58	0
112M	19801 Frances Street	71	71	**71**	0	**71**	0	**71**	0	**71**	0
58	7450 Liberty Avenue	69	69	**70**	1	**70**	1	**70**	1	**70**	1
113M	19890 Katy Way	67	67	66	-1	66	-1	66	-1	66	-1
114M	7630 Liberty Avenue	68	68	**68**	0	**68**	0	**68**	0	**68**	0
115M	7450 Liberty Avenue	63	63	63	0	63	0	63	0	63	0
57	19835 Bedford Canyon Road	68	68	**69**	1	**69**	1	**69**	1	**69**	1
111M	19905 Bedford Canyon Road	70	70	**72**	2	**72**	2	**72**	2	**72**	2
116M	20031 Bedford Canyon Road	74	74	**74**	0	**74**	0	**74**	0	**74**	0

Table 3.15.13 Projected Traffic Noise Levels, dBA L_{eq}

Receiver ID	Address	Existing Noise Level (dBA)	Design Year Noise Level without Project	Design Year Noise Level with Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 1[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]	Design Year Noise Level with the Initial Phase of Alternative 2[1]	Change in from Existing Noise Level (dBA)[2]
59	20111 Corona Street	74	74	**75**	1	**75**	1	**75**	1	**75**	1
117M	20110 Klyne Street	71	71	**72**	1	**72**	1	**72**	1	**72**	1
118M	20141 Bedford Canyon Road	71	71	**73**	2	**73**	2	**73**	2	**73**	2
60	20225 Bedford Canyon Road	71	71	**72**	1	**72**	1	**72**	1	**72**	1
119M	7665 Boyd Street	68	68	68	0	**68**	0	**68**	1	**68**	0

Source: *Final Noise Study Report* (April 2010).

[1] **Bold face type** indicates receivers that would approach or exceed 67 dBA.

[2] **Bold face type** indicates receivers that experience a noise increase of 12 dBA or more.

[3] Design Variation 1 = Eastbound Braid and Westbound Split Diamond.

[4] Design Variation 3 = Eastbound Braid and Westbound Direct Connector On-Ramp.

[5] Receiver would be acquired by the project.

[6] Design Variation 2 = Eastbound Lincoln Avenue Hook Ramps.

[7] Design Variation 1 = Lincoln Avenue Tight Diamond.

dBA = A-weighted decibel

L_{eq} = equivalent noise level

NA = not applicable

Table 3.15.14 Noise Barrier Feasibility and Reasonableness for Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
E	E-1	8	13[1]	$494,000	$1,214,187	Yes	No
		10	48[1]	$1,176,000	$1,513,195	Yes	No
		12	**96[1]**	**$3,608,000**	**$1,812,203**	**Yes**	**Yes**
		14	**119[1]**	**$4,356,000**	**$2,111,211**	**Yes**	**Yes**
		16	**119[1]**	**$4,356,000**	**$2,410,219**	**Yes**	**Yes**
I	I-1	**8**	**8**	**$308,000**	**$173,650**	**Yes**	**Yes**
		10	**8**	**$320,000**	**$197,170**	**Yes**	**Yes**
		12	**8**	**$320,000**	**$221,570**	**Yes**	**Yes**
		14	**8**	**$320,000**	**$246,610**	**Yes**	**Yes**
		16	**8**	**$336,000**	**$271,050**	**Yes**	**Yes**
I	I-2	8	5	$190,000	$458,496	Yes	No
		10	**14**	**$588,000**	**$520,592**	**Yes**	**Yes**
		12	**14**	**$616,000**	**$584,968**	**Yes**	**Yes**
		14	14	$644,000	$651,184	Yes	No
		16	14	$644,000	$715,520	Yes	No
K	K-1	**8**	**8**	**$1,216,000**	**$245,888**	**Yes**	**Yes**
		10	**19**	**$1,254,000**	**$307,360**	**Yes**	**Yes**
		12	**28**	**$1,848,000**	**$386,832**	**Yes**	**Yes**
		14	**28**	**$1,848,000**	**$430,304**	**Yes**	**Yes**
		16	**28**	**$1,848,000**	**$491,776**	**Yes**	**Yes**
M Variation 1	M1, M2, and M3	8	0	0	NA[2]	No	NA
		10	3	$150,000	$1,461,195	Yes	No
		12	18	$936,000	$1,683,915	Yes	No
		14	18	$1,008,000	$1,910,475	Yes	No
		16	18	$1,008,000	$2,138,315	Yes	No
M Variation 3	M1, M2, and M3	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	4	$216,000	$1,683,915	Yes	No
		14	4	$224,000	$1,910,475	Yes	No
		16	8	$448,000	$2,138,315	Yes	No
O Variation 1	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**44**	**$2,816,000**	**$800,010**	**Yes**	**Yes**
		12	**71**	**$4,686,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 1	O-2 and O-3	8	0	0	NA	No	NA
		10	8	$448,000	$1,134,830	Yes	No
		12	8	$464,000	$1,303,502	Yes	No
		14	8	$464,000	$1,476,014	Yes	No
		16	8	$480,000	$1,648,526	Yes	No
O Variation 2	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**44**	**$2,816,000**	**$800,010**	**Yes**	**Yes**
		12	**71**	**$4,686,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 2	O-2 and O-3	8	5	$300,000	$966,798	Yes	No
		10	5	$310,000	$1,134,830	Yes	No
		12	9	$576,000	$1,303,502	Yes	No
		14	13	$858,000	$1,476,014	Yes	No
		16	13	$858,000	$1,648,526	Yes	No
P and R Variation 1	P-1	**8**	**17**	**$986,000**	**$535,296**	**Yes**	**Yes**
		10	**32**	**$1,856,000**	**$669,120**	**Yes**	**Yes**
		12	**37**	**$2,200,000**	**$802,944**	**Yes**	**Yes**
		14	**37**	**$2,294,000**	**$936,768**	**Yes**	**Yes**
		16	**37**	**$2,294,000**	**$1,070,592**	**Yes**	**Yes**

Table 3.15.14 Noise Barrier Feasibility and Reasonableness for Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
P and R Variation 2	P-1	**8**	**17**	**$986,000**	**$535,296**	**Yes**	**Yes**
		10	**32**	**$1,920,000**	**$669,120**	**Yes**	**Yes**
		12	**37**	**$2,200,000**	**$802,944**	**Yes**	**Yes**
		14	**37**	**$2,294,000**	**$936,768**	**Yes**	**Yes**
		16	**37**	**$2,294,000**	**$1,070,592**	**Yes**	**Yes**
Q, S and U Variation 1	Q-1	**8**	**35**	**$1,960,000**	**$544,000**	**Yes**	**Yes**
		10	**46**	**$2,688,000**	**$680,000**	**Yes**	**Yes**
		12	**46**	**$2,688,000**	**$816,000**	**Yes**	**Yes**
		14	**52**	**$3,016,000**	**$952,000**	**Yes**	**Yes**
		16	**56**	**$3,248,000**	**$1,088,000**	**Yes**	**Yes**
Q, S and U Variation 2	Q-1	**8**	**28**	**$1,568,000**	**$544,000**	**Yes**	**Yes**
		10	**46**	**$2,576,000**	**$680,000**	**Yes**	**Yes**
		12	**46**	**$2,688,000**	**$816,000**	**Yes**	**Yes**
		14	**52**	**$3,120,000**	**$952,000**	**Yes**	**Yes**
		16	**56**	**$3,360,000**	**$1,088,000**	**Yes**	**Yes**
T	T-1	**8**	**10**	**$500,000**	**$213,700**	**Yes**	**Yes**
		10	**10**	**$520,000**	**$267,200**	**Yes**	**Yes**
		12	**10**	**$520,000**	**$320,640**	**Yes**	**Yes**
		14	**10**	**$520,000**	**$374,080**	**Yes**	**Yes**
		16	**10**	**$520,000**	**$427,520**	**Yes**	**Yes**
V	T-1 and V-1	**8**	**7**	**$336,000**	**$195,584**	**Yes**	**Yes**
		10	**7**	**$350,000**	**$244,480**	**Yes**	**Yes**
		12	**7**	**$350,000**	**$293,376**	**Yes**	**Yes**
		14	**7**	**$364,000**	**$342,272**	**Yes**	**Yes**
		16	7	$364,000	$427,520	Yes	No
W	W-1	8	4	$168,000	$168,704	Yes	No
		10	**11**	**$462,000**	**$210,880**	**Yes**	**Yes**
		12	**19**	**$836,000**	**$253,056**	**Yes**	**Yes**
		14	**19**	**$836,000**	**$295,232**	**Yes**	**Yes**
		16	**19**	**$836,000**	**$337,408**	**Yes**	**Yes**
Z	Z-1	8	0	0	NA	No	NA
		10	**5**	**$210,000**	**$187,731**	**Yes**	**Yes**
		12	**5**	**$220,000**	**$212,683**	**Yes**	**Yes**
		14	5	$220,000	$264,987	Yes	No
		16	5`	$230,000	$290,799	Yes	No
D1	D1-B	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	6	$300,000	$631,780	Yes	No
		14	12	$624,000	$705,872	Yes	No
		16	12	$624,000	$777,744	Yes	No
F1	F1-A	8	0	0	NA	Yes	NA
		10	7	$280,000	$771,050	Yes	No
		12	9	$378,000	$867,498	Yes	No
		14	9	$378,000	$967,146	Yes	No
		16	9	$378,000	$1,066,794	Yes	No
J1	J1-A and J1-B	8	3	$114,000	$549,930	Yes	No
		10	3	$114,000	$672,050	Yes	No
		12	3	$120,000	$705,450	Yes	No
		14	3	$120,000	$786,410	Yes	No
		16	3	$120,000	$867,370	Yes	No
J1	J1-C	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	5	$190,000	$235,655	Yes	No
		14	**11**	**$440,000**	**$251,383**	**Yes**	**Yes**
		16	**11**	**$440,000**	**$266,431**	**Yes**	**Yes**

Table 3.15.14 Noise Barrier Feasibility and Reasonableness for Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
K1	K-1A	8	7	$350,000	$611,008	Yes	No
		10	**16**	**$832,000**	**$696,640**	**Yes**	**Yes**
		12	**22**	**$1,144,000**	**$783,553**	**Yes**	**Yes**
		14	**22**	**$1,188,000**	**$873,664**	**Yes**	**Yes**
		16	**24**	**$1,296,000**	**$964,416**	**Yes**	**Yes**
N1	N1-A	**8**	**23**	**$1,150,000**	**$806,270**	**Yes**	**Yes**
		10	**29**	**$1,450,000**	**$918,870**	**Yes**	**Yes**
		12	**29**	**$1,450,000**	**$1,034,110**	**Yes**	**Yes**
		14	**29**	**$1,798,000**	**$1,153,470**	**Yes**	**Yes**
		16	**40**	**$2,080,000**	**$1,272,190**	**Yes**	**Yes**
N1	N1-B, N1-C, and N1-D	8	4	$176,000	$1,893,497	Yes	No
		10	4	$184,000	$2,160,345	Yes	No
		12	11	$528,000	$2,430,393	Yes	No
		14	11	$528,000	$2,709,401	Yes	No
		16	14	$672,000	$2,989,689	Yes	No
P1	N1-D and P1-A	8	0	0	NA	No	NA
		10	6	$264,000	$1,583,460	Yes	No
		12	17	$748,000	$1,781,220	Yes	No
		14	17	$782,000	$1,985,380	Yes	No
		16	17	$782,000	$2,190,820	Yes	No
Q1	Q1-A	8	2	$88,000	$867,899	Yes	No
		10	13	$572,000	$985,883	Yes	No
		12	13	$598,000	$1,106,427	Yes	No
		14	13	$624,000	$1,231,211	Yes	No
		16	13	$624,000	$1,354,675	Yes	No
R	R-1A, and R-1B	8	5	$210,000	$1,048,416	Yes	No
		10	7	$294,000	$1,136,200	No	No
		12	7	$294,000	$1,226,084	Yes	No
		14	14	$616,000	$1,319,048	Yes	No
		16	14	$616,000	$1,409,452	Yes	No
S	S-1A and S-1B	8	18	$972,000	$1,242,311	Yes	No
		10	21	$1,134,000	$1,417,575	Yes	No
		12	21	$1,176,000	$1,594,119	Yes	No
		14	25	$1,400,000	$1,777,063	Yes	No
		16	25	$1,400,000	$1,961,287	Yes	No

Source: *Noise Abatement Decision Report* (July 2010).
Note: **Bold face type** indicates barriers determined to be feasible and reasonable.
[1] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
[2] NA = Not Applicable. Noise barrier was determined to be not feasible.
ft = feet

Table 3.15.15 Noise Barriers Feasibility and Reasonableness for the Initial Phase of Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
E	E-1	8	0	0	NA[1]	No	NA
		10	0	0	NA	No	NA
		12	**30[2]**	**$1,200,000**	**$898,442**	**Yes**	**Yes**
		14	**30[2]**	**$1,200,000**	**$1,000,674**	**Yes**	**Yes**
		16	**30[2]**	**$1,260,000**	**$1,104,546**	**Yes**	**Yes**
I	I-1	**8**	**8**	**$308,000**	**$173,650**	**Yes**	**Yes**
		10	**8**	**$320,000**	**$197,170**	**Yes**	**Yes**
		12	**8**	**$320,000**	**$221,570**	**Yes**	**Yes**
		14	**8**	**$320,000**	**$246,610**	**Yes**	**Yes**
		16	**8**	**$336,000**	**$271,050**	**Yes**	**Yes**
I	I-2	8	5	$190,000	$458,496	Yes	No
		10	**14**	**$588,000**	**$520,592**	**Yes**	**Yes**
		12	**14**	**$616,000**	**$584,968**	**Yes**	**Yes**
		14	**14**	**$644,000**	**$651,184**	**Yes**	**Yes**
		16	**14**	**$644,000**	**$715,520**	**Yes**	**Yes**
K	K-1	**8**	**8**	**$1,216,000**	**$245,888**	**Yes**	**Yes**
		10	**19**	**$1,254,000**	**$307,360**	**Yes**	**Yes**
		12	**28**	**$1,848,000**	**$386,832**	**Yes**	**Yes**
		14	**28**	**$1,848,000**	**$430,304**	**Yes**	**Yes**
		16	**28**	**$1,848,000**	**$491,776**	**Yes**	**Yes**
M Variation 1	M1, M2, and M3	8	0	0	NA	No	NA
		10	3	$150,000	$1,461,195	Yes	No
		12	18	$936,000	$1,683,915	Yes	No
		14	18	$1,008,000	$1,910,475	Yes	No
		16	18	$1,008,000	$2,138,315	Yes	No
M Variation 3	M1, M2, and M3	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	4	$216,000	$1,683,915	Yes	No
		14	4	$224,000	$1,910,475	Yes	No
		16	8	$448,000	$2,138,315	Yes	No
O Variation 1	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**44**	**$2,816,000**	**$800,010**	**Yes**	**Yes**
		12	**71**	**$4,686,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 1	O-2 and O-3	8	0	0	NA	No	NA
		10	8	$448,000	$1,134,830	Yes	No
		12	8	$464,000	$1,303,502	Yes	No
		14	8	$464,000	$1,476,014	Yes	No
		16	8	$480,000	$1,648,526	Yes	No
O Variation 2	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**44**	**$2,816,000**	**$800,010**	**Yes**	**Yes**
		12	**71**	**$4,686,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 2	O-2 and O-3	8	5	$300,000	$966,798	Yes	No
		10	5	$310,000	$1,134,830	Yes	No
		12	9	$576,000	$1,303,502	Yes	No
		14	13	$858,000	$1,476,014	Yes	No
		16	13	$858,000	$1,648,526	Yes	No
P and R Variation 1	P-1	**8**	**17**	**$986,000**	**$535,296**	**Yes**	**Yes**
		10	**32**	**$1,856,000**	**$669,120**	**Yes**	**Yes**
		12	**37**	**$2,200,000**	**$802,944**	**Yes**	**Yes**
		14	**37**	**$2,294,000**	**$936,768**	**Yes**	**Yes**
		16	**37**	**$2,294,000**	**$1,070,592**	**Yes**	**Yes**

Table 3.15.15 Noise Barriers Feasibility and Reasonableness for the Initial Phase of Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
P and R Variation 2	P-1	**8**	**17**	**$986,000**	**$535,296**	**Yes**	**Yes**
		10	**32**	**$1,920,000**	**$669,120**	**Yes**	**Yes**
		12	**37**	**$2,200,000**	**$802,944**	**Yes**	**Yes**
		14	**37**	**$2,294,000**	**$936,768**	**Yes**	**Yes**
		16	**37**	**$2,294,000**	**$1,070,592**	**Yes**	**Yes**
Q, S and U Variation 1	Q-1	**8**	**35**	**$1,960,000**	**$544,000**	**Yes**	**Yes**
		10	**46**	**$2,688,000**	**$680,000**	**Yes**	**Yes**
		12	**46**	**$2,688,000**	**$816,000**	**Yes**	**Yes**
		14	**52**	**$3,016,000**	**$952,000**	**Yes**	**Yes**
		16	**56**	**$3,248,000**	**$1088,000**	**Yes**	**Yes**
Q, S and U Variation 2	Q-1	**8**	**28**	**$1,568,000**	**$544,000**	**Yes**	**Yes**
		10	**46**	**$2,576,000**	**$680,000**	**Yes**	**Yes**
		12	**46**	**$2,688,000**	**$816,000**	**Yes**	**Yes**
		14	**52**	**$3,120,000**	**$952,000**	**Yes**	**Yes**
		16	**56**	**$3,360,000**	**$1088,000**	**Yes**	**Yes**
T	T-1	**8**	**10**	**$500,000**	**$213,700**	**Yes**	**Yes**
		10	**10**	**$520,000**	**$267,200**	**Yes**	**Yes**
		12	**10**	**$520,000**	**$320,640**	**Yes**	**Yes**
		14	**10**	**$520,000**	**$374,080**	**Yes**	**Yes**
		16	**10**	**$520,000**	**$427,520**	**Yes**	**Yes**
V	T-1 and V-1	**8**	**7**	**$336,000**	**$195,584**	**Yes**	**Yes**
		10	**7**	**$350,000**	**$244,480**	**Yes**	**Yes**
		12	**7**	**$350,000**	**$293,376**	**Yes**	**Yes**
		14	**7**	**$364,000**	**$342,272**	**Yes**	**Yes**
		16	7	$364,000	$427,520	Yes	No
W	W-1	8	4	$168,000	$168,704	Yes	No
		10	**11**	**$462,000**	**$210,880**	**Yes**	**Yes**
		12	**19**	**$836,000**	**$253,056**	**Yes**	**Yes**
		14	**19**	**$836,000**	**$295,232**	**Yes**	**Yes**
		16	**19**	**$836,000**	**$337,408**	**Yes**	**Yes**
Z	Z-1	8	0	0	NA	No	NA
		10	**5**	**$210,000**	**$187,731**	**Yes**	**Yes**
		12	**5**	**$220,000**	**$212,683**	**Yes**	**Yes**
		14	5	$220,000	$264,987	Yes	No
		16	5`	$220,000	$290,799	Yes	No
D1	D1-B	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	6	$240,000	$631,780	Yes	No
		14	6	$240,000	$705,872	Yes	No
		16	6	$252,000	$777,744	Yes	No
F1	F1-A	8	0	0	NA	Yes	NA
		10	7	$280,000	$771,050	Yes	No
		12	9	$378,000	$867,498	Yes	No
		14	10	$420,000	$967,146	Yes	No
		16	10	$420,000	$1,066,794	Yes	No
J1	J1-A and J1-B	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	3	$114,000	$705,450	Yes	No
		14	3	$114,000	$786,410	Yes	No
		16	3	$120,000	$867,370	Yes	No
J1	J1-C	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	5	$190,000	$235,655	Yes	No
		14	**11**	**$440,000**	**$251,383**	**Yes**	**Yes**
		16	**11**	**$440,000**	**$266,431**	**Yes**	**Yes**

Table 3.15.15 Noise Barriers Feasibility and Reasonableness for the Initial Phase of Alternative 1

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
K1	K1-A	8	0	NA	NA	No	NA
		10	**18**	**$900,000**	**$696,640**	**Yes**	**Yes**
		12	**24**	**$1,248,000**	**$783,553**	**Yes**	**Yes**
		14	**24**	**$1,248,000**	**$873,664**	**Yes**	**Yes**
		16	**27**	**$1,404,000**	**$964,416**	**Yes**	**Yes**
N1	N1-A	8	16	$768,000	$806,270	Yes	No
		10	**23**	**$1,150,000**	**$918,870**	**Yes**	**Yes**
		12	**23**	**$1,150,000**	**$1,034,110**	**Yes**	**Yes**
		14	**23**	**$1,196,000**	**$1,153,470**	**Yes**	**Yes**
		16	**34**	**$1,768,000**	**$1,272,190**	**Yes**	**Yes**
N1	N1-B, N1-C, and N1-D	8	4	$176,000	$1,893,497	Yes	No
		10	10	$460,000	$2,160,345	Yes	No
		12	17	$816,000	$2,430,393	Yes	No
		14	17	$816,000	$2,709,401	Yes	No
		16	20	$960,000	$2,989,689	Yes	No
P1	N1-D and P1-A	8	0	0	NA	No	NA
		10	6	$264,000	$1,583,460	Yes	No
		12	17	$748,000	$1,781,220	Yes	No
		14	17	$782,000	$1,985,380	Yes	No
		16	17	$782,000	$2,190,820	Yes	No
Q1	Q1-A	8	2	$88,000	$867,899	Yes	No
		10	13	$572,000	$985,883	Yes	No
		12	13	$598,000	$1,106,427	Yes	No
		14	13	$624,000	$1,231,211	Yes	No
		16	13	$624,000	$1,354,675	Yes	No
R1	R-1A and R-1B	8	5	$210,000	$1,048,416	Yes	No
		10	7	$294,000	$1,136,200	No	No
		12	7	$294,000	$1,226,084	Yes	No
		14	14	$616,000	$1,319,048	Yes	No
		16	14	$616,000	$1,409,452	Yes	No
S1	S-1A and S-1B	8	18	$792,000	$1,242,311	Yes	No
		10	21	$1,134,000	$1,417,575	Yes	No
		12	21	$1,176,000	$1,594,119	Yes	No
		14	25	$1,400,000	$1,777,063	Yes	No
		16	25	$1,400,000	$1,961,287	Yes	No

Source: *Noise Abatement Decision Report* (July 2010).
Note: **Bold face type** indicates barriers determined to be feasible and reasonable.
[1] NA = Not Applicable. Noise barrier was determined to be not feasible.
[2] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
ft = feet

Table 3.15.16 Noise Barriers Feasibility and Reasonableness for Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
E	E-1	8	0	0	NA	No	NA[1]
		10	**47[2]**	**$1,974,000**	**$1,513,195**	**Yes**	**Yes**
		12	**80[2]**	**$3,520,000**	**$1,812,203**	**Yes**	**Yes**
		14	**95[2]**	**$4,180,000**	**$2,410,219**	**Yes**	**Yes**
		16	**105[2]**	**$4,180,000**	**$1,104,546**	**Yes**	**Yes**
I	I-1	**8**	**8**	**$304,000**	**$173,650**	**Yes**	**Yes**
		10	**8**	**$320,000**	**$197,170**	**Yes**	**Yes**
		12	**8**	**$320,000**	**$221,570**	**Yes**	**Yes**
		14	**8**	**$336,000**	**$246,610**	**Yes**	**Yes**
		16	**8**	**$336,000**	**$271,050**	**Yes**	**Yes**
I	I-2	**8**	**14**	**$588,000**	**$458,496**	**Yes**	**Yes**
		10	**14**	**$616,000**	**$520,592**	**Yes**	**Yes**
		12	**14**	**$644,000**	**$584,968**	**Yes**	**Yes**
		14	**14**	**$644,000**	**$651,184**	**Yes**	**Yes**
		16	**14**	**$644,000**	**$715,520**	**Yes**	**Yes**
K	K-1	**8**	**19**	**$1,178,000**	**$245,888**	**Yes**	**Yes**
		10	**28**	**$1,736,000**	**$307,360**	**Yes**	**Yes**
		12	**28**	**$1,736,000**	**$386,832**	**Yes**	**Yes**
		14	**28**	**$1,792,000**	**$430,304**	**Yes**	**Yes**
		16	**28**	**$1,792,000**	**$491,776**	**Yes**	**Yes**
M Variation 1 and 2	M1, M2, and M3	8	8	$448,000	$1,293,755	Yes	No
		10	8	$448,000	$1,461,195	Yes	No
		12	19	$1,064,000	$1,683,915	Yes	No
		14	23	$1,288,000	$1,910,475	Yes	No
		16	27	$1,512,000	$2,138,315	Yes	No
M Variation 3 and 4	M1, M2, and M3	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	0	0	NA	No	NA
		14	7	$364,000	$1,910,475	Yes	No
		16	11	$572,000	$2,138,315	Yes	No
O Variation 1	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**66**	**$4,356,000**	**$800,010**	**Yes**	**Yes**
		12	**86**	**$5,676,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 1	O-2 and O-3	8	4	$208,000	$966,798	Yes	No
		10	8	$432,000	$1,134,830	Yes	No
		12	8	$432,000	$1,303,502	Yes	No
		14	8	$432,000	$1,476,014	Yes	No
		16	8	$448,000	$1,648,526	Yes	No
O Variation 2	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**66**	**$4,356,000**	**$800,010**	**Yes**	**Yes**
		12	**86**	**$5,676,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 2	O-2 and O-3	8	13	$806,000	$966,798	Yes	No
		10	13	$832,000	$1,134,830	Yes	No
		12	13	$858,000	$1,303,502	Yes	No
		14	13	$858,000	$1,476,014	Yes	No
		16	13	$858,000	$1,648,526	Yes	No
P and R Variation 1	P-1	**8**	**12**	**$720,000**	**$535,296**	**Yes**	**Yes**
		10	**22**	**$1,320,000**	**$669,120**	**Yes**	**Yes**
		12	**27**	**$1,620,000**	**$802,944**	**Yes**	**Yes**
		14	**39**	**$2,418,000**	**$936,768**	**Yes**	**Yes**
		16	**39**	**$2,418,000**	**$1,070,592**	**Yes**	**Yes**

Table 3.15.16 Noise Barriers Feasibility and Reasonableness for Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
P and R Variation 2	P-1	**8**	**12**	**$720,000**	**$535,296**	**Yes**	**Yes**
		10	**22**	**$1,364,000**	**$669,120**	**Yes**	**Yes**
		12	**27**	**$1,674,000**	**$802,944**	**Yes**	**Yes**
		14	**39**	**$2,418,000**	**$936,768**	**Yes**	**Yes**
		16	**39**	**$2,418,000**	**$1,070,592**	**Yes**	**Yes**
Q, S, and U Variation 1	Q-1	**8**	**42**	**$2,436,000**	**$544,000**	**Yes**	**Yes**
		10	**55**	**$3,190,000**	**$680,000**	**Yes**	**Yes**
		12	**58**	**$3,480,000**	**$816,000**	**Yes**	**Yes**
		14	**58**	**$3,596,000**	**$952,000**	**Yes**	**Yes**
		16	**58**	**$3,596,000**	**$1,088,000**	**Yes**	**Yes**
Q, S, and U Variation 2	Q-1	**8**	**28**	**$1,624,000**	**$544,000**	**Yes**	**Yes**
		10	**55**	**$3,300,000**	**$680,000**	**Yes**	**Yes**
		12	**58**	**$3,480,000**	**$816,000**	**Yes**	**Yes**
		14	**58**	**$3,596,000**	**$952,000**	**Yes**	**Yes**
		16	**62**	**$3,844,000**	**$1,088,000**	**Yes**	**Yes**
T	T-1	**8**	**10**	**$520,000**	**$213,700**	**Yes**	**Yes**
		10	**10**	**$540,000**	**$267,200**	**Yes**	**Yes**
		12	**10**	**$540,000**	**$320,640**	**Yes**	**Yes**
		14	**10**	**$540,000**	**$374,080**	**Yes**	**Yes**
		16	**10**	**$540,000**	**$427,520**	**Yes**	**Yes**
V	T-1 and V-1	**8**	**4**	**$208,000**	**$195,584**	**Yes**	**Yes**
		10	**4**	**$216,000**	**$244,480**	**Yes**	**Yes**
		12	4	$216,000	$293,376	Yes	No
		14	4	$224,000	$342,272	Yes	No
		16	4	$224,000	$427,520	Yes	No
W	W-1	**8**	**19**	**$836,000**	**$168,704**	**Yes**	**Yes**
		10	**19**	**$874,000**	**$210,880**	**Yes**	**Yes**
		12	**19**	**$912,000**	**$253,056**	**Yes**	**Yes**
		14	**19**	**$912,000**	**$295,232**	**Yes**	**Yes**
		16	**19**	**$912,000**	**$337,408**	**Yes**	**Yes**
Z	Z-1	8	0	0	NA	No	NA
		10	**5**	**$210,000**	**$187,731**	**Yes**	**Yes**
		12	**5**	**$220,000**	**$212,683**	**Yes**	**Yes**
		14	5	$220,000	$264,987	Yes	No
D1	D1-B	16	5	$220,000	$290,799	Yes	No
		8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	6	$300,000	$631,780	Yes	No
		14	6	$300,000	$705,872	Yes	No
		16	12	$624,000	$777,744	Yes	No
F1	F1-A	8	0	0	NA	No	NA
		10	7	$280,000	$771,050	Yes	No
		12	9	$378,000	$867,498	Yes	No
		14	9	$378,000	$967,146	Yes	No
		16	9	$378,000	$1,066,794	Yes	No
J1	J1-A and J1-B	8	0	0	NA	No	NA
		10	3	$114,000	$672,050	Yes	No
		12	3	$114,000	$705,450	Yes	No
		14	3	$120,000	$786,410	Yes	No
		16	3	$120,000	$867,370	Yes	No
J1	J1-C	8	2	$80,000	$205,719	No	No
		10	2	$84,000	$220,407	No	No
		12	**5**	**$546,000**	**$235,655**	**Yes**	**Yes**
		14	**11**	**$546,000**	**$251,383**	**Yes**	**Yes**
		16	**11**	**$546,000**	**$266,431**	**Yes**	**Yes**

Table 3.15.16 Noise Barriers Feasibility and Reasonableness for Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
K1	K-1A	8	0	0	NA	Yes	NA
		10	7	$364,000	$696,640	Yes	No
		12	**16**	**$832,000**	**$783,553**	**Yes**	**Yes**
		14	**22**	**$1,144,000**	**$873,664**	**Yes**	**Yes**
		16	**24**	**$1,296,000**	**$964,416**	**Yes**	**Yes**
N1	N1-A	**8**	**23**	**$1,150,000**	**$806,270**	**Yes**	**Yes**
		10	**29**	**$1,450,000**	**$918,870**	**Yes**	**Yes**
		12	**29**	**$1,450,000**	**$1,034,110**	**Yes**	**Yes**
		14	**29**	**$1,798,000**	**$1,153,470**	**Yes**	**Yes**
		16	**40**	**$2,080,000**	**$1,272,190**	**Yes**	**Yes**
N1	N1-B, N1-C, and N1-D	8	4	$176,000	$1,893,497	Yes	No
		10	4	$184,000	$2,160,345	Yes	No
		12	11	$528,000	$2,430,393	Yes	No
		14	11	$528,000	$2,709,401	Yes	No
		16	14	$672,000	$2,989,689	Yes	No
P1	N1-D and P1-A	8	0	0	NA	No	NA
		10	6	$264,000	$1,583,460	Yes	No
		12	17	$748,000	$1,781,220	Yes	No
		14	17	$782,000	$1,985,380	Yes	No
		16	17	$782,000	$2,190,820	Yes	No
Q1	Q1-A	8	2	$88,000	$867,899	Yes	No
		10	13	$572,000	$985,883	Yes	No
		12	13	$598,000	$1,106,427	Yes	No
		14	13	$624,000	$1,231,211	Yes	No
		16	13	$624,000	$1,354,675	Yes	No
R	R-1A and R-1B	8	5	$210,000	$1,048,416	Yes	No
		10	7	$294,000	$1,136,200	No	No
		12	7	$294,000	$1,226,084	Yes	No
		14	14	$616,000	$1,319,048	Yes	No
		16	14	$616,000	$1,409,452	Yes	No
S	S-1A and S-1B	8	18	$972,000	$1,242,311	Yes	No
		10	21	$1,134,000	$1,417,575	Yes	No
		12	21	$1,176,000	$1,594,119	Yes	No
		14	25	$1,400,000	$1,777,063	Yes	No
		16	25	$1,400,000	$1,961,287	Yes	No

Source: *Noise Abatement Decision Report* (July 2010).
Note: **Bold face type** indicates barriers determined to be feasible and reasonable.
[1] NA = Not Applicable. Noise barrier was determined to be not feasible.
[2] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
ft = feet

Table 3.15.17 Noise Barrier Feasibility and Reasonableness for the Initial Phase of Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
E	E-1	8	0	0	NA[1]	No	NA
		10	0	0	NA	No	NA
		12	**30[2]**	**$1,200,000**	**$898,442**	**Yes**	**Yes**
		14	**30[2]**	**$1,200,000**	**$1,000,674**	**Yes**	**Yes**
		16	**30[2]**	**$1,260,000**	**$1,104,546**	**Yes**	**Yes**
I	I-1	**8**	**8**	**$304,000**	**$173,650**	**Yes**	**Yes**
		10	**8**	**$320,000**	**$197,170**	**Yes**	**Yes**
		12	**8**	**$320,000**	**$221,570**	**Yes**	**Yes**
		14	**8**	**$336,000**	**$246,610**	**Yes**	**Yes**
		16	**8**	**$336,000**	**$271,050**	**Yes**	**Yes**
I	I-2	**8**	**14**	**$588,000**	**$458,496**	**Yes**	**Yes**
		10	**14**	**$616,000**	**$520,592**	**Yes**	**Yes**
		12	**14**	**$644,000**	**$584,968**	**Yes**	**Yes**
		14	**14**	**$644,000**	**$651,184**	**Yes**	**Yes**
		16	**14**	**$644,000**	**$715,520**	**Yes**	**Yes**
K	K-1	**8**	**19**	**$1,178,000**	**$245,888**	**Yes**	**Yes**
		10	**28**	**$1,736,000**	**$307,360**	**Yes**	**Yes**
		12	**28**	**$1,736,000**	**$386,832**	**Yes**	**Yes**
		14	**28**	**$1,792,000**	**$430,304**	**Yes**	**Yes**
		16	**28**	**$1,792,000**	**$491,776**	**Yes**	**Yes**
M Variation 1 and 2	M1, M2, and M3	8	8	$448,000	$1,293,755	Yes	No
		10	8	$448,000	$1,461,195	Yes	No
		12	19	$1,064,000	$1,683,915	Yes	No
		14	23	$1,288,000	$1,910,475	Yes	No
		16	27	$1,512,000	$2,138,315	Yes	No
M Variation 3 and 4	M1,M2, and M3	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	0	0	NA	No	NA
		14	7	$364,000	$1,910,475	Yes	No
		16	11	$572,000	$2,138,315	Yes	No
O Variation 1	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**66**	**$4,356,000**	**$800,010**	**Yes**	**Yes**
		12	**86**	**$5,676,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 1	O-2 and O-3	8	4	$208,000	$966,798	Yes	No
		10	8	$432,000	$1,134,830	Yes	No
		12	8	$432,000	$1,303,502	Yes	No
		14	8	$432,000	$1,476,014	Yes	No
		16	8	$448,000	$1,648,526	Yes	No
O Variation 2	O-1 and O-2	**8**	**28**	**$1,792,000**	**$682,602**	**Yes**	**Yes**
		10	**66**	**$4,356,000**	**$800,010**	**Yes**	**Yes**
		12	**86**	**$5,676,000**	**$918,058**	**Yes**	**Yes**
		14	**86**	**$5,676,000**	**$1,039,306**	**Yes**	**Yes**
		16	**86**	**$5,676,000**	**$1,159,914**	**Yes**	**Yes**
O Variation 2	O-2 and O-3	8	13	$806,000	$966,798	Yes	No
		10	13	$832,000	$1,134,830	Yes	No
		12	13	$858,000	$1,303,502	Yes	No
		14	13	$858,000	$1,476,014	Yes	No
		16	13	$858,000	$1,648,526	Yes	No
P and R Variation 1	P-1	**8**	**12**	**$720,000**	**$535,296**	**Yes**	**Yes**
		10	**22**	**$1,320,000**	**$669,120**	**Yes**	**Yes**
		12	**27**	**$1,620,000**	**$802,944**	**Yes**	**Yes**
		14	**39**	**$2,418,000**	**$936,768**	**Yes**	**Yes**
		16	**39**	**$2,418,000**	**$1,070,592**	**Yes**	**Yes**

Table 3.15.17 Noise Barrier Feasibility and Reasonableness for the Initial Phase of Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
P and R Variation 2	P-1	**8**	**12**	**$720,000**	**$535,296**	**Yes**	**Yes**
		10	**22**	**$1,364,000**	**$669,120**	**Yes**	**Yes**
		12	**27**	**$1,674,000**	**$802,944**	**Yes**	**Yes**
		14	**39**	**$2,418,000**	**$936,768**	**Yes**	**Yes**
		16	**39**	**$2,418,000**	**$1,070,592**	**Yes**	**Yes**
Q, S and U Variation 1	Q-1	**8**	**42**	**$2,436,000**	**$544,000**	**Yes**	**Yes**
		10	**55**	**$3,190,000**	**$680,000**	**Yes**	**Yes**
		12	**58**	**$3,480,000**	**$816,000**	**Yes**	**Yes**
		14	**58**	**$3,596,000**	**$952,000**	**Yes**	**Yes**
		16	**58**	**$3,596,000**	**$1,088,000**	**Yes**	**Yes**
Q, S and U Variation 2	Q-1	**8**	**28**	**$1,624,000**	**$544,000**	**Yes**	**Yes**
		10	**55**	**$3,300,000**	**$680,000**	**Yes**	**Yes**
		12	**58**	**$3,480,000**	**$816,000**	**Yes**	**Yes**
		14	**58**	**$3,596,000**	**$952,000**	**Yes**	**Yes**
		16	**62**	**$3,844,000**	**$1,088,000**	**Yes**	**Yes**
T	T-1	**8**	**10**	**$520,000**	**$213,700**	**Yes**	**Yes**
		10	**10**	**$540,000**	**$267,200**	**Yes**	**Yes**
		12	**10**	**$540,000**	**$320,640**	**Yes**	**Yes**
		14	**10**	**$540,000**	**$374,080**	**Yes**	**Yes**
		16	**10**	**$540,000**	**$427,520**	**Yes**	**Yes**
V	T-1 and V-1	8	4	$208,000	$195,584	Yes	Yes
		10	**4**	**$216,000**	**$244,480**	**Yes**	**Yes**
		12	4	$216,000	$293,376	Yes	No
		14	4	$224,000	$342,272	Yes	No
		16	4	$224,000	$427,520	Yes	No
W	W-1	**8**	**19**	**$836,000**	**$168,704**	**Yes**	**Yes**
		10	**19**	**$874,000**	**$210,880**	**Yes**	**Yes**
		12	**19**	**$912,000**	**$253,056**	**Yes**	**Yes**
		14	**19**	**$912,000**	**$295,232**	**Yes**	**Yes**
		16	**19**	**$912,000**	**$337,408**	**Yes**	**Yes**
Z	Z-1	8	0	0	NA	No	NA
		10	**5**	**$210,000**	**$187,731**	**Yes**	**Yes**
		12	**5**	**$220,000**	**$212,683**	**Yes**	**Yes**
		14	5	$220,000	$264,987	Yes	No
		16	5`	$220,000	$290,799	Yes	No
D1	D1-B	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	6	$240,000	$631,780	Yes	No
		14	6	$240,000	$705,872	Yes	No
		16	6	$252,000	$777,744	Yes	No
F1	F1-A	8	0	0	NA	Yes	NA
		10	7	$280,000	$771,050	Yes	No
		12	9	$378,000	$867,498	Yes	No
		14	10	$420,000	$967,146	Yes	No
		16	10	$420,000	$1,066,794	Yes	No
J1	J1-A and J1-B	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	3	$114,000	$705,450	Yes	No
		14	3	$114,000	$786,410	Yes	No
		16	3	$120,000	$867,370	Yes	No
J1	J1-C	8	0	0	NA	No	NA
		10	0	0	NA	No	NA
		12	5	$190,000	$235,655	Yes	No
		14	**11**	**$440,000**	**$251,383**	**Yes**	**Yes**
		16	**11**	**$440,000**	**$266,431**	**Yes**	**Yes**

Table 3.15.17 Noise Barrier Feasibility and Reasonableness for the Initial Phase of Alternative 2

Area	Barrier	Height (ft)	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Acoustically Feasible?	Reasonable?
K1	K-1A	8	0	NA	NA	Yes	NA
		10	**18**	**$720,000**	**$696,640**	**Yes**	**Yes**
		12	**24**	**$1,008,000**	**$783,553**	**Yes**	**Yes**
		14	**24**	**$1,008,000**	**$873,664**	**Yes**	**Yes**
		16	**27**	**$1,134,000**	**$964,416**	**Yes**	**Yes**
N1	N1-A	8	16	$768,000	$806,270	Yes	No
		10	**23**	**$1,150,000**	**$918,870**	**Yes**	**Yes**
		12	**23**	**$1,150,000**	**$1,034,110**	**Yes**	**Yes**
		14	**23**	**$1,196,000**	**$1,153,470**	**Yes**	**Yes**
		16	**34**	**$1,768,000**	**$1,272,190**	**Yes**	**Yes**
N1	N1-B, N1-C, and N1-D	8	4	$176,000	$1,893,497	Yes	No
		10	10	$460,000	$2,160,345	Yes	No
		12	17	$816,000	$2,430,393	Yes	No
		14	17	$816,000	$2,709,401	Yes	No
		16	20	$960,000	$2,989,689	Yes	No
P1	N1-D and P1-A	8	0	0	NA	No	NA
		10	6	$264,000	$1,583,460	Yes	No
		12	17	$748,000	$1,781,220	Yes	No
		14	17	$782,000	$1,985,380	Yes	No
		16	17	$782,000	$2,190,820	Yes	No
Q1	Q1-A	8	2	$88,000	$867,899	Yes	No
		10	13	$572,000	$985,883	Yes	No
		12	13	$598,000	$1,106,427	Yes	No
		14	13	$624,000	$1,231,211	Yes	No
		16	13	$624,000	$1,354,675	Yes	No
R	R-1A and R-1B	8	5	$210,000	$1,048,416	Yes	No
		10	7	$294,000	$1,136,200	No	No
		12	7	$294,000	$1,226,084	Yes	No
		14	14	$616,000	$1,319,048	Yes	No
		16	14	$616,000	$1,409,452	Yes	No
S	S-1A and S-1B	8	18	$972,000	$1,242,311	Yes	No
		10	21	$1,134,000	$1,417,575	Yes	No
		12	21	$1,176,000	$1,594,119	Yes	No
		14	25	$1,400,000	$1,777,063	Yes	No
		16	25	$1,400,000	$1,961,287	Yes	No

Source: *Noise Abatement Decision Report* (July 2010).
Note: **Bold face type** indicates barriers determined to be feasible and reasonable.
[1] NA = Not Applicable. Noise barrier was determined to be not feasible.
[2] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
ft = feet

Table 3.15.18 Severely Impacted Receivers

Receiver I.D.	Area	Alternative 2f Predicted Noise Level (dBA)	Proposed Noise Barrier	Reasonable Cost Allowance	Estimated Construction Cost
16	K	79	K-1	$1,792,000	$430,304
127M	K	82	K-1	$1,792,000	$430,304
23M	M	75	M-1. M-2	$1,288,000	$1,910,475
19	M	78	M3[1]	N/A	N/A
20	O	84	O-1, O-2	$5,676,000	$1,039,306
28M	O	83	O-1, O-2	$5,676,000	$1,039,306
21	O	84	O-1, O-2	$5,676,000	$1,039,306
29M	O	82	O-1, O-2	$5,676,000	$1,039,306
22	O	81	O-1, O-2	$5,676,000	$1,039,306
31M	O	75	O-1, O-2	$6,534,000	$2,515,320
23	O	83	O-1, O-2	$5,676,000	$1,039,306
33M	O	78	O-1, O-2	$5,676,000	$1,039,306
34M	O	77	O-1, O-2	$5,676,000	$1,039,306
44M	P	80	P-1	$2,418,000	$936,768
35M	Q	75	Q-1	$3,596,000	$952,000
36M	Q	80	Q-1	$3,596,000	$952,000
37M	Q	77	Q-1	$3,596,000	$952,000
26	Q	76	Q-1	$3,596,000	$952,000
25	R	76	P-1	$2,418,000	$936,768
42M	R	76	P-1	$2,418,000	$936,768
40M	S	83	Q-1	$3,596,000	$952,000
38M	S	80	Q-1	$3,596,000	$952,000
39M	S	78	Q-1	$3,596,000	$952,000
50M	S	75	Q-1	$3,596,000	$952,000
48M	T	78	P-1, T-1	$2,958,000	$1,310,848
49M	T	84	P-1, T-1	$2,958,000	$1,310,848
51M	U	78	Q-1	$3,596,000	$952,000
52M	U	82	Q-1	$3,596,000	$952,000
53M	U	75	Q-1	$3,596,000	$952,000
55M	W	76	W-1	$912,000	$253,056
56M	W	76	W-1	$912,000	$253,056
39	D1	80	D1-B	$300,000	$631,780
93M	N1	76	N1-A	$1,798,000	$1,153,470
94M	N1	79	N1-A	$1,798,000	$1,153,470
50	N1	78	N1-A	$1,798,000	$1,153,470
95M	N1	76	N1-A	$1,798,000	$1,153,470
96M	N1	79	N1-A	$1,798,000	$1,153,470
51	N1	78	N1-B, N1-C, N1-D	$528,000	$2,709,401
52	N1	75	N1-B, N1-C, N1-D	$528,000	$2,709,401
53	P1	75	N1-D, P1-A	$782,000	$1,985,000
54	Q1	77	Q1-A	$624,000	$1,231,211
59	S1	75	S-1A, S-1B	$1,400,000	$1,777,063

Source: *Final Noise Abatement Decision Report* (July 2010).

[1] Eliminated based on public input.

dBA = A-weighted decibels

N/A = not applicable

Table 3.15.19 Recommended Barriers for Alternative 1

Area	Barrier	Barrier Height (ft)	Break Line-of-Sight?	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Length of Barrier (ft)
E	E-1	14	Yes	EOS	119[1]	$4,356,000	$2,111,211	9,284
I	I-1	10	Yes	Property Line	8	$320,000	$197,170	680
I	I-2	12	Yes	Property Line	14	$644,000	$584,968	1,798
K	K-1	14	Yes	EOS	28	$1,848,000	$430,304	1,921
M Variation 1	M-1, M-2, and M-3	14	Yes	EOS	18	$1,008,000	$1,910,475	5,820
M Variation 3	M-1, M-2, and M-3	12	Yes	EOS	4	$216,000	$1,910,475	5,820
O Variation 1	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 1	O-2 and O-3	14	Yes	EOS	8	$464,000	$1,476,014	4,591
O Variation 2	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 2	O-2 and O-3	14	Yes	EOS	13	$832,000	$1,476,014	4,591
P and R Variation 1	P-1	14	Yes	EOS	37	$2,294,000	$936,768	4,182
P and R Variation 2	P-1	14	Yes	EOS	37	$2,294,000	$802,944	4,182
Q, S and U Variation 1	Q-1	14	Yes	EOS	52	$3,016,000	$1,088,000	4,250
Q, S and U Variation 2	Q-1	14	Yes	EOS	52	$3,120,000	$1,088,000	4,250
T	T-1	10	Yes	EOS	10	$520,000	$267,200	5,799
V	V-1	14	Yes	EOS	7	$364,000	$342,272	2,922
W	W-1	12	Yes	EOS	19	$836,000	$253,056	1,774
Z	Z-1	12	Yes	Property Line	5	$220,000	$212,683	721
D1	D1-B	12	Yes	ROW	6	$300,000	$631,780	1,011
J1	J1-C	14	Yes	Property Line	11	$440,000	$251,383	424

Source: *Noise Abatement Decision Report* (July 2010).

[1] The barrier at the golf course is based on 100 ft of highway frontage that equals one residence.

EOS = edge of shoulder
ft = feet
ROW = right-of-way

Table 3.15.20 Recommended Barriers for the Initial Phase of Alternative 1

Area	Barrier	Barrier Height (ft)	Break Line-of-Sight?	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost
E	E-1	14	Yes	EOS	30[1]	$1,200,000	$1,000,674
I	I-1	10	Yes	Property Line	8	$320,000	$197,170
I	I-2	12	Yes	Property Line	14	$644,000	$584,968
K	K-1	14	Yes	EOS	28	$1,848,000	$430,304
M Variation 1	M-1, M-2, and M-3	14	Yes	EOS	18	$1,008,000	$1,910,475
M Variation 3	M-1, M-2, and M-3	12	Yes	EOS	4	$216,000	$1,910,475
O Variation 1	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306
O Variation 1	O-2 and O-3	14	Yes	EOS	8	$464,000	$1,476,014
O Variation 2	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306
O Variation 2	O-2 and O-3	14	Yes	EOS	13	$832,000	$1,476,014
P and R Variation 1	P-1	14	Yes	EOS	37	$2,294,000	$802,944
P and R Variation 2	P-1	14	Yes	EOS	37	$2,294,000	$802,944
Q, S and U Variation 1	Q-1	14	Yes	EOS	52	$3,016,000	$1,088,000
Q, S and U Variation 1	Q-1	14	Yes	EOS	52	$3,120,000	$1,088,000
T	T-1	10	Yes	EOS	10	$520,000	$267,200
V	V-1	14	Yes	EOS	7	$364,000	$342,272
W	W-1	12	Yes	EOS	19	$836,000	$253,056
Z	Z-1	12	Yes	Property Line	5	$220,000	$212,683
J1	J1-C	14	Yes	Property Line	11	$440,000	$251,383

Source: *Noise Abatement Decision Report* (July 2010).

[1] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.

EOS = edge of shoulder

ft = feet

Table 3.15.21 Recommended Barriers for Alternative 2

Area	Barrier	Barrier Height (ft)	Break Line-of-Sight?	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Length of Barrier (ft)
E	E-1	14	Yes	EOS	95[1]	$4,180,000	$2,410,219	9,284
I	I-1	10	Yes	Property Line	8	$320,000	$197,170	680
I	I-2	12	Yes	Property Line	14	$644,000	$584,968	1,798
K	K-1	14	Yes	EOS	28	$1,792,000	$430,304	1,921
M Variations 1 & 2	M-1, M-2, and M-3	14	Yes	EOS	23	$1,288,000	$1,910,475	5,820
M Variations 3 & 4	M-1, M-2, and M-3	12	Yes	EOS	7	$364,000	$1,910,475	5,820
O Variation 1	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 1	O-2 and O-3	14	Yes	EOS	8	$432,000	$1,476,014	4,591
O Variation 2	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 2	O-2 and O-3	14	Yes	EOS	13	$858,000	$1,476,014	4,591
P and R Variation 1	P-1	14	Yes	EOS	39	$2,418,000	$802,944	4,182
P and R Variation 2	P-1	14	Yes	EOS	39	$2,418,000	$936,768	4,182
Q, S and U Variation 1	Q-1	14	Yes	EOS	58	$3,596,000	$1,088,000	4,250
Q, S and U Variation 2	Q-1	14	Yes	EOS	58	$3,596,000	$1,088,000	4,250
T	T-1	10	Yes	EOS	10	$540,000	$267,200	5,799
V	V-1	8	Yes	EOS	4	$208,000	$195,584	2,415
W	W-1	12	Yes	EOS	19	$912,000	$253,056	1,400
Z	Z-1	12	Yes	Property Line	5	$220,000	$212,683	721
D1	D1-B	12	Yes	ROW	6	$300,000	$631,780	1,011
J1	J1-C	14	Yes	Property Line	11	$546,000	$251,383	424

Source: *Noise Abatement Decision Report* (July 2010).
[1] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
EOS = edge of shoulder
ft = feet
ROW = right-of-way

Table 3.15.22 Recommended Barriers for the Initial Phase of Alternative 2

Area	Barrier	Barrier Height (ft)	Break Line-of-Sight?	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost	Length of Barrier (ft)
E	E-1	14	Yes	EOS	30[1]	$1,200,000	$1,000,674	9,284
I	I-1	10	Yes	Property Line	8	$320,000	$197,170	680
I	I-2	12	Yes	Property Line	14	$644,000	$584,968	1,798
K	K-1	14	Yes	EOS	28	$1,848,000	$430,304	1,921
M Variation 1	M-1, M-2, and M-3	14	Yes	EOS	18	$1,008,000	$1,910,475	5,820
M Variation 3	M-1, M-2, and M-3	12	Yes	EOS	4	$216,000	$1,910,475	5,820
O Variation 1	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 1	O-2 and O-3	14	Yes	EOS	8	$464,000	$1,476,014	4,591
O Variation 2	O-1 and O-2	14	Yes	EOS	86	$5,676,000	$1,039,306	4,699
O Variation 2	O-2 and O-3	14	Yes	EOS	13	$832,000	$1,476,014	4,591
P and R Variation 1	P-1	12	Yes	EOS	37	$2,294,000	$802,944	4,182
P and R Variation 2	P-1	14	Yes	EOS	37	$2,294,000	$802,944	4,182
Q, S and U Variation 1	Q-1	14	Yes	EOS	52	$3,016,000	$1,088,000	4,250
Q, S and U Variation 1	Q-1	14	Yes	EOS	52	$3,120,000	$1,088,000	4,250
T	T-1	10	Yes	EOS	10	$540,000	$267,200	1,617
V	V-1	14	No	EOS	4	$208,000	$342,272	1,305
W	W-1	12	Yes	EOS	19	$912,000	$253,056	1,774
Z	Z-1	12	Yes	Property Line	5	$220,000	$212,683	721
J1	J1-C	14	Yes	Property Line	11	$440,000	$251,383	424

Source: *Noise Abatement Decision Report* (July 2010).
[1] The barrier at the golf course is based on 100 feet of highway frontage that equals 1 residence.
EOS = edge of shoulder
ft = feet

Table 3.15.23 Noise Barrier Survey Results

Noise Barrier	Private/Public Property	Wall Approved? (Yes/No)
E-1	Public (Department)	Yes
J1-C	Private	No
K-1	Public (Department)	Yes
M-1, M-2, and M-3[1]	Public (Department)	Yes
O-2	Public (Department)	Yes
P-1	Public (Department)	Yes
P-1 and T-1	Public (Department)	Yes
Q-1	Public (Department)	Yes
T-1	Public (Department)	Yes
T-1 and V-1	Public (Department)	Yes
V-1	Public (Department)	Yes
W-1	Public (Department)	Yes
Z-1	Public (Department)	No
D1-B	Private	Yes
I-1	Private	No
I-2	Private	No
K1-A	Public	Yes

Source: Riverside County Transportation Commission (2011).
Note: Public barriers (Department) require a majority to approve a noise barrier. Private barriers require a 100 percent vote to approve a noise barrier.
[1] NB M-3 was eliminated from consideration because the first row businesses voted not to have the noise barrier due to visual impact.
Department = California Department of Transportation
NB = noise barrier

Table 3.15.24 Noise Barrier Survey Package Distribution

Noise Barrier	Number of Surveys Distributed
E-1	31
I-1	8
I-2	25
J1-C	20
K-1	45
M-1 and M-2	93
O-2	209
P-1	43
P-1 and T-1	6
Q-1	47
T-1	6
T-1 and V-1	11
V-1	6
W-1	93
Z-1	10
D1-B	3
K1-A	53

Source: Riverside County Transportation Commission (November 2011).

Table 3.15.25 Alternative 1 Ultimate Project Final Recommended Barriers

Barrier	Barrier Height	Barrier Length	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost
E-1	14	7,522	EOS	95	$4,180,000	$2,000,852
K-1	14	1,921	EOS	28	$1,792,000	$430,304
M-1, M2	14	4,072	EOS	23	$1,288,000	$1,283,578
O-1, O-2	14	4,795	EOS	86	$5,676,000	$1,039,306
P-1	14	4,182	EOS	39	$2,418,000	$936,768
Q-1	14	3,235	EOS	58	$3,596,000	$1,088,000
T-1	10	1,707	EOS	10	$540,000	$267,200
V-1	8	694	EOS	4	$208,000	$195,584
W-1	12	1,865	EOS	19	$912,000	$253,056
D1-B	12	1,011	Top of Slope	6	$300,000	$631,780
K1-A	14	2,462	Top of Slope	22	$1,144,000	$873,664

Source: Riverside County Transportation Commission (2011).

Table 3.15.26 Alternative 1 Initial Phase Final Recommended Barriers

Barrier	Barrier Height	Barrier Length	Barrier Location	Number of Benefited Residences	Total Reasonable Allowance	Estimated Construction Cost
E-1	14	7,522	EOS	95	$4,180,000	$2,000,852
K-1	14	1,921	EOS	28	$1,792,000	$430,304
M-1,M2	14	4,072	EOS	23	$1,288,000	$1,283,578
O-1,O-2	14	4,795	EOS	86	$5,676,000	$1,039,306
P-1	14	4,182	EOS	39	$2,418,000	$936,768
Q-1	14	3,235	EOS	58	$3,596,000	$1,088,000
T-1	10	1,707	EOS	10	$540,000	$267,200
V-1	8	694	EOS	4	$208,000	$195,584
W-1	12	1,865	EOS	19	$912,000	$253,056
K1-A	14	2,462	Top of Slope	24	$1,248,000	$873,664

Source: Riverside County Transportation Commission (2011).

Table 3.15.27 Alternative 2 Ultimate Project Final Recommended Barriers

Barrier	Barrier Height (ft)	Barrier Length (ft)	Barrier Location	Starting Station	Ending Station	Number of Benefited Residences	Total Reasonable Allowance	Estimate Construction Cost
E-1	14	7,522[1]	EOS	36+32 0+00 (County Line)	77+66 (County Line) 27+76 (back) 23+62 (ahead) to 47+24	95	$4,180,000	$2,000,852
K-1	14	1,921	EOS	168+81	187+96	28	$1,792,000	$430,304
M-1,M-2	14	4,072[1]	EOS	M-1 – 187+06 M-2 – 192+75	M-1 – 205+84 M-2 – 207+34 (back) 7+34 (ahead) 12+00	23	$1,288,000	$1,283,578
O-1,O-2	14	4,795[1]	EOS	O-1 – 237+08 O-2 – 251+66	O-1 – 249+80 O-2 – 285+66	86	$5,676,000	$1,039,306
P-1	14	4,182	EOS	293+63	333+31	39	$2,418,000	$936,768
Q-1	14	3,235[1]	EOS	300+92	332+72	58	$3,596,000	$1,088,000
T-1	10	1,707[1]	EOS	328+60	345+31	10	$540,000	$267,200
V-1	8	694[1]	EOS	342+33	349+58	4	$208,000	$195,584
W-1	12	1,865[1]	EOS	340+22	358+17	19	$912,000	$253,056
D1-B	12	1,011	Top of Slope	526+54	535+69	6	$300,000	$631,780
K1-A	14	2,462[1]	Top of Slope	2210+41	2239+95	24	$1,248,000	$873,664

Source: Riverside County Transportation Commission (2011).

[1] The barrier lengths in this table are modified from the lengths listed in Table 3.15.21 based on the results of the Noise Survey comments and refined project design features (such as modification to the design of the ramps).

EOS = edge of shoulder

ft = feet

Table 3.15.28 Alternative 2 Initial Phase Final Recommended Barriers

Barrier	Barrier Height (ft)	Barrier Length (ft)	Barrier Location	Starting Station	Ending Station	Number of Benefited Residences	Total Reasonable Allowance	Estimate Construction Cost
E-1	14	7,522[1]	EOS	36+32 0+00 (County Line)	77+66 (County Line) 27+76 (back) 23+62 (ahead) to 47+24	95	$4,180,000	$2,000,852
K-1	14	1,921	EOS	168+81	187+96	28	$1,792,000	$430,304
M-1,M-2	14	4,072[1]	EOS	M-1 – 187+06 M-2 – 192+75	M-1 – 205+84 M-2 – 207+34 (back) 7+34 (ahead) 12+00	23	$1,288,000	$1,283,578
O-1,O-2	14	4,795[1]	EOS	O-1 – 237+08 O-2 – 251+66	O-1 – 249+80 O-2 – 285+66	86	$5,676,000	$1,039,306
P-1	14	4,182	EOS	293+63	333+31	39	$2,418,000	$936,768
Q-1	14	3,235[1]	EOS	300+92	332+72	58	$3,596,000	$1,088,000
T-1	10	1,707[1]	EOS	328+60	345+31	10	$540,000	$267,200
V-1	8	694[1]	EOS	342+33	349+58	4	$208,000	$195,584
W-1	12	1,865[1]	EOS	340+22	358+17	19	$912,000	$253,056
K1-A	14	2,462[1]	Top of Slope	2210+41	2239+95	22	$1,144,000	$873,664

Source: Riverside County Transportation Commission (2011).

[1] The barrier lengths in this table are modified from the lengths listed in Table 3.15.21 based on the results of the Noise Survey comments and refined project design features (such as modification to the design of the ramps).

EOS = edge of shoulder

ft = feet

Table 3.15.29 Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scraper	89
Bulldozer	85
Heavy Truck	88
Backhoe	80
Pneumatic Tool	85
Concrete Pump	82

Source: Federal Transit Administration (1995).
dBA = A-weighted decibels

Table 3.15.30 Guideline Vibration Potential Threshold Criteria

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation, Transportation- and Construction-Induced Vibration Guidance Manual (June 2004).
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
in/sec = inches per second
PPV = peak particle velocity

Table 3.15.31 Guideline Vibration Annoyance Potential Criteria

Human Response	Maximum PPV (in/sec)	
	Transient Sources[1]	Continuous/Frequent Intermittent Sources[2]
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, June 2004.
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
in/sec = inches per second
PPV = peak particle velocity

Table 3.15.32 Vibration Source Amplitudes for Construction Equipment

Equipment	Reference PPV at 25 ft (in/sec)
Vibratory roller	0.210
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003
Crack-and-seat operations	2.4

Sources: Federal Transit Administration 1995 (except Hanson 2001 for vibratory rollers) and California Department of Transportation 2000 for crack-and-seat-operations.
ft = feet
in/sec = inches per second
PPV = peak particle velocity

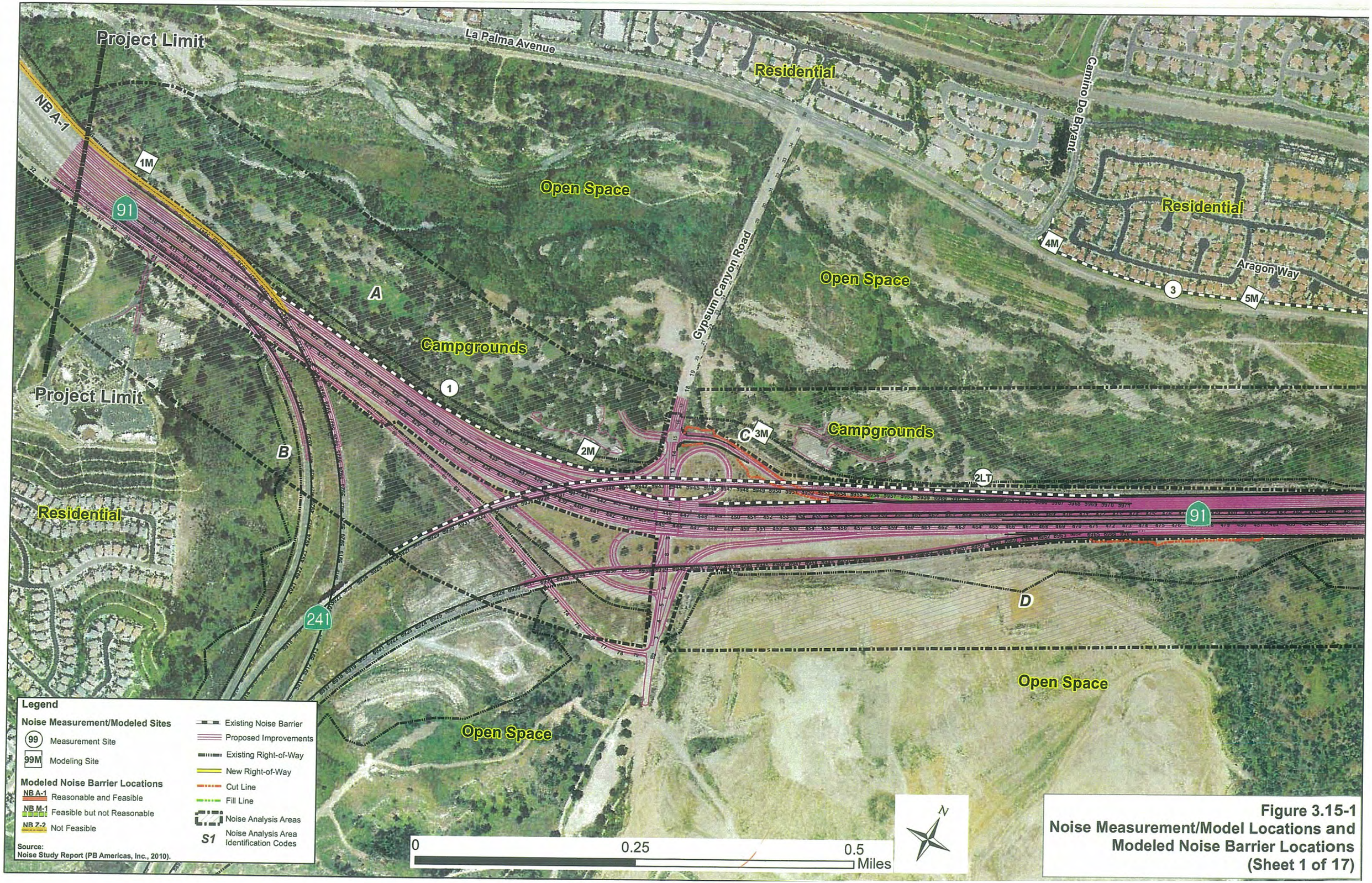


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations (Sheet 1 of 17)

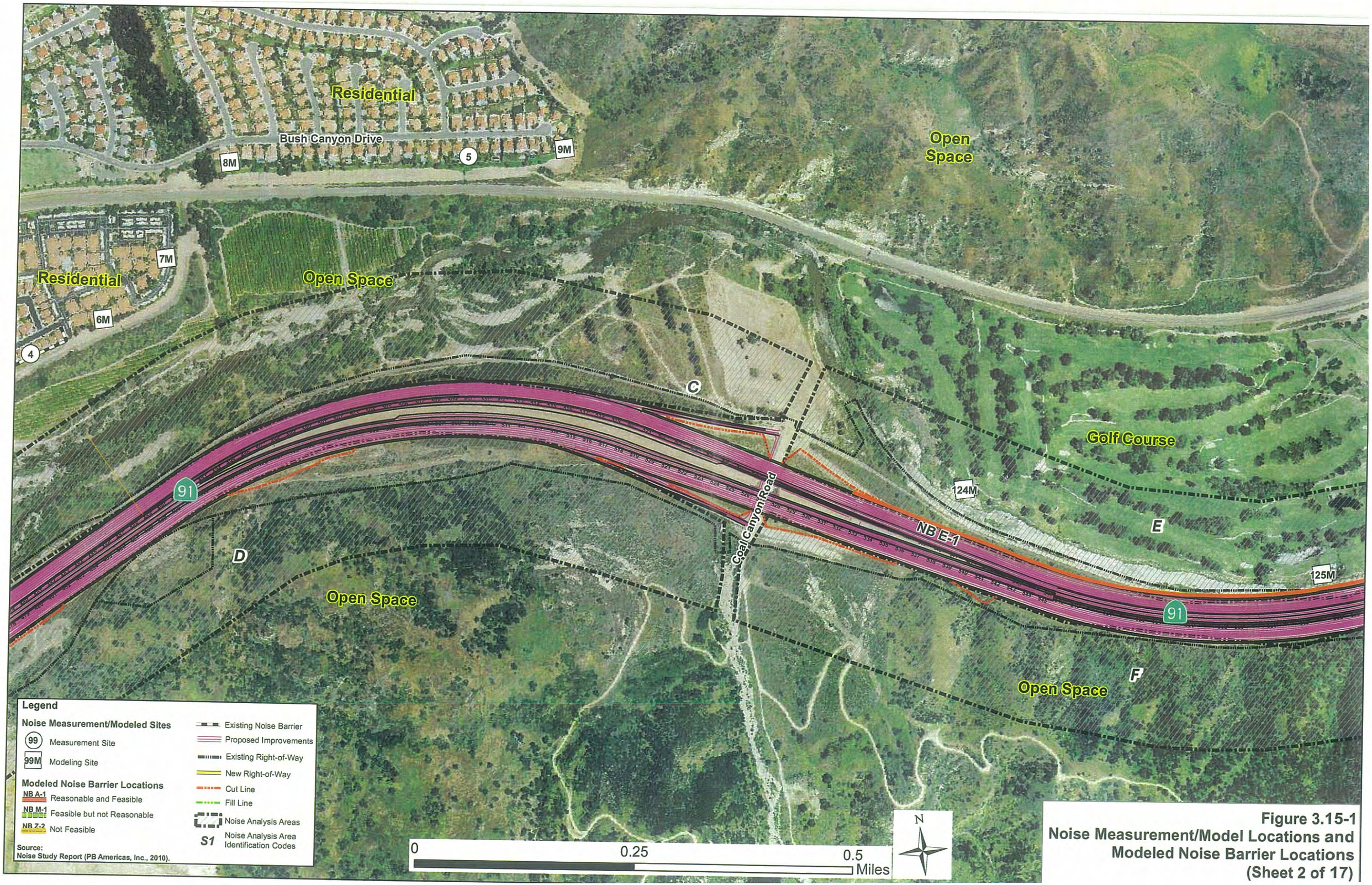


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 2 of 17)

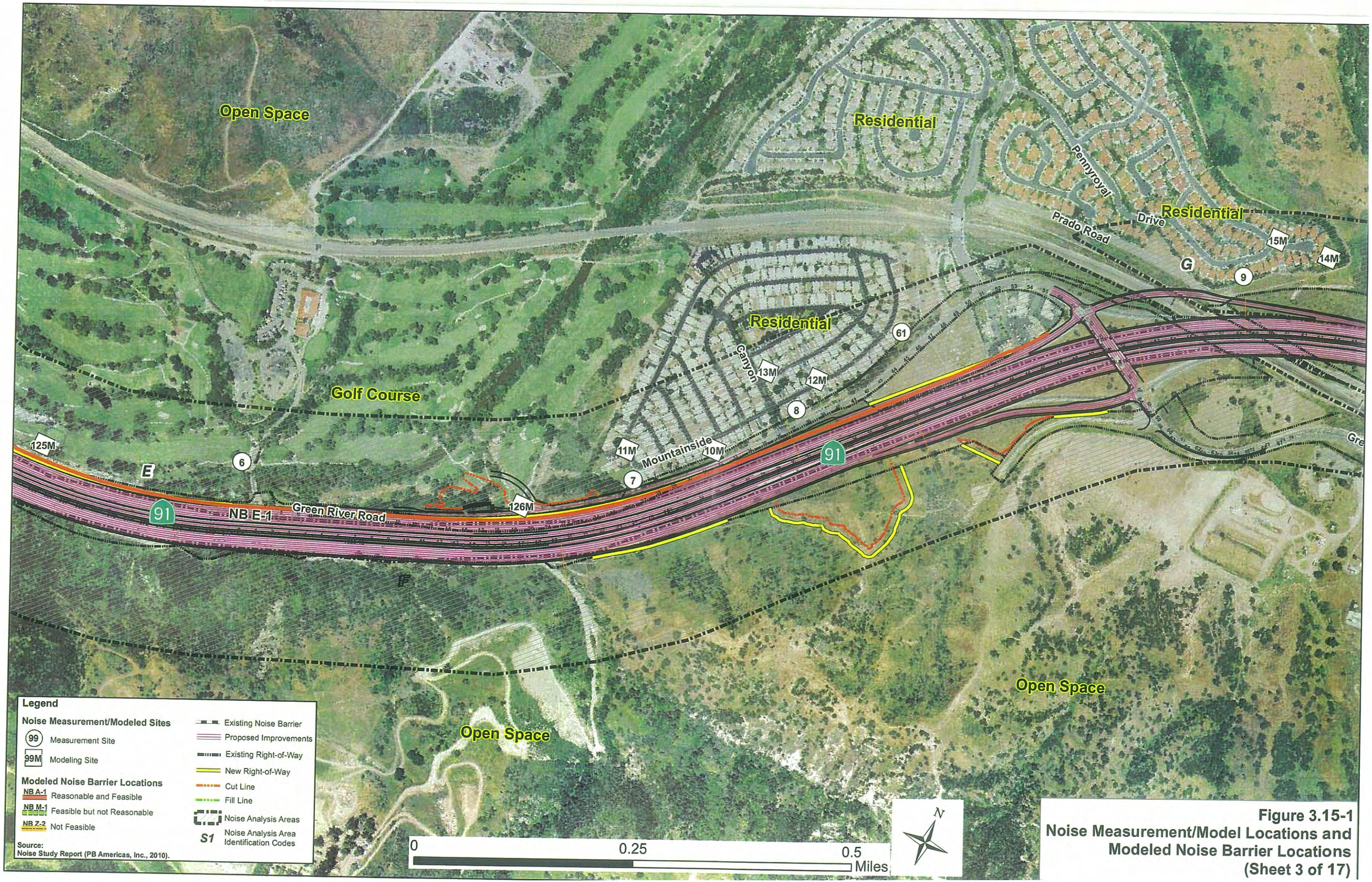


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 3 of 17)

Open Space

71

Open Space

Residential

15M

14M

G

9

91

91

J

Commerical

H

F

Green River Road

K

Commercial

11

NB I-2

12

Nicholas Place

NB I-1

10

Residential

I

16M

Residential

Braemar Lane

13

Dominguez Ranch Road

Open Space

Residential

17M

14

Ridgeline Drive

Green River Road

Legend

Noise Measurement/Modeled Sites

- 99 — Measurement Site
- 99M — Modeling Site

Modeled Noise Barrier Locations

- NB A-1 — Reasonable and Feasible
- NB M-1 — Feasible but not Reasonable
- NB Z-2 — Not Feasible

- Existing Noise Barrier
- Proposed Improvements
- Existing Right-of-Way
- New Right-of-Way
- Cut Line
- Fill Line
- Noise Analysis Areas
- S1 — Noise Analysis Area Identification Codes

Source:
Noise Study Report (PB Americas, Inc., 2010).

0 0.25 0.5 Miles

N

Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 4 of 17)

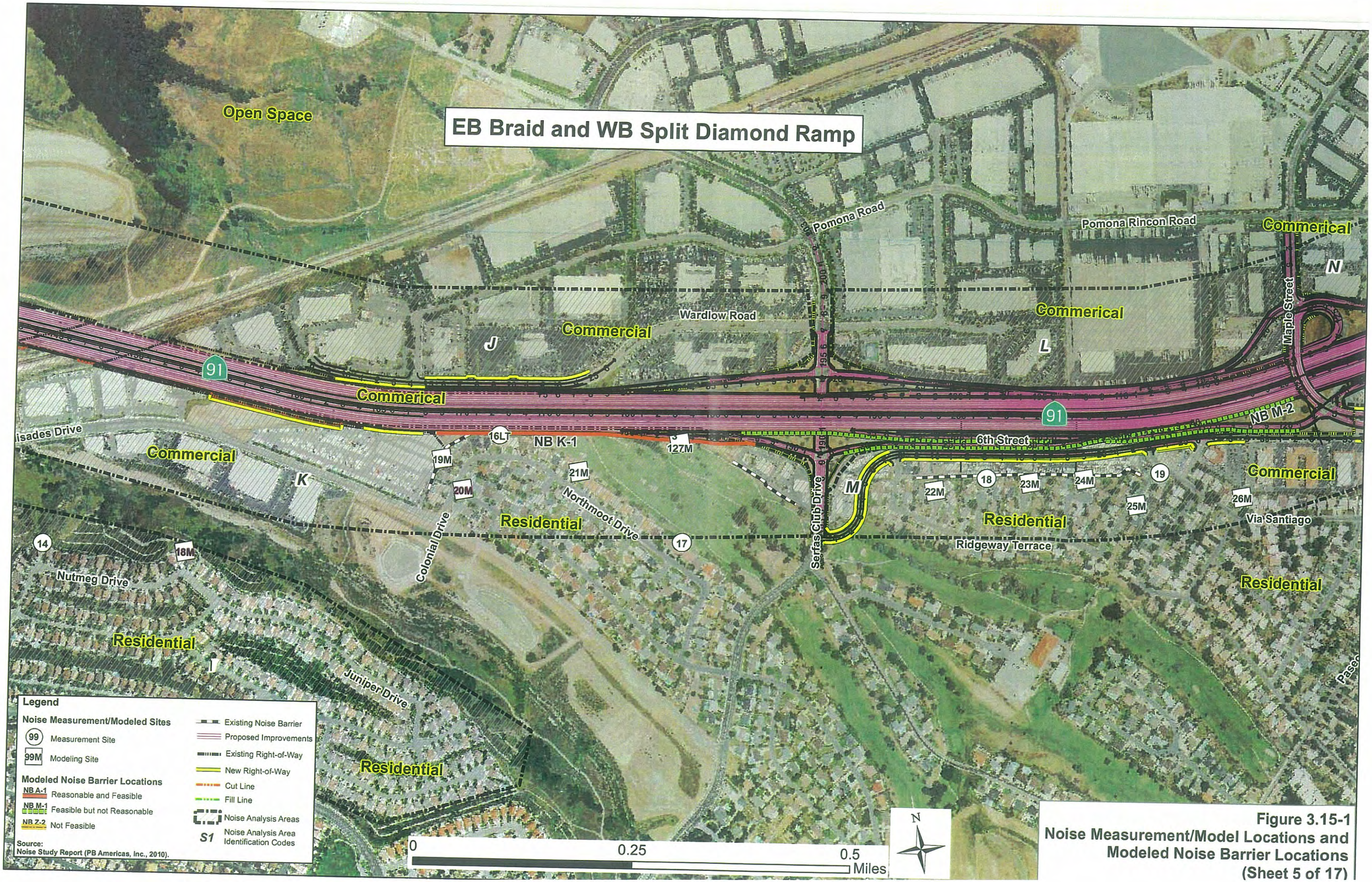


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations (Sheet 5 of 17)

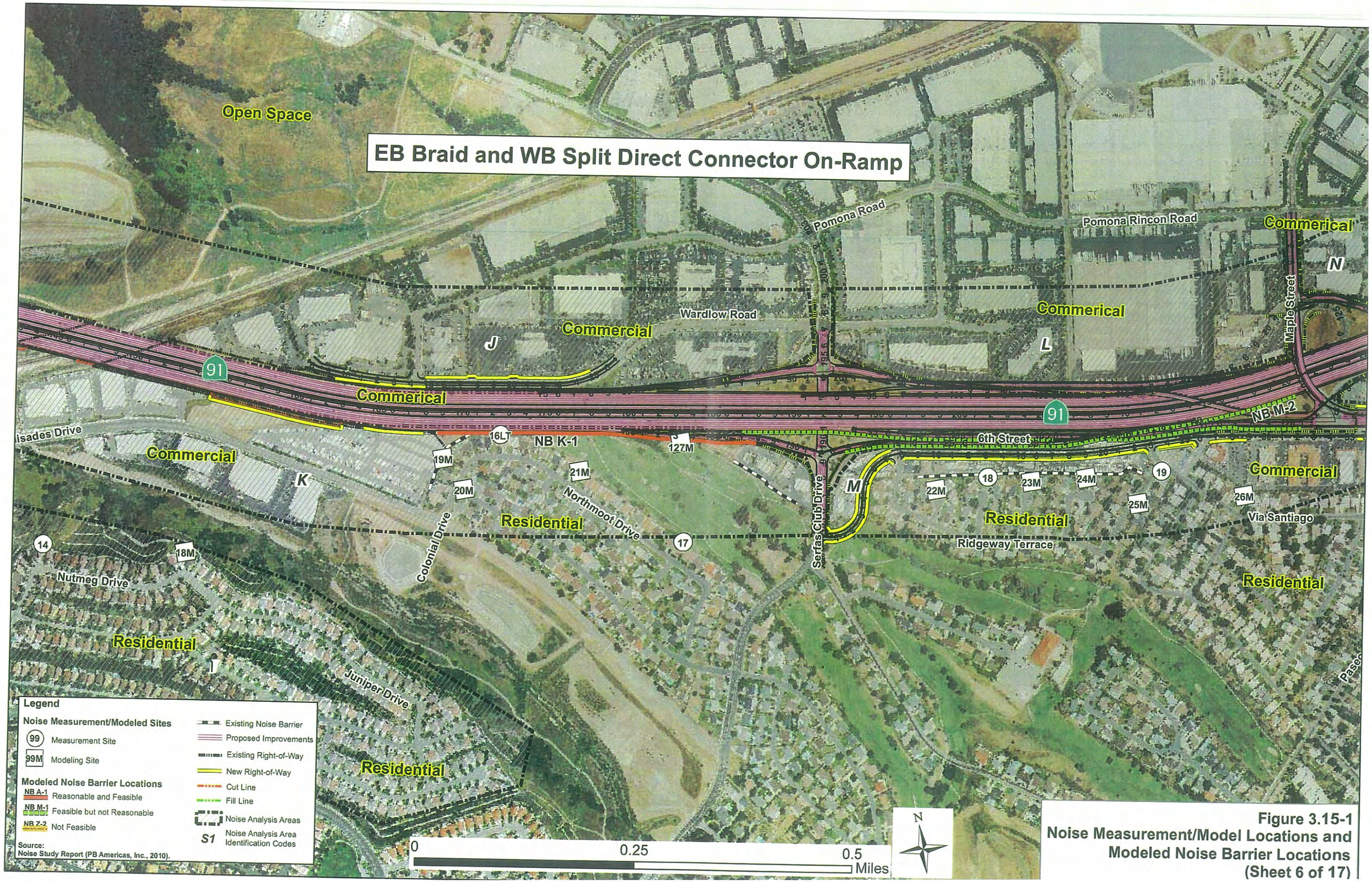


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 6 of 17)

Lincoln Avenue Interchange
Tight Diamond Configuration

Commercial
Commerical
Pomona Road
Residential
P
41M
43M
44M
24
NB P-1
91
Lincoln Avenue
NB O-3
NB Q-1
26LT
36M
37M
35M
Q
Residential
N
NB O-2 - Tight Diamond
23
33M
34M
22
Agnes Street
31M
29M
Residential
32M
D Street
Commercial
Pomona Road
28M
Smith Street
21
O
30M
20
27M
Residential
Pleasant View Avenue
Sherman Avenue
L
Maple Street
NB O-1
91
Yorba Street
Commercial
Sixth Street
6th Street
M
Avenida del Vista

Legend

Noise Measurement/Modeled Sites

- 99 — Measurement Site
- 99M — Modeling Site

Modeled Noise Barrier Locations

- NB A-1 — Reasonable and Feasible
- NB M-1 — Feasible but not Reasonable
- NB Z-2 — Not Feasible

- Existing Noise Barrier
- Proposed Improvements
- Existing Right-of-Way
- New Right-of-Way
- Cut Line
- Fill Line
- Noise Analysis Areas
- S1 — Noise Analysis Area Identification Codes

Source:
Noise Study Report (PB Americas, Inc., 2010).

0 0.25 0.5 Miles

N

Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 7 of 17)

Lincoln Avenue Interchange Hook Ramp Configuration

Commercial
Commerical
Commercial
Residential
P
N
Commerical
Pomona Road
NB P-1
91
Lincoln Avenue
NB O-2
Hook Ramp
NB Q-1
Q
Residential
Residential
Commercial
Pomona Road
Smith Street
O
Residential
Pleasant View Avenue
Sherman Avenue
L
Maple Street
NB O-1
Yorba Street
Commercial
6th Street
Sixth Street
M
Avenida del Vista
Agnes Street
D Street

21 22 23 24
20
28M 29M 30M 31M 32M 33M 34M 35M 36M 37M 41M 43M 44M 26LT
27M

Legend

Noise Measurement/Modeled Sites
- 99 Measurement Site
- 99M Modeling Site

Modeled Noise Barrier Locations
- NB A-1 Reasonable and Feasible
- NB M-1 Feasible but not Reasonable
- NB Z-2 Not Feasible

Source: Noise Study Report (PB Americas, Inc., 2010).

- Existing Noise Barrier
- Proposed Improvements
- Existing Right-of-Way
- New Right-of-Way
- Cut Line
- Fill Line
- Noise Analysis Areas
- S1 Noise Analysis Area Identification Codes

0 0.25 0.5 Miles

N

Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 8 of 17)

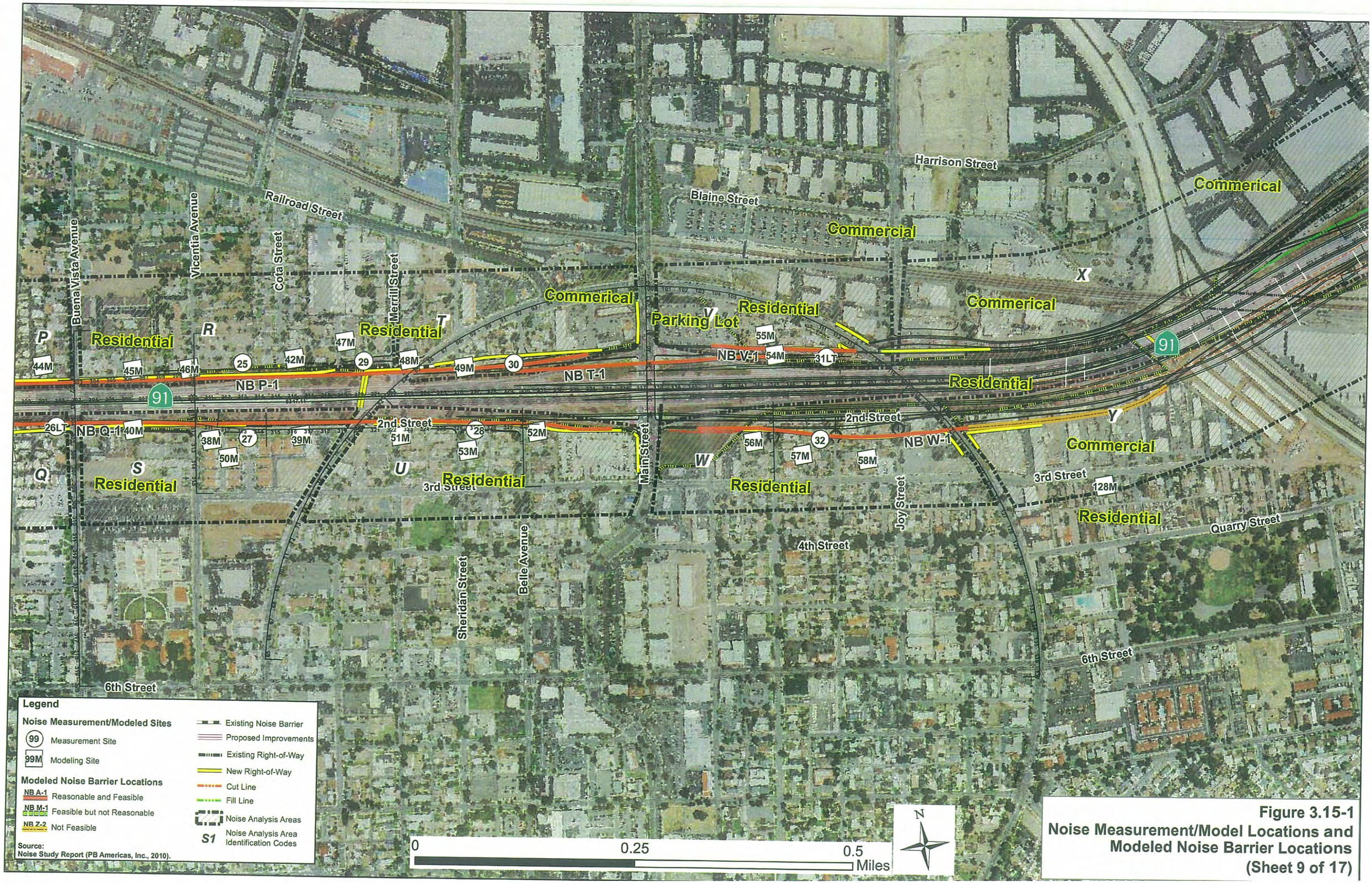


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 9 of 17)

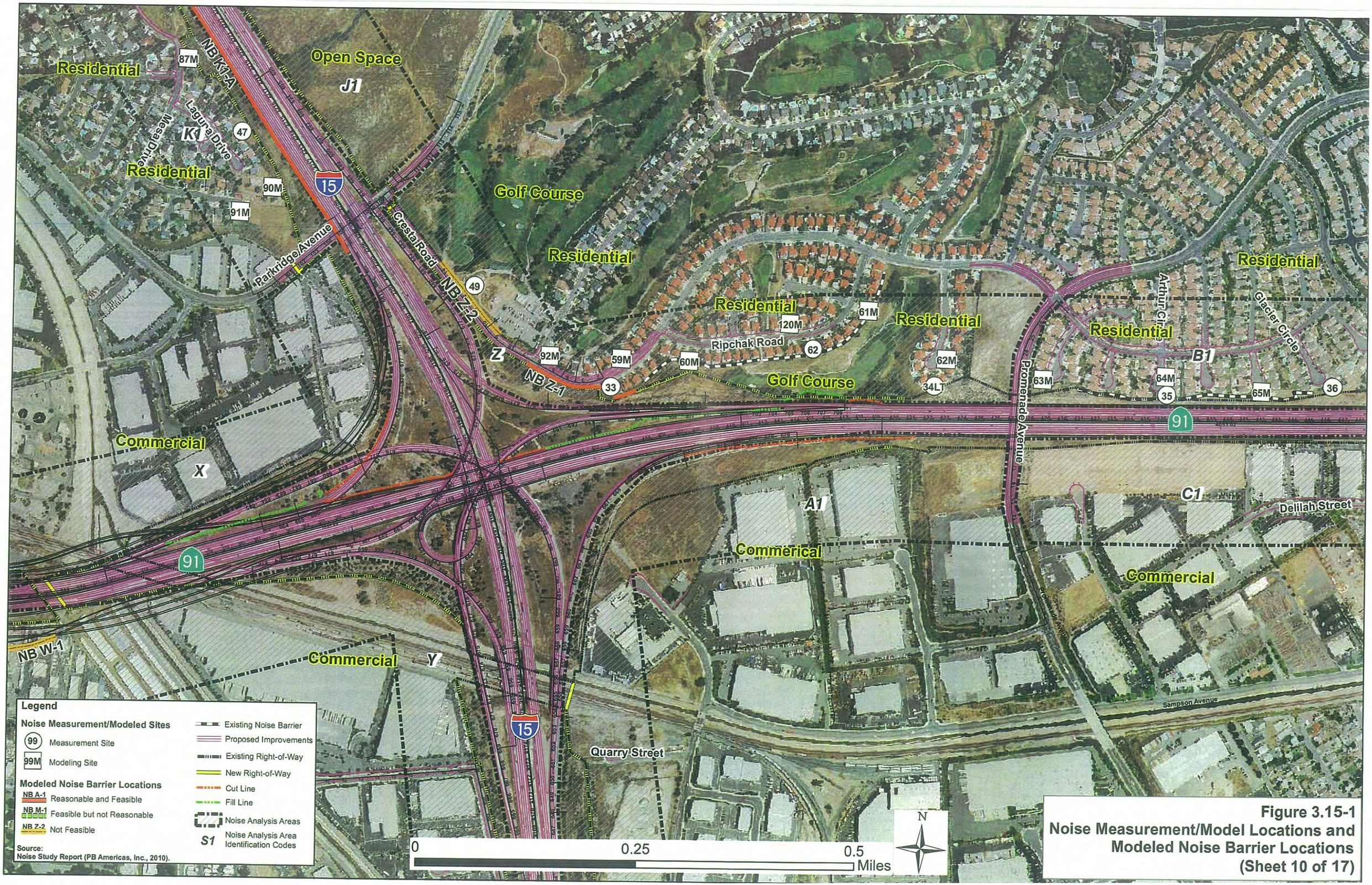


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 10 of 17)

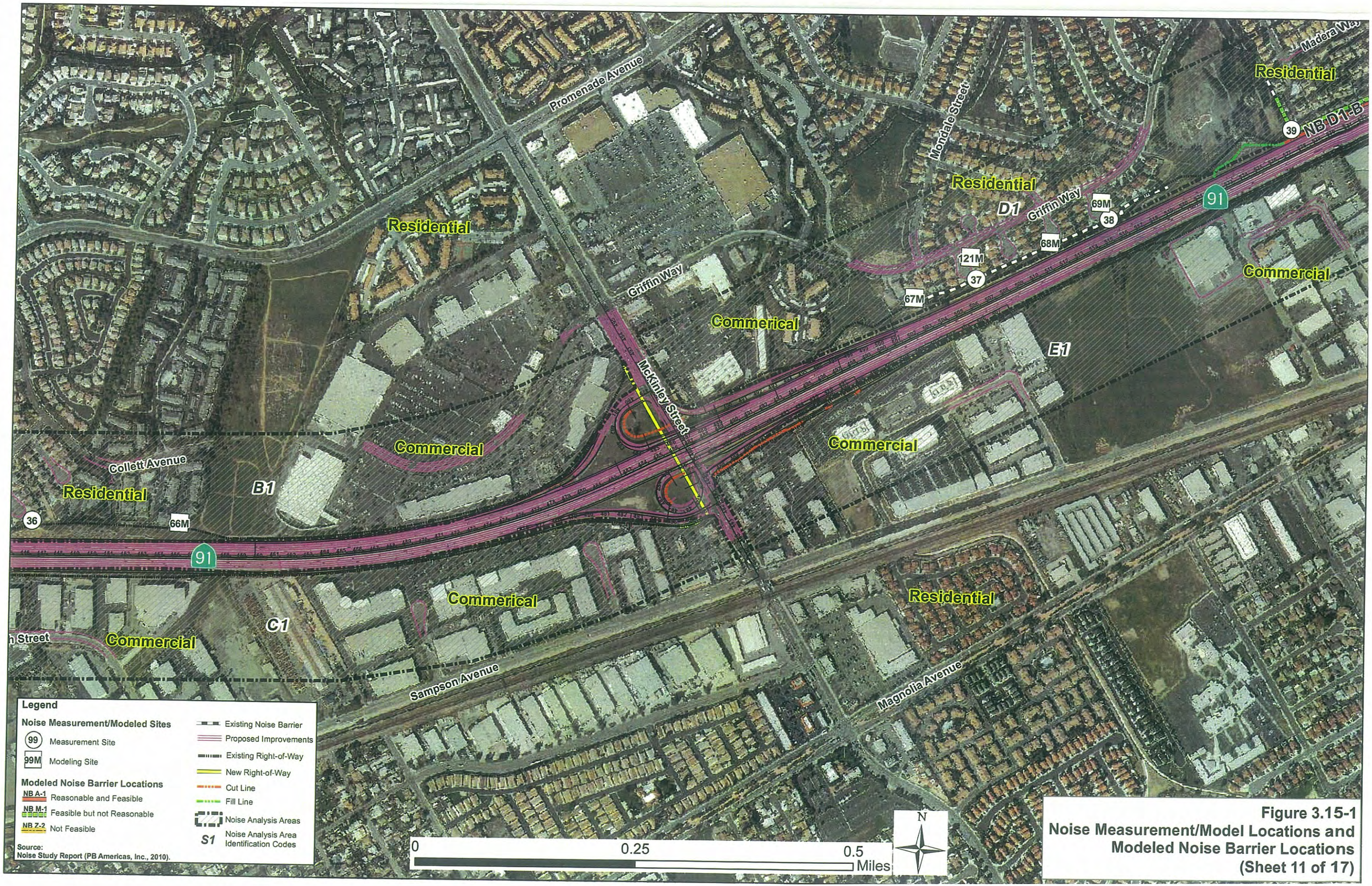


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 11 of 17)

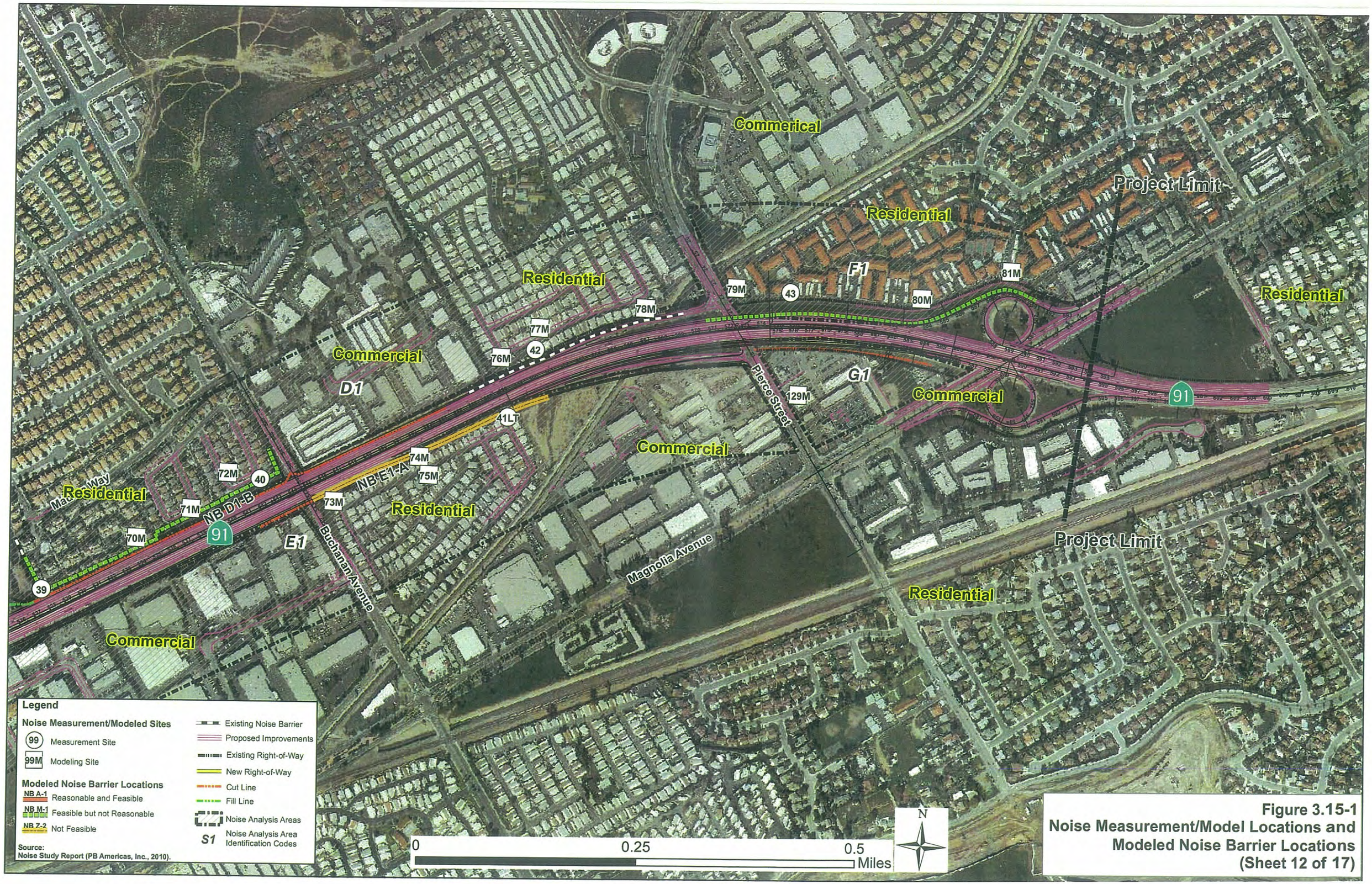


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 12 of 17)

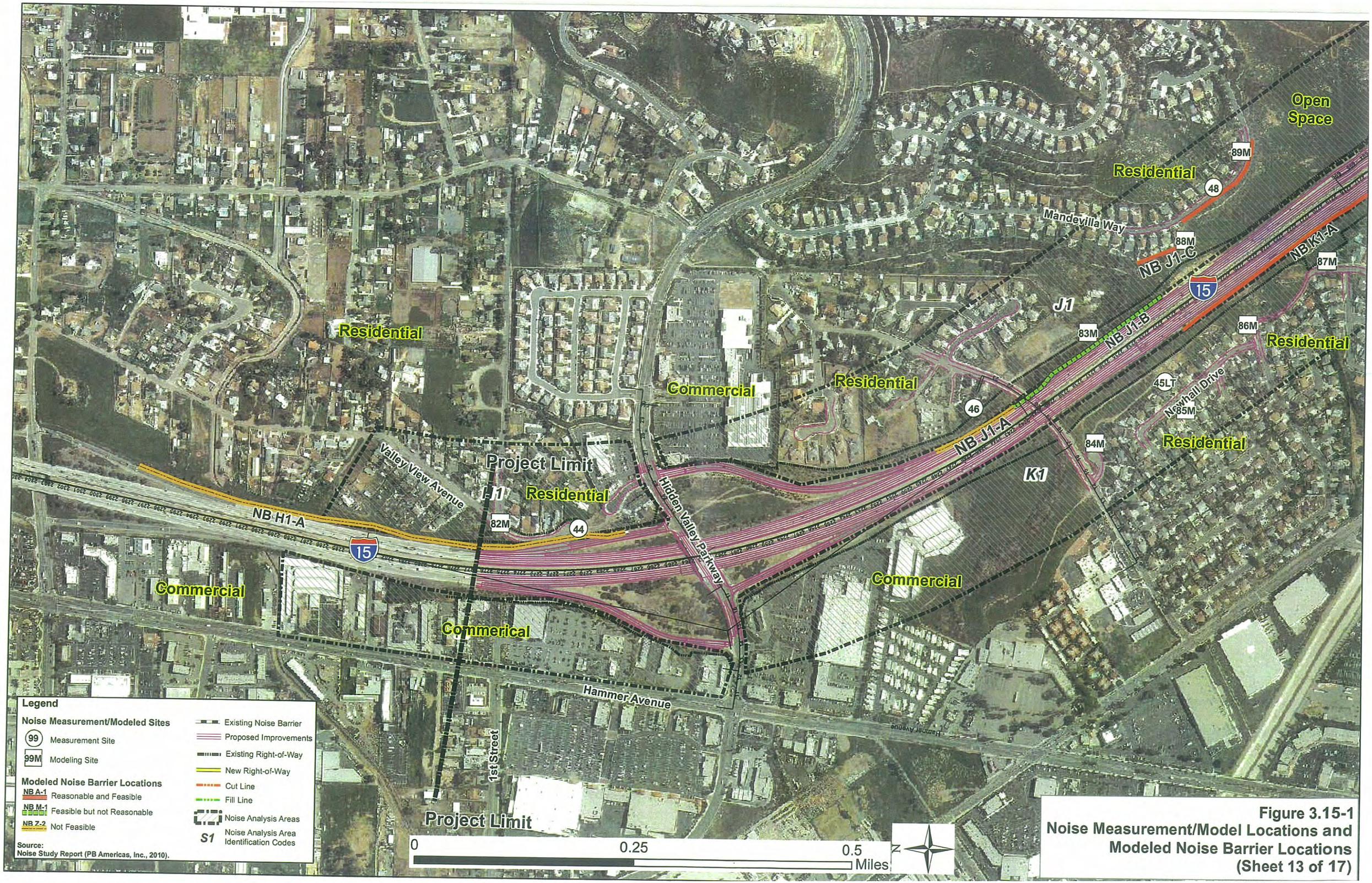


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 13 of 17)

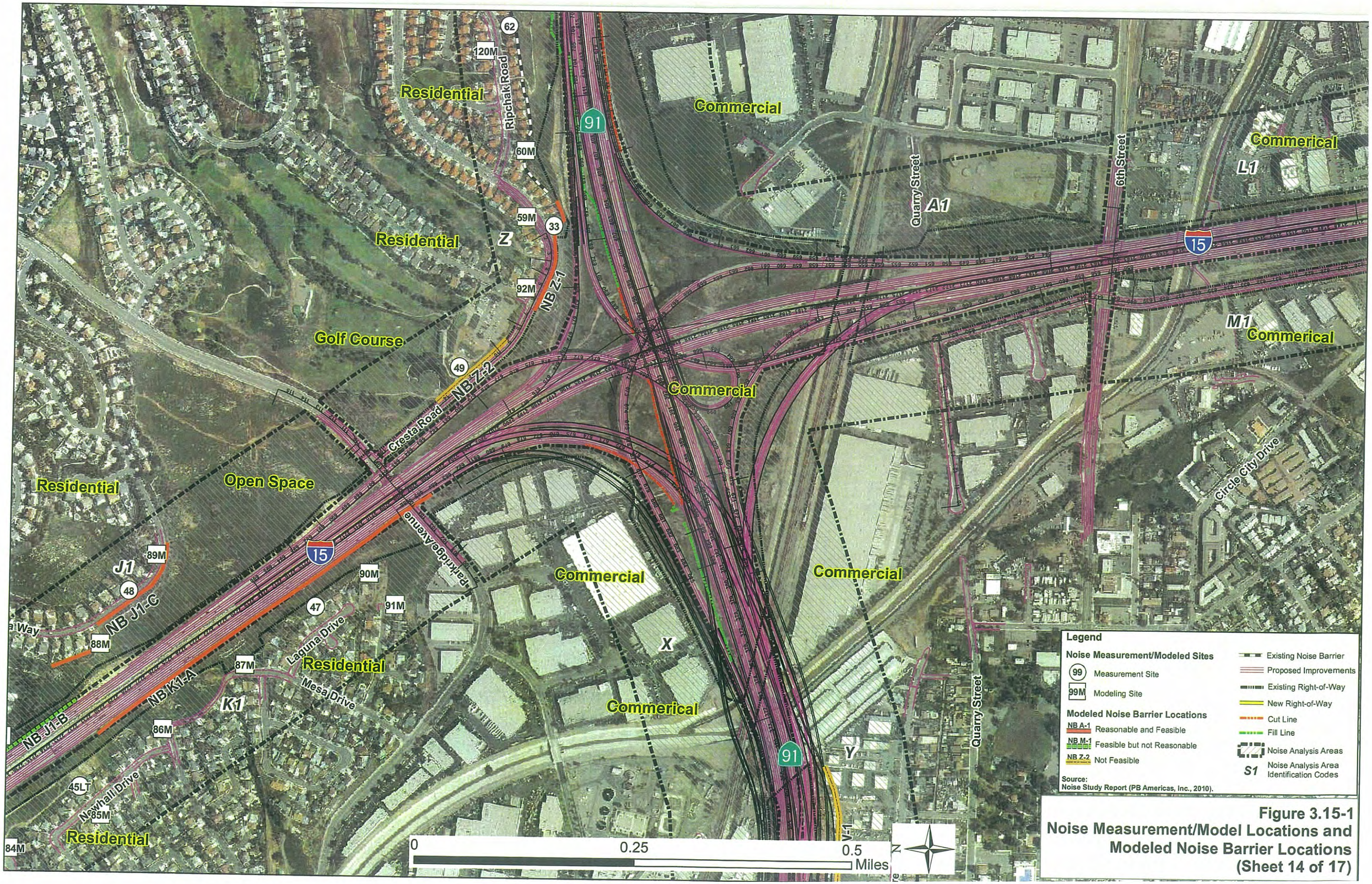


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 14 of 17)

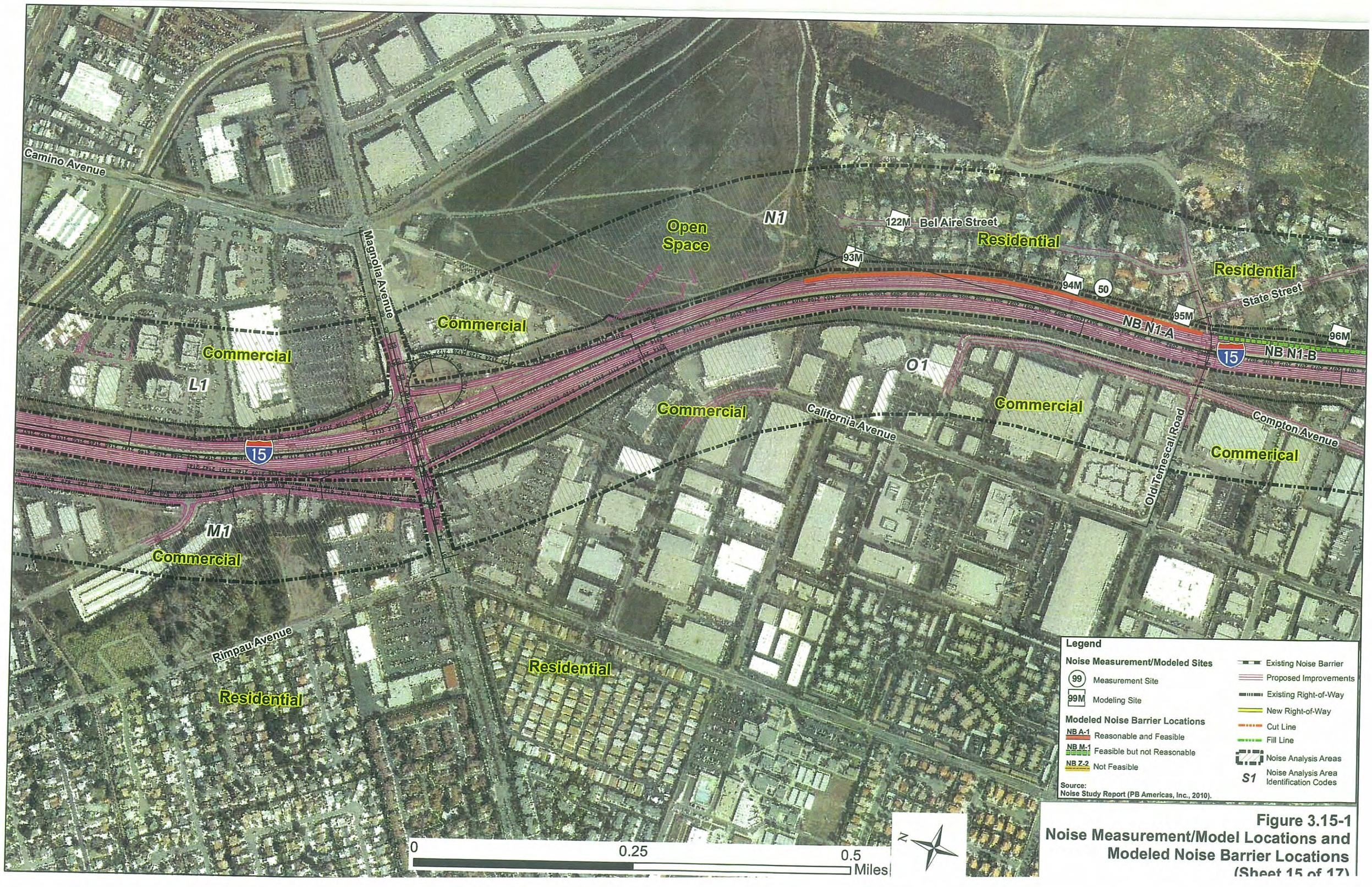


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations (Sheet 15 of 17)

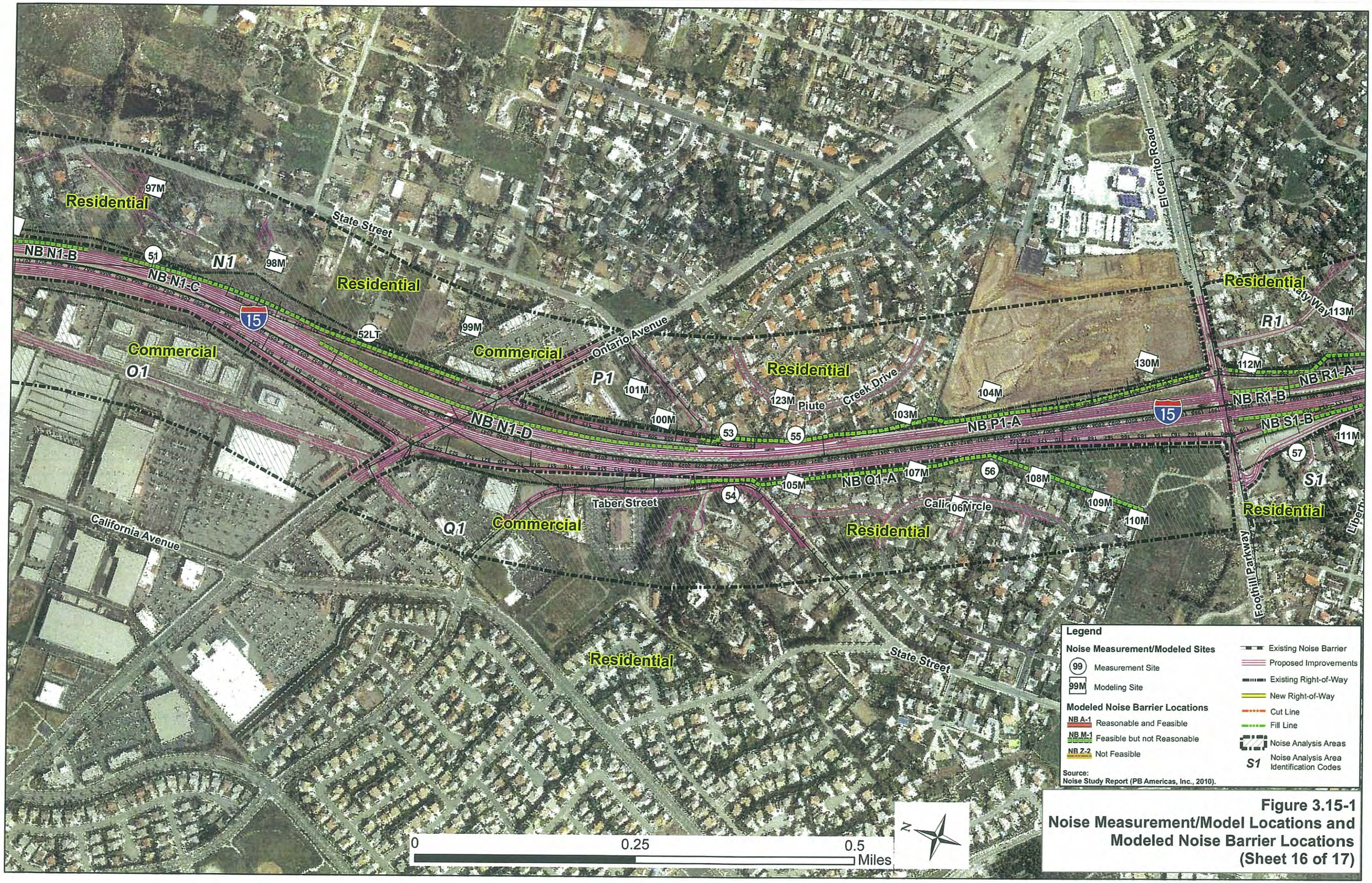


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 16 of 17)

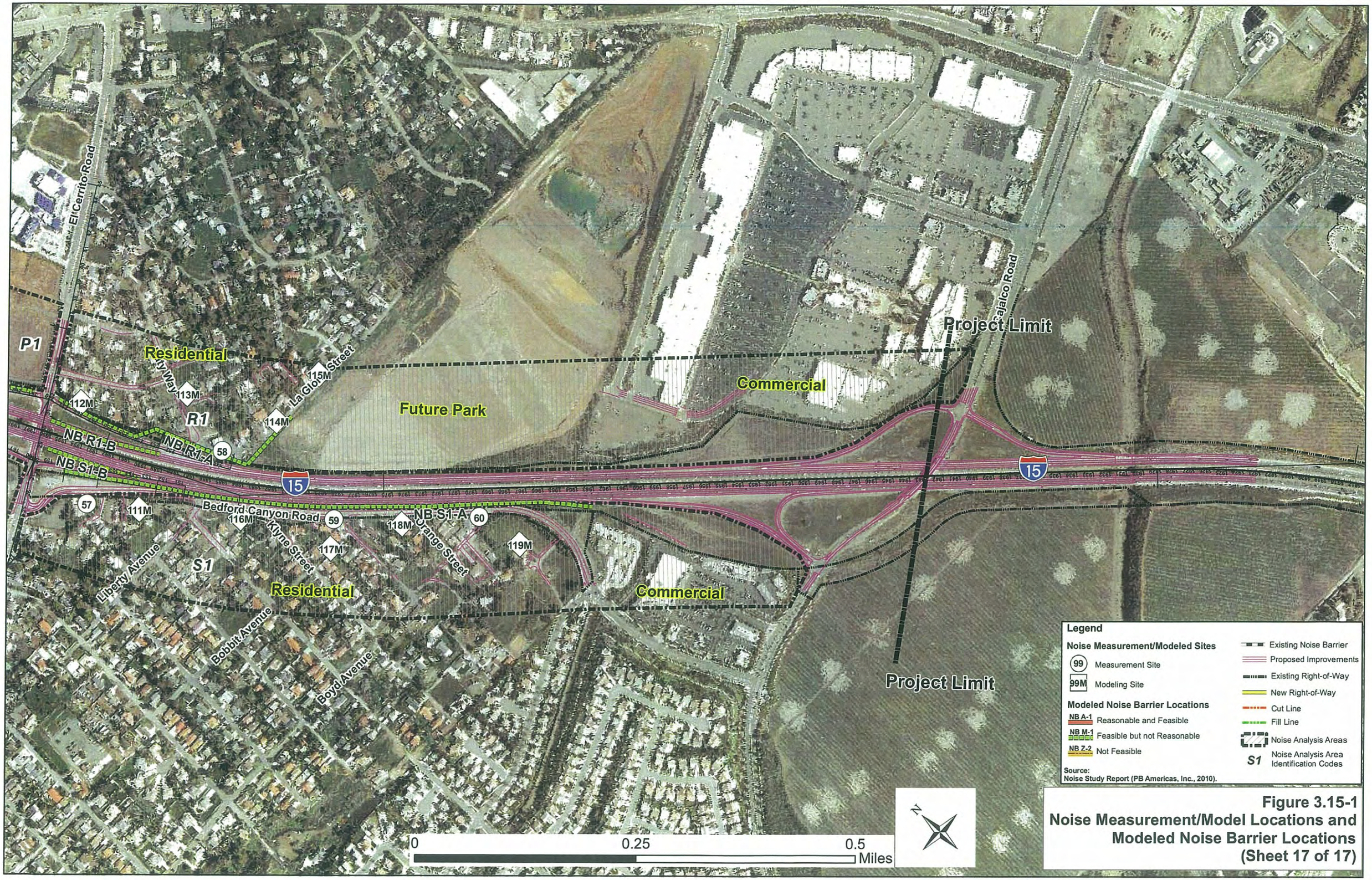


Figure 3.15-1
Noise Measurement/Model Locations and Modeled Noise Barrier Locations
(Sheet 17 of 17)

This page intentionally left blank

3.16 Energy

3.16.1 Regulatory Setting

The California Environmental Quality Act (CEQA) Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

The National Environmental Policy Act (NEPA) (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

3.16.2 Affected Environment

The potential impacts of the project related to energy resources are evaluated in detail in the *Final Energy Report* (March 2010). The findings of the *Final Energy Report* are summarized in this section.

California is the most populous state in the nation and its total energy demand is second only to Texas. Although California is a leader in the energy-intensive chemical, forest products, glass, and petroleum industries, the State has one of the lowest per capita energy consumption rates in the country. The California energy-efficiency programs have contributed to low per capita energy consumption.[1]

Driven by high demand from California's many motorists, major airports, and military bases, the transportation sector is the State's largest energy-consumer. Roughly half of the energy that Californians consume is for transportation. More motor vehicles are registered in California than in any other state, and worker commute times are among the longest in the country.[2] In 2007, Californians consumed an estimated 20 billion gallons of gasoline and diesel fuel on the State's roads, an increase of nearly 50 percent over the last 20 years. Nearly 26 million registered vehicles operating in California produce about 40 percent of the GHG emissions in the State.

---

1 Energy Information Administration, State/Territory Energy Profiles website: http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA, accessed November 13, 2009.

2 California Energy Information Administration, http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=CA, accessed December 14, 2009.

The consumption of energy in the SCAG region is summarized in Table 3.16.1 for 1997 and 2000. The roads in the SCAG region and in the project study area are shown on Figure 3.16-1. The data in Table 3.16.1 are the most recent available and are considered representative of current conditions.

Table 3.16.1 Annual Transportation Energy Consumption in the SCAG Region

Category	Fuel Type	Year	Consumption[1]
Motor Vehicles	Gasoline/Diesel	1997	6.1
	Natural Gas	2000	33 million therms
On BTU Basis			
Motor Vehicles	Gasoline/Diesel	1997	852.8
	Natural Gas	2000	3.3

Sources: California Energy Commission (June 2000), California energy demand 2000–2010, Sacramento, CA; and Southern California Association of Governments (2001), *2001 Regional Transportation Plan* update.

[1] Gasoline/diesel consumption is expressed in billions of gallons per year and consumption on a BTU basis is expressed in trillions of BTUs.

BTU = British thermal units

SCAG = Southern California Association of Governments

The recession, which started in 2007, has had a substantial impact on the State's transportation sector. Consumer demand for gasoline and diesel fuels continues to decline. Job growth and industrial production (which are drivers of air travel) are also declining, causing the aviation sector to experience a drop in air traffic. In response to this and higher fuel prices, the aviation sector has reduced the number of planes in service and taken the least efficient aircraft out of service. In addition, the freight sector (rail and trucking) is experiencing a decrease in container movement at the State's three major marine ports: Los Angeles, Long Beach, and the Bay Area.[1]

Overall, California is experiencing a downward trend in sales for gasoline, diesel, and jet fuel. For example, California's average daily gasoline sales for the first 4 months in 2009 were 2.1 percent lower than the same period in 2008, continuing an ongoing reduction in demand since 2004. Daily diesel fuel sales for the first 3 months in 2009 were 7.7 percent lower than the same period in 2008, continuing a declining trend since 2007. Recent demand trends for jet fuel (8.9 percent decline in 2008) are similar to diesel fuel and reflect the impact of the economic downturn and higher fuel prices.[2]

[1] California Energy Commission, 2009 *Integrated Energy Policy Report*, Draft Committee Report, September 2009, CEC-100-2009-003-CTD.

[2] Ibid.

- SR-91 CIP Study Area
- SCAG Region Roadways

NO SCALE

FIGURE 3.16-1

SR-91 Corridor Improvement Project

SR-91 CIP Study Area and
SCAG Region Roadways

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA# 0F5400

I:\PAZ0701\G\SCAG Roadways_11x17.cdr (10/9/09)

This page intentionally left blank

Nonrenewable energy products derived from crude oil (e.g., gasoline, diesel, kerosene, and residual fuel) provide most of the energy consumed for transportation by automobiles, trucks, locomotives, aircraft, and ships. In addition, energy is consumed in connection with construction and maintenance of transportation infrastructure, such as streets, highways, freeways, locomotives, and airport runways. Trends in transportation-related technology indicate increased use of electricity and natural gas in transportation vehicles in the future.

The majority of transportation energy currently comes from a wide variety of petroleum products. Automobiles and trucks consume gasoline and diesel fuel. The transportation sector consumes relatively minor amounts of natural gas or electricity but, propelled mainly by air quality laws and regulations, technological innovations in transportation are expected to increasingly rely on compressed natural gas and electricity as energy sources. Biodiesel, which comes from plant sources such as vegetable oils, is a small but growing source of transportation fuel. Vehicles powered by fuels other than gasoline or diesel are referred to as alternative fuel vehicles.

Energy consumption by on-road motor vehicles reflects the types and numbers of vehicles, the extent of their use (typically described in terms of VMT), and their fuel economy (typically described in terms of miles per gallon [mpg]). Trends in energy consumption by on-road motor vehicles generally follow trends in population and per capita income as well as trends in land use development patterns. For example, diffuse land use development patterns can result in an imbalance between jobs and housing, which can lead to longer average commute trips and greater energy use for transportation purposes.

3.16.2.1 Existing Energy Demand

Economic conditions and population growth are the primary drivers of transportation energy demand. The California Department of Finance forecasts that California's population will grow over the next 15 years by an average annual rate of 1.15 percent, translating to 9.5 million more Californians by 2025. This is below the average annual rate of 1.76 percent for the last 20 years and reflects reduced immigration rates and lower overall birth rates with the aging of the large baby boomer generation. The California Energy Commission (CEC) forecasts that the average household size will increase so that total households grow at a slower rate than the population. The number of households is forecast to increase at an average rate of 1.01 percent per year. The CEC analysis assumes that real per-household income will grow over the

next 20 years at an average annual rate of about 1.25 percent, which is somewhat lower than the 1.55 percent annual growth rate for the previous 20 years.[1]

The VMT for light-duty vehicles (LDVs) is expected to increase from 295 to 436 billion miles over the next 20 years, for a growth rate of 1.80 percent per year. LDVs account for about 97 percent of the on-road vehicles and 95 percent of the total VMT of all on-road vehicles. The CEC forecasts the number of on-road vehicles in California at 35.6 million by 2025, up from 25.6 million in 2003. This reflects an average growth rate of 1.5 percent per year. Primarily because of the continued growth in cross utility vehicles, light trucks are projected to increase as a fraction of LDV stock in California from 42 percent in 2003 to over 52 percent by 2025. Despite this growth, the LDV fleet-average fuel economy is forecast to increase by about 11 percent from 20.4 mpg in 2003 to 22.6 mpg in 2025, as described in the CEC report.[2]

Diesel demand is projected to increase from 2.7 billion gallons in 2003 to 3.3 billion gallons in 2010 and 5 billion gallons by 2025, which is an average annual increase of about 2.8 percent. Consistent with the required zero emission vehicle (ZEV) mandates, electric hybrid vehicle sales are projected to increase over time from 12,000 vehicles in 2003 to 140,000 vehicles in 2010, and to 200,000 vehicles in 2015 and later years (about 9 percent of total sales). For diesel LDVs, sales are projected to reach 60,000 vehicles in 2010, 140,000 vehicles by 2015, and 330,000 vehicles by 2025 (about 12 percent of sales). By 2025, the fleet penetration of hybrids and diesel LDVs is forecast to reduce gasoline demand projections by about 1.9 billion gallons per year. Without hybrids and diesel LDVs, the projected growth rate for gasoline demand from 2003 through 2025 would average 1.31 percent per year.[3]

In the transportation sector, the annual demand for electricity, primarily for transit, is forecast to increase from 590 to 1,800 million kilowatt-hours (kWh) between 2002 and 2025. During the same period, the CEC forecasts that the demand for natural gas in vehicles will increase from 75 to 200 million therms per year. These projected

1 *Forecasts of California Transportation Energy Demand 2005-2025*, California Energy Commission, April 2005, CEC-600-2005-008.

2 Ibid.

3 Ibid.

2025 values are about 1 percent of current electricity and natural gas demand in the State.[1]

3.16.3 Environmental Consequences

3.16.3.1 Summary of Impacts

Alternatives 1 and 2 would result in permanent direct reductions of up to 3.0 percent in fuel consumption in 2015 and up to 4.15 percent by 2035 because of improved traffic flow (as discussed in Section 3.16.3.3 below).

Alternatives 1 and 2 would result in very minor increases in indirect energy consumption (up to 0.7 percent) for energy used for the manufacturing and maintenance of vehicles operating on roads in the project study area; however, there would be no increase in indirect energy consumption for vehicles in the SCAG region. Alternatives 1 and 2 would not result in a substantial change in the demand for electricity for road and sign lighting,[2] toll facilities, and ramp metering because, with the exception of adding the electronic toll collection feature under Alternative 2, these facilities will be substantially the same under existing conditions, Alternatives 1 and 2, and the No Build Alternatives.

Temporary energy consumption during the construction of Alternatives 1 and 2 would represent a very small percent of total regional consumption and would not result in a noticeable impact related to short-term energy demand.[3]

---

1 *Forecasts of California Transportation Energy Demand 2005-2025*, California Energy Commission, April 2005, CEC-600-2005-008.

2 The project will incorporate the use of energy-efficient lighting, such as LED traffic signals, to the extent feasible. This analysis did not quantify any energy savings associated with the use of energy-efficient lighting.

3 The Greenroads Manual, a sustainability rating system for road construction, estimates that the construction one lane-km of road uses about the same amount of energy as 20-40 average U.S. households over a 1-year period. “Energy and Road Construction-What’s the Mileage of Roadway?” 21 February 2012. http://www.pavementinteractive.org <http://www.pavementinteractive.org/2012/02/21/energy-and-road-construction-whats-the-mileage-of-roadway/> 25 June 2012. Using 14 miles and three lanes, construction of the project would use 257 billion Btu. Table 3.16.1 shows SCAG Transportation energy use is 853,000 billion Btu annually. Thus, total project construction energy will be less than 0.05 percent of 1 year’s transportation energy.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase of Alternative 2f would result in a permanent direct reduction in daily fuel consumption in the study area of up to 3 percent and no change in daily fuel consumption in the SCAG region, and would result in slightly lower total energy consumption, the same as described above for Alternative 2 in 2015.

The Alternative 2f Ultimate Project would result in permanent direct reduction in fuel consumption in the study area of up to 4.15 percent and a 2.4 percent decrease in daily fuel consumption in the SCAG region, the same as discussed above for Alternative 2 in 2035.

The Alternative 2f Initial Phase and Ultimate Project would result in very minor increases in indirect energy consumption for energy used for the manufacturing and maintenance of vehicles operating on roads in the project study area, the same as discussed for Alternative 2, and no increase in indirect energy consumption for vehicles in the SCAG region. The Alternative 2f Initial Phase and Ultimate Project would not result in a substantial change in the demand for electricity for road and sign lighting, toll facilities, and ramp metering because, with the exception of adding the electronic toll collection feature under Alternative 2, these facilities will be substantially the same under existing conditions, Alternative 2f, and the No Build Alternatives.

The temporary energy consumption during the construction of the Alternative 2f Initial Phase and Ultimate Project would represent a very small percentage of total regional consumption and would not result in a noticeable impact related to short-term energy demand.[1]

[1] The Greenroads Manual, a sustainability rating system for road construction, estimates that the construction one lane-km of road uses about the same amount of energy as 20-40 average U.S. households over a 1-year period. “Energy and Road Construction-What’s the Mileage of Roadway?” 21 February 2012. http://www.pavementinteractive.org <http://www.pavementinteractive.org/2012/02/21/energy-and-road-construction-whats-the-mileage-of-roadway/> 25 June 2012. Using 14 miles and three lanes, construction of the project would use 257 billion Btu. Table 3.16.1 shows SCAG Transportation energy use is 853,000 billion Btu annually. Thus, total project construction energy will be less than 0.05 percent of 1 year’s transportation energy.

3.16.3.2 Methodology

This energy analysis is based on the methodology described in detail in the Caltrans SER, Volume 1, Chapter 13 – Energy (updated November 12, 2008). The energy analysis addresses two elements: direct and indirect energy consumption. Direct energy refers to the fuel consumed by vehicles using a highway facility. Indirect energy refers to energy associated with the construction and operation of a highway facility.

Direct transportation energy consumption was estimated for the project using traffic data and the EMFAC2007 air quality model, which provides estimated gasoline and diesel fuel consumption rates. Estimated energy consumption in 2035 is expected to represent the most conservative (i.e., highest) energy consumption because population and employment are projected to be higher in that year than in any earlier year. In addition, the analysis does not reflect the impact of energy efficiency and conservation measures that are likely to be adopted by 2035 and which would result in lower energy consumption than projected in these estimates (i.e., new California Environmental Protection Agency [Cal/EPA]/EPA fuel economy standards, bus rapid transit, HOVs).

The analysis of the potential impacts of the project that are related to energy considered two areas of potential effects:

- The study area used in the project traffic analysis that focused on the project segments of SR-91 and I-15 and other streets in that area that could potentially experience changes in traffic conditions as a result of the project. This geographic area is referred to in this analysis as the project study area.
- A regional study area consisting of the major roads in the SCAG region, which includes Orange, Riverside, and Los Angeles Counties and the non-desert parts of Ventura and San Bernardino Counties. This geographic area is referred to in this report as the SCAG region. That area was shown on Figure 3.16-1.

Implementation of the project would affect the use of indirect energy resources in the project study area and the SCAG region. The analysis of these impacts at the regional level is by its nature an analysis of cumulative impacts. Three main areas of potential impacts are assessed: (1) energy demands for construction; (2) energy demands for operation of the regional transportation system in 2035; and (3) the cumulative impacts related to growing energy demand as a result of implementation of the project and other projects in the region.

3.16.3.3 Permanent Direct Impacts

Alternatives 1 and 2

Local energy demand for transportation projects is typically dominated by vehicle fuel usage. For projects similar to the project, it is assumed that the energy consumption by vehicles is much larger than the small change in electrical energy consumption for any additional lighting (i.e., road lighting), which is expected to be minimal for this project.

Construction of the Build Alternatives would alter the traffic flow in both the project study area and the SCAG region. Based on the traffic analysis, the project would increase the VMT in the project study area, but would improve the traffic flow by increasing the average vehicle speeds. The enhanced traffic flow conditions would minimize vehicle delay and improve vehicle fuel efficiency. Table 3.16.2 lists the daily fuel consumption and fuel costs in the project study area associated with the vehicle trips for the Baseline/Existing (2007) condition, the Build Alternatives, and the No Build Alternatives in 2015 and 2035.

Table 3.16.2 SR-91 CIP Study Area Daily Fuel Consumption Comparison

Alternative	VMT	VHT	Average Speed	Fuel Consumption (gallons)	Fuel Cost[1]	Percent Change in Daily Fuel Consumption from Existing	Percent Change in Daily Fuel Consumption from No Build
Baseline/ Existing (2007)	11,003,152	334,688	32.9	476,000	$1,720,000	N/A	N/A
2015 No Build	13,671,088	446,546	30.6	601,000	$2,180,000	26.26%	N/A
2015 Alternative 1	13,896,035	437,352	31.8	596,000	$2,160,000	25.21%	-0.83%
2015 Alternative 2	13,889,079	428,063	32.4	583,000	$2,120,000	22.48%	-3.00%
2015 Initial Phase of Alternative 2	13,662,654	433,152	31.5	582,000	$2,110,000	22.27%	-3.16%
2035 No Build	16,824,059	583,945	28.8	771,000	$2,800,000	61.97%	N/A
2035 Alternative 1	16,928,339	571,919	29.6	755,000	$2,740,000	58.61%	-2.08%
2035 Alternative 2	16,984,946	562,795	30.2	739,000	$2,690,000	55.25%	-4.15%

Source: *Final Energy Report* (March 2010) and *Traffic Study Report* (July 2010).

[1] Fuel cost was calculated using a gasoline cost of $3.558 per gallon and diesel cost of $3.925 per gallon (average for last 12 months for Los Angeles region) from the United States Energy Administration: http://tonto.eia.doe.gov/dnav/pet/pet_pri_gnd_a_epd2d_pte_cpgal_a.htm, accessed November 12, 2009.

N/A = not applicable
SR-91 CIP = State Route 91 Corridor Improvement Project
VHT = vehicle hours traveled
VMT = vehicle miles traveled

As shown in the tables in this section:

- Baseline/Existing (2007) represents the existing conditions.
- 2015 No Build represents conditions in 2015 if the SR-91 CIP is not constructed.
- 2015 Alternative 1, 2015 Alternative 2, and 2015 Initial Phase of Alternative 2 represent conditions in 2015 if those Alternatives are constructed.
- 2035 No Build represents conditions in 2035 if the SR-91 CIP is not constructed.
- 2035 Alternative 1 and 2035 Alternative 2 represent conditions in 2035 if those Alternatives are constructed.

Table 3.16.2 lists the daily fuel consumption and fuel costs associated with the vehicle trips for the Baseline/Existing (2007) condition, the Build Alternatives, and the No Build Alternatives for 2015 and 2035.

As shown in Table 3.16.2, changes in the SR-91 traffic from the Baseline/Existing (2007) to the 2015 No Build Alternative would result in a 26.26 percent increase in daily fuel consumption. The 2015 Build Alternative 1 would result in a 25.21 percent increase in daily fuel consumption compared to the Baseline/Existing (2007). The 2015 Build Alternative 2 would result in a 22.48 percent increase in daily fuel consumption compared to the Baseline/Existing (2007). The 2015 Initial Phase of Alternative 2 Build Alternative 2 would result in a 22.27 percent increase in daily fuel consumption compared to the Baseline/Existing (2007).

As shown in Table 3.16.3, in the SCAG region, changes in the SR-91 traffic from the Baseline/Existing (2007) to the 2035 No Build Alternative would result in a 48.54 percent increase in daily fuel consumption. The 2035 Build Alternative 1 would result in a 45.03 percent increase in daily fuel consumption compared to the Baseline/ Existing (2007). The 2035 Build Alternative 2 would result in a 45.03 percent increase in daily fuel consumption compared to the Baseline/Existing (2007).

As shown in Table 3.16.2, implementation of the Build Alternatives would result in a slight decrease in fuel consumption (i.e., up to a 3.0 percent reduction in 2015 and up to a 4.15 percent reduction in 2035) in the project study area. As shown in Table 3.16.3, in the SCAG region, the project's effect on fuel consumption would be negligible in 2015 and would result in a slight decrease (up to a 2.4 percent reduction) in 2035. Therefore, implementation of any of the Build Alternatives would not result in a substantial increase in fuel consumption. Alternative 2f would also result in a

Table 3.16.3 SCAG Region Daily Fuel Consumption Comparison

Alternative	VMT	VHT	Average Speed	Fuel Consumption (gallons)	Fuel Cost[1]	Percent Change in Daily Fuel Consumption from Existing	Percent Change in Daily Fuel Consumption from No Build
Baseline/ Existing (2007)	405,189,479	12,581,617	32.2	17,100,000	$61,500,000	N/A	N/A
2015 No Build	475,317,065	15,386,962	30.9	20,200,000	$72,900,000	18.13%	N/A
2015 Alternative 1	475,217,556	15,369,936	30.9	20,200,000	$72,900,000	18.13%	0.0%
2015 Alternative 2	475,098,337	15,340,716	31.0	19,800,000	$71,500,000	15.79%	-2.0%
2015 Initial Phase of Alternative 2	475,119,071	15,384,975	30.9	20,200,000	$72,800,000	18.13%	0.0%
2035 No Build	558,475,650	19,990,371	27.9	25,400,000	$91,800,000	48.54%	N/A
2035 Alternative 1	558,199,250	19,905,264	28.0	24,800,000	$89,700,000	45.03%	-2.4%
2035 Alternative 2	558,409,584	19,904,436	28.1	24,800,000	$89,700,000	45.03%	-2.4%

Source: *Final Energy Report* (March 2010) and *Traffic Study Report* (July 2010).

[1] Fuel cost was calculated using a gasoline cost of $3.558 per gallon and diesel cost of $3.925 per gallon (average for last 12 months for Los Angeles region) from the United States Energy Administration: http://tonto.eia.doe.gov/dnav/pet/pet_pri_gnd_a_epd2d_pte_cpgal_a.htm, accessed November 12, 2009.

N/A = not applicable
SCAG = Southern California Association of Governments
VMT = vehicle miles traveled
VHT = vehicle hours traveled

slight decrease on fuel consumption in the study area and in the SCAG region, the same as shown in Table 3.16.2 for Alternative 2. Using the same fuel costs, note that the fuel costs for the project study area increase by approximately 25 percent from Baseline/Existing (2007) conditions to any of the alternatives in 2015, with an increase of nearly 60 percent in 2035. Alternative 2f fuel costs would also increase the same as shown in Table 3.16.3 for Alternative 2 in 2015 and 2035.

While the average increase in speeds for both Build Alternatives versus the No Build Alternative is small, these average speeds are measured over the entire project study area, which includes hundreds of miles of roads as shown on Figure 3.16-1; therefore, the small increase is actually substantial for key roads.

The phasing plans for the Build Alternatives would result in the improvements in the Build Alternatives being constructed in phases, starting with the Initial Phase in 2015 and ending with completion of all the project components by 2035. As shown previously in Table 3.16.2, the phasing of the improvements under Alternatives 1 and 2 is anticipated to result in slightly lower total energy consumption compared to the

impacts of implementing Alternatives 1 and 2 without the phasing plans. However, even with this slight reduction, the implementation of either Build Alternative with phasing would not result in a substantial increase in energy consumption compared to the No Build Alternative. The phasing of the improvements under Alternative 2f is anticipated to result in slightly lower total energy consumption, the same as shown in Table 3.16.2 for Alternative 2.

No Build Alternative

Under the No Build Alternative, the following permanent effects on energy consumption discussed above for the Build Alternatives would not occur:

- Increases in VMT in the SR-91 CIP study area
- Reductions or no changes in fuel consumption in the SR-91 CIP study area
- Reductions in VMT in the SCAG region
- Reductions in fuel consumption in the SCAG region

However, there may be positive permanent energy consumption effects for other transportation improvement projects in the project study area and the SCAG region.

3.16.3.4 Permanent Indirect Impacts

Alternatives 1 and 2

Indirect manufacturing energy effects involve the one-time, nonrecoverable energy costs associated with the manufacture of vehicles. Indirect maintenance energy effects involve the ongoing, nonrecoverable energy costs associated with the maintenance of vehicles. This analysis was also conducted using the Input-Output Method. It was assumed that the energy requirements for manufacturing and maintaining vehicles have not changed since the Caltrans *Energy and Transportation Systems* handbook was published in July 1983. Thus, the per-vehicle indirect energy impacts for the Build Alternatives would be the same and would not change from the Baseline/Existing (2007) condition.

As shown in Table 3.16.4, changes in the indirect energy used from the existing scenario to the No Build scenario result in a 53.3 percent increase in indirect energy used. Build Alternative 1 would result in a 54.0 percent increase and Build Alternative 2 would result in a 54.0 percent increase in indirect energy used compared to the Existing scenario.

Using the estimated VMT and VHT data provided in Tables 3.16.2 and 3.16.3, Table 3.16.4 shows that the Build Alternatives would result in a slight increase in

Table 3.16.4 SR-91 CIP Study Area Indirect Energy Comparison

Description	Energy Used (Billion BTU/day)			
	Existing	No Build	Alternative 1	Alternative 2
Manufacturing				
Auto Manufacture	14.4	21.9	22.0	22.2
Truck Manufacture	1.12	1.8	1.8	1.7
Subtotal	15.5	23.7	23.8	23.9
Maintenance				
Auto Maintenance	11.6	17.6	17.8	17.9
Truck Maintenance	2.1	3.4	3.3	3.2
Subtotal	13.7	21.0	21.1	21.1
TOTAL	**29.2**	**44.7**	**44.9**	**45.0**
Percent Change from Existing	**N/A**	**53.3%**	**54.0%**	**54.0%**
Percent Change from No Build	**N/A**	**N/A**	**0.45%**	**0.67%**

Source: *Final Energy Report* (March 2010).
BTU = British thermal units
N/A = not applicable
SR-91 CIP = State Route 91 Corridor Improvement Project

indirect energy consumption (i.e., up to a 0.7 percent increase) in the project study area compared to the No Build Alternative. Alternative 2f would also result in a slight increase in indirect energy consumption, the same as shown in Table 3.16.4 for Alternative 2.

However, as shown in Table 3.16.5, in the SCAG region, changes in the indirect energy used from the Existing scenario to the No Build Alternative, Build Alternative 1, and Build Alternative 2 would all result in the same 38.7 percent increase in indirect energy used. As shown in Table 3.16.5, there would be no increase in total indirect energy consumption in the SCAG region as a result of the Build Alternatives. Alternative 2f would also result in no increase in the total indirect energy consumption in the SCAG region, the same as shown in Table 3.16.5 for Alternative 2. Therefore, the Build Alternatives would not result in a substantial increase in indirect energy consumption or local energy demand in the SCAG region compared to the No Build Alternative.

The existing road has electrical demands from the operation of the toll facilities, road and sign lighting, and interchange ramp metering. It is not expected that implementation of the Build Alternatives would substantially change these current energy demands.

Table 3.16.5 SCAG Region Indirect Energy Comparison

Description	Energy Used (Billion BTU/day)			
	Existing	No Build	Alternative 1	Alternative 2
Manufacturing				
Auto Manufacture	538	736	736	736
Truck Manufacture	30.7	48	48	48
Subtotal	569	784	784	784
Maintenance				
Auto Maintenance	434	594	594	594
Truck Maintenance	57.4	91	90	90
Subtotal	491	685	684	684
TOTAL	**1,060**	**1,470**	**1,470**	**1,470**
Percent Change from Existing	**N/A**	**38.7%**	**38.7%**	**38.7%**
Percent Change from No Build	**N/A**	**N/A**	**0.0%**	**0.0%**

Source: *Final Energy Report* (March 2010).
BTU = British thermal units
N/A = not applicable
SCAG = Southern California Association of Governments

3.16.3.5 Temporary Impacts

Alternatives 1 and 2

Indirect construction energy effects involve the one-time, nonrecoverable energy costs associated with construction of roads, structures, and vehicles. The indirect energy analysis for the project was conducted using the Input-Output Method. This method converts either VMT or construction costs into energy consumption based on existing data from other road improvement projects in the United States using conversions listed in the Caltrans *Energy and Transportation Systems* handbook (July 1983). It was assumed that the energy required to manufacture a vehicle has not changed since the handbook was published. However, an adjustment of the construction energy cost per British thermal unit[1] (BTU) of 27,500 BTU/1977 dollar was made by using a Highway Construction Price Index factor of 4.5 to adjust to current BTU/dollar.

Based on the estimated costs to construct the Build Alternatives (refer to the *Project Report* [September 2011]), it would take approximately 4.8 trillion BTUs to construct the Alternative 1 Ultimate Project, and 7.0 trillion BTUs to construct the Alternative 2 Ultimate Project. It would take approximately 4.9 trillion BTUs to construct the 2015 Initial Phase of Alternative 2f and an additional 1.9 trillion BTUs for a total of 6.8 trillion BTUs to construct the 2035 Ultimate Project of Alternative

[1] BTU is the quantity of energy necessary to raise the temperature of 1 pound of water 1°F at 1 atmosphere of pressure.

2f. As described in detail in Section 3.16.2.3, Permanent Direct Impacts, there are effectively no direct energy savings with either Build Alternative compared to the No Build Alternative, so the payback period for these construction costs is not quantifiable. However, similar to other recently completed major construction projects in southern California, because the increased energy demands of construction of the project are such a small fraction of the regional energy consumption, the construction of either Build Alternative is unlikely to create a noticeable impact related to short-term demand for energy during project construction. The construction of Alternative 2f is also unlikely to create a noticeable impact related to short-term demand for energy during project construction, the same as for the Build Alternatives.

No Build Alternative

Under the No Build Alternative, the temporary energy consumption discussed above for the Build Alternatives would not occur, but temporary energy consumption would occur for the other transportation improvement projects included in the No Build Alternative. Generally, construction energy can be compared to increased roadway maintenance energy if a project is not built. However, there is insufficient information to quantify this energy savings.

3.16.3.6 Energy Plan

The CEC, CPUC, and Consumer Power and Conservation Financing Authority (called the CPA, which is now defunct) approved the final State of California Energy Action Plan in 2003, which was proposed by a subcommittee of these three agencies. The Plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, an updated Energy Action Plan was adopted by the CEC and CPUC to reflect policy changes and actions after 2003.

The State's energy policies have been substantially influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006. The CEC's *2007 Integrated Energy Policy Report* (IEPR) advanced policies that would enable the State to meet its energy needs in a carbon-constrained world. That report also provides a comprehensive set of recommended actions to achieve these policies.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternatives would not result in adverse impacts related to energy consumption in the project study area or the SCAG region compared to the No Build Alternative. No avoidance, minimization, or mitigation measures are required.

This page intentionally left blank

BIOLOGICAL ENVIRONMENT

3.17 Natural Communities

3.17.1 Regulatory Setting

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The emphasis of the section should be on the ecological function of the natural communities within the area. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species Section 3.21. Wetlands and other waters are also discussed below in Section 3.18.

3.17.2 Affected Environment

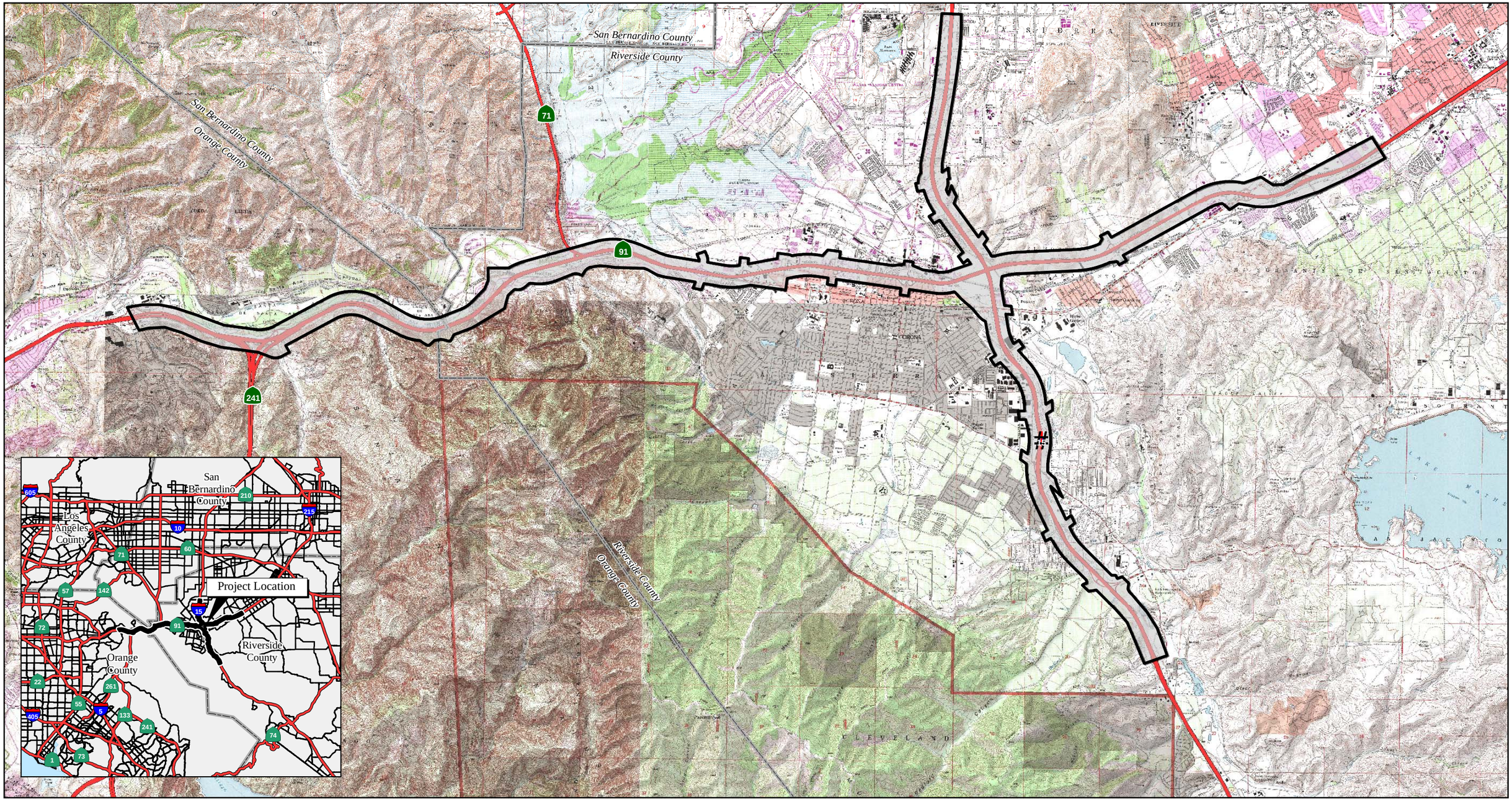
The analysis of impacts of the project to natural communities is based on the NES (June 2010).

3.17.2.1 Biological Study Area

The BSA for the project, shown on Figure 3.17.1, was developed based on the maximum extent of potential direct effects, as determined from the preliminary project plans provided in Appendix L, Project Features. The limits of the BSA extend beyond the maximum extent of potential direct effects as appropriate to ensure identification of sensitive biological resources within and adjacent to the project limits. This provided for a survey area that was larger than the area of potential direct effect. The BSA includes a total of 5,370.7 ac, and extends approximately 1,000 ft on either side of the centerline of SR-91 and I-15.

In the BSA, approximately 3,511.8 ac are developed and 1,298.3 ac are a mixture of nonnative grasslands and mixed ruderal and ornamental landscape, for a total of approximately 4,800 ac of nonnative landscape. The remaining 570.6 ac in the BSA consist of native vegetation.

This page intentionally left blank



LEGEND

Biological Study Area

FIGURE 3.17-1

SR-91 Corridor Improvement Project

Biological Study Area

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

0 3300 6600
FEET

SOURCE: USGS 7.5' QUAD - BLACK STAR CANYON ('88), CORONA NORTH ('81), CORONA SOUTH ('88), PRADO DAM ('81), RIVERSIDE WEST ('81); CALIF.

I:\PAZ0701\GIS\Biology\Bio_Study_Area_3.17-1.mxd (3/3/2010)

This page intentionally left blank

The BSA was used as the study limit boundary for all biological surveys conducted during 2008 and 2009, but those surveys were limited where access to individual properties was available. Where access was available, the BSA was surveyed on foot. Where access was not available (e.g., no permission granted by property owner, inaccessibly steep slopes, or locked gate), areas were surveyed from accessible areas with the aid of binoculars.

3.17.2.2 Natural Plant Communities

The plant communities in the BSA consist of a mix of several habitat types. Table 3.17.1 lists the acreage of each of the plant communities present in the BSA.

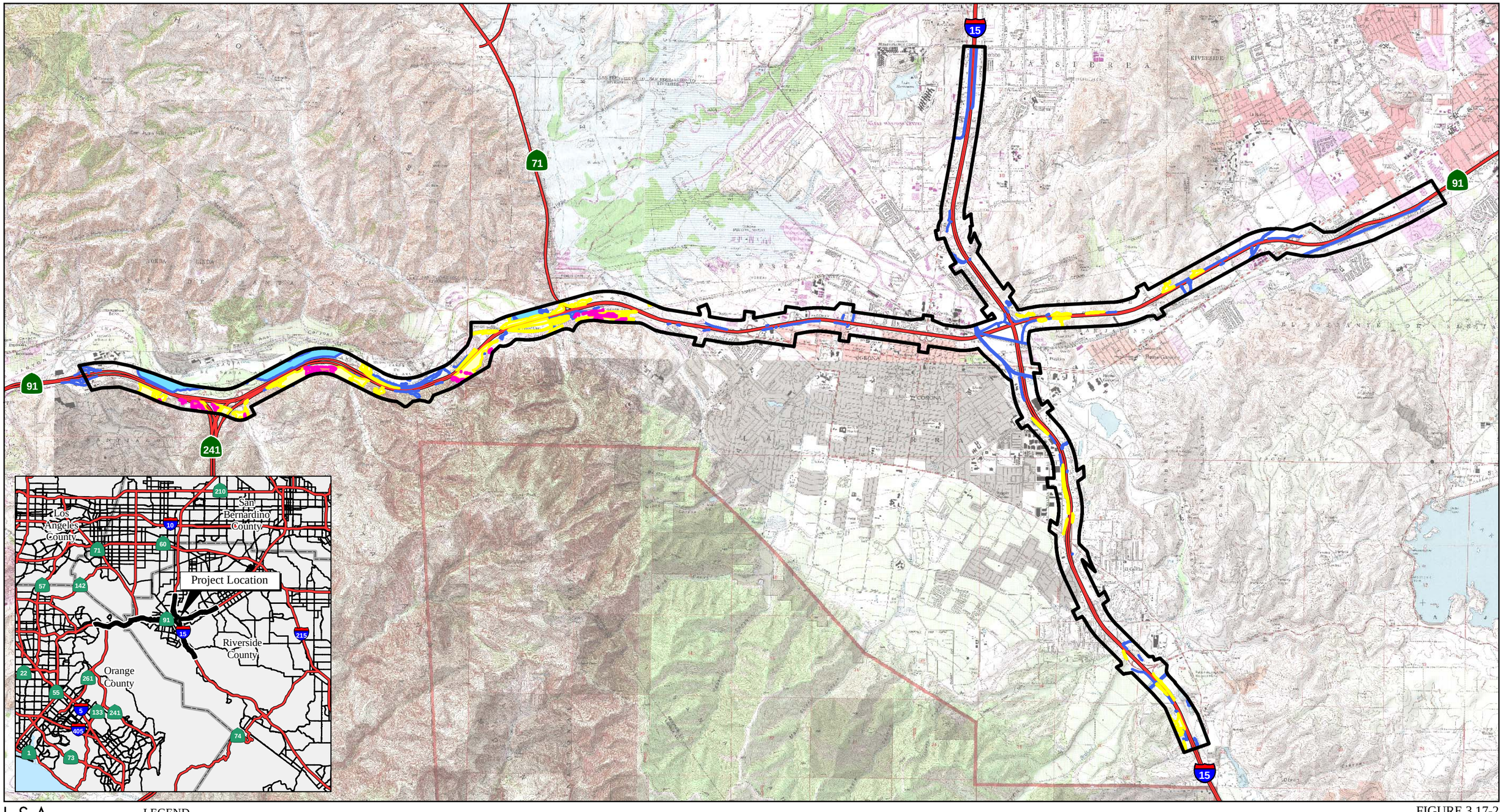
Table 3.17.1 Vegetation Communities in the BSA

Vegetation Community	Acres in Orange County	Acres in Riverside County	Total Acres	Natural Community of Special Concern
Scrub and Chaparral Habitats				
Chaparral	69.4	57.3	126.7	No
Coastal sage scrub	111.5	167.4	278.9	Yes
Riparian and Woodland Habitats				
Riparian forest	69.8	31.4	101.2	Yes
Riparian scrub	3.0	3.3	6.3	Yes
Open water	14.1	4.5	18.6	Yes
Oak woodland	24.4	14.5	38.9	Yes
Disturbed Habitats				
Developed	341.1	3,170.7	3,511.8	No
Nonnative grassland	97.9	172.1	270.0	No
Mixed ruderal and ornamental	114.9	903.4	1,018.3	No
Total	**--**	**--**	**5,370.7**	**--**

Source: *Final Natural Environment Study* (June 2010).
BSA = biological study area

Although nine plant communities, or variations, were identified in the BSA, only three are plant communities of special concern: CSS, riparian/riverine (which includes the categories of riparian forest, riparian scrub, and open water), and oak woodland. Habitats are considered to be of special concern based on federal, State, or local laws regulating their development; limited distributions; and/or the habitat requirements of sensitive plants or animals occurring in those plant communities. Figure 3.17-2 shows the location of the natural plant communities of special concern in the BSA. The six habitat types that are not communities of special concern are discussed in detail in the NES but are not discussed further in this section.

This page intentionally left blank



LSA

FIGURE 3.17-2

SR-91 Corridor Improvement Project

Locations of Natural Plant Communities of Special Concern

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

SOURCE: USGS 7.5' QUAD - BLACK STAR CANYON ('88), CORONA NORTH ('81), CORONA SOUTH ('88), PRADO DAM ('81), RIVERSIDE WEST ('81); CALIF.

I:\PAZ0701\GIS\Biology\NaturalCommunities_of_SpecialConcern.mxd (3/15/2011)

This page intentionally left blank

Coastal Sage Scrub

CSS is generally a patchy vegetation community found in diverse habitats and is dominated by a group of shrub species found in southern California. Shrub cover is dense and generally continuous, with low moisture content. Steep, xeric slopes and quickly draining soils characterize the CSS community. Annual herbs, including weedy grasses and forbs and native wildflowers, are common in openings and disturbed areas in CSS communities. Species in the CSS plant community include California sagebrush (*Artemisia californica*), coastal deerweed (*Lotus scoparius* var. *scoparius*), white sage (*Salvia apiana*), black sage (*Salvia mellifera*), California buckwheat (*Eriogonum fasciculatum*), our lord's candle (*Yucca whipplei*), California encelia (*Encelia californica*), brittlebush (*Encelia farinosa*), and California poppy (*Eschscholzia californica*).

CSS has become displaced by spreading urbanization. Many rare and endangered species occur in CSS and associated plant communities. Consequently, degradation and displacement of CSS has resulted in substantial habitat loss for a variety of animal species. Therefore, the CDFG and USFWS have special concerns for this habitat type.

Although CSS occurs throughout much of the BSA, much of that CSS is highly disturbed. Other areas are sparse due to rocky cut slopes preventing dense growth.

Riparian/Riverine

Riparian habitats were formerly abundant along the major rivers of coastal southern California but are now much reduced by urban expansion, flood control, and channel improvements (Holland 1986). The typical association of these riparian habitat types with drainages means they are protected under the California Fish and Game Code and, to a certain extent, by the federal CWA. These habitats are considered high-quality wildlife habitats because they provide protective cover, water, and food for a variety of species. Many animal species are riparian habitat obligates. Other animals, including large mammals, require access to water and use bands of riparian habitat as wildlife corridors. The CDFG regulates riparian areas to the extent that those areas are associated with the banks of a stream or lake shorelines.

There are three riparian natural communities of special concern in the BSA: riparian forest, riparian scrub, and deepwater aquatic.

The riparian forest habitat occurs in the BSA predominantly around Prado Dam, but there are some small patches throughout the BSA. This habitat type is dominated by

arroyo willow (*Salix lasiolepis*), black willow (*Salix gooddingii*), western cottonwood (*Populus fremontii* ssp. *fremontii*), and western sycamore (*Platanus racemosa*). Understory species include mulefat (*Baccharis salicifolia*), mugwort (*Artemisia douglasiana*), common cocklebur (*Xanthium strumarium*), white water-cress (*Rorippa nasturtium-aquaticum*), and tamarisk (*Tamarix ramosissima*).

Riparian scrub habitat also occurs in the BSA predominantly around Prado Dam. The dominant plant species in this habitat type is mulefat. There are few other associated species in this plant community because mulefat grows in dense thickets and precludes other plant species from colonizing. Although mulefat can establish in an upland setting, it is often associated with an established riparian community. Mulefat islands have habitat value because many wildlife species use the dense foliage for camouflage. Although there are some upland mulefat islands in the BSA, the majority of this habitat in the BSA is associated with other riparian communities.

The deepwater aquatic habitat occurs in the BSA only in the Santa Ana River. Deepwater aquatic habitats are permanently inundated areas that typically do not support rooted-emergent (above water) or woody plant species, but may support submergent (below water) plant species. Deepwater aquatic waters are recognized as having high habitat value due to their use as a fish and wildlife resource and limited distribution in the arid west.

Oak Woodland

This habitat type is considered important by the CDFG because the structural diversity and food production of this habitat type provide relatively high wildlife habitat values. In each type of oak habitat (e.g., woodland, riparian), there is a different set of co-occurring plant species that is often beneficial. Animals are affected by these differences in terms of food supply, nesting sites, and predator cover, and respond according to their own ecological requirements (Pavlik 1991). This plant community occurs predominantly in the west part of the BSA, generally west of the SR-91/SR-71 interchange and is dominated by coast live oak (*Quercus agrifolia*). Other plant species in this plant community include Southern California black walnut (*Juglans californica* var. *californica*), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), and poison oak (*Toxicodendron diversilobum*).

3.17.2.3 Conservation Plans

Orange County Natural Communities Conservation Plan

There are lands designated in the Orange County NCCP south of the project segment of SR-91 in Orange County. The nearest NCCP lands to the BSA are approximately 5,900 ft south of the BSA at Weir Canyon Road and approximately 2,000 ft south of the BSA near the County line.

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County MSHCP serves as a comprehensive, multi-jurisdictional Western Riverside County MSHCP and NCCP, and focuses on the conservation of species and their associated habitats in western Riverside County. The Western Riverside County MSHCP allows its permittees to better control local land use decisions and maintain a strong economic climate in the region while adhering to the requirements of FESA and CESA. The Western Riverside County MSHCP is used to allow participating jurisdictions the "take" of plant and animal species identified in the Western Riverside County MSHCP and found within the boundaries of the Western Riverside County MSHCP Plan Area through an abbreviated authorization process with the wildlife resource agencies. Regulation of the "take" of threatened, endangered, and rare species is authorized by the wildlife agencies (USFWS and CDFG) under provisions of Section 7(a)(2) of FESA and the California Fish and Game Code Section 2050–2089, respectively. The wildlife agencies allow "Take Authorization" for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated Western Riverside County MSHCP Conservation Area.

The Western Riverside County MSHCP Plan Area encompasses approximately 1.26 million acres (1,966 sq mi) and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. The Western Riverside County MSHCP Plan Area covers multiple species and habitats within a diverse landscape, from urban centers to undeveloped foothills and montane forests, all under multiple jurisdictions. The Western Riverside County MSHCP Plan Area extends across many bioregions as well, including the Santa Ana Mountains, Riverside Lowlands, San Jacinto Foothills, San Jacinto Mountains, Agua Tibia Mountains, Desert Transition, and San Bernardino Mountains. The goal of the Western Riverside County MSHCP is to

provide a coordinated conservation area and implementation program to preserve biological diversity and maintain the region's quality of life.

The Conservation Area is assembled from parts of the Western Riverside County MSHCP Criteria Area, which consists of one-quarter-section (i.e., approximately 65-hectare [ha] or 160 ac) cells, each with specific criteria for conservation requirements. The Western Riverside County MSHCP includes both Core Areas and Linkages. The Conservation Area targeted under the Western Riverside County MSHCP, when complete, will total 200,000 ha (500,000 ac).

As a permittee under the Western Riverside County MSHCP, the Department is obligated to implement specific conditions, as described in Sections 13.7 and 13.8 of the Western Riverside County MSHCP Implementation Agreement, and to abide by the Section 10(a)(1) permit conditions. Those requirements include: (1) compliance with the policies for the Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools as set forth in Section 6.1.2 of the Western Riverside County MSHCP; (2) compliance with the policies for the Protection of Narrow Endemic Plant Species as set forth in Section 6.1.3 of the Western Riverside County MSHCP; (3) compliance with surveys to be conducted as set forth in Section 6.3.2 of the Western Riverside County MSHCP; (4) compliance with the Urban/Wildlands Interface Guidelines as set forth in Section 6.1.4 of the Western Riverside County MSHCP; and (5) compliance with the BMPs and the siting and design criteria as set forth in Section 7.0 and Appendix C of the Western Riverside County MSHCP.

As a permittee under the Western Riverside County MSHCP, RCTC received a consistency conclusion from Western Riverside County RCA on April 4, 2011, that the SR-91 CIP demonstrates consistency with the requirements for covered road projects and with other requirements of the Western Riverside County MSHCP. A copy of the Joint Project Review was submitted by the Western Riverside County RCA to the USFWS and CDFG on April 4, 2011. Per Section 6.6.2 of the Western Riverside County MSHCP, the USFWS and CDFG have 10 days from the receipt of the Joint Project Review to submit any comments in writing. No comments on the Joint Project Review were received from the USFWS or CDFG.

A Biological Opinion was received from the USFWS on November 30, 2011. As part of that Biological Opinion, the SR-91 CIP was determined to be consistent with the relevant Western Riverside County MSHCP policies and procedures.

3.17.2.4 Wildlife Corridors

Roads can fragment wildlife habitat and can greatly affect wildlife movement. The detrimental effects of SR-91 and I-15 on wildlife movement have existed since those freeways were constructed. A wildlife corridor assessment for the project was prepared and is included as Appendix H of the NES. The intent of that analysis was to determine what effect the Build Alternatives might have on wildlife movement between the Santa Ana Mountains and the Puente-Chino Hills and Prado Basin, and between the Santa Ana Mountains and Lake Mathews-Estelle Mountain Reserve. The Western Riverside County MSHCP was reviewed to determine how the project would impact Western Riverside County MSHCP-designated Cores and Linkages, which are areas identified in the Western Riverside County MSHCP to be conserved that provide appropriate habitat to support the conservation of covered species and/or provide for genetic flow for identified species.

Thirty-eight potential wildlife crossing structures have been identified in the BSA, mostly consisting of existing small RCBs, reinforced concrete pipe, or corrugated metal pipe culverts. Identified wildlife movement corridors that provide primary opportunities for medium- and large-sized wildlife to move across the project segments of SR-91 and I-15 are located at Gypsum Canyon Wash and Coal Canyon in Orange County, and B Canyon, the Green River Road underpass, Fresno Canyon Creek/Wardlow Wash, and Bedford Wash in Riverside County. These crossings are described in the following sections.

Gypsum Canyon Wash

Due to high levels of vehicular usage, the Gypsum Canyon Road underpass provides limited opportunities for wildlife movement between the Santa Ana Mountains and the Puente-Chino Hills. Animals attempting to use the undercrossing must cross approximately 1,300 linear feet of developed land, most of which is without cover. The 984 ft long box culvert just east of the Gypsum Canyon Road undercrossing is already very long and is planned to be lengthened by 1,700 ft by other projects, thereby making it less desirable for wildlife use. Furthermore, the approximately 3,000 ac Mountain Park Specific Plan on the south side of SR-91 will essentially eliminate Gypsum Canyon for consideration as a viable wildlife movement corridor.

Coal Canyon

Coal Canyon is the most important remaining wildlife connection between the Santa Ana Mountains and the Puente-Chino Hills. Coal Canyon is used by a wide variety of small-, medium-, and large-sized wildlife. It is important because it is one of the few

remaining wildlife crossings for large mammals such as mountain lions, mule deer, and bobcats. Animals can cross under SR-91 at Coal Canyon via the 70 x 25 ft modified bridge undercrossing. In the past, wildlife also used a 20 x 8 x 723 ft double-box culvert approximately 200 ft west of the bridge undercrossing. In the past, the double-box culvert was clogged by silt and debris. However, in 2009 and 2010, the double-box culvert was cleaned. Increased development in the region, a proposed trail system, addition of riprap along the Santa Ana River, and creation of additional railroad lines would contribute additional pressure to this vital wildlife corridor linkage.

B Canyon

Located near the east end of the Green River Golf Club property, the B Canyon box culvert provides high potential as a wildlife linkage across SR-91. Although this structure is not currently identified for conservation as a Western Riverside County MSHCP Core or Linkage, B Canyon is now considered an important wildlife corridor between the Santa Ana Mountains and the Puente-Chino Hills. It was once believed that large mammals would not use this culvert due to its small size. Based on recent wildlife movement studies, it is now clear this is not so. The USFWS and CDFG now consider the B Canyon culvert to be more valuable than Proposed Constrained Linkage 1, discussed below. The RCA in conjunction with the USFWS and CDFG has identified B Canyon as a suitable replacement location for Proposed Constrained Linkage 1. As a result, the RCA and the wildlife resource agencies would like to amend the Western Riverside County MSHCP to relocate Proposed Constrained Linkage 1 from its current location to B Canyon. For this to be a viable option, participation of the involved stakeholders is imperative.

Because B Canyon is not identified for conservation by the Western Riverside County MSHCP, mitigation for impacts of the SR-91 CIP to B Canyon is not warranted. However, as a public steward, RCTC has committed to developing a separate project in the future to improve B Canyon to accommodate more wildlife movement by widening that crossing under SR-91. That project is dependent on the RCA's ability to amend the Western Riverside County MSHCP and to obtain the necessary property rights to ensure the corridor will be successful in the long term.

West Prado Road Undercrossing (Western Riverside County MSHCP Proposed Constrained Linkage 1)

A Constrained Linkage is defined by the Western Riverside County MSHCP as "… a constricted connection expected to provide for movement of identified Planning

Species between Core Areas, where options for assembly of the connection are limited due to existing patterns of use." The Prado Basin/Santa Ana River area and the CNF are the two Core Areas that Proposed Constrained Linkage 1 is to serve. Proposed Constrained Linkage 1 intersects with SR-91 where West Prado Road passes below SR-91. Wildlife movement along Proposed Constrained Linkage 1 is very limited. Proposed Constrained Linkage 1 is identified as constrained by existing urban development to the north, but currently provides for movement of large mammals such as mountain lions and bobcats. However, continuing land development in the region, Green River Road, West Prado Road, existing fencing, and railroad lines are all obstacles to wildlife movement along this corridor. The continuing land development in the area is expected to further constrain this linkage, making it no longer accessible to large mammals. As a result, the RCA, USFWS, and CDFG are evaluating replacement locations for Proposed Constrained Linkage 1, such as B Canyon.

Fresno Canyon/Wardlow Wash (Western Riverside County MSHCP Proposed Constrained Linkage 2)

Fresno Canyon and Wardlow Wash are at the west edge of the City of Corona, just south of the SR-91/SR-71 interchange. They have been identified by the USFWS as wildlife corridors linking the Santa Ana Mountains and the Prado Basin and as Proposed Constrained Linkage 2 by the Western Riverside County MSHCP.

Fresno Canyon/Wardlow Wash connects to the Prado Basin via a bridged undercrossing and box culvert under SR-91. The double-box culvert at Fresno Canyon/Wardlow Wash, while less suitable for large mammal movement, is suitable for movement of small and possibly medium-sized wildlife. Although small, the high-quality riparian habitat makes the culvert more desirable to wildlife.

In addition to the Fresno Canyon/Wardlow Wash box culvert, Proposed Constrained Linkage 2 also contains a highway undercrossing that would be suitable for large-sized wildlife. However, there is a steep concrete slope on the north side of SR-91 that greatly limits wildlife usage of this as a movement corridor.

Bedford Wash

Bedford Wash is near the southern end of the project on I-15. While Bedford Wash is greatly restricted as a wildlife corridor due to a reduction of vegetated cover associated with agricultural operations and surrounding commercial and industrial development in the vicinity, much of the corridor remains undeveloped, thereby

potentially providing an opportunity to develop a wildlife movement corridor suitable for medium- and large-sized wildlife linking the CNF to the Lake Mathews-Estelle Mountain Reserve. Although this area is not identified for conservation as a Western Riverside County MSHCP Core or Linkage, Bedford Wash may function as a wildlife movement corridor connecting the CNF (Western Riverside County MSHCP Core Area B), the proposed extension of the Lake Mathews-Estelle Mountain Reserve (Core Area C), and Temescal Wash (Proposed Constrained Linkage 4).

3.17.3 Environmental Consequences

3.17.3.1 Summary of Impacts

The permanent and temporary effects of Alternatives 1 and 2 on natural communities are the same for all the design variations under the Build Alternatives.

The Initial Phases of Alternatives 1 and 2 would result in permanent impacts to 9.87 ac of CSS. The Alternative 1 Ultimate Project would result in permanent impacts to an additional 17.37 ac of CSS, 0.48 ac of riparian/riverine, and 0.01 ac of oak woodlands beyond the impacts in the Initial Phase. The Alternative 2 Ultimate Project would result in permanent impacts to 25.58 ac of CSS, 0.47 ac of riparian/riverine, and 0.02 ac of oak woodlands beyond the impacts in the Initial Phase.

The Initial Phases of Alternatives 1 and 2 would result in temporary impacts to 3.38 ac of CSS, 1.72 ac of riparian/riverine, and 0.04 ac of oak woodlands. The Alternative 1 Ultimate Project would result in temporary impacts to 7.59 ac of CSS, 1.60 ac of riparian/riverine, and 0.51 ac of oak woodlands beyond the impacts in the Initial Phase. The Alternative 2 Ultimate Project would result in temporary impacts to 8.04 ac of CSS, 1.29 ac of riparian/riverine, and 0.50 ac of oak woodlands beyond the impacts in the Initial Phase.

The Initial Phases and Ultimate Projects under Alternatives 1 and 2 would not impact NCCP lands in Orange County.

The Initial Phases and Ultimate Projects under Alternatives 1 and 2 would not result in substantive temporary impacts on wildlife crossings and would retain effective openness ratios at the crossings where the undercrossing would be permanently widened.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase of Alternative 2f would result in permanent impacts to 9.87 ac of CSS and temporary

impacts to 3.38 ac of CSS, 1.72 ac of riparian/riverine, and 0.04 ac of oak woodlands, which are the same as discussed above for the Initial Phases of Alternatives 1 and 2.

The Alternative 2f Ultimate Project would result in permanent impacts to 25.58 ac of CSS, 0.47 ac of riparian/riverine, and 0.02 ac of oak woodlands, and temporary impacts to 8.04 ac of CSS, 1.29 ac of riparian/riverine, and 0.50 ac of oak woodlands, which are the same as discussed above for the Alternative 2 Ultimate Project.

The Initial Phase and Ultimate Project for Alternative 2f would not impact NCCP lands in Orange County.

The Initial Phase and Ultimate Project for Alternative 2f would not result in substantive temporary impacts on wildlife crossings and would retain effective openness ratios at the crossings where the undercrossing would be permanently widened under this Alternative.

3.17.3.2 Permanent Impacts

Alternatives 1 and 2

The Build Alternatives would result in direct permanent effects to natural communities of special concern through disturbance and/or removal of existing vegetation. Permanent effects may include complete removal and heavy encroachment that may have substantial detrimental effects to the long-term viability of a plant community. Table 3.17.2 provides the affected acreages for each of the natural communities of special concern for both Orange and Riverside Counties.

Table 3.17.2 shows the total permanent effects to natural communities of special concern for Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 in both Orange and Riverside Counties combined. The total acreages for Alternatives 1 and 2 shown in Table 3.17.2 include any impacts cited individually in the Initial Phases of those alternatives. For example, as shown in Table 3.17.2, the Initial Phase of Alternative 1 would result in 9.87 ac of permanent impacts to CSS; Alternative 1, in total, would result in 27.24 ac of permanent impacts to CSS. The 27.24 ac of permanent impacts under Alternative 1 includes the 9.87 ac impacted in the Initial Phase of Alternative 1.

Appendices M and N in the NES provide detailed maps showing the project impacts to natural communities under Alternatives 1 and 2, respectively.

Table 3.17.2 Permanent Effects on Natural Communities of Special Concern (acres)

County and Natural Community	Alternative 1 Permanent Effects[1]		Alternative 2 Permanent Effects	
	Initial Phase	Ultimate Project[2]	Initial Phase	Ultimate Project[2]
Effects in Orange County				
Coastal sage scrub	0.00	2.54	0.00	3.31
Riparian/riverine	0.00	0.18	0.00	0.17
Oak woodlands	0.00	0.00	0.00	0.00
Effects in Riverside County				
Coastal sage scrub	9.87	24.70	9.87	32.14
Riparian/riverine	0.00	0.30	0.00	0.30
Oak woodlands	0.00	0.01	0.00	0.02
Total Effects				
Coastal sage scrub	9.87	27.24	9.87	35.45
Riparian/riverine	0.00	0.48	0.00	0.47
Oak woodlands	0.00	0.01	0.00	0.02

Source: *Final Natural Environment Study* (June 2010).

[1] There is no detailed phasing plan for Alternative 1. However, it is expected that the Initial Phases of Alternatives 1 and 2 would be phased similarly. Therefore, the Initial Phase of Alternative 1 is anticipated to result in fewer effects than the Ultimate Project for Alternative 1, similar to the range of effects between the Initial Phase and Ultimate Project for Alternative 2.

[2] The effects of Alternatives 1 and 2 shown here are the total effects for each alternative; those effects include the effects of the Initial Phase and the additional effects that would occur beyond the Initial Phase to construct the Ultimate Project for each alternative.

This project would be constructed in phases. Construction of the Initial Phases of Alternatives 1 and 2 would take up to 4 years. The later phases would each take less than 2 years to construct. Project effects on natural communities in a specific area are considered permanent if that area would be disturbed for more than 4 years without replacement of the affected natural communities.

Coastal Sage Scrub

The Initial Phases of Alternatives 1 and 2 would result in a direct permanent effect to 9.87 ac of CSS habitat. Alternative 1 would result in a total direct permanent effect to 27.24 ac of CSS habitat. Alternative 2 would result in a total direct permanent effect to 35.45 ac of CSS habitat.

As shown on Figure 3.17.2, most of the large blocks of the CSS habitat are located along SR-91 in the Santa Ana Canyon, generally west of the SR-91/SR-71 interchange. Based on the project traffic study, the total daily traffic volumes in this segment will increase over existing volumes but will be the same in the design year with or without the project due to the expected build out of the area. While traffic volumes will increase over existing levels, the SR-91 CIP is expected to reduce congestion during peak hours, as compared to the No Build Alternative.

The primary impact of the traffic increase over existing volumes is an increase in noise levels. However, based on the noise study, project-related noise levels nearest to the large areas of CSS would be relatively the same with or without the SR-91 CIP, and approximately 1–2 decibels (dB) over existing levels as summarized in Table 3.15.13. An increase in noise levels of 1–2 dB is essentially imperceptible over time and would not be considered a substantial adverse effect on habitat when compared to the noise levels for the existing freeway. Therefore, the SR-91 CIP would not substantially increase indirect effects on CSS due to traffic-related noise. However, although noise levels will not increase appreciably as a result of the SR-91 CIP, noise impacts would extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened. In the Santa Ana Canyon, SR-91 will be widened approximately 24 ft maximum on each side.

Lighting associated with the project may result in light effects on adjacent CSS habitat. However, indirect light impacts associated with the project will be substantially mitigated based on Measure V-3, provided in Section 3.7, which requires the installation of non-glare shields.

Increases in litter will be limited to areas immediately adjacent to the freeway travel lanes. The Department has existing programs for litter collection and disposal. As a result, increases in litter as a result of the SR-91 CIP Build Alternatives would not adversely affect CSS habitat adjacent to the freeway.

In summary, operation of the Build Alternatives would not result in substantially increased permanent indirect effects to CSS habitat adjacent to the project segment of SR-91 in Santa Ana Canyon as a result of automobile traffic, litter, or noise in the area.

Riparian/Riverine

The Initial Phases of Alternatives 1 and 2 would result in no direct permanent effect to riparian/riverine habitat. Alternative 1 would result in a direct permanent effect to 0.48 ac of riparian/riverine habitat. Alternative 2 would result in a direct permanent impact to 0.47 ac of riparian/riverine habitat.

As shown on Figure 3.17.2, most of the large blocks of riparian/riverine habitat are along SR-91 in Santa Ana Canyon. Based on the project traffic study, the total daily traffic volumes in this segment will increase over existing volumes, but will be the same in the design year with or without the project due to the expected build out of the area. While traffic volumes will increase over existing levels, the SR-91 CIP is

expected to reduce congestion during peak hours, as compared to the No Build Alternative.

The primary impact of the traffic increase over existing volumes is an increase in noise levels. However, based on the noise study, project-related noise levels nearest to the large areas of riparian habitat would be relatively the same with or without the SR-91 CIP, and approximately 1–2 dB over existing levels as summarized in Table 3.15.13. An increase in noise levels of 1–2 dB would not be considered a substantial adverse effect on habitat when compared to the noise levels for the existing freeway. Therefore, the SR-91 CIP is not expected to increase indirect effects on riparian/ riverine habitat due to traffic-related noise. However, although noise levels will not increase appreciably as a result of the SR-91 CIP, noise impacts are expected to extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened.

Lighting associated with the project may result in light effects on adjacent riparian/ riverine habitat. However, indirect light impacts associated with the project will be substantially mitigated based on Measure V-3 provided in Section 3.7, which requires the installation of non-glare shields.

Increases in litter will be limited to areas immediately adjacent to the freeway travel lanes. The Department has existing programs for litter collection and disposal. As a result, increases in litter as a result of the SR-91 CIP Build Alternatives would not adversely affect riparian/riverine habitat adjacent to the freeway.

In summary, operation of the Build Alternatives would not result in increased permanent indirect effects to riparian/riverine habitat adjacent to the project segment of SR-91 in Santa Ana Canyon as a result of automobile traffic, litter, or noise in the area.

Oak Woodlands

Permanent effects to oak woodlands may include complete removal of trees or heavy encroachment/extensive branch removal that may have substantial detrimental effects to the long-term viability of the trees. Because the development of mature large trees requires 40–80 years, the direct removal of oak trees and oak habitat would result in substantial shorter-term loss of habitat. In addition, because replacement trees, required as compensatory mitigation as discussed later in Section 3.17.4.1, Compensatory Mitigation, would most likely be planted in protected open space areas (e.g., CHSP) and would add to existing oak woodland, the benefits would be long

term once the trees are established. The Initial Phases of Alternatives 1 and 2 would not result in direct permanent effects to oak woodlands. The Alternative 1 Ultimate Project would result in a direct permanent effect to 0.01 ac of oak woodland habitat. The Alternative 2 Ultimate Project would result in 0.02 ac of direct permanent effect to oak woodland habitat. Operation of the Build Alternatives would not increase permanent indirect effects to oak woodland habitat due to automobile traffic, litter, or noise in the area for the same reasons discussed above for CSS.

Orange County Natural Communities Conservation Plan

The nearest lands designated in the Orange County NCCP are approximately 2,000 ft south of the BSA near the County line. The operation of the Build Alternatives would not result in the use of any land designated in or adjacent to any land designated in the Orange County NCCP and would not result in indirect permanent effects to NCCP-designated lands due to automobile traffic, litter, or noise in the area. Therefore, Alternatives 1 and 2 would not result in direct or indirect impacts to any designated NCCP lands in Orange County.

Wildlife Corridors

In part because many wildlife corridor improvements have already been implemented at Coal Canyon, operation of the Build Alternatives is not expected to result in a substantial permanent effect on wildlife movement.

The permanent project changes at each wildlife crossing under Alternatives 1 and 2 are:

- **Gypsum Canyon Wash.** No widening is planned under the Build Alternatives at the Gypsum Canyon Road undercrossing. Therefore, there would be no permanent changes at this crossing and no impacts to wildlife movement. The primary impact of the traffic increase over existing volumes is an increase in noise levels. However, based on the noise study, project-related noise levels in this area would be relatively the same with or without the SR-91 CIP, and approximately 1–2 dB over existing levels as summarized in Table 3.15.13. An increase in noise levels of 1–2 dB would not be considered a substantial adverse effect and, therefore, would not be expected to result in an appreciably adverse impact on wildlife at this crossing.

  Lighting associated with the project may result in light effects in the vicinity of this wildlife crossing. However, indirect light impacts associated with the project

will be substantially mitigated based on Measure V-3, provided in Section 3.7, which requires the installation of non-glare shields.

Increases in litter will be limited to areas immediately adjacent to the freeway travel lanes. The Department has existing programs for litter collection and disposal. As a result, increases in litter as a result of the SR-91 CIP Build Alternatives would not adversely affect this wildlife crossing.

In summary, operation of the Build Alternatives would not result in increased permanent indirect effects at the Gypsum Canyon wildlife crossing.

- **Coal Canyon.** Although the Build Alternatives would widen the Coal Canyon undercrossing, the openess ratio remaining after widening would still be sufficient to allow large mammals to move between the regions. The openness ratio (area of the structure openings/structure length) of potential crossings is used to analyze the probability of wildlife movement through a given structure. Although Coal Canyon is in Orange County, the openness ratio with the proposed project (5.98) is well above the openness ratio (1.96, calculated in feet) recommended in the Western Riverside County MSHCP and applicable to the other wildlife crossings along the project segment of SR-91. As a result, Alternatives 1 and 2 will not result in an adverse effect related to the openness ratio at Coal Canyon.

  The only cause of indirect effects such as noise and lighting at Coal Canyon would be traffic. As described in Table 3.6.22, the total daily traffic volumes will be the same in 2035 with or without the project but will increase over current volumes. This increase could result in an indirect effect due to noise increases. However, noise levels will increase only a small amount (1–2 dB over the existing condition) as shown in Table 3.15-13. As a result, because traffic noise levels will remain relatively the same, indirect effects caused by traffic noise will remain relatively the same with or without the project.

  Noise data were not available for the Coal Canyon undercrossing. Noise data from other nearby similarly situated monitoring locations (refer to Receiver IDs 2M and 3M and 124M in Table 3.15.13) and future year with and without project traffic data were reviewed and compared to existing noise levels to identify the potential for increased noise from traffic volumes in this area. Receiver 124M is located the closest to the Coal Canyon Crossing, approximately 1,000 ft to the east. Traffic volumes will be the same at Receiver 124M as at Coal Canyon because there are no intervening ramps where traffic volumes could change. As such, noise volumes are expected to be the same at both of those locations as well.

As a result, the noise level at the Coal Canyon undercrossing is not expected to increase as a result of the proposed project. Although noise will not increase as a result of the SR-91 CIP, noise impacts are expected to extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened.

- **B Canyon.** The Build Alternatives propose to lengthen the B Canyon box culvert by approximately 50 ft on the north side. Although B Canyon is not within a Western Riverside County MSHCP Conservation Area or Criteria Area, it has value for wildlife movement, and RCTC is continuing to evaluate potential design features that would improve the functionality of B Canyon for wildlife movement. Similar to the above discussion for Coal Canyon, the future with project noise and light levels anticipated at this crossing will be approximately the same as the existing conditions.

- **West Prado Road Undercrossing (Western Riverside County MSHCP Proposed Constrained Linkage 1).** Although the Build Alternatives would widen the West Prado Road undercrossing, the openness ratio remaining after widening would still be sufficient to allow large mammals to move along this corridor. However, wildlife movement along Proposed Constrained Linkage 1 is very limited. Increased development in the region, Green River Road, West Prado Road, existing fencing, and railroad lines all provide obstacles to wildlife movement along this corridor. The Build Alternatives are not expected to further constrain this linkage. Similar to the above discussion for Coal Canyon, the future with project noise and light levels anticipated at this crossing will be approximately the same as the existing conditions.

- **Fresno Canyon/Wardlow Wash (Western Riverside County MSHCP Proposed Constrained Linkage 2).** No widening is planned by the Build Alternatives at the Fresno Canyon/Wardlow Wash box culvert. Therefore, there would be no permanent changes at this wildlife crossing and no impacts to wildlife movement would occur.

  In addition to the Fresno Canyon/Wardlow Wash box culvert, Proposed Constrained Linkage 2 also contains a highway undercrossing. Although the Build Alternatives would widen the Fresno Canyon/Wardlow Wash undercrossing, the openness ratio remaining after widening would still be sufficient to allow large mammals to move between the regions.

- **Bedford Canyon Wash.** The Build Alternatives would widen the existing I-15 crossing at Bedford Wash, but the openness ratio under I-15 would remain favorable for wildlife movement.

No Build Alternative

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15 and would not result in improvements to SR-91 and I-15 other than the routine maintenance of these freeways. Therefore, the No Build Alternative would not result in adverse permanent effects to natural communities of special concern.

3.17.3.3 Temporary Impacts

Alternatives 1 and 2

The Build Alternatives would result in direct temporary effects to natural communities of special concern through the disturbance and/or removal of existing vegetation. Areas of temporary effect would only be affected during construction to allow for construction and equipment staging and would be revegetated after construction. Temporary effects are limited to incidental encroachment while construction is taking place in each area. Otherwise, effects are considered permanent as discussed earlier. Because the project would be constructed in phases, project effects would be permanent if they would be disturbed longer than a single phase without replacement of habitat between phasing. The Initial Phases of Alternatives 1 and 2 would take 4 years to construct. The Ultimate Project would not take longer than 2 years to construct.

Table 3.17.3 shows the total temporary effects to natural communities of special concern for Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 in both Orange and Riverside Counties combined. The total acreages for Alternatives 1 and 2 shown in Table 3.17.3 include any impacts cited individually in the Initial Phases of those alternatives.

Coastal Sage Scrub

The Initial Phases of Alternatives 1 and 2 would result in a direct temporary effect to 3.38 ac of CSS habitat. Alternative 1 would result in a direct temporary effect to 7.59 ac of CSS habitat. Alternative 2 would result in a direct temporary effect to 8.04 ac of CSS habitat. The Build Alternatives would also result in indirect temporary effects to CSS habitat, including construction-related effects such as dust and potential fuel spills from construction equipment or disruption by personnel outside

Table 3.17.3 Temporary Effects on Natural Communities of Special Concern (acres)

County and Natural Community	Alternative 1 Temporary Effects[1]		Alternative 2 Temporary Effects	
	Initial Phase	Ultimate Project [2]	Initial Phase	Ultimate Project [2]
Effects in Orange County				
Coastal sage scrub	0.02	0.02	0.02	0.02
Riparian/riverine	1.11	1.27	1.11	0.57
Oak woodlands	0.00	0.00	0.00	0.00
Effects in Riverside County				
Coastal sage scrub	3.36	7.57	3.36	8.02
Riparian/riverine	0.61	0.33	0.61	0.72
Oak woodlands	0.04	0.51	0.04	0.50
Total Effects				
Coastal sage scrub	3.38	7.59	3.38	8.04
Riparian/riverine	1.72	1.60	1.72	1.29
Oak woodlands	0.04	0.51	0.04	0.50

Source: *Final Natural Environment Study* (June 2010).

[1] There is no detailed phasing plan for Alternative 1. However, it is expected that the Initial Phases of Alternatives 1 and 2 would be phased similarly. Therefore, the Initial Phase of Alternative 1 is anticipated to result in fewer effects than the Ultimate Project for Alternative 1, similar to the range of effects between the Initial Phase and Ultimate Project for Alternative 2.

[2] The effects of Alternatives 1 and 2 shown here are the total effects for each alternative; those effects include the effects of the Initial Phase and the additional effects that would occur beyond the Initial Phase to construct the Ultimate Project for each alternative.

designated construction areas. However, construction of the Build Alternatives is not expected to increase temporary indirect effects to CSS habitat due to automobile traffic, litter, or noise.

Riparian/Riverine

The Initial Phases of Alternatives 1 and 2 would result in a direct temporary effect to 1.72 ac of riparian/riverine habitat. Alternative 1 would result in a direct temporary effect to 1.60 ac of riparian/riverine habitat. Alternative 2 would result in a direct temporary impact to 1.29 ac of riparian/riverine habitat. The Build Alternatives would also result in indirect temporary effects to riparian/riverine habitat similar to those described above for CSS.

Oak Woodland

Temporary effects to oak trees would be limited to incidental encroachment, trimming, and pruning; otherwise, effects are considered permanent as described earlier. The Initial Phases of Alternatives 1 and 2 would result in a direct temporary effect to 0.04 ac of oak woodland habitat. Alternative 1 would result in a direct temporary effect to 0.51 ac of oak woodland habitat. Alternative 2 would result in a direct temporary impact to 0.50 ac of oak woodland habitat. The Build Alternatives

would also result in indirect temporary effects to oak woodland habitat similar to those described above for CSS.

Orange County Natural Communities Conservation Plan

Because the nearest lands designated in the Orange County NCCP are approximately 2,000 ft south of the BSA near the County line, construction of the Build Alternatives would not result in the temporary use of any land designated in or adjacent to any lands designated in the Orange County NCCP. Therefore, Alternatives 1 and 2 would not result in direct or indirect construction-related impacts to designated NCCP lands in Orange County.

Wildlife Corridors

In the project area, wildlife movement is primarily restricted to Santa Ana Canyon. In particular, Coal Canyon provides the greatest opportunity for wildlife movement across Santa Ana Canyon between the Santa Ana Mountains and the Puente-Chino Hills. Undercrossings, including B Canyon, Fresno Canyon/Wardlow Wash, Bedford Wash, and several smaller culverts, may provide additional crossing opportunities for small- to medium-sized animals. The Build Alternatives would result in temporary effects to wildlife corridors during construction largely as a result of construction noise and disturbance, which could discourage wildlife movement in those corridors. However, because wildlife movement occurs primarily at night and construction of the Build Alternatives in established wildlife corridors would be limited to the daylight hours to the extent feasible, as discussed later in Measure NC-12, those temporary impacts would not be substantial. Because many wildlife corridor improvements have already been implemented at Coal Canyon, the Build Alternatives would not result in substantial temporary adverse effects on wildlife movement during construction.

No Build Alternative

The No Build Alternative would not result in any construction on the project segments of SR-91 and I-15 and would not result in improvements to SR-91 and I-15 other than the routine maintenance of these freeways. Therefore, the No Build Alternative would not result in adverse temporary effects to natural communities of special concern.

3.17.4 Avoidance, Minimization, and/or Mitigation Measures

As a permittee under the Western Riverside County MSHCP, RCTC received a consistency conclusion from Western Riverside County RCA on April 4, 2011, that

the SR-91 CIP demonstrates consistency with the requirements for covered road projects and with other requirements of the Western Riverside County MSHCP. Mitigation for impacts to sensitive species under the MSHCP is achieved through the payment of funds by MSHCP permittees as stipulated under the MSHCP Implementation Agreement. These funds are used by the RCA to purchase lands that become part of the MSHCP Reserve. Section 13.7.B of the MSHCP Implementation Agreement specifies RCTC's MSHCP funding obligation as follows: "Contribute mitigation in the amount of $153 million from Measure "A" funds for mitigation of its Covered Activities as described in Section 8.5.1 of the MSHCP. Such contribution shall occur proportionately prior to impacts to Covered Species or their habitats." RCTC has accelerated its payment of MSHCP funds well in advance of project impacts to covered species and their habitats. As of June 30, 2012, RCTC has paid $128.6 million in Measure "A" funds to the RCA, which represents 84 percent of RCTC's total MSHCP funding obligation for its covered activities, including the SR-91 CIP.

3.17.4.1 Compensatory Mitigation

Compensatory mitigation for the effects to CSS vegetation within Riverside County will be achieved through project consistency with the Western Riverside County MSHCP. Permanent effects to CSS vegetation in Orange County occupied by CAGN or within CAGN-designated critical habitat will be mitigated as described in the Biological Opinion received from the USFWS on November 30, 2011. Specifically, 16.03 ac of habitat (e.g., CSS) suitable for California gnatcatcher (CAGN) breeding, dispersal, and foraging will be restored in CHSP (or another off-site area approved by the USFWS) during construction of the Initial Phases under Alternatives 1 and 2. This will increase the amount of conserved habitat available for CAGN in the area.

Temporarily impacted CSS and other vegetation communities used by CAGN for dispersal and foraging will be restored with in-kind or better vegetation during and after construction as the construction in each disturbed area is completed (e.g., after each phase of construction).

Additional details regarding the conditions in the Biological Opinion are provided in Section 3.21.3.4, Biological Opinion. A copy of the Biological Opinion is provided in Appendix N, Biological Opinion.

The plant palette used for restored areas in the project limits and CHSP (or other areas approved by the USFWS) will be approved by the District Biologist at each

location. The District Biologist may consult with local responsible agencies (e.g., local fire agencies) regarding the plant palettes if the District Biologist determines that such consultation would be appropriate.

Compensatory mitigation for riparian communities in both counties will be required for Corps Section 404 and CDFG Section 1600 permitting. Typically, riparian habitat subject to Corps and CDFG jurisdiction is mitigated at a minimum mitigation-to-effect ratio of 2:1 for permanent effects and 1:1 for temporary effects, which is consistent with Corps and CDFG policies for no net loss of riparian/riverine habitat (e.g., wetlands). Mitigation for permanent effects of both the Initial Phase and Ultimate Project will be conducted in advance during the Initial Phase in the form of habitat restoration and/or enhancement in on- or off-site areas where similar riparian habitat exists. Temporary effects to riparian communities will be mitigated at a minimum mitigation ratio of 1:1 to be replaced on site in kind after the temporary impact has occurred. Final details for compensatory mitigation will be coordinated among RCTC, the Department, the resource agencies, and third-party landowners (where needed for off-site mitigation).

Prior to beginning construction, a Habitat Mitigation and Monitoring Plan (HMMP) will be developed in coordination with the Corps, CDFG, and USFWS that ensures no net loss of riparian habitat value or acreage. Final details for compensatory mitigation will be evaluated through coordination among the Department, RCTC, and the resource agencies. The HMMP will be developed in the design phase based on the performance criterion of no net loss of habitat value or acreage, thus ensuring that adequate mitigation will be provided for the project impacts.

The HMMP will comply with all terms and conditions set forth in the permits and opinions issued by the resource agencies for the proposed project and will include, at a minimum, the following provisions:

- Permanent impacts to riparian/riverine areas will be replaced on or off site at a minimum ratio of 3:1 with in-kind habitat.
- Permanent effects to native habitat will be replaced on or off site at a minimum 2:1 ratio with in-kind habitat. Temporary effects to native vegetation will be replaced at a minimum 1:1 ratio with in-kind habitat restored in place within the project area. If off-site restoration is conducted, it will be done within the same watershed as the proposed project.

- The HMMP will identify a success criterion of at least 80 percent cover of native riparian vegetation or composition structure similar to existing adjacent high-quality riparian vegetation.
- Further criteria specified in the HMMP will include an establishment period for the replacement habitat, regular trash removal, and regular maintenance and monitoring activities to ensure the success of the mitigation plan. After construction, annual summary reports of biological monitoring will be provided to the Corps, CDFG, and USFWS documenting the monitoring effort. The duration of the monitoring and reporting will be established by resource agency permit conditions.
- Compensatory mitigation for effects to oak trees (excluding California scrub oaks) with trunk sizes above 8 inches in diameter at breast height (dbh) will involve replacement at a mitigation-to-effect ratio of 3:1, if feasible. Heritage oaks (oaks with a greater than 36-incg dbh) will be replaced at a mitigation-to-effect ratio of 10:1, if feasible. If the replacement trees cannot be planted in the immediate vicinity of where the previous trees were located, they may be planted elsewhere in the project area, subject to approval by the Department Landscape Architect and the affected local jurisdiction, if any.
- RCTC will provide appropriate funds, to be maintained in a non-wasting endowment, to CHSP to provide for the long-term maintenance and management of the restored areas within the park to support gnatcatcher habitat in perpetuity.

All compensatory mitigation for the entire project, both the Initial Phases and Ultimate Projects, will be provided in the Initial Phase of the SR-91 CIP Build Alternatives.

3.17.4.2 Other Measures

The following measures would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives and will be incorporated to avoid, minimize, and/or mitigate impacts of the Build Alternatives to natural plant communities of special concern:

NC-1 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to delineate all ESAs within the project footprint and the immediately surrounding areas in the project specifications. ESAs include CSS, chaparral, and riparian/riverine vegetation; the protected zone of any oak tree (5 ft outside the dripline or 15 ft from the trunk of the tree, whichever is greater) or oak habitat;

and designated critical habitat (with constituent elements). In addition, all restoration and mitigation areas at Coal Canyon adjacent to the project footprint will be designated ESAs on the project plans.

Prior to clearing or construction, RCTC's Resident Engineer will require the design/build contractor to install highly visible barriers (such as orange construction fencing) around all designated ESAs. No grading or fill activity of any type will be permitted within the ESAs. In addition, no construction activities, materials, or equipment will be allowed within the ESAs. All construction equipment will be operated in a manner so as to prevent accidental damage to nearby preserved areas. No structure of any kind, or incidental storage of equipment or supplies, will be allowed within the ESAs. Silt fence barriers will be installed at the ESA boundaries to prevent accidental deposition of fill material in areas where vegetation is adjacent to planned grading activities.

NC-2 RCTC's Resident Engineer will require the design/build contractor to have a Designated Qualified Biologist under contract. The Designated Qualified Biologist will monitor construction in the vicinity of the ESAs for the duration of construction to flush any wildlife species present prior to construction and to ensure that all vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.

NC-3 To avoid effects to nesting birds, RCTC's Resident Engineer will require the design/build contractor to conduct any native or exotic vegetation removal or tree trimming activities outside of the nesting bird season (i.e., February 15–September 15). In the event that vegetation clearing is necessary during the nesting season, RCTC's Resident Engineer will require the design/build contractor to have the Designated Qualified Biologist conduct a preconstruction survey within 300 ft of construction areas, no more than 7 days prior to construction, to identify the locations of nests. Should nesting birds be found, an exclusionary buffer of 300 ft will be established by the Designated Biologist around each nest site. This buffer will be clearly marked in the field by construction personnel under guidance of the design/build contractor's Designated Qualified Biologist, and

construction or clearing will not be conducted within this zone until the Designated Qualified Biologist determines that the young have fledged or the nest is no longer active.

In the event that construction must occur within the 300 ft buffer, the Designated Biologist will take steps to ensure that construction activities do not disturb or disrupt nesting activities. If the Designated Biologist determines that construction activities are disturbing or disrupting nesting activities, the Designated Biologist will notify the Resident Engineer, who has the authority to halt construction to reduce the noise and/or disturbance to the nests. Responses may include, but are not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest and the construction activities, and/or working in other areas until the young have fledged.

NC-4 When work is conducted during the fire season (as identified by the OCFA, RCFD, City of Norco Fire Department, and/or the City of Corona Fire Department) adjacent to any vegetated open space, RCTC's Resident Engineer will require the design/build contractor to ensure that appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) is available on site during all phases of project construction to help minimize the potential for human-caused wildfires. Shields, protective mats, and/or other fire-preventive methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventive actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities.

If a responsible fire agency (OCFA, RCFD, City of Norco Fire Department or City of Corona Fire Department) requires the RCTC to clear defensible spaces during construction, the RCTC's Resident Engineer, the design/build contractor, and the design/build contractor's Designated Qualified Biologist will coordinate with the USFWS prior to this clearing effort. In the event there are resources in the areas identified for defensible clearing, RCTC's Resident Engineer and the Designated Qualified Biologist will coordinate with any applicable

permitting agencies regarding possible effects to those resources prior to approving the defensible clearing of any areas by the contractor.

During all Red Flag Warning periods as issued by the National Weather Service, the design/build contractor will not be allowed to operate mechanized equipment or equipment that could throw off sparks or potentially start fires in any areas of natural open space in CHSP or other areas.

NC-5 During final design, the Project Engineer will coordinate with the Designated Qualified Biologist to identify developed or nonsensitive upland habitat areas appropriate for use during construction for equipment maintenance, staging, dispensing of fuel and oil, or any other such activities and will delineate and identify those areas on the project specifications. The Designated Qualified Biologist will specifically identify developed or nonsensitive upland habitat areas to prevent any spill runoff on those sites from entering waters of the United States.

During construction, RCTC's Resident Engineer will require the design/build contractor to ensure that all equipment maintenance, staging, dispensing of fuel and oil, or any other such activities occur in developed or designated nonsensitive upland habitat areas designated in the project specifications for those uses.

NC-6 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify the locations of all existing wildlife fencing and will delineate and identify those areas on the project specifications.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to install new fencing prior to the removal of any existing wildlife fencing to protect against wildlife-vehicle incidents. The new fencing must be the same or greater height than the previous wildlife fence. The RCTC Resident Engineer will require the design/build contractor to ensure that the fencing is maintained and functional throughout the project construction.

The Department will ensure that the fencing is maintained and functional throughout the life of the project to prevent wildlife-vehicle incidents.

NC-7 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify the habitat adjacent to Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash that is anticipated to be disturbed by construction activities and will delineate those areas on the project specifications.

As detailed in the project specifications, RCTC's Resident Engineer will require the design/build contractor to restore habitat adjacent to Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash that was disturbed during construction as construction in the affected areas is completed. That restoration will be provided on a 1:1 ratio using native vegetation as determined by RCTC and the Department in coordination with the resource agencies.

NC-8 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to delineate all wildlife corridors within the project footprint and the immediately surrounding areas as ESAs in the project specifications.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to ensure that equipment maintenance, lighting, and staging are limited to designated areas away from wildlife corridor entrances.

NC-9 During final design, RCTC's Project Engineer will develop design and construction management measures to direct temporary construction noise and nighttime construction lighting and permanent facility lighting away from the wildlife corridors, bridges (structures potentially occupied by bats), biologically sensitive areas, Western Riverside County MSHCP Conservation Areas, vegetated drainages, CSS in CAGN-designated critical habitat with long-term conservation value for covered species. Those design measures will be approved by the Department's District 8 and District 12 Biology/Environmental for areas within Riverside and Orange Counties, respectively, prior to the completion of final design.

If construction work must be done at night, RCTC's Resident Engineer will require the design/build contractor to properly implement the measures developed during final design to direct noise and direct lighting away from the wildlife corridors, bridges, and biologically sensitive areas during those nighttime construction activities.

NC-10 Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to keep the wildlife corridors clear of all equipment or structures that could potentially serve as barriers to wildlife passage.

NC-11 During final design, RCTC's Project Engineer will ensure that the existing overcrossings and culvert structures that will be extended or modified by the project are designed so they provide openness ratios suitable for large mammals (1.96) and medium-sized mammals (0.81), as appropriate, at each crossing. The design and openness ratio for each crossing will be reviewed with the Department District Biologist during final design. The specific required openness ratios and designs will be provided in the project specifications for each such crossing.

The RCTC Resident Engineer will require the design/build contractor to construct the overcrossings and culvert structures consistent with the project specifications to ensure the appropriate openness ratios are provided at each crossing.

NC-12 Within Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, RCTC's Resident Engineer will require the design/build contractor to limit the hours of construction within 1,000 ft of the centerline of each of these crossings to daylight hours (7:00 a.m. to 7:00 p.m.) to ensure continued use of these wildlife corridors during construction, with the exception of limited periods when evening or night work is required for operational reasons. Operational reasons may include the desire to conduct certain construction activities, such as closing multiple ramps or travel lanes, during evening and night hours to minimize delays to the traveling public. Any night construction must be approved in writing by the RCTC Resident Engineer and coordinated with the District 8 and 12 biologists, the USFWS, and the CDFG.

NC-13 During final design, RCTC's Project Engineer will ensure that the design and construction process for all structures required for bridge and/or culvert work within Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, will not block the main underpass at these locations during construction. RCTC's Project Engineer will ensure that the design of the scaffolding and false work is restricted to the sides of the underpass and limits of the existing exclusionary chain-link fence to maintain the existing width of the wildlife corridor during construction activities.

During construction within Coal Canyon, B Canyon, Fresno Canyon/Wardlow Wash, and Bedford Wash, RCTC's Resident Engineer will require the design/build contractor to ensure that all structures required for bridgework are installed and constructed consistent with the final design specifically to avoid blocking the main underpass during construction and to restrict all scaffolding and false work to the sides of the underpass and limits of the existing exclusionary chain-link fence to maintain the existing width of the wildlife corridor during construction activities.

NC-14 Minimal equipment staging area is available at the eastbound Coal Canyon off-ramp along the sides of the paved road and will be used for the staging of equipment for Coal Canyon work only. During final design, RCTC's Project Engineer will ensure that the available area for construction staging at the eastbound Coal Canyon off-ramp is delineated on the project specifications.

RCTC's Resident Engineer will require the design/build contractor to minimize the use of this area during construction and, where possible, to avoid the area from February 15 to September 1. RCTC's Resident Engineer will require the design/build contractor to ensure that vehicles staged in this area are equipped with security lights.

NC-15 During construction within Coal Canyon, RCTC's Resident Engineer will require the design/build contractor to keep the Coal Canyon on- and off-ramps open at all times for emergency and police personnel. RCTC's Resident Engineer will require the design/build contractor to ensure that use of the emergency access road as a turnaround or

shortcut for any construction or non-emergency traffic is prohibited. That road will only be used during bridge construction and general road construction at Coal Canyon. RCTC's Resident Engineer will also require the design/build contractor to ensure that, in general, no hauling is allowed at night through underpasses and freeway off-ramps.

NC-16 During construction in Coal Canyon, RCTC's Resident Engineer will require the design/build contractor to close the gates at Coal Canyon at the end of each construction day. The locations of those gates will be shown on the project specifications.

NC-17 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify existing and proposed conservation areas within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications. To reduce impacts where the project interfaces with existing or proposed conservation areas prior to and during construction, RCTC's Project Manager will ensure that the project complies with the Urban/Wildlands Interface Guidelines in Section 6.1.4 of the Western Riverside County MSHCP. The project specifications will include applicable guidelines from the Western Riverside County MSHCP.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to comply with guidelines from the Western Riverside County MSHCP included in the project specifications.

NC-18 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify existing Criteria Areas within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.

To reduce impacts where the project is located within the Criteria Area, RCTC's Project Manager will ensure that the project complies with the applicable siting and design criteria and the Construction Guidelines in Section 7.5.2 of the Western Riverside County MSHCP.

The project specifications will include applicable guidelines from the Western Riverside County MSHCP.

NC-19 The SR-91 CIP is a covered activity under the Western Riverside County MSHCP. Therefore, RCTC's Resident Engineer will require the design/build contractor to comply with all Western Riverside County MSHCP Construction Guidelines and Standard BMPs prior to and during construction.

The following additional measures would also reduce impacts to natural communities of special concern:

- Measure PS-1 in Section 3.19, Plant Species
- Measure WQ-1 in Section 3.10, Water Quality
- Measure IS-1 in Section 3.22, Invasive Species

This page intentionally left blank

3.18 Wetlands and Other Waters

3.18.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act [CWA (33 USC 1344)], is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the United States (U.S.), including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General permits. Nationwide permits, a type of General permit, are issued to authorize a variety of minor project activities with no more than minimal effects. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA 40 CFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a LEDPA to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm.

At the state level, wetlands and waters are regulated primarily by the California Department of Fish and Game (CDFG), the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA. Please see Section 3.10, Water Quality for additional details.

3.18.2 Affected Environment

The information in this section is based on the *Jurisdictional Delineation Report* (November 2009) and the NES (June 2010).

The fieldwork for the *Jurisdictional Delineation Report* was conducted on July 29 and 31, August 5, September 19, 20, 25, and 30, October 1, 2, 3, and 7, and December 10 and 11, 2008. Based on that field work, it was determined that there are jurisdictional features, including wetland areas, in the BSA for the project that are subject to the jurisdiction of the Corps, CDFG, and RWQCB. The potential Corps and CDFG jurisdictional areas in the BSA are shown in detail on Figure 3.18-1 and on the

Jurisdictional Map figure (sheets 1–42) in the *Jurisdictional Delineation Report.* (Figure 3.18-1 is provided at the end of the text in this section.) The aerial photographs used as the base for Figure 3.18-1 show conditions in April 2008 and were the most recent aerial photographs for the project area at the time the analysis for the project was conducted. As a result, these aerial photographs may not accurately represent conditions in this area as of 2011.

Because conditions have changed since the field work for the project was conducted, additional field work was conducted on September 28 and November 1, 2011, and revisions were made to the delineations of the Santa Ana River and Drainage #28. Those revisions are incorporated in this section.

As discussed in Section 5.2, Consultation and Coordination with Agencies, the Department has conducted ongoing coordination with the Corps, CDFG, and RWQCB for the project. Correspondence between the Department and these agencies is described in Chapter 5. The *Jurisdictional Delineation Report* was submitted to the Corps for concurrence on November 15, 2010, as an Approved Jurisdictional Determination as defined in the Corps' *Regulatory Guidance Letter 08-02*. Corps concurrence with the Approved Jurisdictional Determination was issued on November 22, 2011. In addition, the Corps also issued a Preliminary Jurisdictional Determination for other drainages in the BSA that were not included in the Approved Jurisdictional Determination.

3.18.2.1 Corps Jurisdiction

As described in the *Jurisdictional Delineation Report*, there are several drainages in the BSA that connect directly or indirectly to the Santa Ana River. The segment of the Santa Ana River from upstream of Van Buren Boulevard downstream to Imperial Highway has a permanent flow during the year that eventually flows into the Pacific Ocean, a traditional navigable water. In addition to the Santa Ana River, several tributaries to the Santa Ana River are believed to have a continuous flow at least seasonally, including Temescal Wash, Arlington Valley Channel, and Riverside Canal. Therefore, these drainages are also considered relatively permanent waters. All relatively permanent waters are considered jurisdictional. These drainages are shown in Appendix B in the *Jurisdictional Delineation Report.*

Other drainages that appear natural or appear to function in a capacity of more than just a storm drain are potentially jurisdictional. However, because these drainages do not carry a relatively permanent flow, the Corps reviewed the delineation data and

made determinations as to whether they were jurisdictional. These drainages are shown in Appendix B in the *Jurisdictional Delineation Report*.

Drainages that do not carry a relatively permanent flow, are excavated wholly in uplands, and capture only upland sheetflow are typically not regulated by the Corps. However, the Corps reserves the right to regulate these waters on a case-by-case basis. These drainages are shown in Appendix B of the *Jurisdictional Delineation Report*.

The results of the *Jurisdictional Delineation Report* were submitted to the Corps on November 15, 2010, for an Approved Jurisdictional Determination. During this process, the project proponents and the Corps conceded that several but not all the drainage features "may be" jurisdictional by the Corps, and a Preliminary Jurisdictional Determination was issued by the Corps on November 22, 2011. The Approved Jurisdictional Determination was also issued by the Corps on November 22, 2011.

Table 3.18.1 summarizes the acreages of the Corps jurisdictional and nonjurisdictional areas in the BSA. The total acreage of potential Corps nonwetland waters of the United States in the BSA is 41.66 ac, of which 11.49 ac are deepwater aquatic waters. The total acreage of potential Corps wetland waters in the BSA is 69.74 ac. Therefore, there is a total of 122.89 ac of wetland and nonwetland waters potentially subject to Corps jurisdiction in the BSA.

Table 3.18.1 Corps Jurisdictional and Nonjurisdictional Areas (acres)

Corps Areas	Nonwetland Waters of the United States	Deepwater Aquatic Nonwetland Waters of the United States	Wetland Waters of the United States	Totals
Total Corps Jurisdictional Areas[1]	41.66	11.49	69.74	122.89
Total Nonjurisdictional Drainages	1.21	0.0	0.01	1.22

Source: *Final Natural Environment Study* (June 2010).
[1] Includes areas conceded that "may be" jurisdictional.
ac = acres
Corps = United States Army Corps of Engineers

A qualitative assessment of the functions and values attributable to the identified wetlands and other potential jurisdictional waters in the BSA is included in Appendix C of the *Jurisdictional Delineation Report*. The functions were evaluated at low, moderate, or high value levels. Functions evaluated include hydrologic regime, flood storage and flood flow modification, sediment retention, nutrient retention and

transformation, toxicant trapping, social significance, wildlife habitat, and aquatic habitat. The majority of the wetlands and other potential jurisdictional waters located in the BSA were determined to have a low or low-to-moderate value. However, the Santa Ana River was determined to have a high value for all of these functions.

3.18.2.2 CDFG Jurisdiction

All the areas satisfying the Corps jurisdictional criteria for waters of the United States and adjacent wetlands, as described above, are also subject to CDFG jurisdiction pursuant to Section 1602 of the California Fish and Game Code. In addition, streambed banks and adjacent riparian areas extending beyond the limits of the Corps jurisdiction are considered subject to CDFG jurisdiction. These areas failed to meet the Corps wetland criteria. Drainages believed not to be jurisdictional by the Corps and that lack riparian vegetation are concrete lined; show an absence of any aquatic or terrestrial wildlife; do not function as a river, lake, or stream; and are also not likely to be considered jurisdictional by the CDFG. However, drainages believed not to be jurisdictional by the Corps and that have an earthen bottom and some vegetation are believed to have some minimal value to wildlife and are likely subject to the jurisdiction of the CDFG. The total acreage of CDFG jurisdiction in the BSA is 211.8 ac, which exceeds the total area delineated as Corps jurisdiction (i.e., 122.89 ac) by 88.9 ac.

3.18.2.3 RWQCB Jurisdiction

Because there is no public guidance on the methodology used to determine RWQCB jurisdictional areas, jurisdiction was evaluated based on the federal definition of wetlands (i.e., three parameters) and other waters of the United States (i.e., ordinary high water mark [OHWM]) as recommended by the September 2004 Workplan. Similar to the Corps, the RWQCB asserts jurisdiction over roadside drainage ditches on a case-by-case basis. The total area of potential RWQCB jurisdiction in the BSA is 122.89 ac.

3.18.2.4 Western Riverside County Multiple Species Habitat Conservation Plan Jurisdiction

As defined by the Western Riverside County MSHCP, riparian/riverine areas are areas dominated by trees, shrubs, and persistent emergents or emergent mosses and lichens dependent on fresh water during all or part of the year. Vernal pools are seasonal wetlands that lack wetland indicators during the dry season and support specific species associated with the hydrologic conditions of the pools, such as fairy shrimp (*Anostraca* order). Wetland plants are dominant during the wet part of the

growing season, and upland annual plants are dominant during the dry season. Unvegetated drainages (ephemeral streams) may be included in the assessment if alterations to that drainage have the potential to affect covered species and conservation areas. Wetlands created for the purpose of providing wetland habitat or that result from human actions to create open water (from alteration of natural stream courses), as well as any areas demonstrating artificially created characteristics, are exempt from conditions in Section 6.1.2 of the Western Riverside County MSHCP.

3.18.3 Environmental Consequences

3.18.3.1 Summary of Impacts

Figure 3.18-2 shows the permanent impacts of Alternative 1 on protected waters. (Figure 3.18-2 is provided at the end of this section.)

Depending on the design variation, Alternative 1 would result in permanent impacts to protected waters as follows:

- Corps Jurisdictional Waters: 1.80 to 2.31 ac
- CDFG Jurisdictional Areas: 2.84 to 3.54 ac
- RWQCB Jurisdictional Areas: 1.80 to 2.31 ac

Figure 3.18-3 shows the permanent impacts of Alternative 2 on protected waters. (Figure 3.18-3 is provided at the end of this section.)

Depending on the design variation, Alternative 2 would result in permanent impacts to protected waters as follows:

- Corps Jurisdictional Waters: 0.42 to 2.49 ac
- CDFG Jurisdictional Areas: 1,31 to 4.41 ac
- RWQCB Jurisdictional Areas: 0.42 to 2.49 ac

Figure 3.18-2 shows the temporary impacts of Alternative 1 on protected waters.

Depending on the design variation, Alternative 1 would result in temporary impacts to protected waters as follows:

- Corps Jurisdictional Waters: 1.66 ac
- CDFG Jurisdictional Areas: 2.43 to 2.45 ac
- RWQCB Jurisdictional Areas: 1.66 ac

Figure 3.18-3 shows the temporary impacts of Alternative 2 on protected waters.

Depending on the design variation, Alternative 2 would result in temporary impacts to protected waters as follows:

- Corps Jurisdictional Waters: 1.72 to 1.98 ac
- CDFG Jurisdictional Areas: 2.01 to 3.85 ac
- RWQCB Jurisdictional Areas: 1.72 to 1.98 ac

As shown later in Tables 3.18.2 and 3.18.3, most permanent and temporary impacts to protected waters would occur under the Initial Phases of Alternatives 1 and 2, with a very limited amount of additional impact occurring under the Ultimate Projects for Alternatives 1 and 2.

Summary of Impacts of Alternative 2f

On September 20, 2011, the PDT identified Alternative 2f as the Preferred Alternative. Since that time, design refinements to Alternative 2f have substantially reduced project impacts to wetlands and other waters. Previously, the project impacts were determined based on the entire project footprint showing full disturbance at many drainage features. The more detailed engineering now shows that full disturbance at many drainage features is no longer warranted (e.g., a drainage will be bridged instead of disturbed).

Alternative 2f would result in permanent impacts to protected waters as follows:

- Corps Jurisdictional Waters: 0.42 ac
- CDFG Jurisdictional Areas: 1.31 ac
- RWQCB Jurisdictional Areas: 0.42 ac

Alternative 2f would result in temporary impacts to protected waters as follows:

- Corps Jurisdictional Waters: 1.98 ac
- CDFG Jurisdictional Areas: 2.01 ac
- RWQCB Jurisdictional Areas: 1.98 ac

A detailed discussion regarding the consultation and coordination conducted with the Corps, CDFG, and RWQCB is provided later in Chapter 5, Comments and Coordination.

Table 3.18.2 Permanent Impacts of Alternatives 1 and 2 to Jurisdictional Areas (acres)

Alternative (with Design Variation)	Initial Phase of Alternative 1[1]	Alternative 1[2]				Initial Phase of Alternative 2[1]	Alternative 2[2]							
		1a	1b	1c	1d		2a	2b	2c	2d	2e	2f[3]	2g	2h
Corps Jurisdiction														
Wetland Waters	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Deepwater Aquatic Nonwetland Waters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonwetland Waters	1.74	2.25	2.24	2.25	1.74	2.09	2.38	2.37	2.43	2.43	2.38	0.36	2.43	2.43
Total Corps Jurisdiction	**1.80**	**2.31**	**2.30**	**2.31**	**1.80**	**2.15**	**2.44**	**2.43**	**2.49**	**2.49**	**2.44**	**0.42**	**2.49**	**2.49**
Nonjurisdictional Wetland Waters	0.02	0.02	0.02	0.02	0.02	0.16	0.21	0.21	0.21	0.21	0.23	0.23	0.21	0.21
Nonjurisdictional Nonwetland Waters	0.19	0.20	0.24	0.19	0.23	0.30	0.45	0.45	0.56	0.57	0.44	0.45	0.56	0.57
CDFG Jurisdictional Areas	2.84	3.44	3.54	3.44	2.84	3.86	4.01	4.12	4.31	4.41	4.07	1.31	4.31	4.41
RWQCB Jurisdictional Areas	1.80	2.31	2.30	2.31	1.80	2.15	2.44	2.43	2.49	2.49	2.44	0.42	2.49	2.49

Source: *Final Natural Environment Study* (June 2010).

[1] There is no detailed phasing plan for Alternative 1. However, it is expected that the Initial Phases of Alternatives 1 and 2 would be phased similarly. Therefore, the Initial Phase of Alternative 1 Project is anticipated to result in fewer impacts than Alternative 1, similar to the range of impacts between the Initial Phase of Alternative 2 and Alternative 2.

[2] The impacts of Alternatives 1 and 2 shown here are the total impacts for each Alternative; those impacts include the impacts of the Initial Phases and the additional impacts that would occur under the Ultimate Projects for each Alternative.

[3] The Alternative 2f impacts are based on design refinements made after the identification of Alternative 2f as the Preferred Alternative.

Corps = United States Army Corps of Engineers
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board

Table 3.18.3 Temporary Impacts of Alternative 1 and 2 Projects to Jurisdictional Areas (acres)

Alternative (with Design Variation)	Initial Phase of Alternative 1[1]	Alternative 1[2]				Initial Phase of Alternative 2[1]	Alternative 2[2]							
		1a	1b	1c	1d		2a	2b	2c	2d	2e	2f[3]	2g	2h
Corps Jurisdiction														
Wetland Waters	0.00	0.12	0.12	0.12	0.12	0.00	0.12	0.12	0.12	0.12	0.12	0.06	0.12	0.12
Deepwater Aquatic Nonwetland Waters	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nonwetland Waters	0.21	1.54	1.54	1.54	1.54	0.21	1.60	1.62	1.64	1.66	1.67	1.92	1.71	1.73
Total Corps Jurisdiction	**0.21**	**1.66**	**1.66**	**1.66**	**1.66**	**0.21**	**1.72**	**1.74**	**1.76**	**1.78**	**1.79**	**1.98**	**1.83**	**1.85**
Nonjurisdictional Wetland Waters	0.00	0.24	0.24	0.24	0.24	0.00	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
Nonjurisdictional Nonwetland Waters	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CDFG Jurisdictional Areas	0.28	2.44	2.43	2.45	2.43	0.28	2.92	3.05	3.19	3.32	3.45	2.01	3.72	3.85
RWQCB Jurisdictional Areas	0.21	1.66	1.66	1.66	1.66	0.21	1.72	1.74	1.76	1.78	1.79	1.98	1.83	1.85

Source: *Final Natural Environment Study* (June 2010).

[1] There is no detailed phasing plan for Alternative 1. However, it is expected that the Initial Phases of Alternatives 1 and 2 would be phased similarly. Therefore, the Initial Phase of Alternative 1 is anticipated to result in fewer impacts than Alternative 1, similar to the range of impacts between the Initial Phase of Alternative 2 and Alternative 2.

[2] The impacts of Alternatives 1 and 2 shown here are the total impacts for each Alternative; those impacts include the impacts of the Initial Phases and the additional impacts that would occur under the Ultimate Projects for each Alternative.

[3] The Alternative 2f impacts are based on design refinements made after the identification of Alternative 2f as the Preferred Alternative.

Corps = United States Army Corps of Engineers
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board

3.18.3.2 Permanent Impacts

The potential impacts of the project related to wetlands and other waters are discussed below for Alternatives 1 and 2. In addition, the Corps is currently realigning sections of the Santa Ana River and armoring the banks with concrete (the Reach 9 Phase 2B project), and the Department has added eastbound lanes on SR-91 between SR-241 and SR-71. Information for these projects was provided by the Corps and the Department. Because these projects were initiated after the April 2008 aerial photographs were used as the base for Figure 3.18-1, those aerials do not show the effects of these projects in the project area. However, the effects of the Build Alternatives related to wetlands and waters of the United States took the effects of the river realignment and SR-91 eastbound lane addition project on those resources into consideration and were reduced accordingly. Because conditions have changed since the field work for the project was conducted, additional field work was conducted on September 28 and November 1, 2011, and revisions were made to the delineations of the Santa Ana River and Drainage #28. Those revisions are incorporated in the analysis of SR-91 CIP impacts.

Alternatives 1 and 2

The Build Alternatives would affect waters of the United States as a result of widening, modifying, or otherwise improving drainages and culverts to accommodate the widening of and improvements to SR-91 and I-15. Permanent impacts include physical impacts from road widening and new structures. Table 3.18.2 shows the total permanent effects to jurisdictional areas for Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 in Orange and Riverside Counties. The total acreages for Alternatives 1 and 2 shown in Table 3.18.2 include any impacts cited and individually noted in the Initial Phases of those alternatives. For example, as shown in Table 3.18.2, the Initial Phase of Alternative 1 would result in 0.44 ac of impacts to Corps jurisdictional wetlands; Alternative 1, in total, would result in 0.44 ac of impacts to Corps jurisdictional wetlands. Therefore, there would be no additional effects to Corps jurisdictional wetlands after implementation of the Initial Phase of Alternative 1. However, as also shown in Table 3.18.2, there would be additional impacts after the Initial Phase for Alternative 1 with some design variations on nonwetland waters and nonjurisdictional wetland waters. Figures 3.18-2 and 3.18-3 show the permanent impacts of Alternatives 1 and 2, respectively, on protected waters. Figure 3.18-4 shows the permanent impacts after the design refinements to Alternative 2f.

As shown in Table 3.18.2, Alternative 1 would result in permanent impacts to potential jurisdictional waters of the United States (i.e., Corps jurisdiction) on between 2.18 and 2.69 ac, depending on the design variation. Alternative 2 would result in permanent impacts to potential jurisdictional waters of the United States on between 0.42 and 1.98 ac, depending on the design variation. Alternative 2f would result in permanent impacts to 0.42 ac of jurisdictional waters of the United States.

As shown in Table 3.18.2, Alternative 1 would result in permanent impacts to CDFG jurisdictional areas on between 2.84 and 3.54 ac, depending on the design variation. Alternative 2 would result in permanent impacts to CDFG jurisdictional areas on between 1.31 and 4.41 ac, depending on the design variation. Alternative 2f would result in permanent impacts to1.31 ac of CDFG jurisdictional areas.

As shown in Table 3.18.2, Alternative 1 would result in 1.68 ac of permanent impacts to RWQCB jurisdictional areas for all the design variations. Alternative 2 would result in permanent impacts to RWQCB jurisdictional areas on between 0.42 and 2.69 ac, depending on the design variation. Alternative 2f would result in permanent impacts to 0.42 ac of RWQCB jurisdictional areas.

The Build Alternatives are not expected to increase permanent indirect effects (such as increased impervious surfaces, water quality, human-related disturbances, vegetative changes, or decrease in biodiversity or ecosystem stability) to protected waters due to the implementation of BMPs and other project features (e.g., revegetation of temporarily disturbed areas with plant species not on the Cal-IPC list). Although permanent indirect impacts are not expected to increase as a result of the SR-91 CIP, permanent impacts are expected to extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened.

Impacts to wetlands and waters cannot be avoided entirely, as these resources cross and/or are in very close proximity to the SR-91 facility. The project design includes many design features to avoid or minimize impacts to protected waters to the greatest extent feasible. Preliminary coordination that has occurred with the Corps on the jurisdictional delineation, discussion of impacts, and mitigation measures is documented in Chapter 5.0.

No Build Alternative

The No Build Alternative would not result in the construction of any improvements to SR-91 and I-15 and, therefore, would not result in permanent adverse impacts to wetlands and other waters in the BSA.

3.18.3.3 Temporary Impacts

Alternatives 1 and 2

Temporary impacts include physical impacts from construction activities that would cease once construction of that phase is complete. Project effects are considered permanent if the areas would be disturbed longer than a single phase without replacement. The potential temporary impacts of Alternatives 1 and 2 to Corps jurisdictional and nonjurisdictional waters, CDFG jurisdictional areas, and RWQCB jurisdictional areas are summarized in Table 3.18.3. Table 3.18.3 shows the total temporary effects to jurisdictional areas for Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 in Orange and Riverside Counties. The total acreages for Alternatives 1 and 2 shown in Table 3.18.3 include any impacts cited and individually noted in the Initial Phases of those alternatives, as described earlier in Section 3.18.3.2, Permanent Impacts. Figures 3.18-2 and 3.18-3 show the temporary impacts of Alternatives 1 and 2, respectively, on protected waters. Figure 3.18-4 shows the temporary impacts after the design refinements to Alternative 2f.

As shown in Table 3.18.3, Alternative 1 would result in 1.66 ac of temporary impacts to potential jurisdictional waters of the United States (i.e., Corps jurisdiction) for all of the design variations. Alternative 2 would result in temporary impacts to potential jurisdictional waters of the United States on between 1.72 and 1.98 ac, depending on the design variation. Alternative 2f would result in temporary impacts to 1.98 ac of jurisdictional waters of the United States.

As shown in Table 3.18.3, Alternative 1 would result in temporary impacts to CDFG jurisdictional areas on between 2.43 and 2.45 ac, depending on the design variation. Alternative 2 would result in temporary impacts to CDFG jurisdictional areas on between 2.01 and 3.85 ac, depending on the design variation. Alternative 2f would result in temporary impacts to 2.01 ac of CDFG jurisdictional areas.

As shown in Table 3.18.3, Alternative 1 would result in temporary impacts of 1.66 ac to RWQCB jurisdictional areas for all the design variations. Alternative 2 would result in temporary impacts to RWQCB jurisdictional areas on between 1.72 and 1.98 ac, depending on the design variation. Alternative 2f would result in temporary impacts to 1.98 ac of RWQCB jurisdictional areas.

The Build Alternatives may result in temporary indirect effects to protected waters including construction-related effects such as dust and potential fuel spills from

construction equipment or disruption by personnel outside designated construction areas.

No Build Alternative

The No Build Alternative would not result in the construction of any of the improvements to SR-91 and I-15 and, therefore, would not result in adverse temporary impacts to wetlands and other waters in the BSA.

3.18.3.4 Only Practicable Finding

Section 404(b)(1) of the federal CWA requires projects involving federal action to demonstrate that measures have been taken to avoid and minimize impacts to waters of the United States, including wetlands. Furthermore, EO 11990 (Protection of Wetlands) directs federal agencies to "…avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands…"

Section 2.3.5.3, Major Investment Study Build Alternatives, of this EIR/EIS describes how OCTA, RCTC, and TCA prepared the *Riverside County-Orange County Major Investment Study Final Draft Screening Report* (November 2005). The MIS considered a wide range of transportation options to address the need for improved mobility between Orange and Riverside Counties. The MIS Policy Committee identified (and approved) four separate east-west corridors between Riverside and Orange Counties that were needed to address demand. SR-91 is one of those corridors.

After the MIS identified SR-91 as a needed corridor to improve, preliminary engineering was conducted to explore various alternatives in that corridor. A no-fill alternative was not considered feasible because SR-91 is an existing freeway, and any build alternatives in that corridor would be within and immediately adjacent to that existing transportation corridor. Alternatives 1 and 2, evaluated in this EIR/EIS, have been determined to be practicable as they relate to cost, existing technology, logistics, and purpose and need.

Additional practicable measures have been included to avoid and minimize harm to wetlands and other waters of the United States as a result of the construction and operation of Alternative 2f. These measures are:

- All permanent water quality treatment BMPs were moved outside of jurisdictional areas.

- The project engineers reviewed and refined impact areas away from wetlands and other waters of the United States, to the best extent possible, with the exception of areas required to construct road and bridge facilities.
- To the best extent possible, culvert extensions will use soft-bottom transition structures.
- Identified projects completed by other agencies (the SR-91 Eastbound Lane Addition and the Corps' Santa Ana River Reach 9 Phases 2A and 2B) that have already been widened to their ultimate configurations and removed duplicate impacts from these projects.
- Bridge piers were incorporated over drainages whenever possible instead of fill at connectors.
- Revised design speeds, curve radii, and retaining walls were incorporated to eliminate fill slopes near drainages whenever possible.

In addition to these avoidance and minimization measures, compensatory mitigation is also included in Alternatives 1 and 2, as described earlier in Section 3.17.4.1, Compensatory Mitigation. Measures WET-1 through WET-3 also address project effects on waters.

Based on the above considerations, it was determined there is no practicable alternative to the proposed construction in wetlands under Alternatives 1 and 2, and the proposed action includes all practicable measures to minimize harm to wetlands that may result from such use.

3.18.4 Avoidance, Minimization, and Mitigation Measures

3.18.4.1 Compensatory Mitigation

The compensatory mitigation for project impacts to wetlands and other waters is the same as described in Section 3.17.4.1, Compensatory Mitigation, for natural communities. Compensatory mitigation would be required for project impacts to wetlands and other waters in both Orange and Riverside Counties.

3.18.4.2 Other Measures

The following measures will avoid and/or minimize temporary and permanent impacts of Alternatives 1 and 2 to wetlands and other waters. The following measures will be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

WET-1 RCTC's Project Manager will ensure that prior to any clearing or construction, a Section 404 Nationwide Permit is obtained through the Corps pursuant to the CWA.

RCTC's Resident Engineer will retain a copy of the Corps permit at the construction site and will ensure that the conditions in that permit are properly implemented prior to and during construction.

WET-2 RCTC's Project Manager will ensure that prior to any clearing or construction, a Streambed Alteration Agreement with the CDFG is obtained.

RCTC's Resident Engineer will retain a copy of the CDFG agreement at the construction site and will ensure that the conditions in that agreement are properly implemented prior to and during construction.

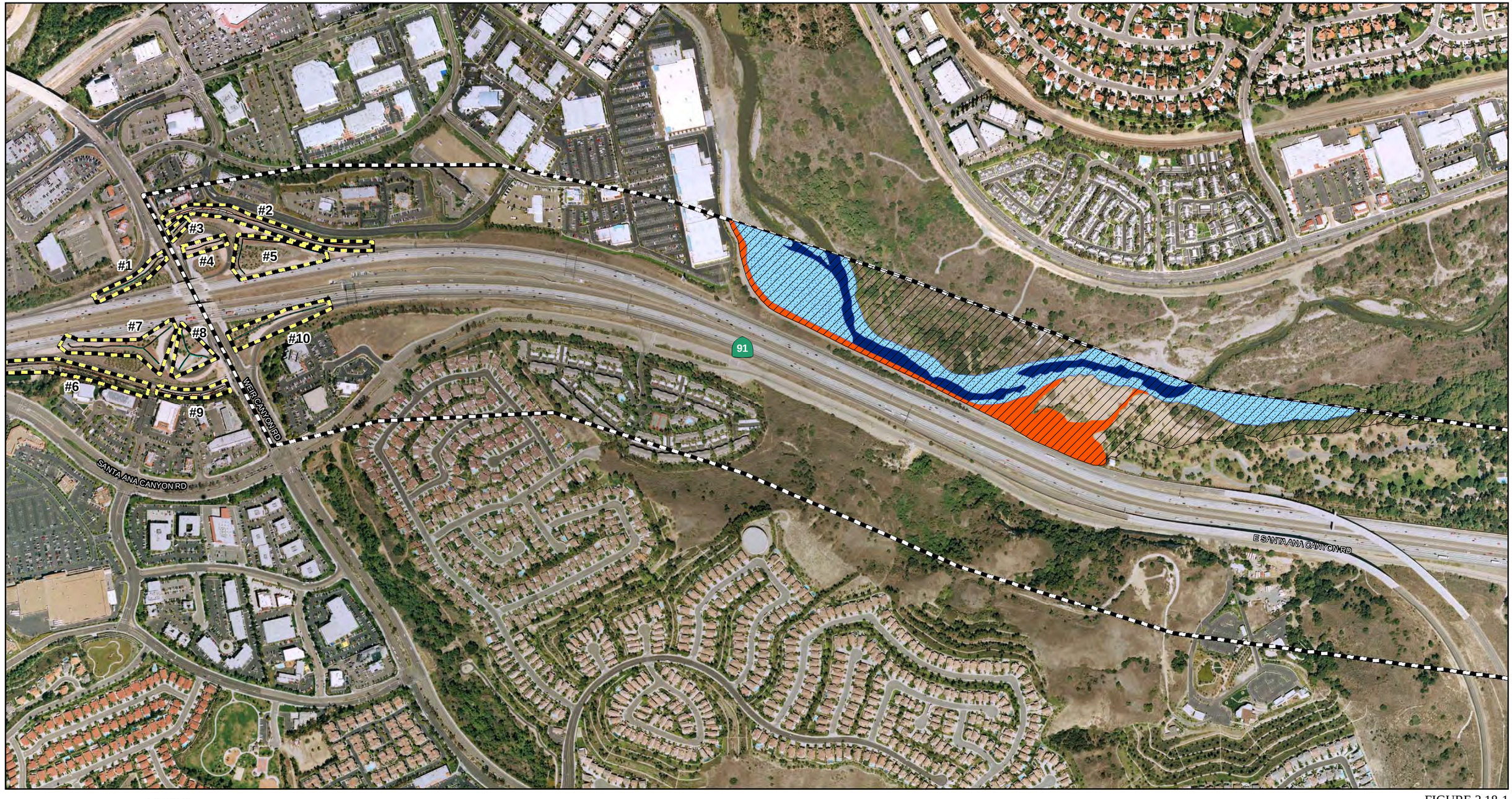
WET-3 RCTC's Project Manager will ensure that prior to any clearing or construction, a Section 401 Water Quality Certification from the RWQCB is obtained.

RCTC's Resident Engineer will retain a copy of the Section 401 certification at the construction site and will ensure that the conditions in that certification are properly implemented prior to and during construction.

The following measures described elsewhere in Chapter 3 would also provide protection and mitigation benefits to wetlands and other waters:

- Measures NC-1, NC-2, NC-5, and NC-6 are provided in Section 3.17, Natural Communities.
- Measures WQ-1 through WQ-3 are provided in Section 3.10, Water Quality and Storm Water Runoff. Any biological monitoring requirements described in the permits required in Measures WQ-1 through WQ-3 would be implemented as applicable.

This page intentionally left blank



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

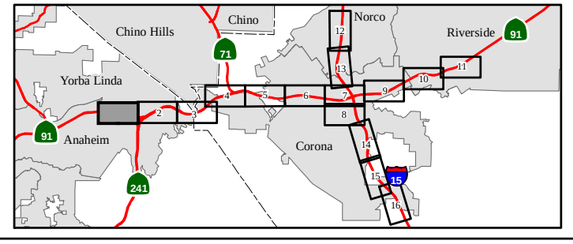
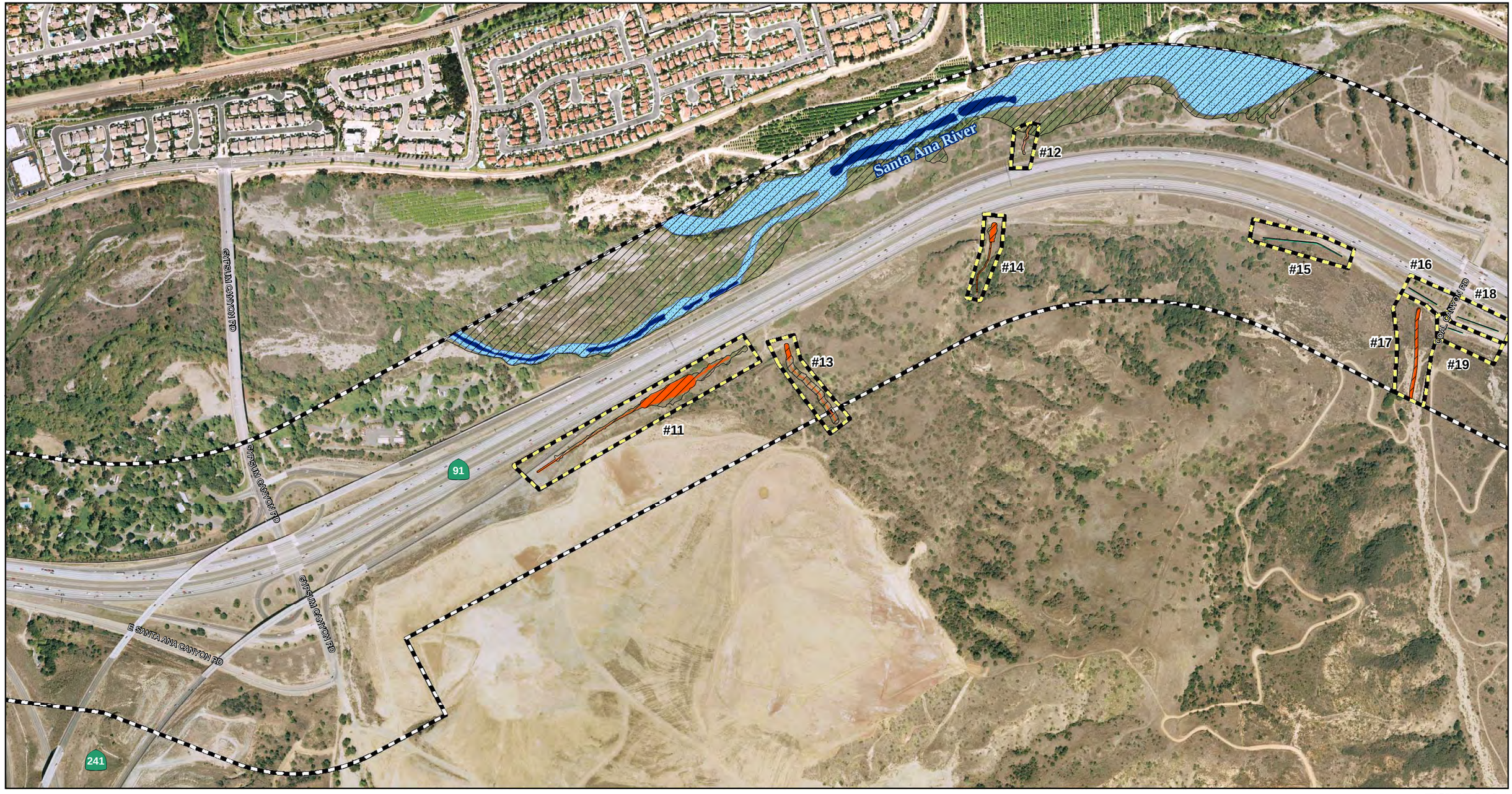


FIGURE 3.18-1
Sheet 1 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

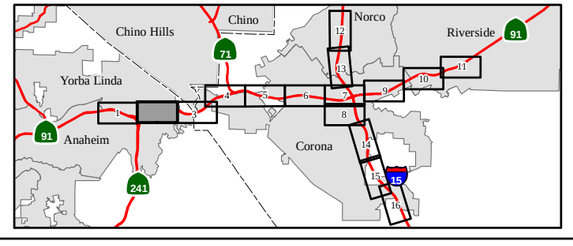


FIGURE 3.18-1
Sheet 2 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

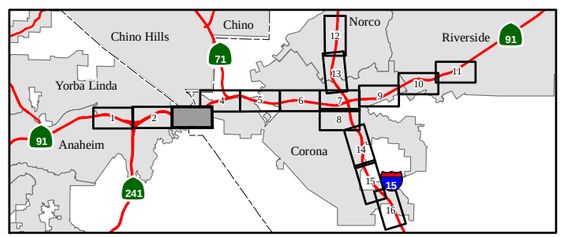
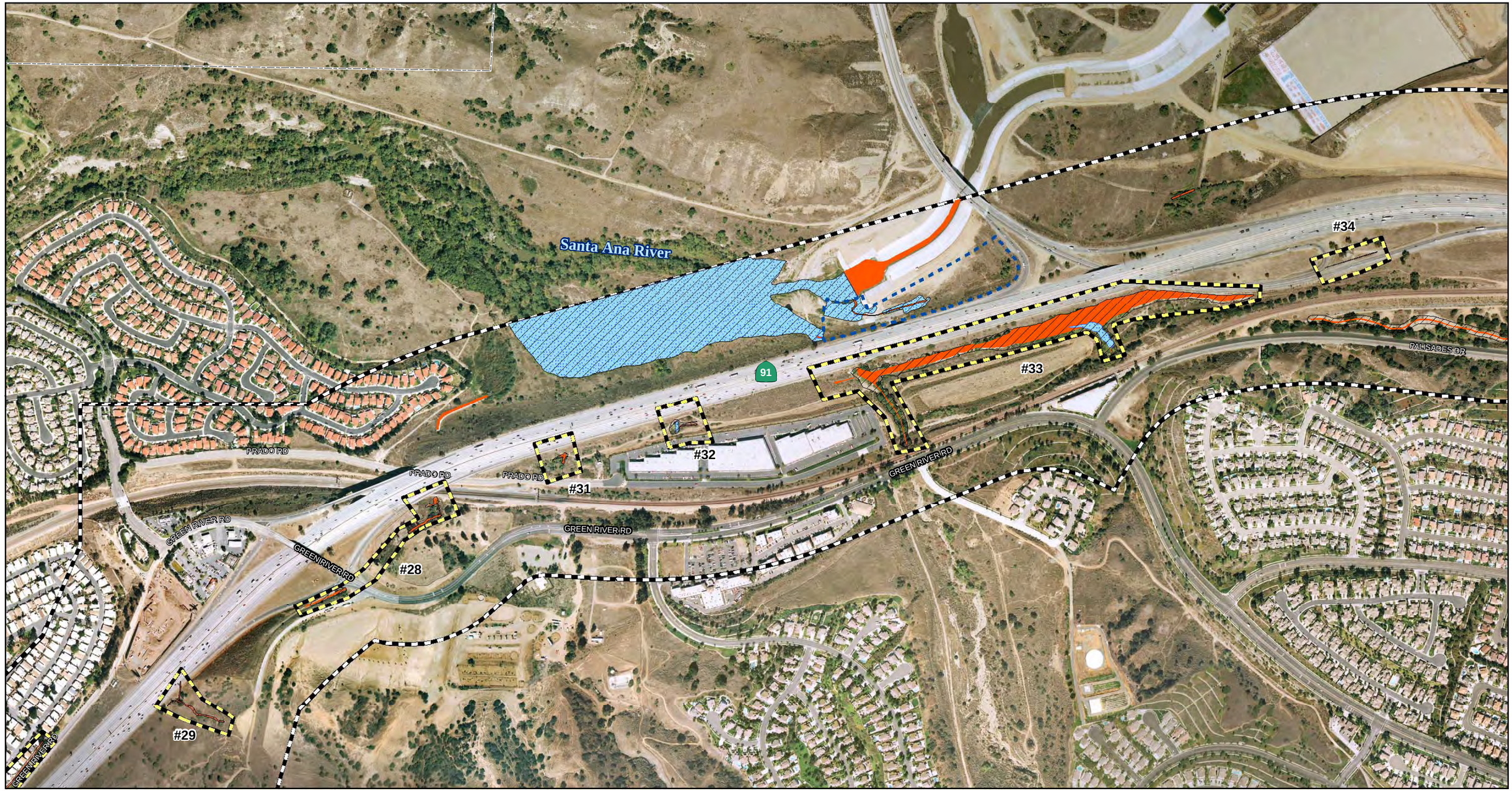


FIGURE 3.18-1
Sheet 3 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

- Supplemental Wetland Jurisdictional Delineation Survey Boundary (Parsons 2011)

N

0 300 600
FEET

SOURCE: AirPhotoUSA (04/2007), PB (2008), Parsons (10/2011)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (11/21/2011)

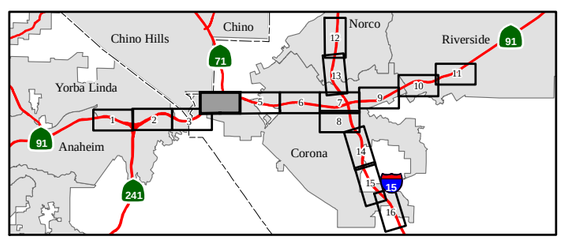


FIGURE 3.18-1
Sheet 4 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

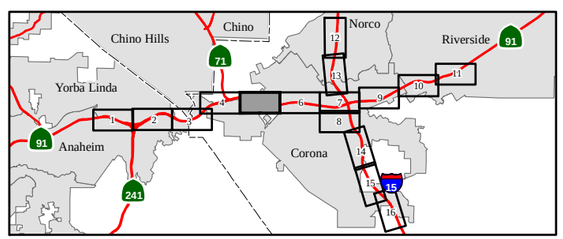
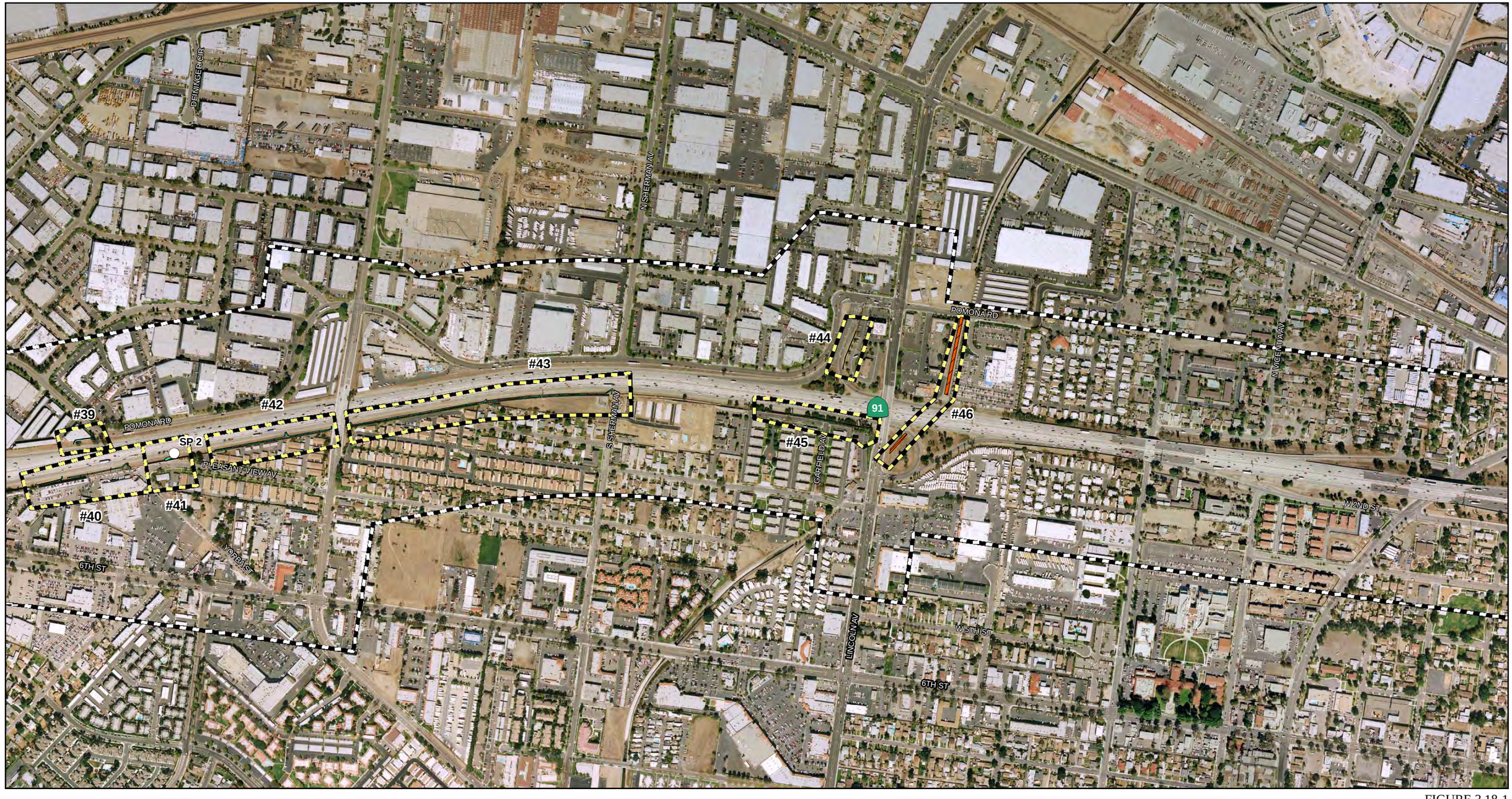


FIGURE 3.18-1
Sheet 5 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

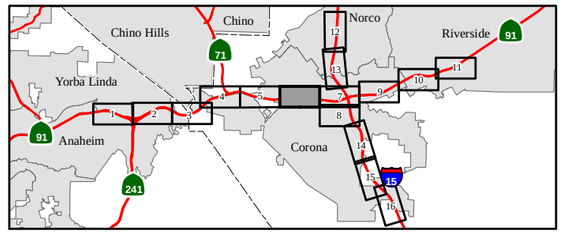
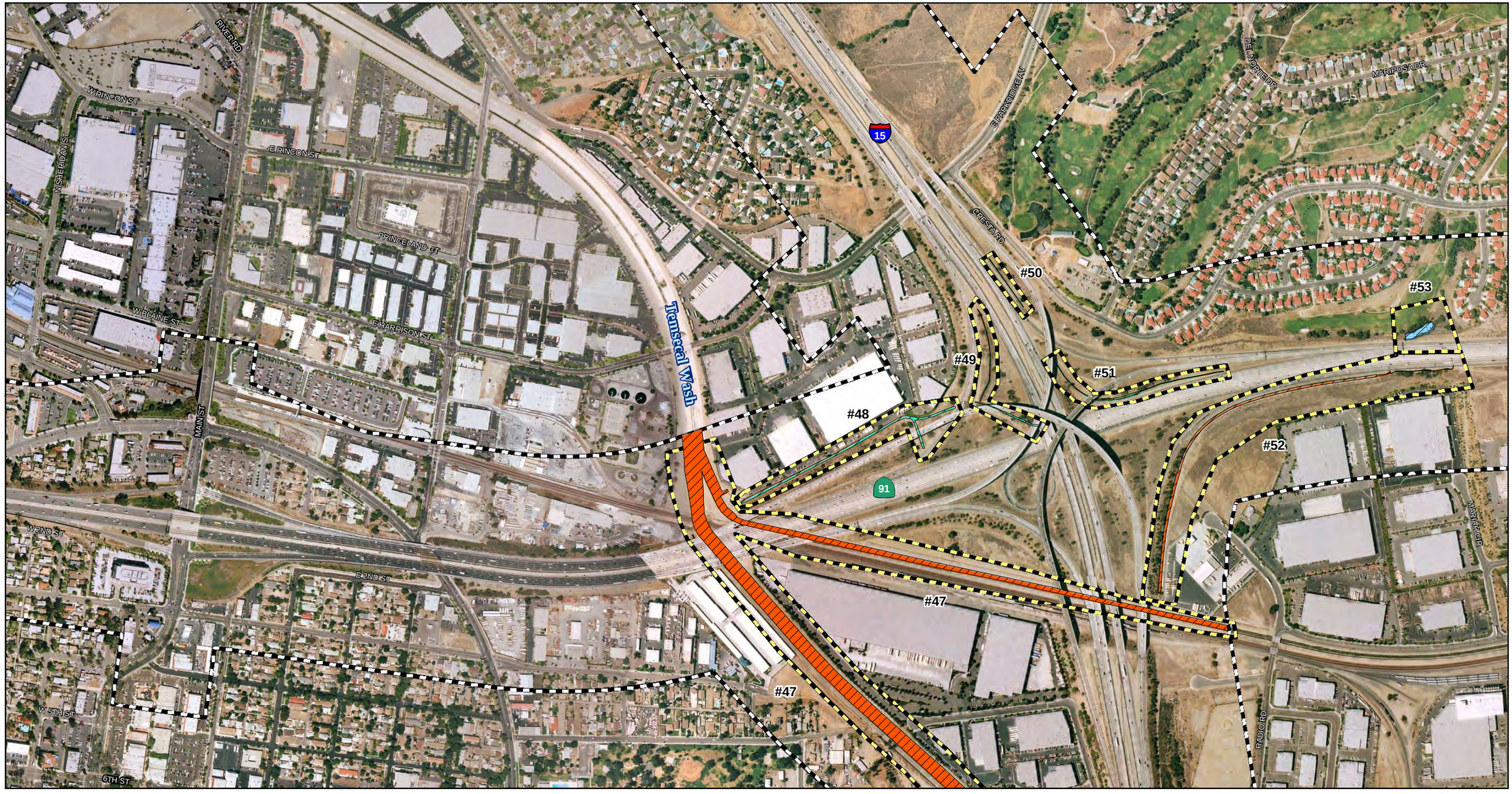


FIGURE 3.18-1
Sheet 6 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

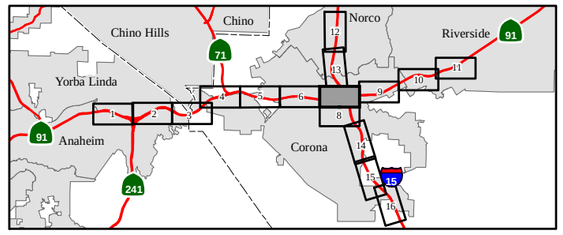


FIGURE 3.18-1
Sheet 7 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

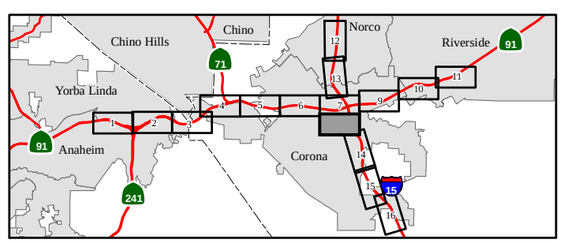


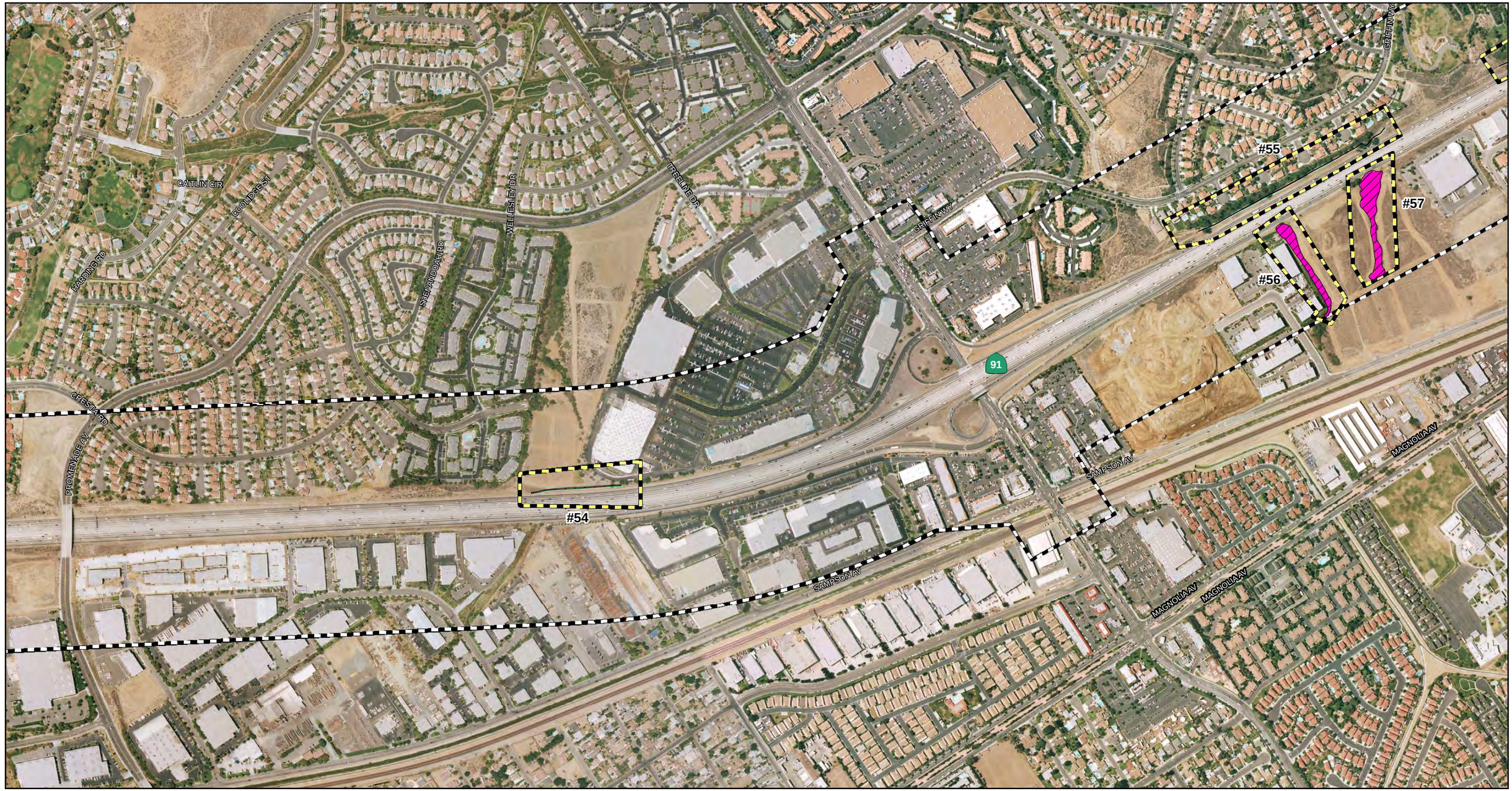
FIGURE 3.18-1
Sheet 8 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)



LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

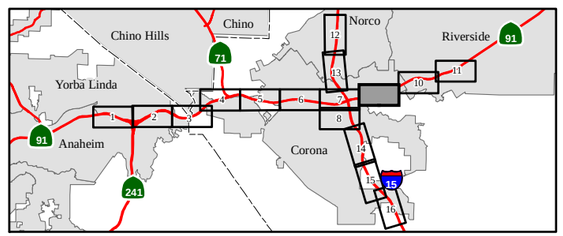


FIGURE 3.18-1
Sheet 9 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

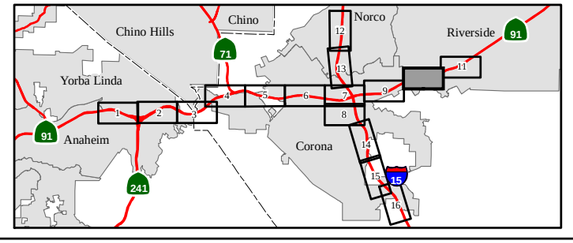


FIGURE 3.18-1
Sheet 10 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

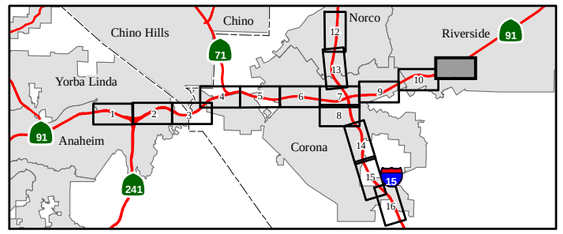


FIGURE 3.18-1
Sheet 11 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

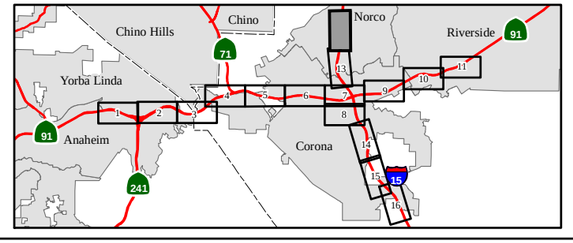


FIGURE 3.18-1
Sheet 12 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

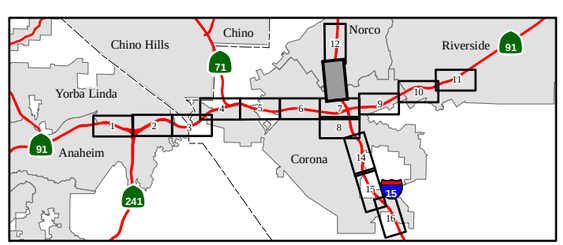


FIGURE 3.18-1
Sheet 13 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

#74
SP 10
#76
SP 11
#73
#72
#75
#77
MEO ST
OLD TEMESCAL RD
COMPTON AV
ONTARIO AV
STATE ST
TABER ST
CALIFORNIA AV
RIMPAU AV
BIRMINGHAM DR

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

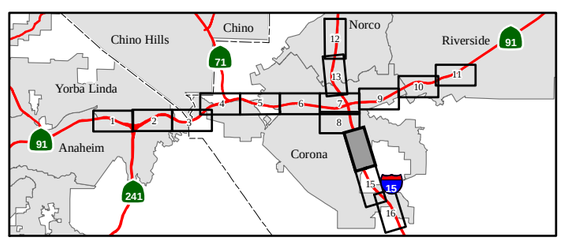


FIGURE 3.18-1
Sheet 14 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

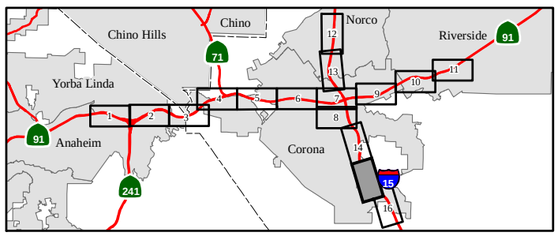


FIGURE 3.18-1
Sheet 15 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Drainage Box (with ID#)
- Soil Pit (with ID#)
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_WorstCase_Fig3181_reduced.mxd (9/10/2010)

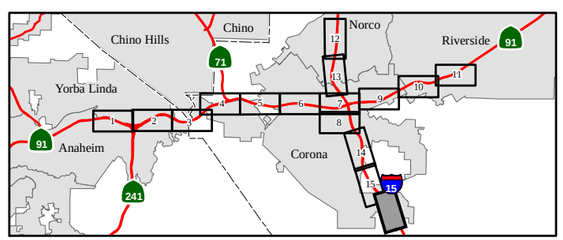
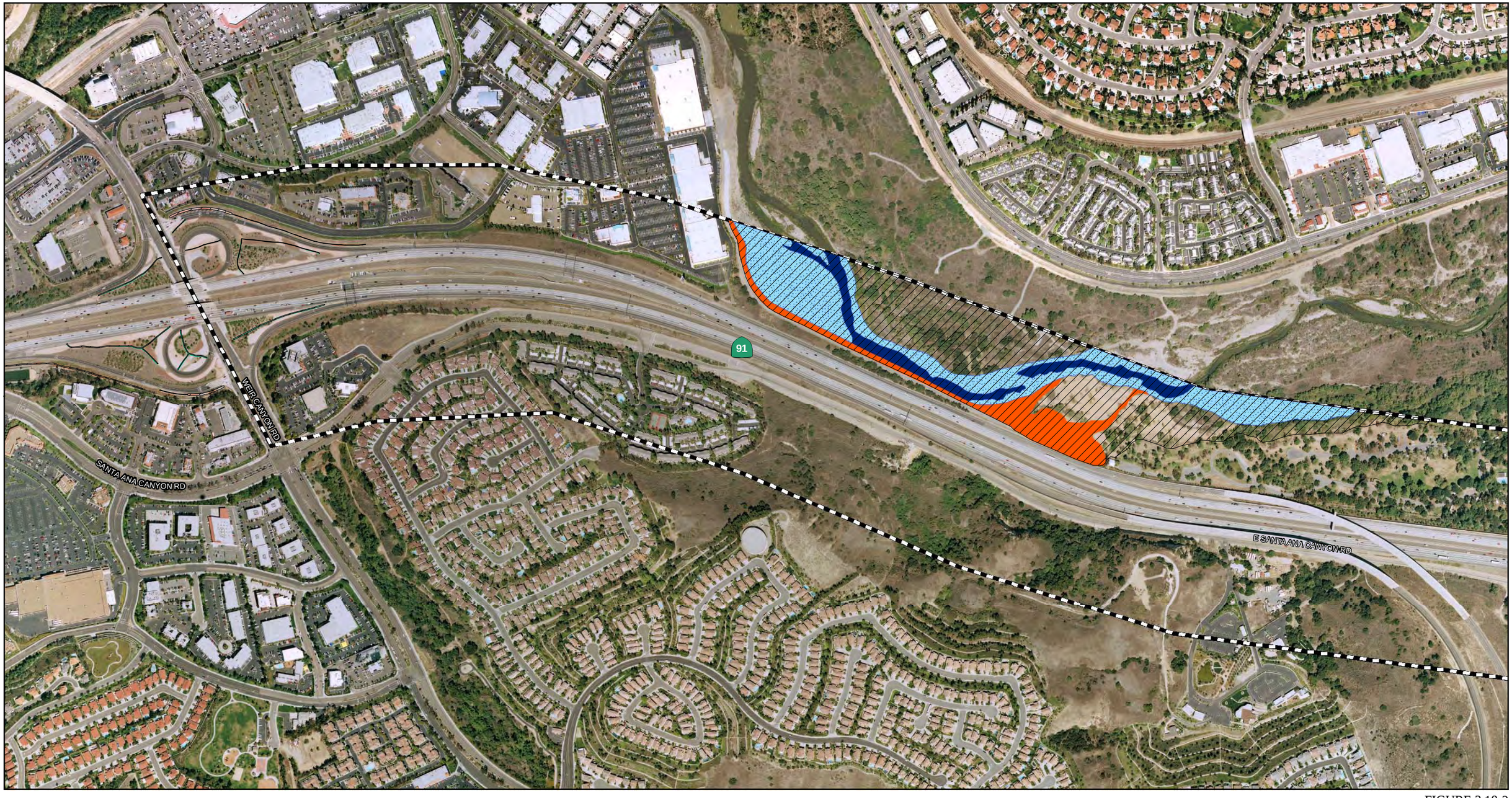


FIGURE 3.18-1
Sheet 16 of 16

SR-91 Corridor Improvement Project

Jurisdictional Map

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

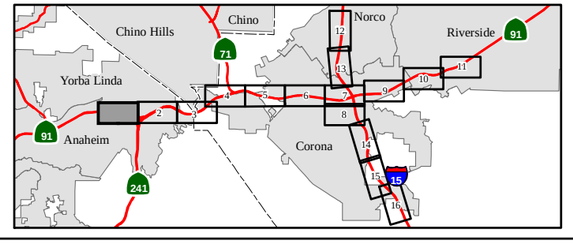


FIGURE 3.18-2
Sheet 1 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

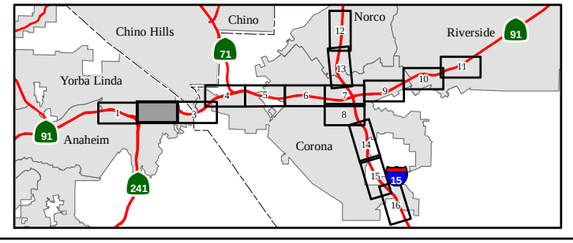
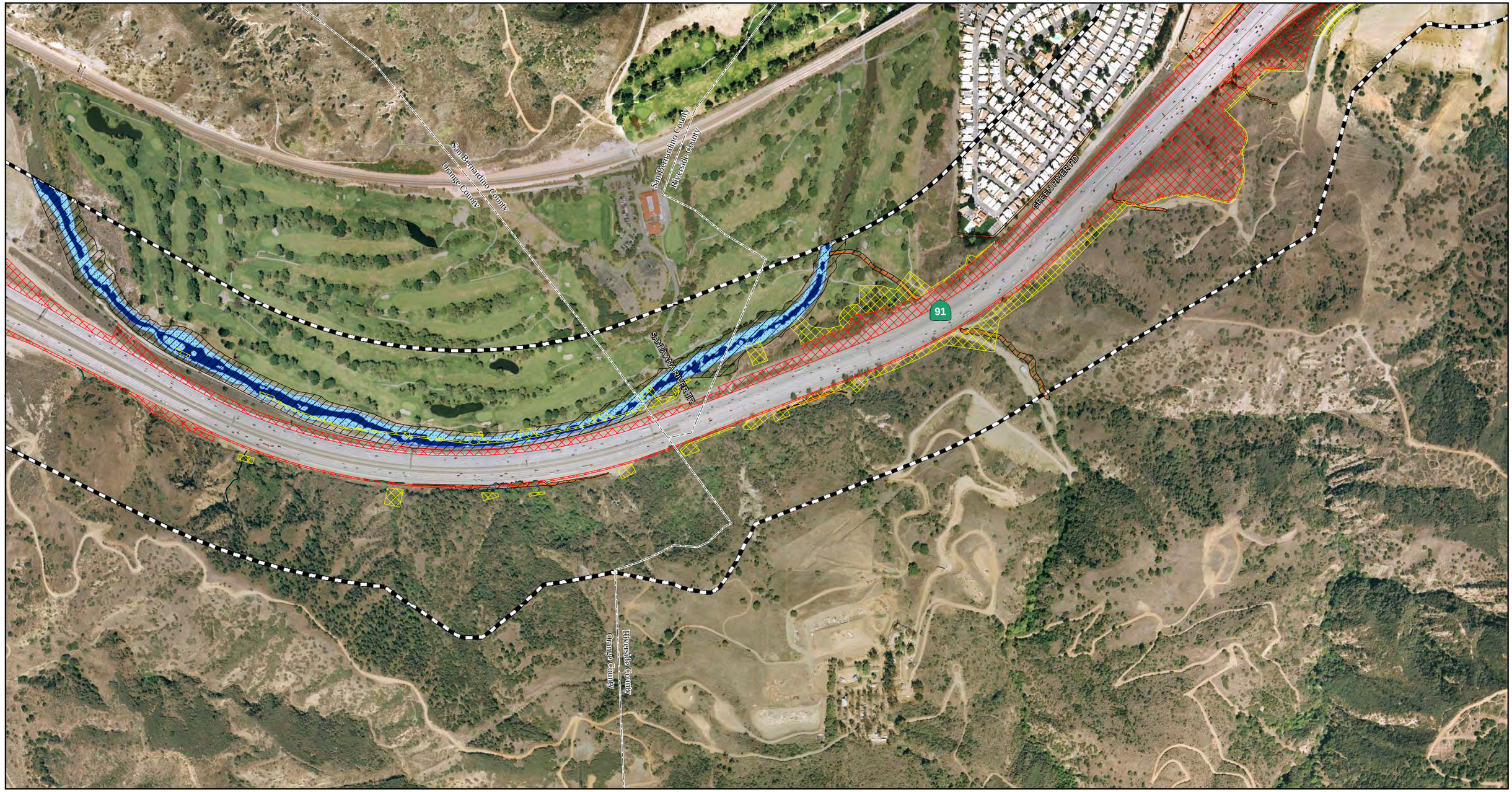


FIGURE 3.18-2
Sheet 2 of 16

SR-91 Corridor Improvement Project

Alternative 1
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

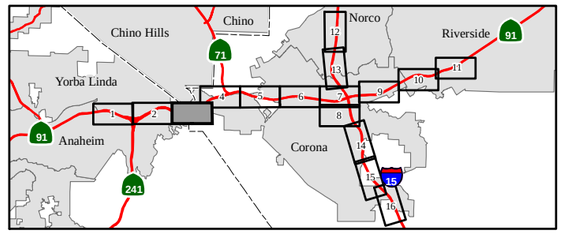


FIGURE 3.18-2
Sheet 3 of 16

SR-91 Corridor Improvement Project

Alternative 1
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area
- Alternative 1 Impacts
  - Permanent Impact Areas
  - Temporary Impact Areas
  - CDFG Jurisdiction
- Corps Jurisdiction
  - Wetland Waters
  - Nonwetland Waters
  - Deepwater Aquatic Nonwetland Waters
  - Nonjurisdictional Nonwetland Waters
  - Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (11/28/2011)

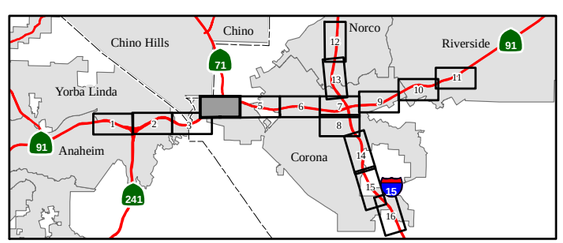


FIGURE 3.18-2
Sheet 4 of 16

SR-91 Corridor Improvement Project

Alternative 1
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

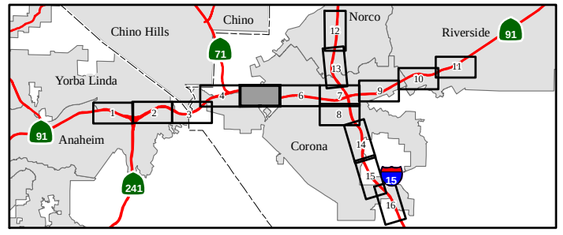


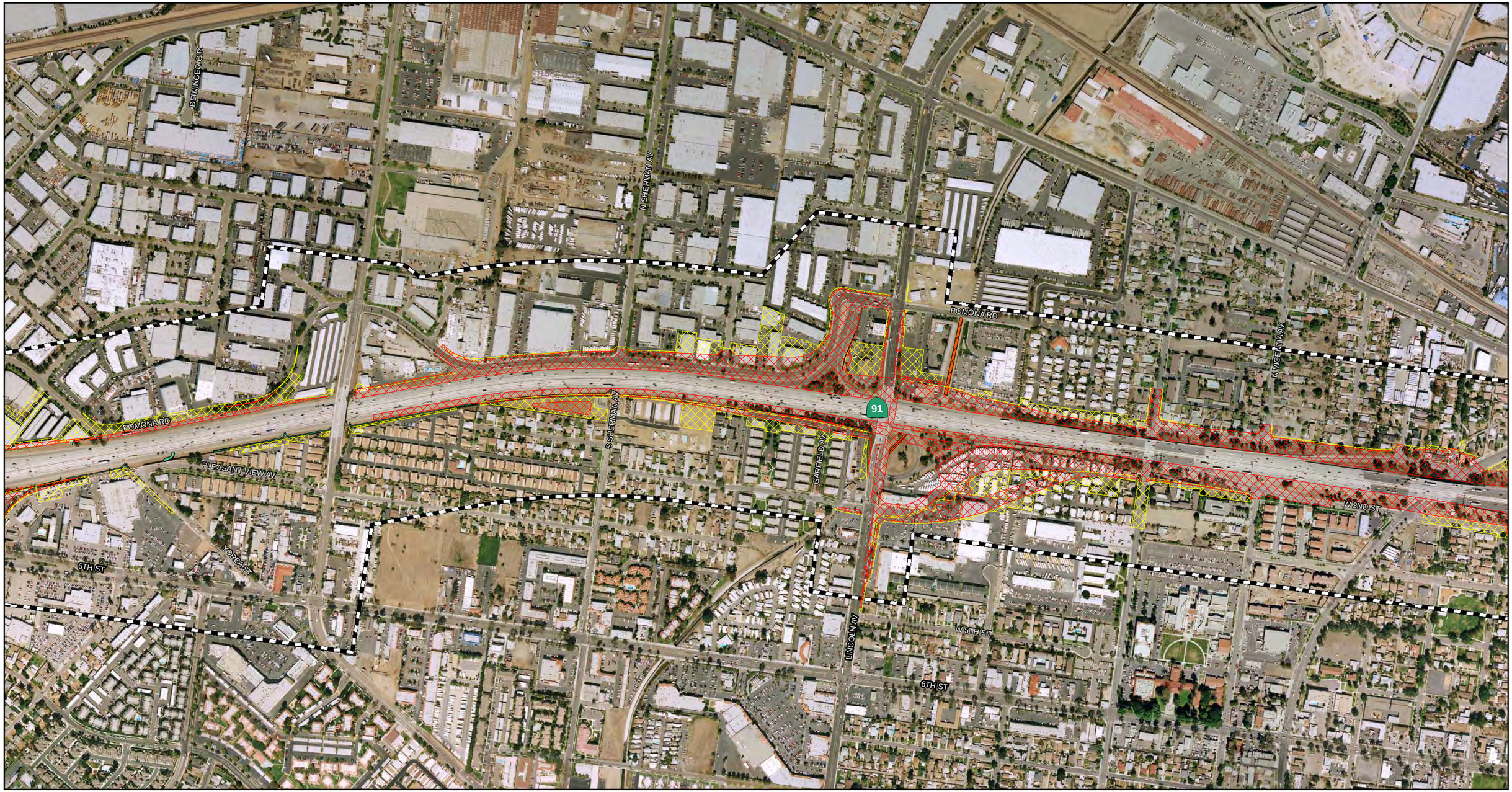
FIGURE 3.18-2
Sheet 5 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

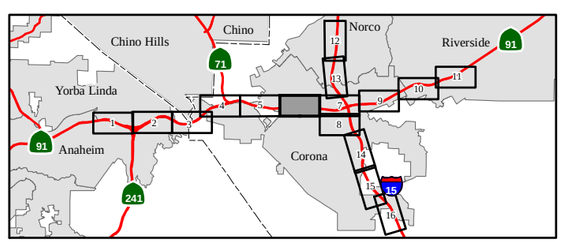
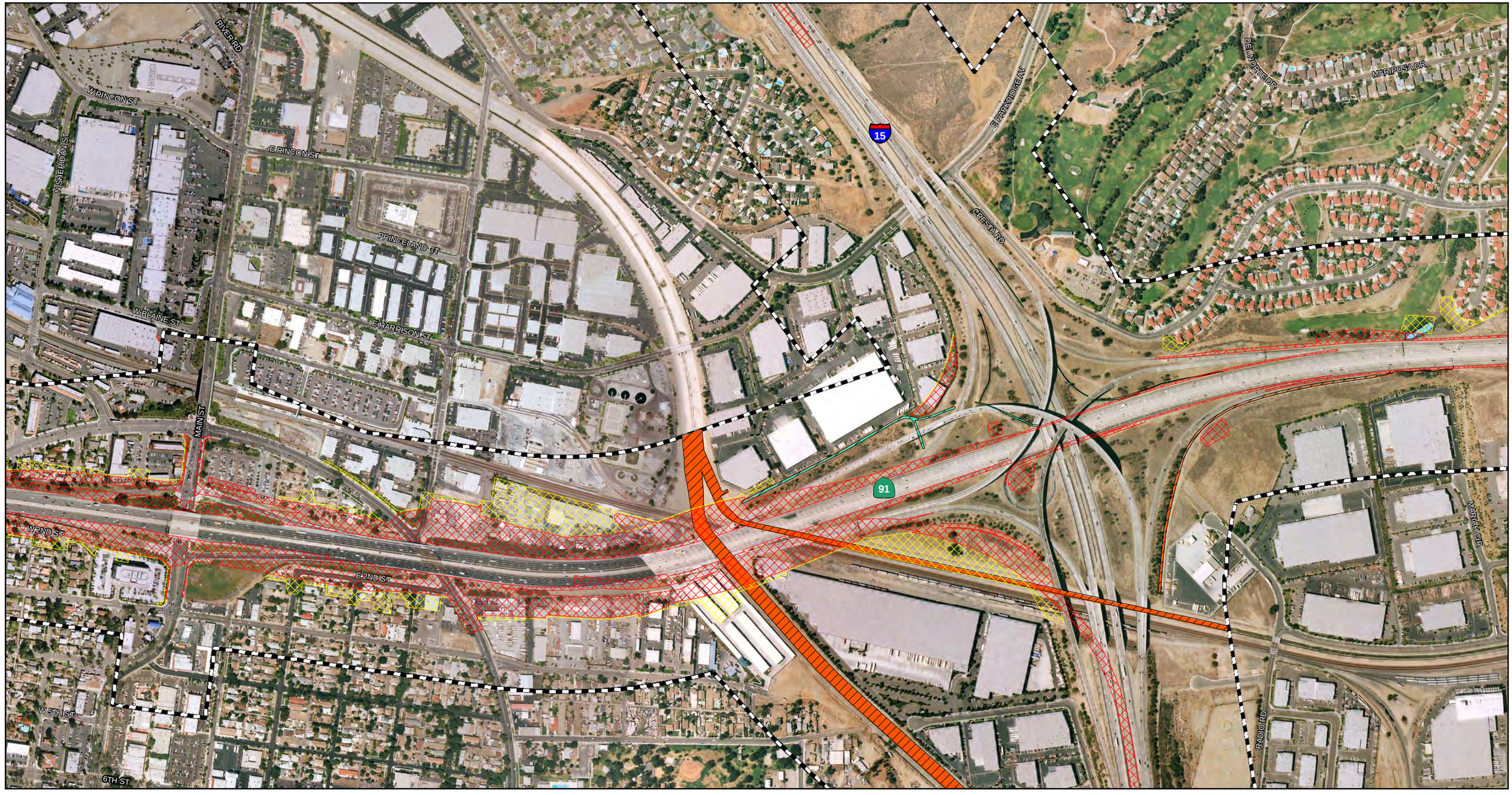


FIGURE 3.18-2
Sheet 6 of 16

SR-91 Corridor Improvement Project

Alternative 1
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

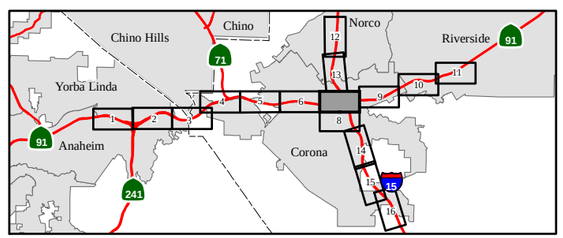


FIGURE 3.18-2
Sheet 7 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

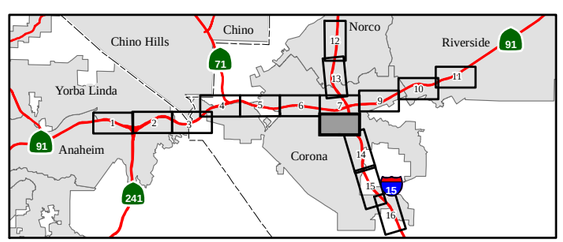


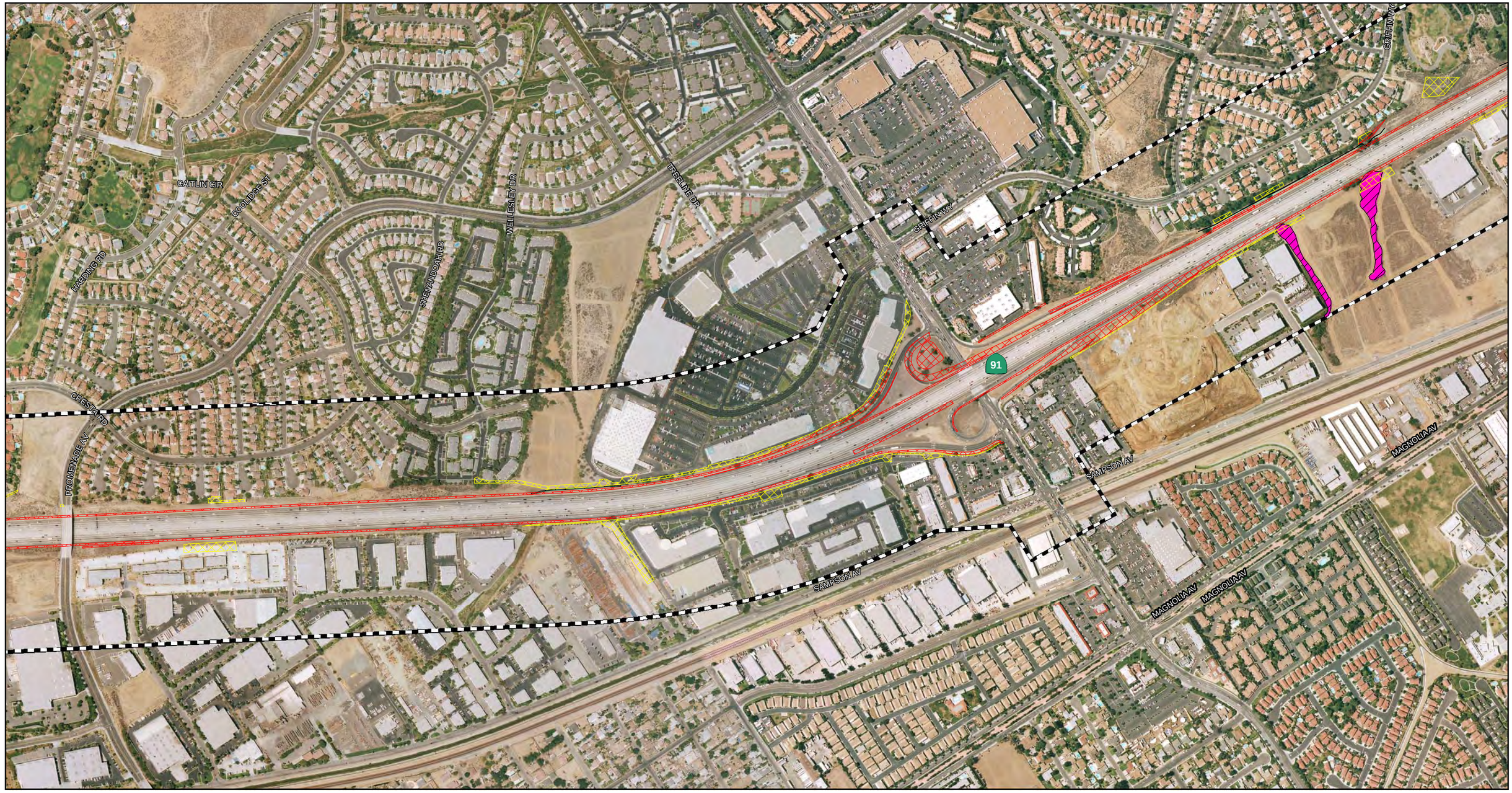
FIGURE 3.18-2
Sheet 8 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

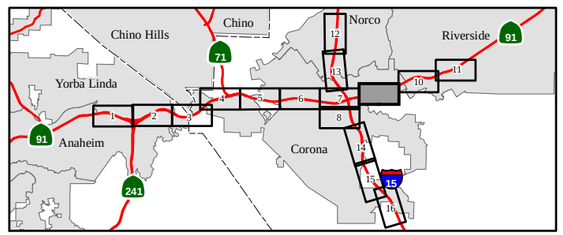


FIGURE 3.18-2
Sheet 9 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

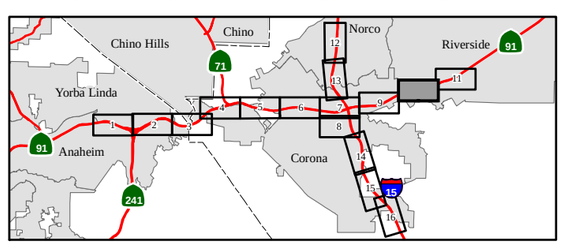


FIGURE 3.18-2
Sheet 10 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

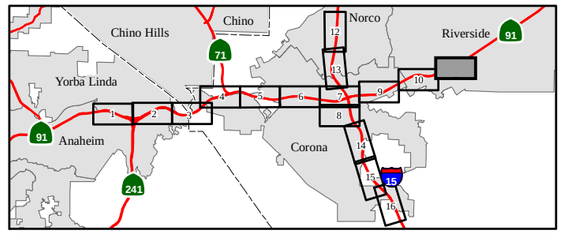


FIGURE 3.18-2
Sheet 11 of 16

SR-91 Corridor Improvement Project

Alternative 1
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 1 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

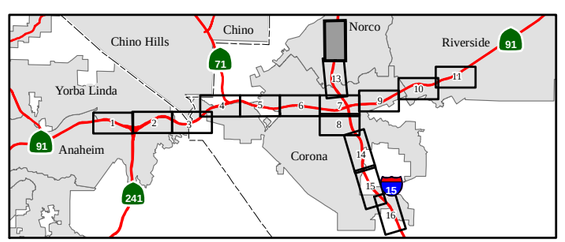


FIGURE 3.18-2
Sheet 12 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 1 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

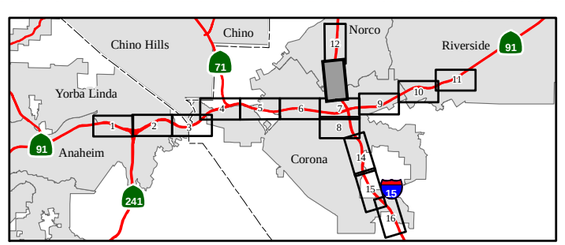


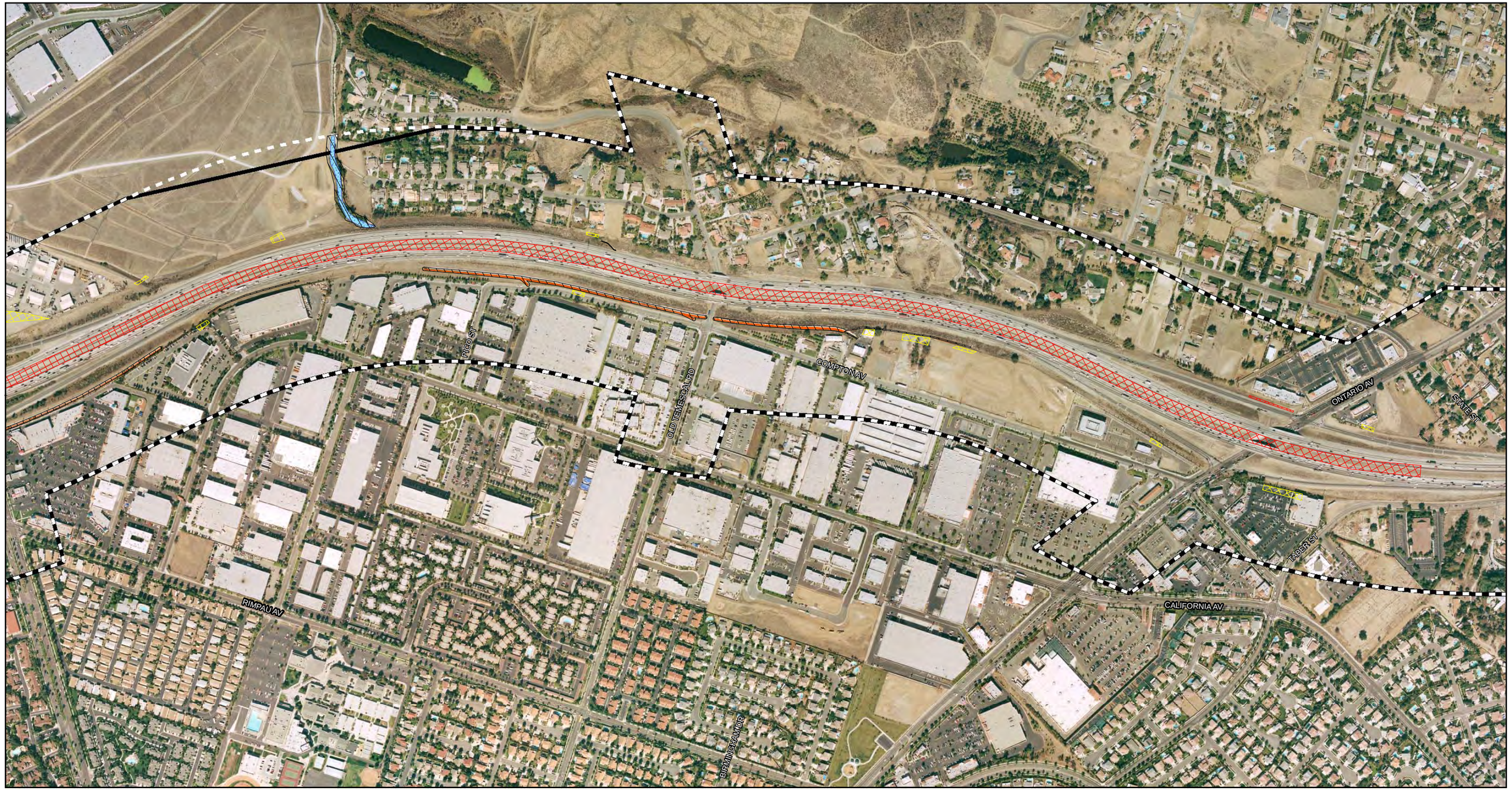
FIGURE 3.18-2
Sheet 13 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

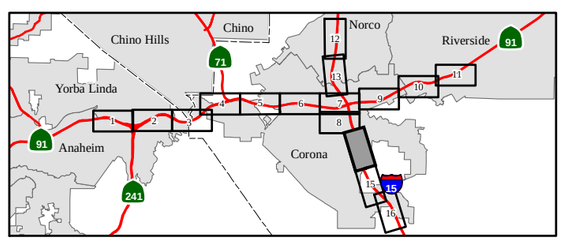


FIGURE 3.18-2
Sheet 14 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 1 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

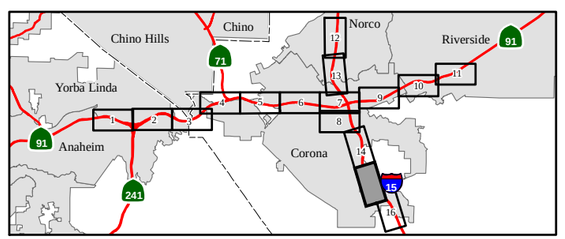


FIGURE 3.18-2
Sheet 15 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 1 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt1.mxd (7/20/2011)

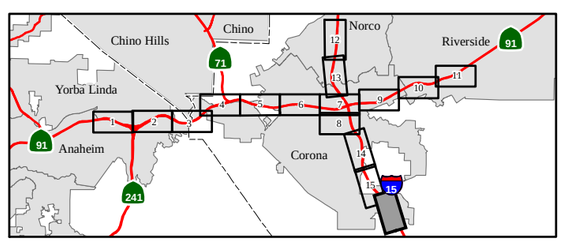


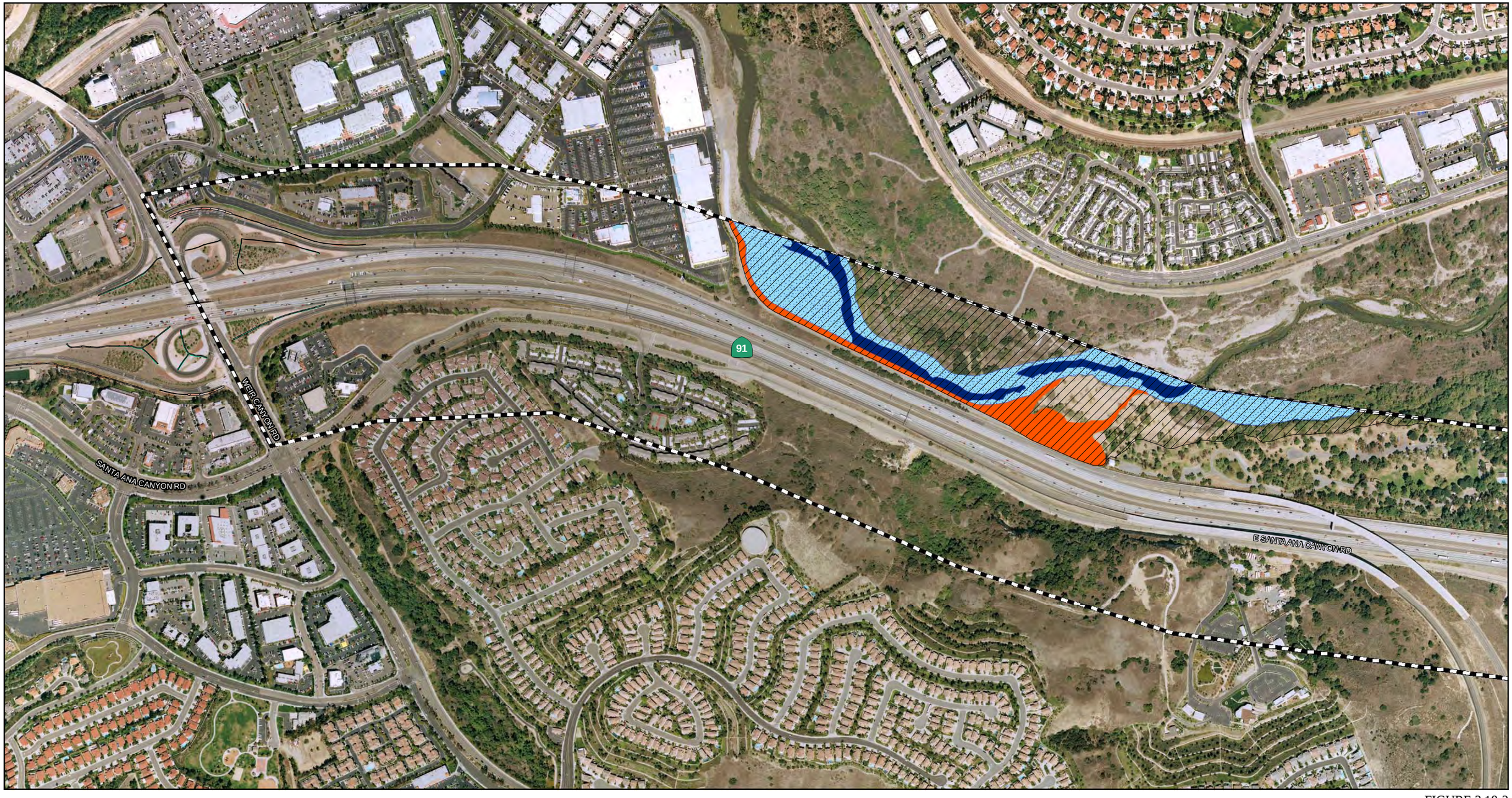
FIGURE 3.18-2
Sheet 16 of 16

SR-91 Corridor Improvement Project

Alternative 1

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

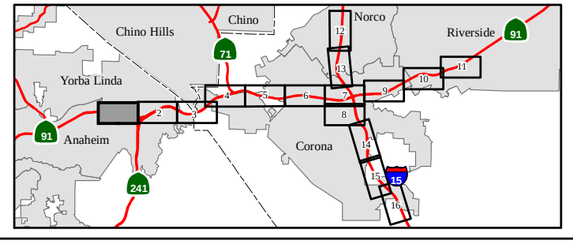


FIGURE 3.18-3
Sheet 1 of 16

SR-91 Corridor Improvement Project

Alternative 2

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

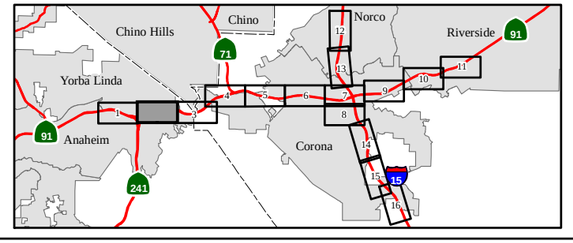
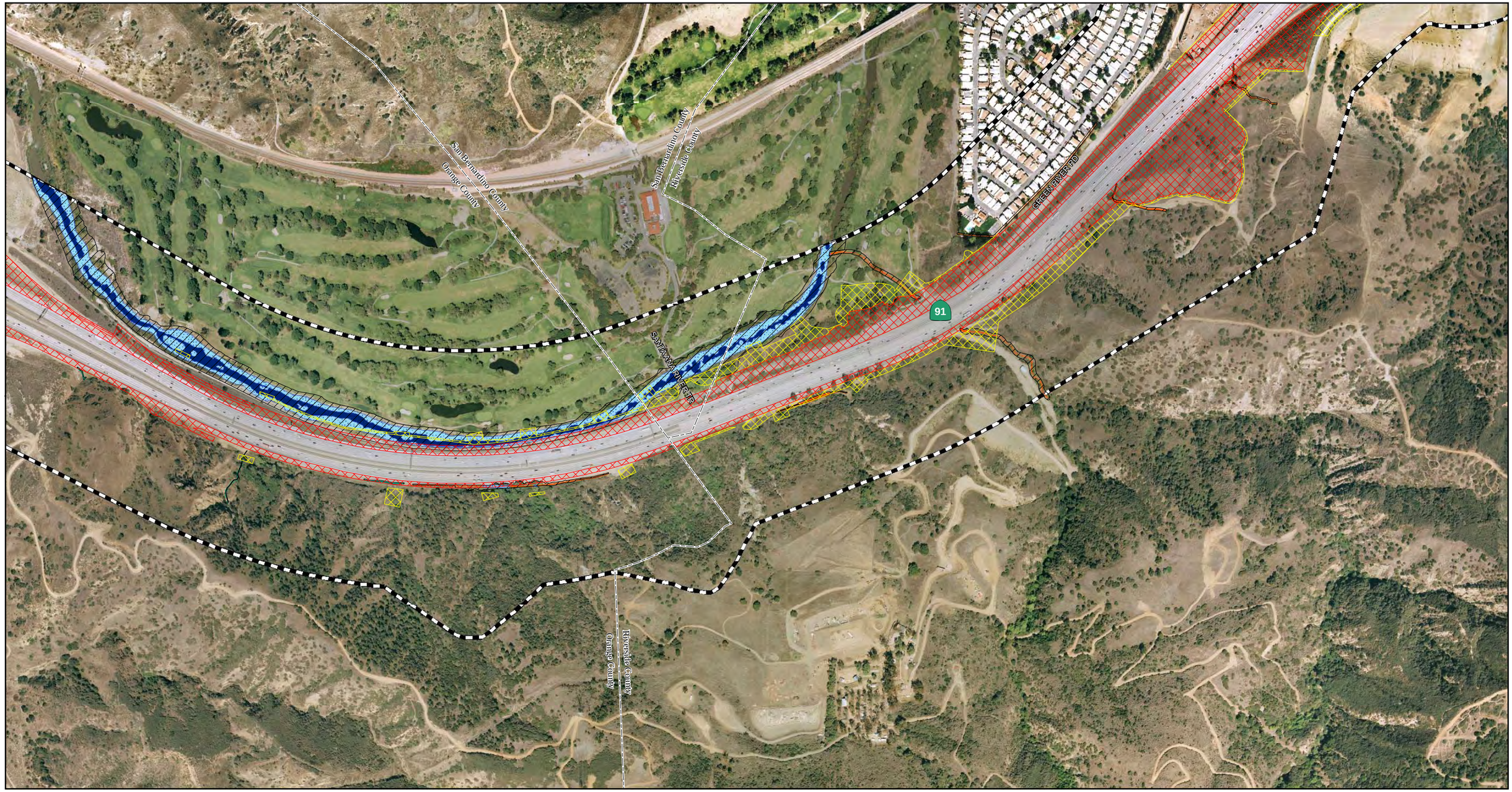


FIGURE 3.18-3
Sheet 2 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

Biological Study Area

Alternative 2 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

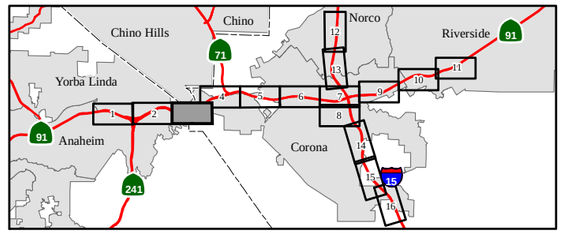
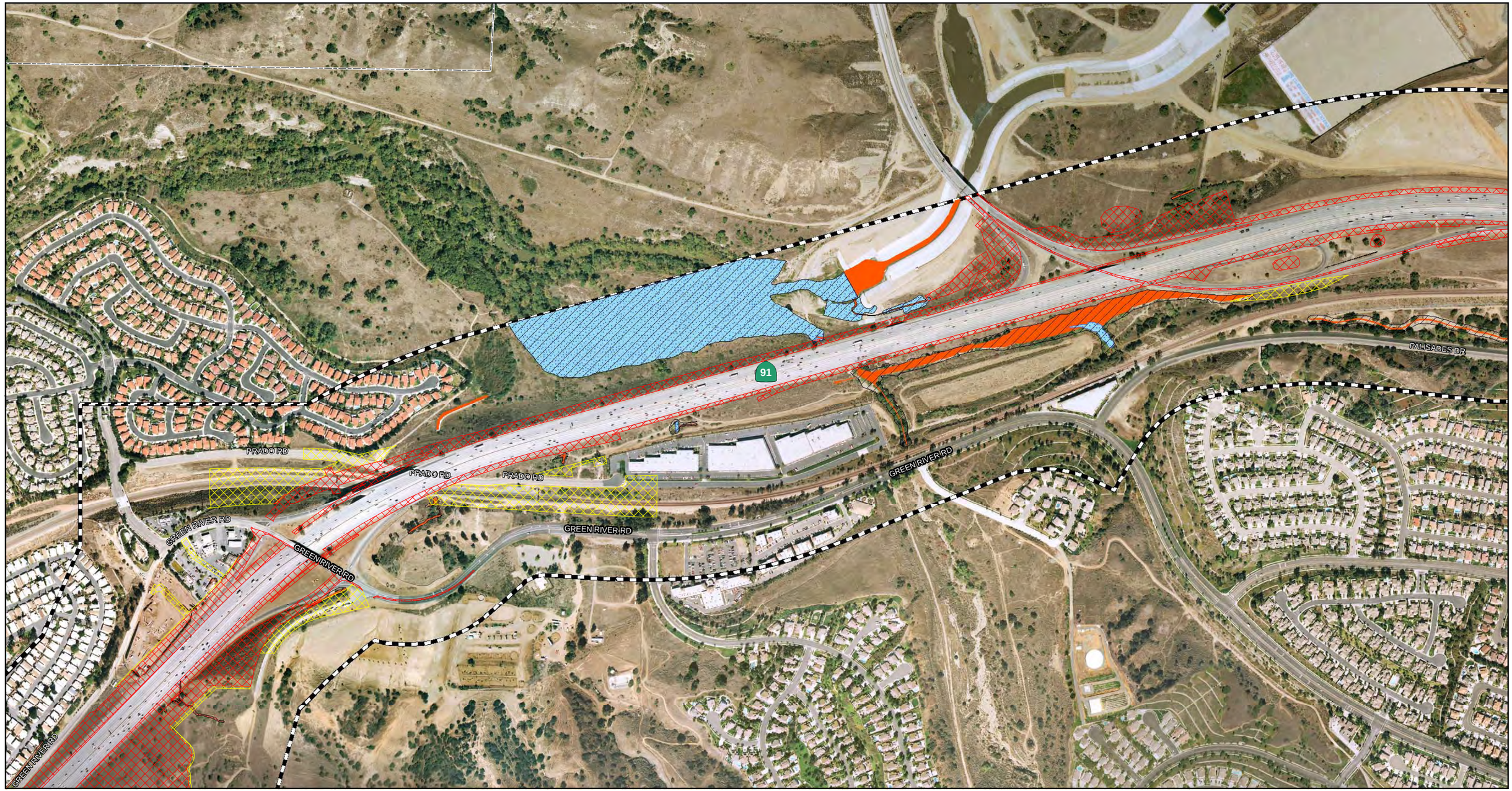


FIGURE 3.18-3
Sheet 3 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Alternative 2 Impacts
  - Permanent Impact Areas
  - Temporary Impact Areas
  - CDFG Jurisdiction
- Corps Jurisdiction
  - Wetland Waters
  - Nonwetland Waters
  - Deepwater Aquatic Nonwetland Waters
  - Nonjurisdictional Nonwetland Waters
  - Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (11/28/2011)

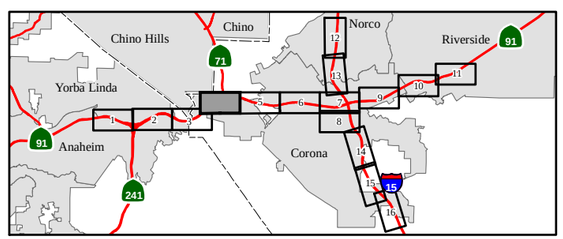


FIGURE 3.18-3
Sheet 4 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

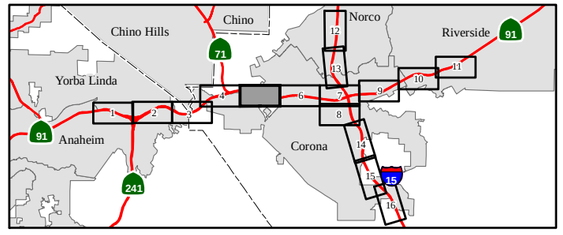


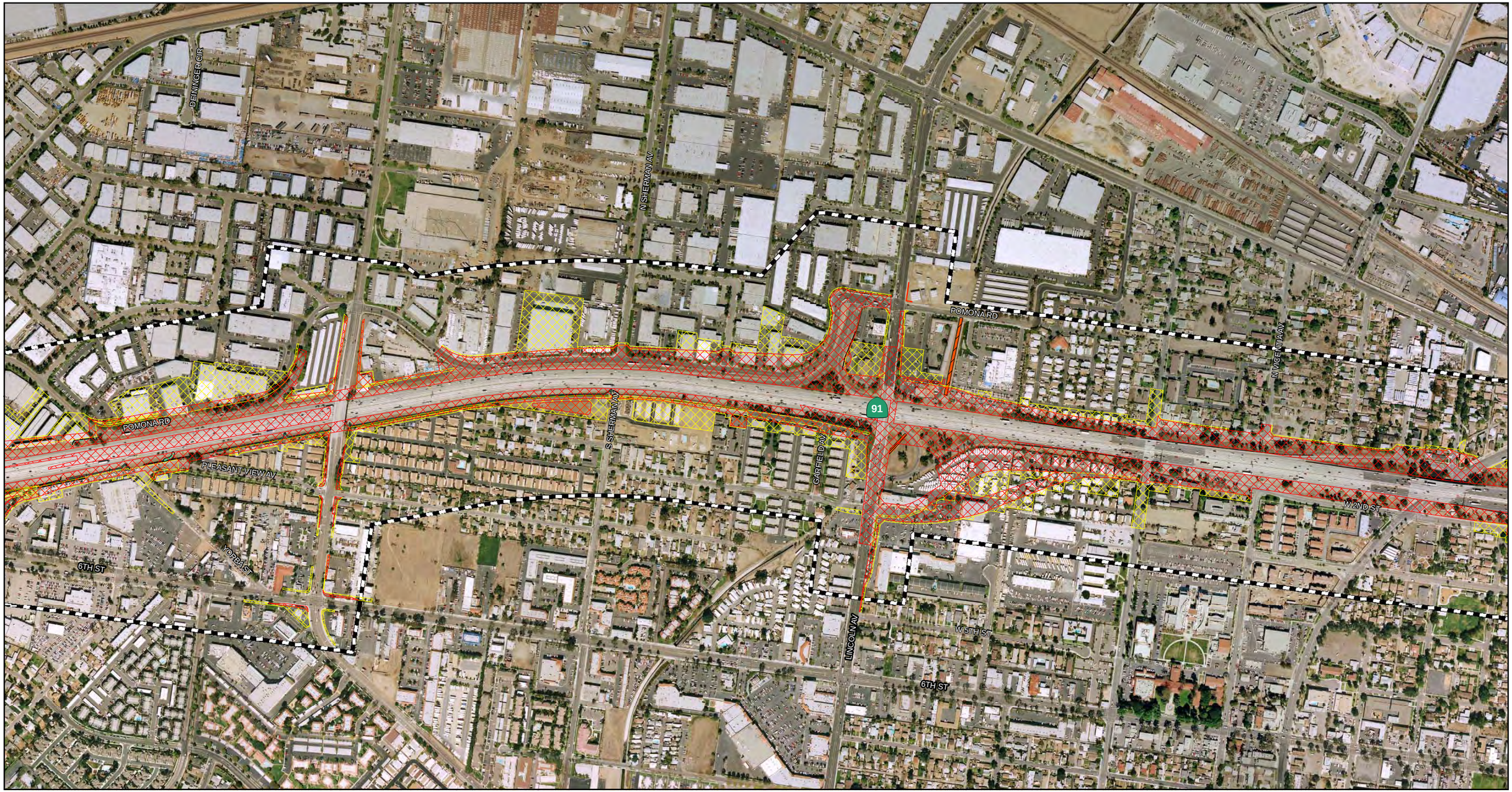
FIGURE 3.18-3
Sheet 5 of 16

SR-91 Corridor Improvement Project

Alternative 2

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

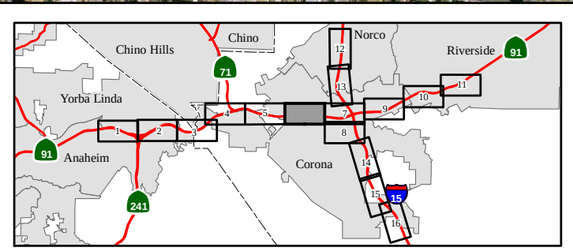
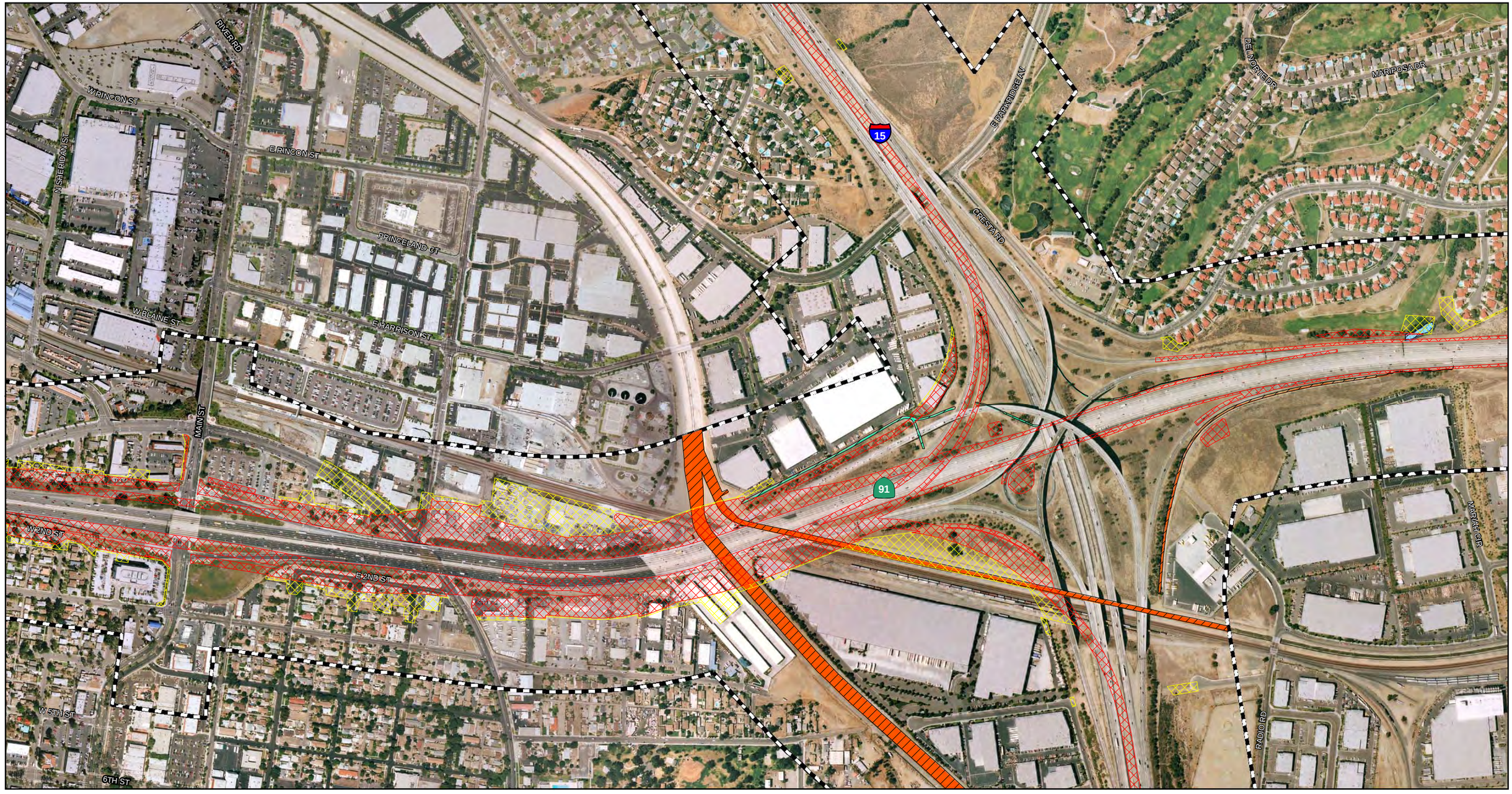


FIGURE 3.18-3
Sheet 6 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

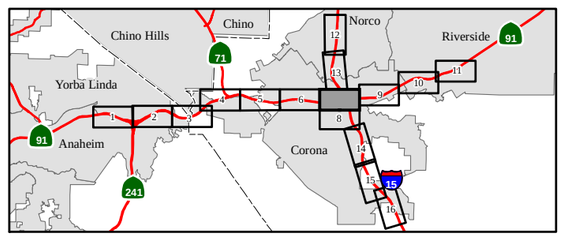


FIGURE 3.18-3
Sheet 7 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

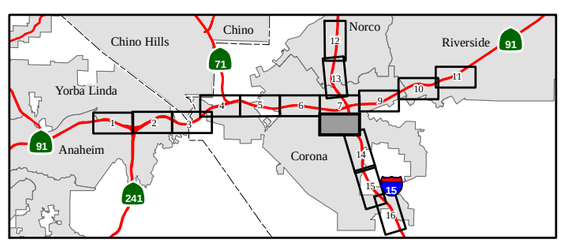
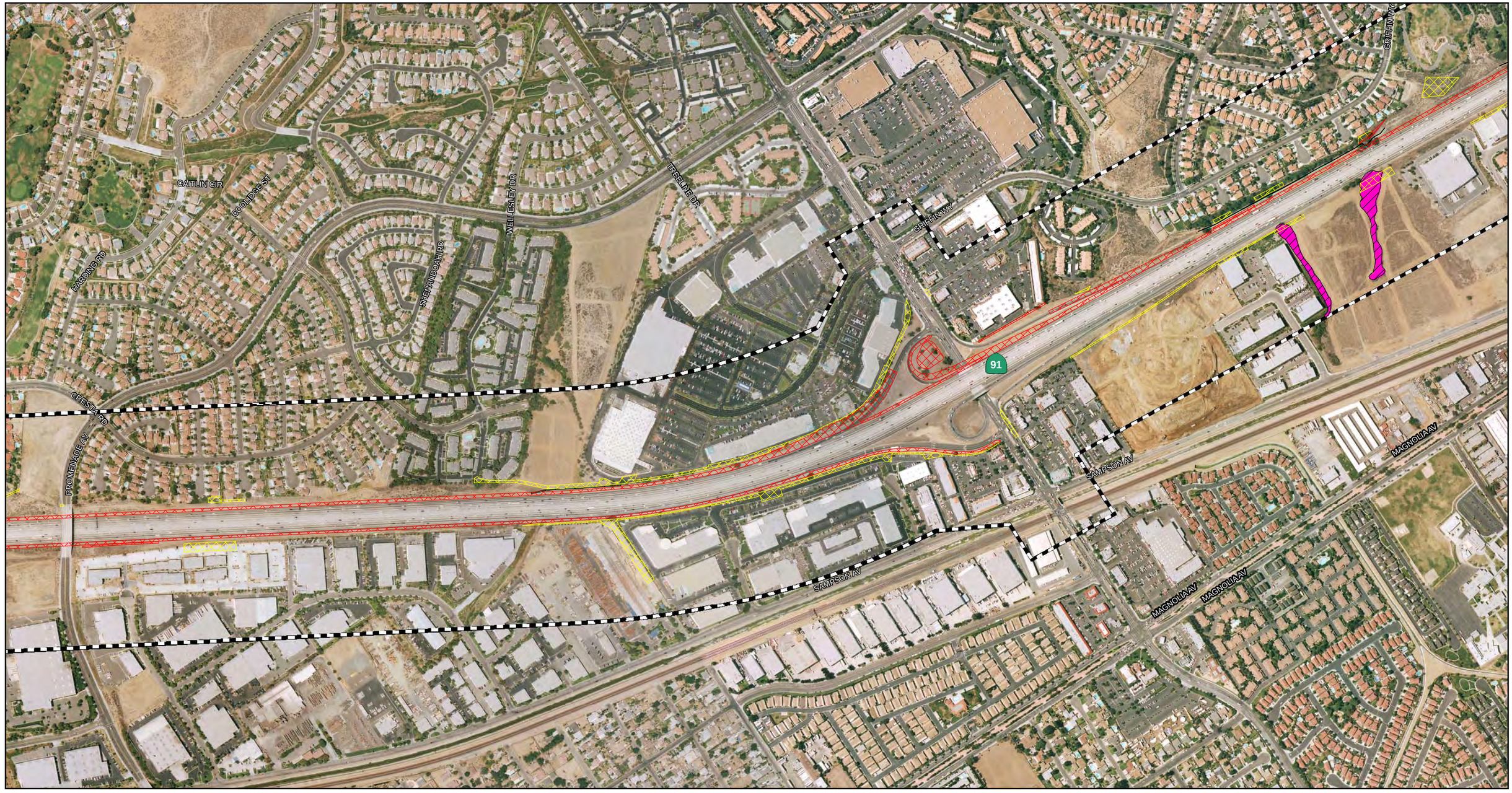


FIGURE 3.18-3
Sheet 8 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Alternative 2 Impacts
  - Permanent Impact Areas
  - Temporary Impact Areas
  - CDFG Jurisdiction
- Corps Jurisdiction
  - Wetland Waters
  - Nonwetland Waters
  - Deepwater Aquatic Nonwetland Waters
  - Nonjurisdictional Nonwetland Waters
  - Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

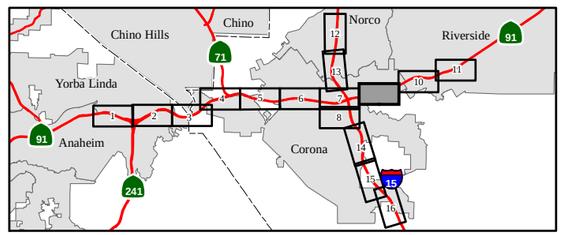


FIGURE 3.18-3
Sheet 9 of 16

SR-91 Corridor Improvement Project

Alternative 2

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

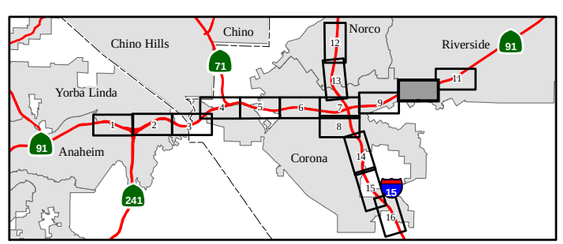


FIGURE 3.18-3
Sheet 10 of 16

SR-91 Corridor Improvement Project

Alternative 2

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

- Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

N

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

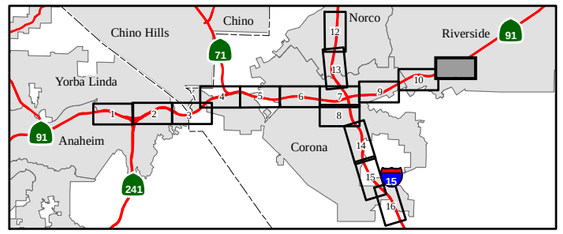


FIGURE 3.18-3
Sheet 11 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 2 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

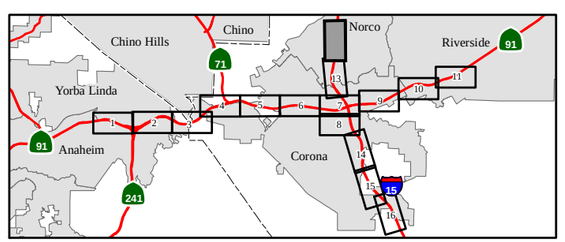


FIGURE 3.18-3
Sheet 12 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 2 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

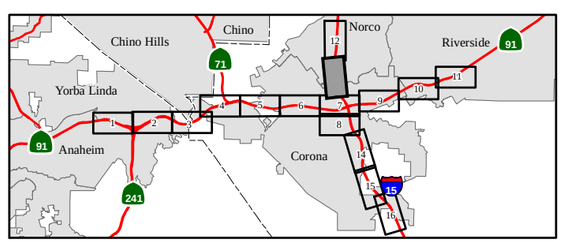


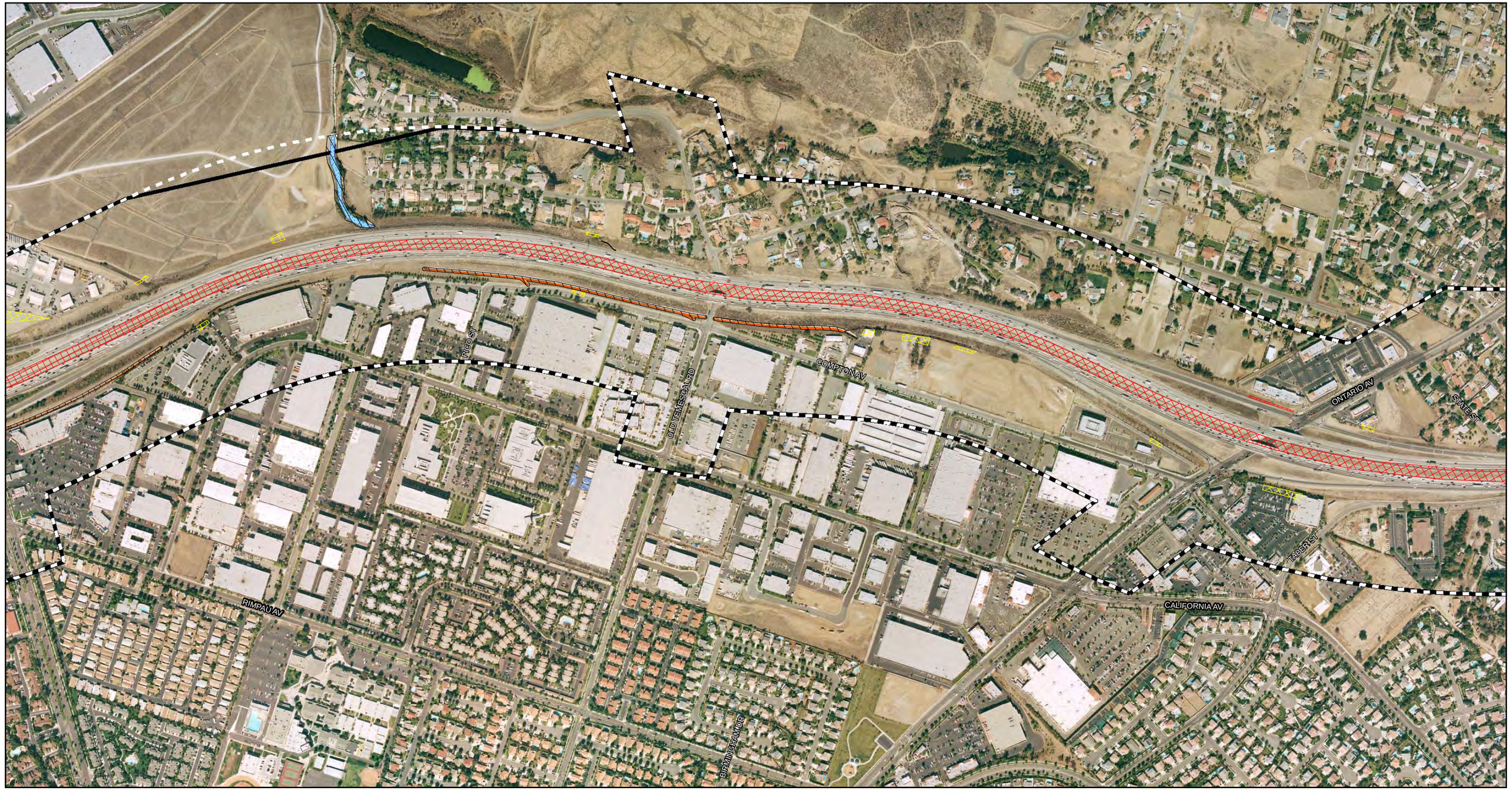
FIGURE 3.18-3
Sheet 13 of 16

SR-91 Corridor Improvement Project

Alternative 2

Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540



LEGEND

- Biological Study Area
- Alternative 2 Impacts
  - Permanent Impact Areas
  - Temporary Impact Areas
  - CDFG Jurisdiction
- Corps Jurisdiction
  - Wetland Waters
  - Nonwetland Waters
  - Deepwater Aquatic Nonwetland Waters
  - Nonjurisdictional Nonwetland Waters
  - Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

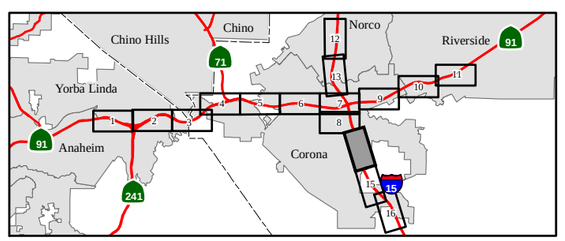


FIGURE 3.18-3
Sheet 14 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 2 Impacts

- Permanent Impact Areas
- Temporary Impact Areas
- CDFG Jurisdiction

Corps Jurisdiction

- Wetland Waters
- Nonwetland Waters
- Deepwater Aquatic Nonwetland Waters
- Nonjurisdictional Nonwetland Waters
- Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

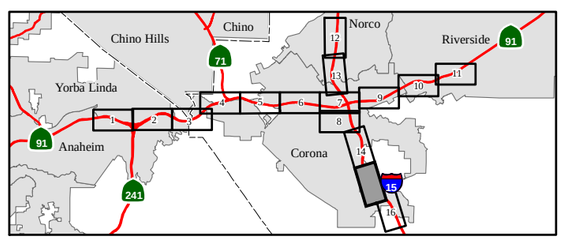


FIGURE 3.18-3
Sheet 15 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

LEGEND

Biological Study Area

Alternative 2 Impacts

Permanent Impact Areas

Temporary Impact Areas

CDFG Jurisdiction

Corps Jurisdiction

Wetland Waters

Nonwetland Waters

Deepwater Aquatic Nonwetland Waters

Nonjurisdictional Nonwetland Waters

Nonjurisdictional Wetland Waters

0 300 600
FEET

SOURCE: Digital Globe (04/2008); PB (2008)

I:\PAZ0701\GIS\JD\JD_Impacts_Alt2.mxd (7/20/2011)

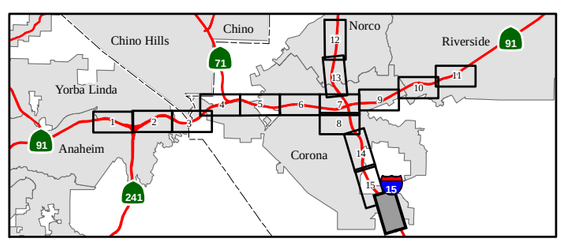
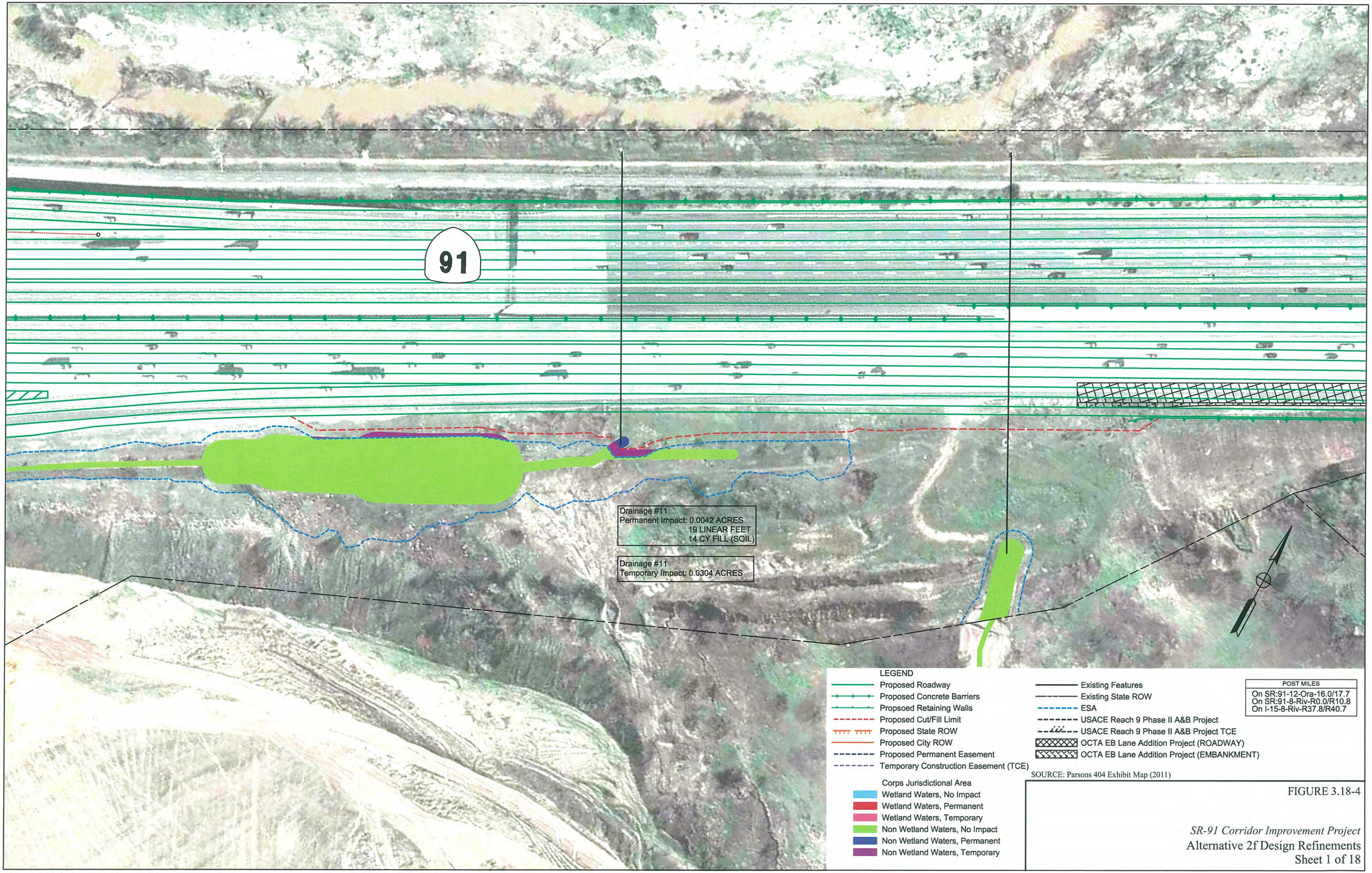


FIGURE 3.18-3
Sheet 16 of 16

SR-91 Corridor Improvement Project

Alternative 2
Impacts to Jurisdictional Features

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

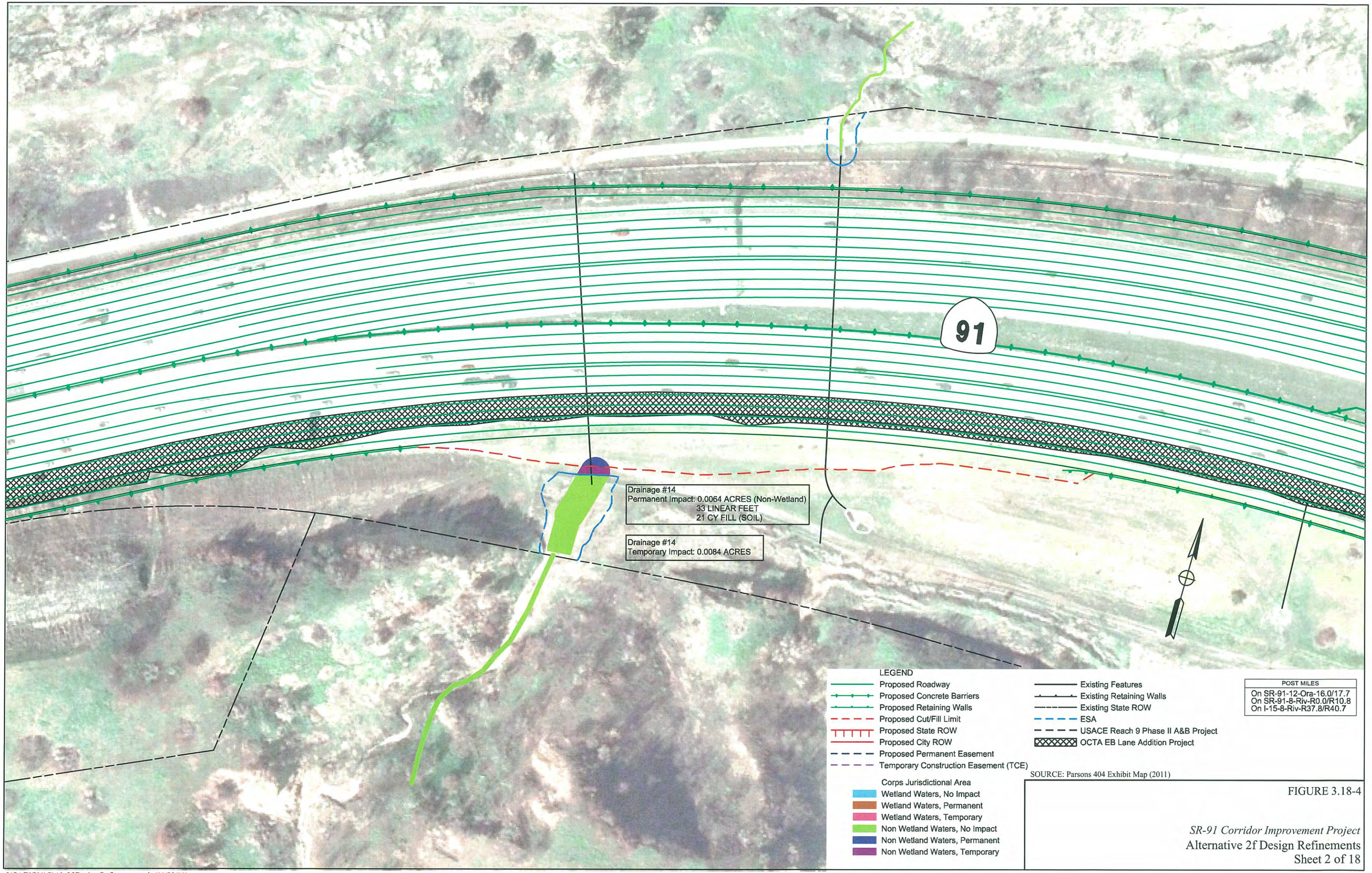


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 1 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

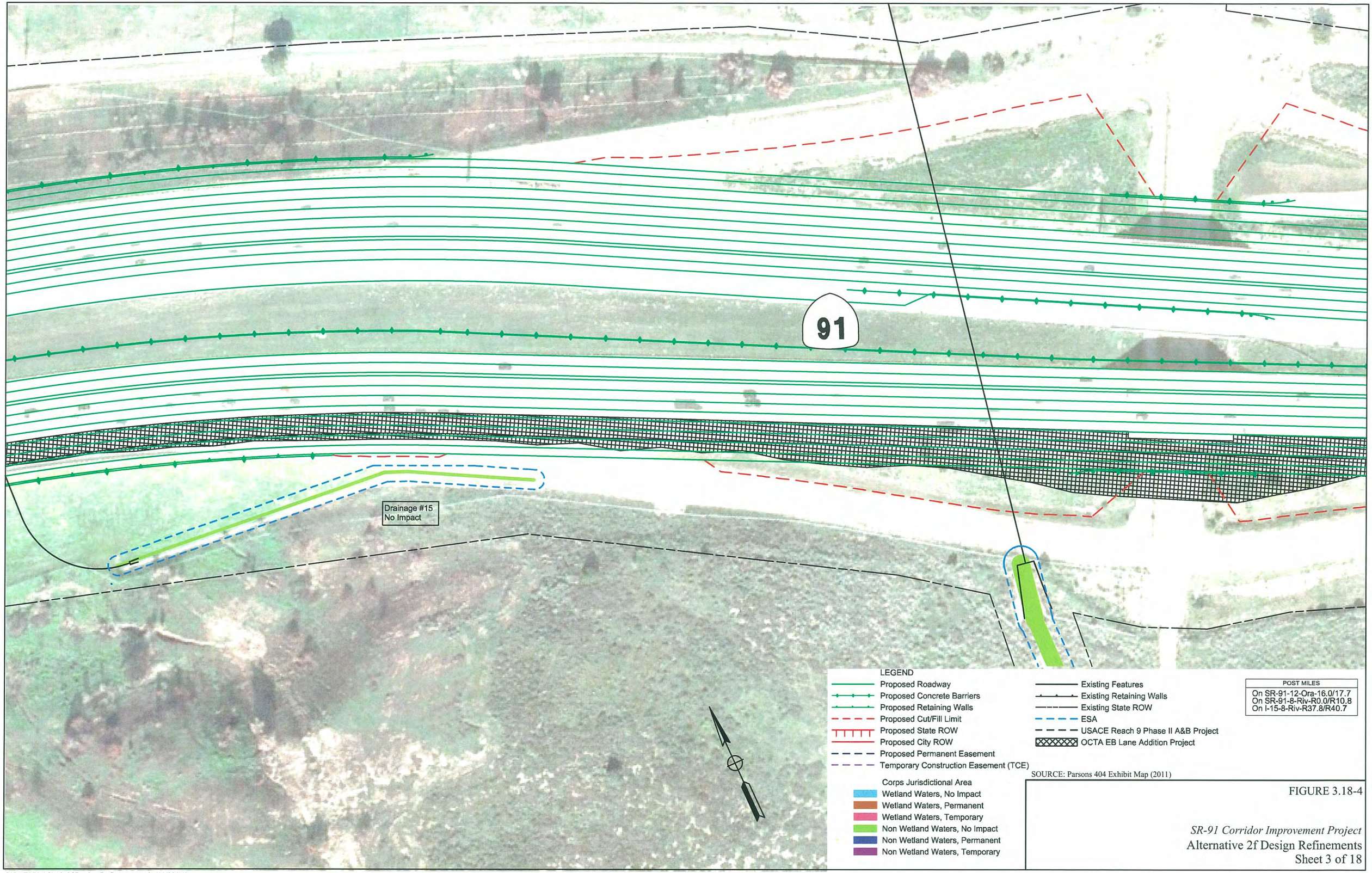


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 2 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

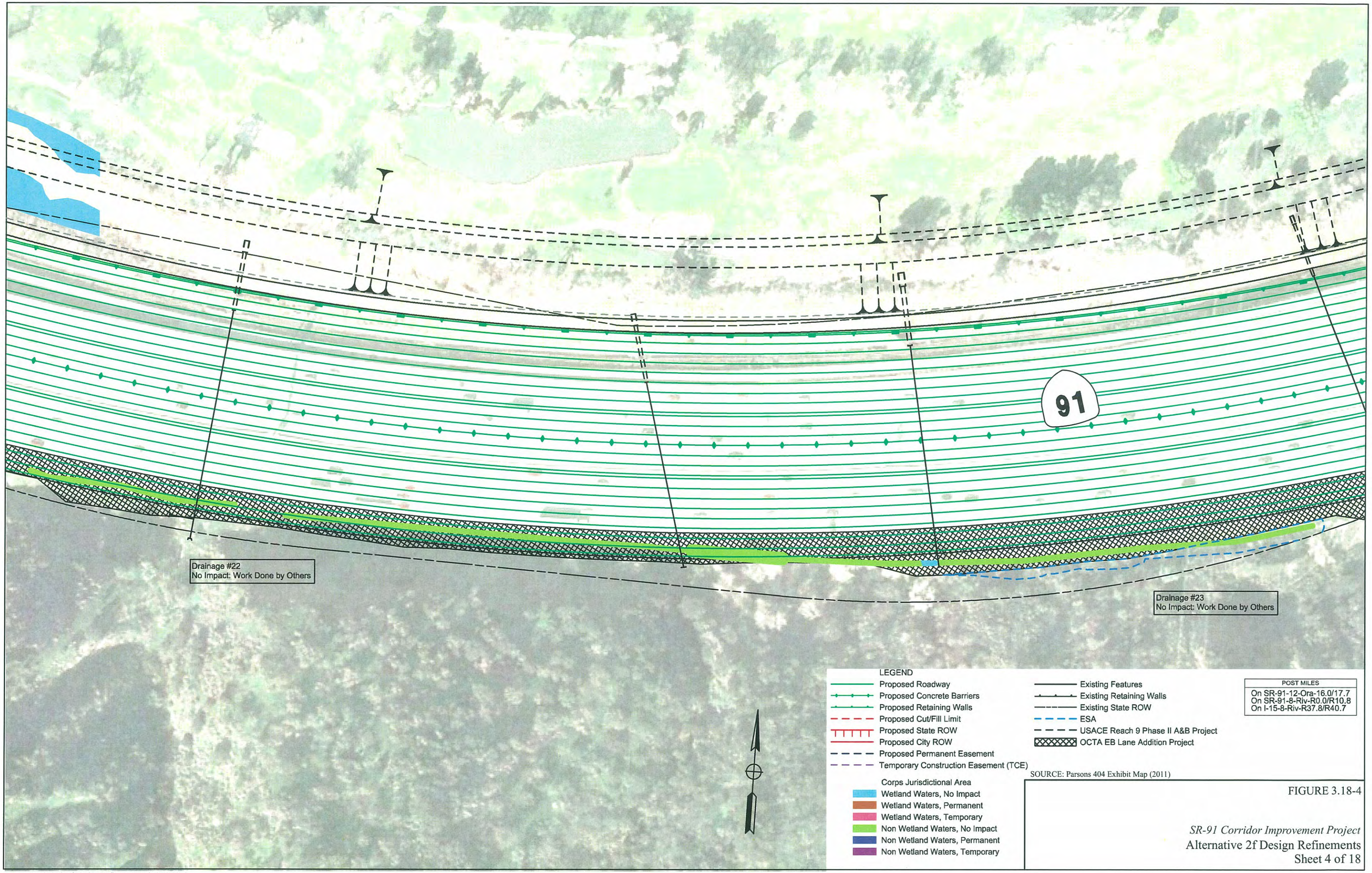


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 3 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

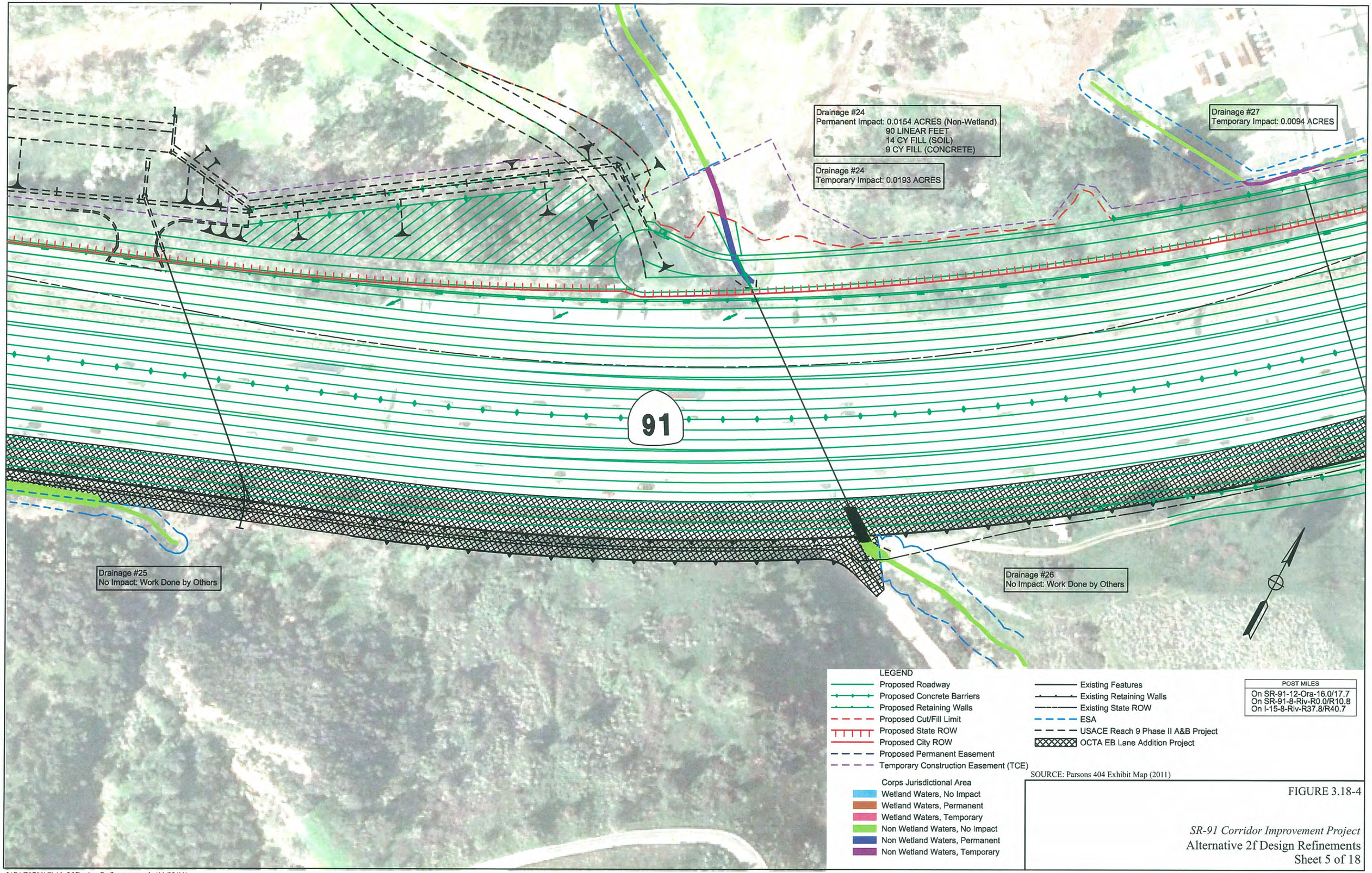


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 4 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

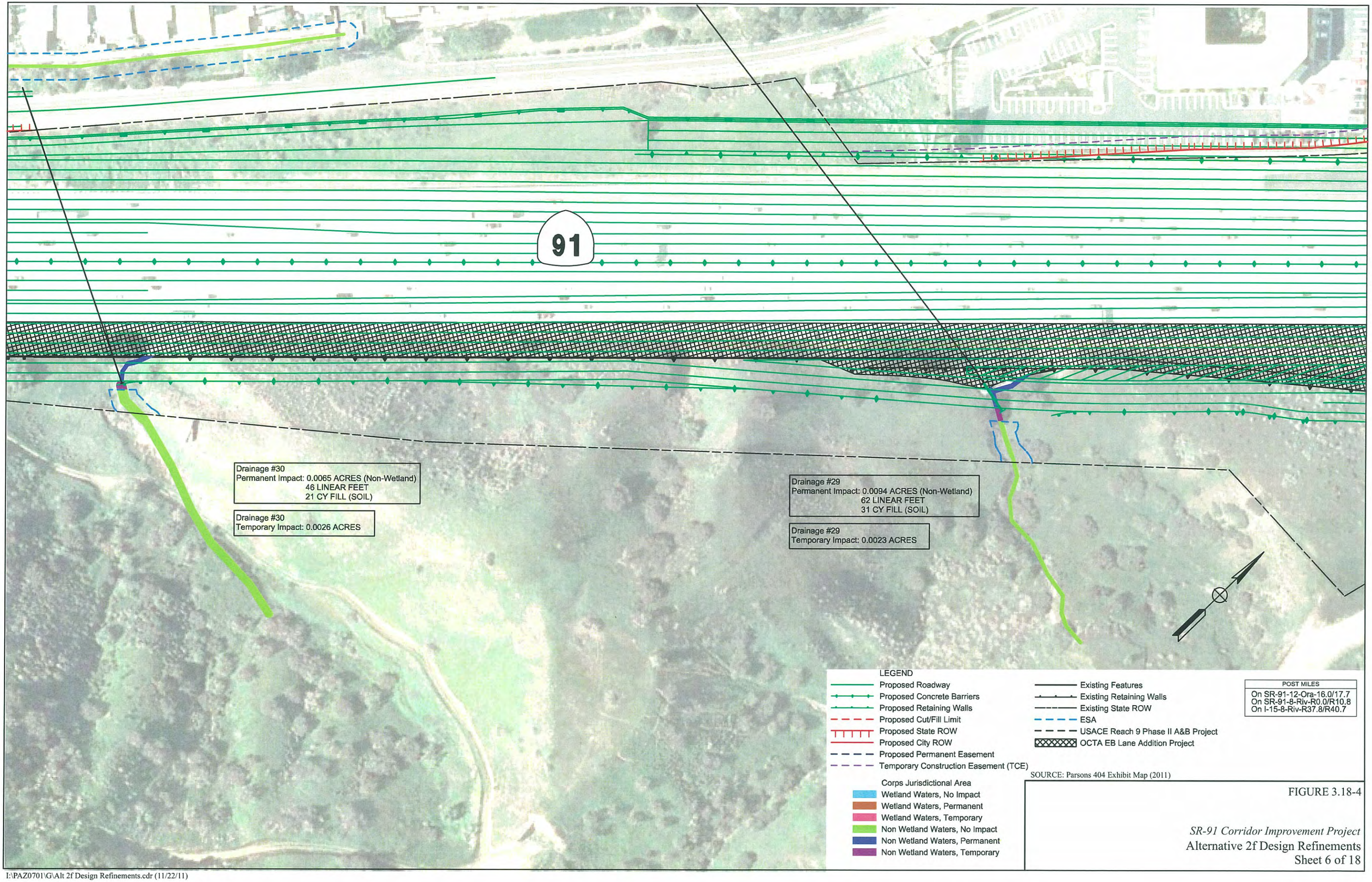


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 5 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

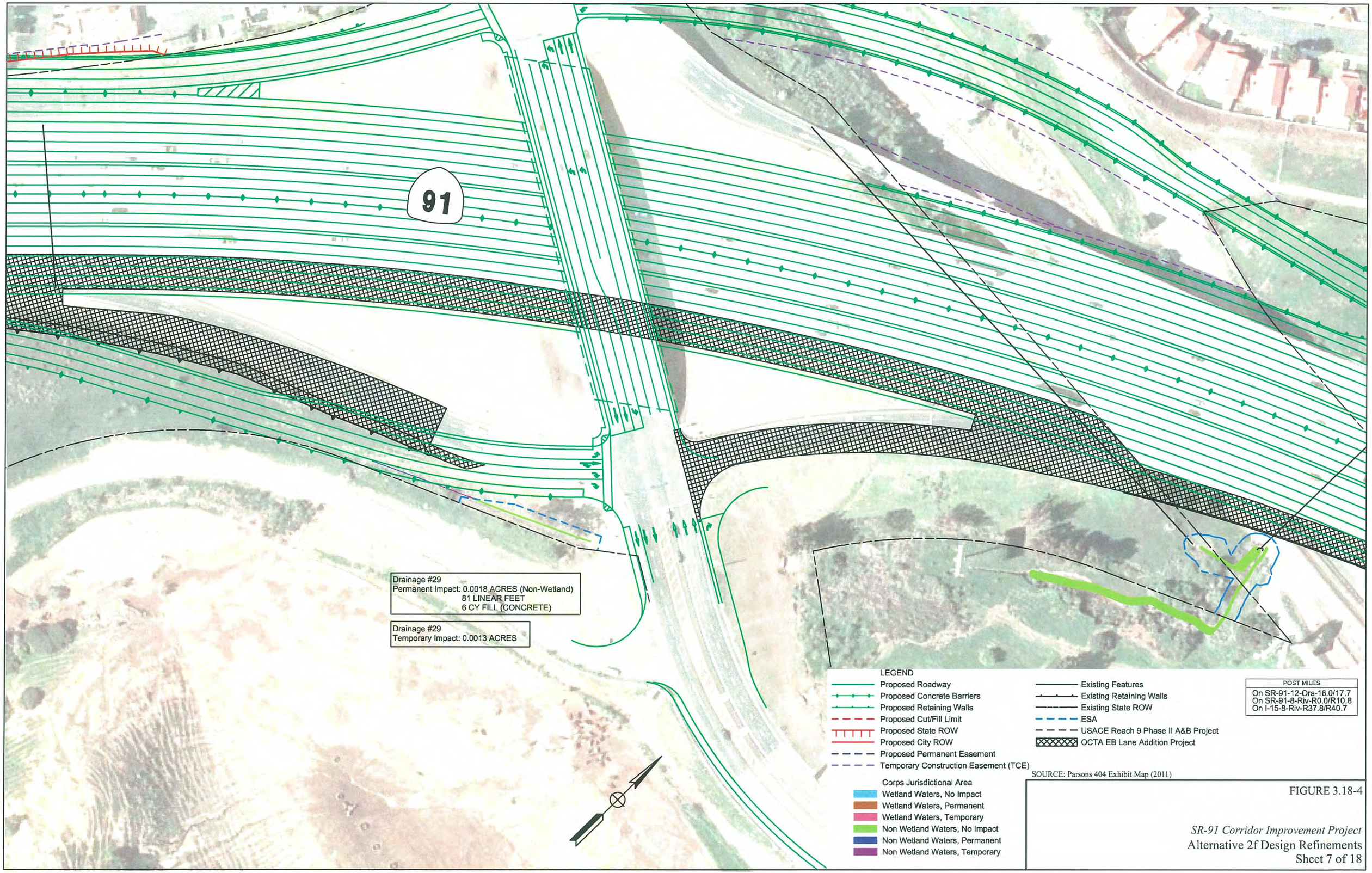


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 6 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

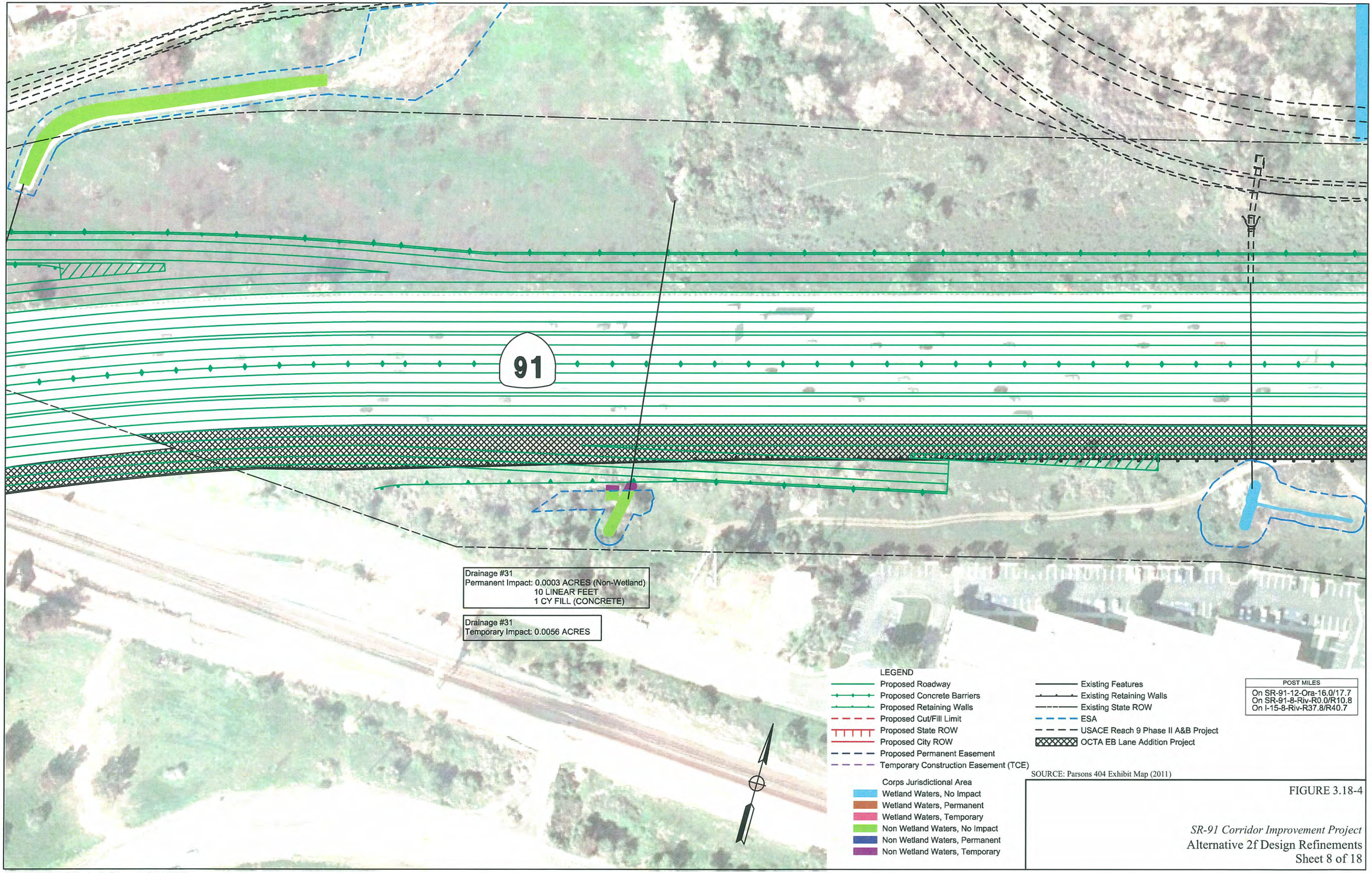


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 7 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

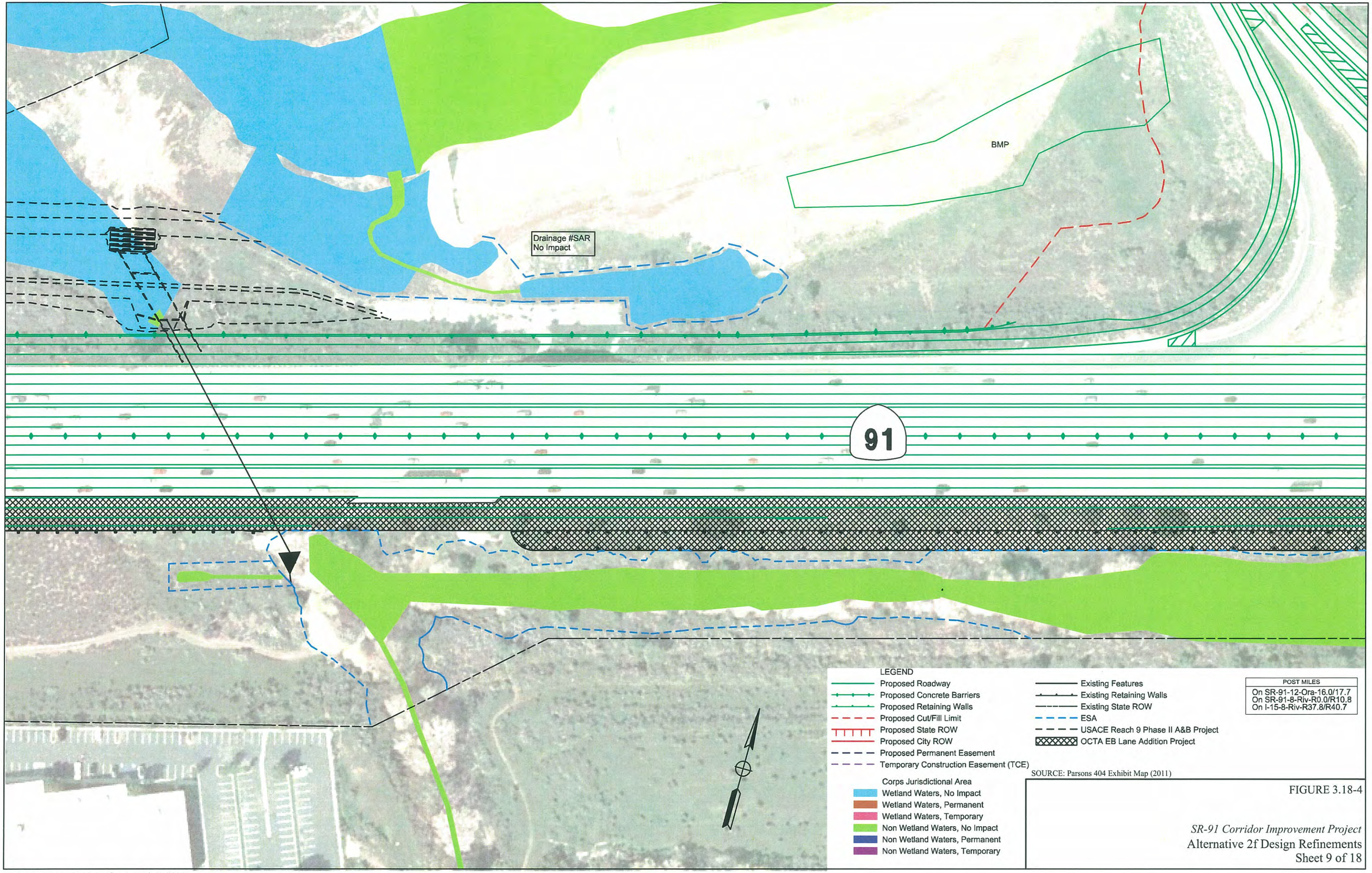


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 8 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)



SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 9 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

BMP

91

Drainage #33
Temporary Impact: 0.0564 ACRES

BMP

LEGEND

- Proposed Roadway
- Proposed Concrete Barriers
- Proposed Retaining Walls
- Proposed Cut/Fill Limit
- Proposed State ROW
- Proposed City ROW
- Proposed Permanent Easement
- Temporary Construction Easement (TCE)

Corps Jurisdictional Area

- Wetland Waters, No Impact
- Wetland Waters, Permanent
- Wetland Waters, Temporary
- Non Wetland Waters, No Impact
- Non Wetland Waters, Permanent
- Non Wetland Waters, Temporary

- Existing Features
- Existing Retaining Walls
- Existing State ROW
- ESA
- USACE Reach 9 Phase II A&B Project
- OCTA EB Lane Addition Project

POST MILES
On SR-91-12-Ora-16.0/17.7
On SR-91-8-Riv-R0.0/R10.8
On I-15-8-Riv-R37.8/R40.7

SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 10 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

91

Drainage #35
Permanent Impact: 0.0093 ACRES (Non-Wetland)
24 LINEAR FEET
30 CY FILL (CONCRETE)

Drainage #35
Temporary Impact: 0.0021 ACRES

Drainage #36
Permanent Impact: 0.1437 ACRES (Wetland)
192 LINEAR FEET
464 CY FILL (CONCRETE)

Drainage #36
Temporary Impact: 0.0086 ACRES

LEGEND

- Proposed Roadway
- Proposed Concrete Barriers
- Proposed Retaining Walls
- Proposed Cut/Fill Limit
- Proposed State ROW
- Proposed City ROW
- Proposed Permanent Easement
- Temporary Construction Easement (TCE)

- Existing Features
- Existing Retaining Walls
- Existing State ROW
- ESA
- USACE Reach 9 Phase II A&B Project
- OCTA EB Lane Addition Project

Corps Jurisdictional Area

- Wetland Waters, No Impact
- Wetland Waters, Permanent
- Wetland Waters, Temporary
- Non Wetland Waters, No Impact
- Non Wetland Waters, Permanent
- Non Wetland Waters, Temporary

POST MILES
On SR-91-12-Ora-16.0/17.7
On SR-91-8-Riv-R0.0/R10.8
On I-15-8-Riv-R37.8/R40.7

SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 11 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

Drainage #46
Permanent Impact: 0 ACRES

Drainage #46
Temporary Impact: 0.0574 ACRES

Oak Street Channel
Turnaround

91

Drainage #46
Permanent Impact: 0 ACRES

Drainage #46
Temporary Impact: 0.0612 ACRES

LEGEND

- Proposed Roadway
- Proposed Concrete Barriers
- Proposed Retaining Walls
- Proposed Cut/Fill Limit
- Proposed State ROW
- Proposed City ROW
- Proposed Permanent Easement
- Temporary Construction Easement (TCE)
- Existing Features
- Existing Retaining Walls
- Existing State ROW
- ESA
- USACE Reach 9 Phase II A&B Project
- OCTA EB Lane Addition Project

Corps Jurisdictional Area

- Wetland Waters, No Impact
- Wetland Waters, Permanent
- Wetland Waters, Temporary
- Non Wetland Waters, No Impact
- Non Wetland Waters, Permanent
- Non Wetland Waters, Temporary

POST MILES
On SR-91-12-Ora-16.0/17.7
On SR-91-8-Riv-R0.0/R10.8
On I-15-8-Riv-R37.8/R40.7

SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 12 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

Drainage #47
Permanent Impact: 0.0263 ACRES (Non-Wetland)
450 CY FILL (CONCRETE)

Drainage #47
Temporary Impact: 1.6363 ACRES

91

LEGEND

- Proposed Roadway
- Proposed Concrete Barriers
- Proposed Retaining Walls
- Proposed Cut/Fill Limit
- Proposed State ROW
- Proposed City ROW
- Proposed Permanent Easement
- Temporary Construction Easement (TCE)
- Existing Features
- Existing Retaining Walls
- Existing State ROW
- ESA
- USACE Reach 9 Phase II A&B Project
- OCTA EB Lane Addition Project

Corps Jurisdictional Area

- Wetland Waters, No Impact
- Wetland Waters, Permanent
- Wetland Waters, Temporary
- Non Wetland Waters, No Impact
- Non Wetland Waters, Permanent
- Non Wetland Waters, Temporary

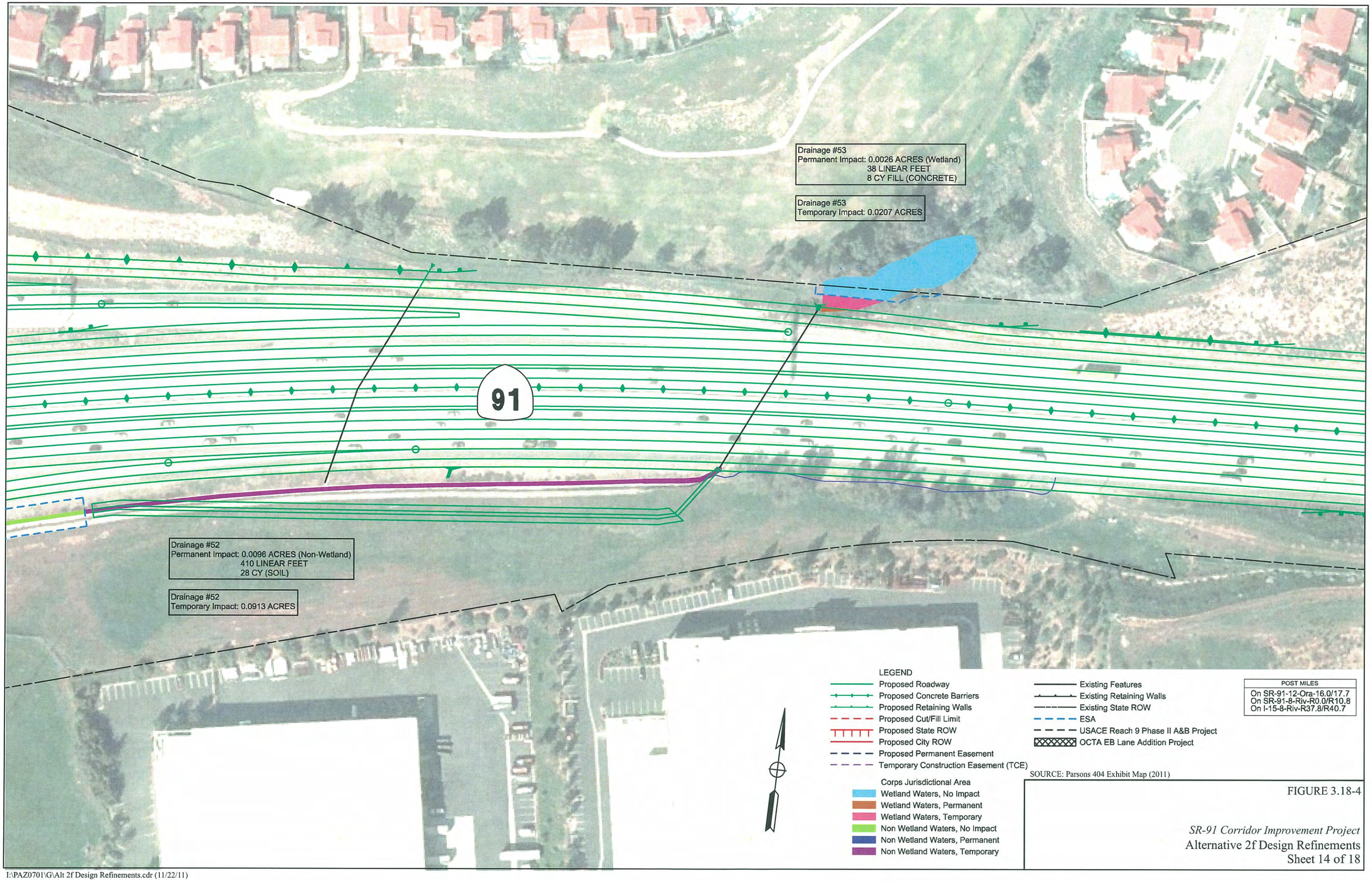
POST MILES
On SR-91-12-Ora-16.0/17.7
On SR-91-8-Riv-R0.0/R10.8
On I-15-8-Riv-R37.8/R40.7

SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 13 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

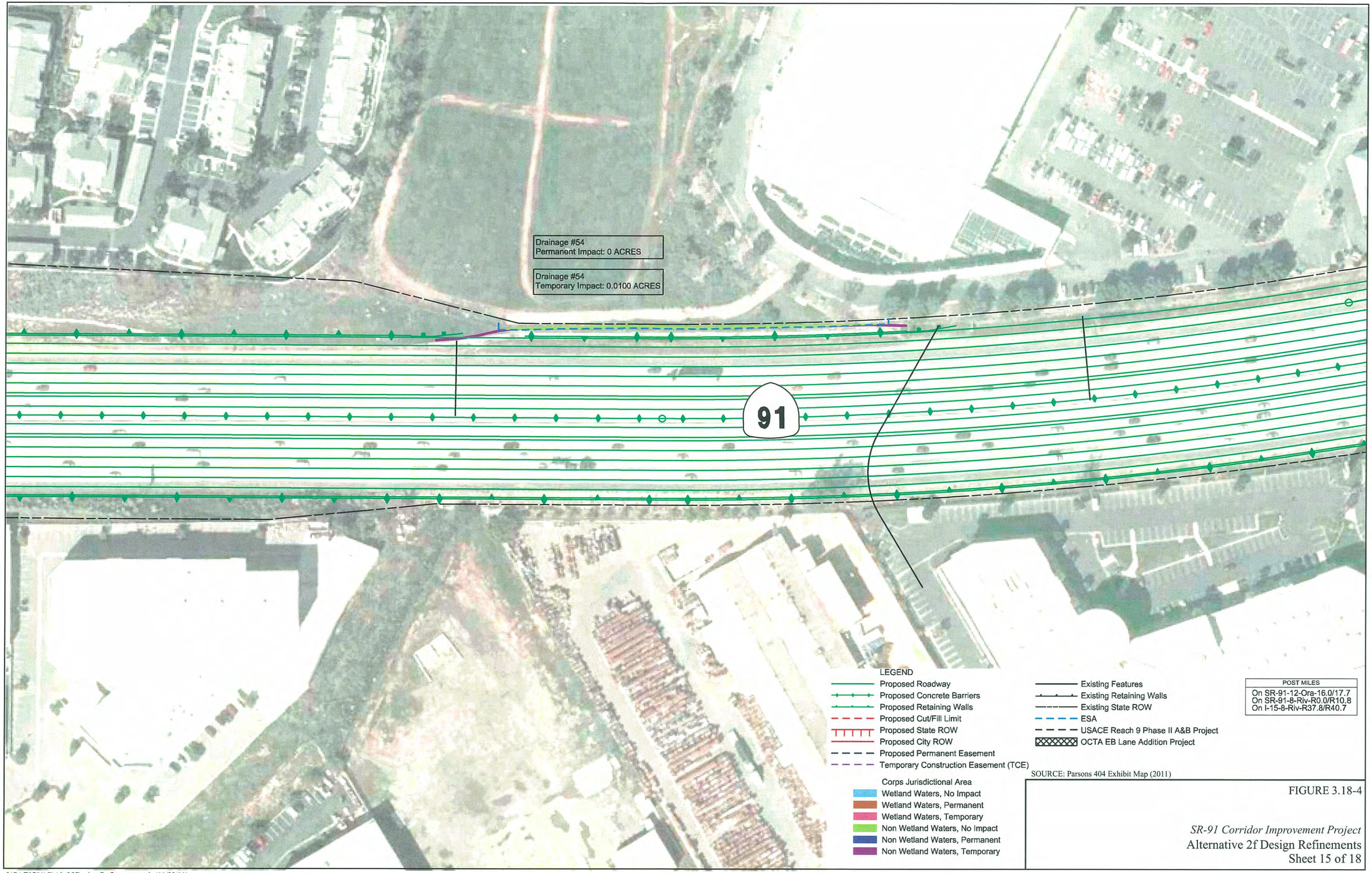


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 14 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

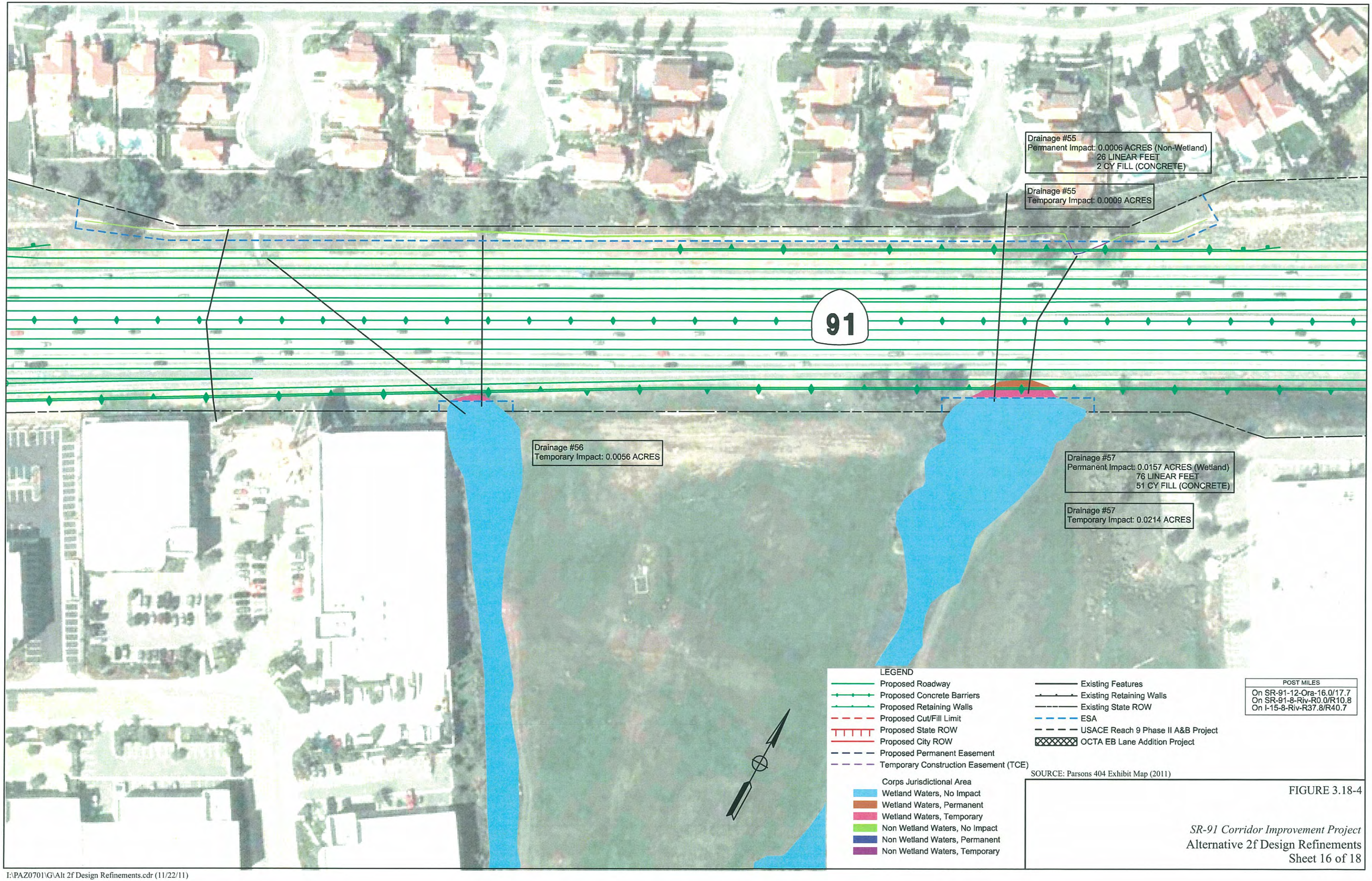


SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 15 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)



SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 16 of 18

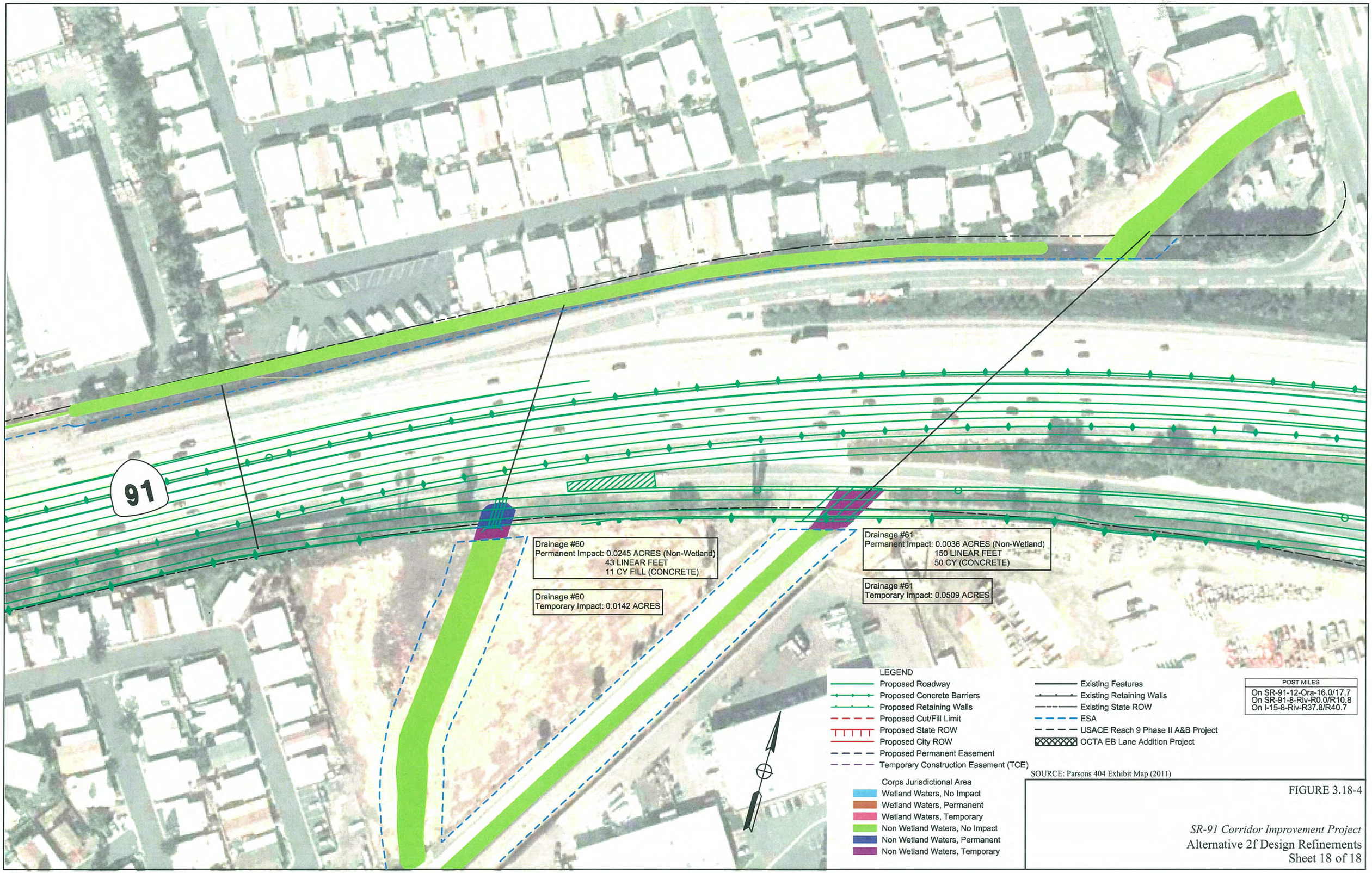
I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 17 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)



SOURCE: Parsons 404 Exhibit Map (2011)

FIGURE 3.18-4

SR-91 Corridor Improvement Project
Alternative 2f Design Refinements
Sheet 18 of 18

I:\PAZ0701\G\Alt 2f Design Refinements.cdr (11/22/11)

3.19 Plant Species

3.19.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or California Endangered Species Act (CESA). Please see Section 3.21, Threatened and Endangered Species, in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531 et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900–1913, and California Environmental Quality Act (CEQA) Public Resources Code Sections 2100–21177.

3.19.2 Affected Environment

The analysis of the potential for the project to result in adverse impacts on special-status plant species is described in detail in the NES (June 2010). The findings of the NES are discussed in this section. A description of the BSA is provided in Section 3.17.2.1, Biological Study Area.

3.19.2.1 Biological Conditions in the Biological Study Area

Vegetation communities in the BSA are: chaparral, riparian forest, riparian scrub, deepwater aquatic, oak woodland, developed areas, nonnative grassland, and mixed ruderal and ornamental vegetation.

Elevations range from approximately 380 to 890 ft amsl across the BSA. The topography is moderately rolling adjacent to SR-91, with steep canyons and hillsides

from the Santa Ana Mountains and Chino Hills bordering the westernmost part of the BSA. Canyons and washes associated with tributaries of the Santa Ana River also occur throughout the BSA.

The BSA is in the Santa Ana River Watershed, which covers 2,800 sq mi. The Santa Ana River Watershed is divided into upper and lower watersheds at Prado Dam. From the Santa Ana Mountains, the Santa Ana River flows southwest to the Pacific Ocean.

3.19.2.2 Special-Status Plant Species in the Biological Study Area

The natural communities in the BSA include a variety of plant species considered sensitive by federal, State, or local governments and organizations regulating and/or monitoring their development; limited distributions; and/or the habitat requirements. The BSA supports suitable habitat for a variety of special-status plant species. After the literature review, it was determined that 35 special-status plant species have the potential to occur in the BSA or in the immediate vicinity of the BSA. Focused botanical surveys were conducted during the appropriate blooming period in 2008 and 2009. In November 2008, the Freeway Complex fire consumed a small portion of vegetation in the BSA. Plant species in those areas that require fire for germination would have been observed during the botanical surveys conducted during the 2009 blooming period.

Eight of the 35 special-status plant species are federally and/or State-listed endangered, threatened, or candidate species, which are discussed in detail in Section 3.21. The remaining special-status species identified in the literature review are discussed below.

Southern California Black Walnut

Southern California black walnut (*Juglans californica* var. *californica*) is not federally or State listed and has no official status. However, Southern California black walnut merits consideration under CEQA because of the relatively limited distribution of walnut woodland. Southern California black walnut is a species covered under the Western Riverside County MSHCP. This tree is only found in southern California. Recent construction has removed this tree from many areas, and its future is uncertain. Southern California black walnut prefers very loose, moist soil on steep hillsides with northern and eastern exposures at elevations below 900 ft although it is not confined to these preferences. Southern California black walnut occurs in many plant communities and is often a component of grassland, CSS, chaparral, riparian woodland, oak woodland, and mixed canyon woodland

communities. This species is a California Special Plant and a CNPS List 4 species. Suitable habitat exists for this species in the BSA, and it was observed along the south side of SR-91 west of Green River Road during the botanical surveys conducted in 2008 and 2009. Figure 3.19-1 shows the location of the observed Southern California black walnuts in the BSA in the 2008 and 2009 surveys. As shown on Figure 3.19-1, approximately 5 to 10 trees were observed on approximately 0.923 ac on the south side of SR-9.

Coulter's Matilija Poppy

Coulter's matilija poppy (*Romneya coulteri*) is not federally and/or State listed and has no official status. However, Coulter's matilija poppy merits consideration under CEQA because of its relatively limited distribution in California. In addition, Coulter's matilija poppy is a species covered under the Western Riverside County MSHCP. Coulter's matilija poppy is a perennial shrub that grows up to 8 ft tall. It has large paper-maché-like white flowers with yellow centers. It occurs in CSS and chaparral habitats up to 4,000 ft in elevation. This species is a California Special Plant and a CNPS List 4 species. Suitable habitat exists for this species in the BSA, and it was observed in the BSA during the 2008 and 2009 botanical surveys. The Coulter's matilija poppies observed in the BSA were not in any conservation areas or Western Riverside County MSHCP Criteria Cells. Figure 3.19-1 shows the locations of the observed Coulter's matilija poppy in the BSA. As shown on Figure 3.19-1, this poppy was observed in two areas in the BSA in the botanical surveys. The first area, on the south side of SR-91 west of Green River Road, covers approximately 0.624 ac and included an estimated 50 plants. The second area, on the west side of I-15, covers approximately 0.075 ac, and includes an estimated 11 plants.

Other Special-Status Coastal Sage Scrub and Chaparral Plant Species

Other special-status species with the potential to occur in CSS and chaparral habitats in the BSA include chaparral sand-verbena (*Abronia villosa* var. *aurita*), Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), Tecate cypress (*Cupressus forbesii*), Plummer's mariposa lily (*Calochortus plummerae*), intermediate mariposa lily (*Calochortus weedii* var. *intermedius*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), many-stemmed dudleya (*Dudleya multicaulis*), vernal barley (*Hordeum intercedens*), Robinson's peppergrass (*Lepidium virginicum* var. *robinsonii*), Parish's desert-thorn (*Lycium parishii*), chaparral nolina (*Nolina cismontana*), white rabbit-tobacco (*Pseudonaphalium leucocephalum*), San Miguel savory (*Satureja chandleri*), rayless

This page intentionally left blank

LEGEND

- SR-91 Existing State Right-of-Way
- Coulter's matilija poppy (0.624ac)
- Southern California black walnut (0.923ac)

0 150 300
FEET

SOURCE: AirPhotoUSA (04/2007).

I:\PAZ0701\GIS\Biology\Sens_Plant_Loc_1.mxd (11/21/2011)

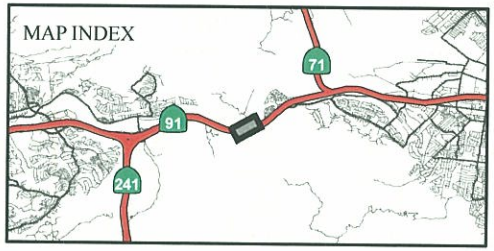


FIGURE 3.19-1
Sheet 1 of 2

SR-91 Corridor Improvement Project

Sensitive Plant Locations

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

SR-91 Existing State Right-of-Way

Coulter's matilija poppy (0.075ac)

0 150 300
FEET

SOURCE: AirPhotoUSA (04/2007).

I:\PAZ0701\GIS\Biology\Sens_Plant_Loc_2.mxd (11/21/2011)

FIGURE 3.19-1
Sheet 2 of 2

SR-91 Corridor Improvement Project

Sensitive Plant Locations

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

ragwort (*Senecio aphanactis*), salt spring checkerbloom (*Sidalcea neomexicana*), and San Bernardino aster (*Aster bernardinus*). There is suitable habitat in the BSA that could support these species; however, none of these species were found in the BSA during the botanical surveys conducted during the appropriate blooming periods in 2008 and 2009. Therefore, these species are considered absent from the BSA.

Other Special-Status Riparian/Riverine Plant Species

Other special-status species with the potential to occur in riparian/riverine habitats in the BSA include southern tarplant (*Hemizonia parryi* ssp. *australis*), smooth tarplant (*Centromadia [Hemizonia] pungens* ssp. *laevis*), vernal barley, Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*), mud nama (*Nama stenocarpum*), San Miguel savory, salt spring checkerbloom, and San Bernardino aster. None of these species were found in the BSA during the botanical surveys conducted during the appropriate blooming periods for these species in 2008 and 2009. Therefore, these species are considered absent from the BSA.

Other Special-Status Oak Woodland Plant Species

Other special-status species with the potential to occur in woodland and higher elevation habitats in the BSA include round-leaved filaree (*Erodium macrophyllum*), Tecate cypress, Plummer's mariposa lily, white rabbit-tobacco, San Miguel savory, rayless ragwort, salt spring checkerbloom, and San Bernardino aster. There is suitable habitat in the BSA that could support these species; however, none of these species were found in the BSA during the botanical surveys conducted during the appropriate blooming periods in 2008 and 2009. Therefore, these species are considered absent from the BSA.

Other Special-Status Grassland and Disturbed Area Plant Species

Other special-status species with the potential to occur in grassland habitats and disturbed areas in the BSA include round-leaved filaree, Plummer's mariposa lily, intermediate mariposa lily, southern tarplant, smooth tarplant, long-spined spineflower, many-stemmed dudleya, vernal barley, Coulter's goldfields, and San Miguel savory. There is suitable habitat in the BSA that could support these species. Although some of these plant species flourish in disturbed habitats, none of these species were found in the BSA during the botanical surveys conducted during the appropriate blooming periods in 2008 and 2009. Therefore, these species are considered absent from the BSA.

Orange County Natural Communities Conservation Plan

The nearest lands designated in the Orange County NCCP are approximately 2,000 ft south of the BSA near the County line. As a result, there are no special-interest plant species in the NCCP within the BSA. Therefore, the Orange County NCCP is not discussed further in this section.

Western Riverside County MSHCP-Covered Plant Species

According to the literature review, 16 plant species covered in the Western Riverside County MSHCP were identified as having the potential to occur in the BSA. The BSA supports suitable habitat for 15 of these species: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), Davidson's saltscale, thread-leaved brodiaea (*Brodiaea filifolia*), round-leaved filaree, smooth tarplant, many-stemmed dudleya, Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*), vernal barley, Southern California black walnut, Coulter's goldfields, mud nama, Brand's phacelia (*Phacelia stellaris*), Coulter's matilija poppy, and San Miguel savory. Due to the lack of suitable habitat, Parish's brittlescale (*Atriplex parishii*) is considered absent from the BSA. Southern California black walnut and Coulter's matilija poppy were observed during the 2008 and 2009 botanical surveys as described earlier in this section.

Of the 15 covered plant species for which suitable habitat exists in the BSA, the Western Riverside County MSHCP Criteria Area plant species with the potential to occur in the BSA are Davidson's saltscale, thread-leaved brodiaea, round-leaved filaree, smooth tarplant, Coulter's goldfields, and mud nama. However, the BSA is not in any Criteria Area Species Survey Areas (CASSAs), so no surveys were required for these species.

The narrow endemic plant species with potential to occur in the BSA are: Munz's onion, San Diego ambrosia, many-stemmed dudleya, Brand's phacelia, and San Miguel savory. However, the BSA is only in Narrow Endemic Plant Species Survey Area (NEPSSA) 7, so surveys were only required for San Diego ambrosia, Brand's phacelia, and San Miguel savory. None of the NEPSSA species requiring surveys were observed in the BSA during the botanical surveys conducted in 2008 and 2009 during the appropriate blooming periods or when these species would have been conspicuous. Therefore, these species are considered absent from the BSA.

Summary

In summary, the special-status plant species documented as occurring in the BSA based on the 2008 and 2009 surveys are:

- Western Riverside County MSHCP-covered species: Southern California black walnut
- Western Riverside County MSHCP-covered species: Coulter's matilija poppy

No plant species in the following categories were documented in the BSA:

- Plants in NEPSSA 7
- Narrow endemic plants
- Western Riverside County MSHCP-covered plant species (three identified in the literature review: Coulter's saltbush [*Atriplex coulteri*], Parish's brittlescale, and Malibu baccharis [*Baccharis malibuensis*])
- Other special-status plant species described earlier in this section

3.19.3 Environmental Consequences

3.19.3.1 Summary of Impacts

The permanent and temporary project effects on plant species under Alternatives 1 and 2 are the same for all the design variations under those alternatives.

The Initial Phases of Alternatives 1 and 2 would not result in permanent impacts to Southern California black walnut or Coulter's matilija poppy.

The Ultimate Projects for Alternatives 1 and 2 would result in the permanent removal of a limited number of individual Southern California black walnut trees and Coulter's matilija plants. Alternatives 1 and 2 would result in the permanent removal of 0.735 ac on which black walnut trees were observed and the permanent removal of 0.331 ac on which the poppy was observed.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in temporary impacts to Southern California black walnut or Coulter's matilija plants.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in permanent or temporary impacts to any other special-status species in the BSA.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase of Alternative 2f would not result in the permanent removal of any areas in which black walnut trees or Coulter's matilija poppy were observed.

The Ultimate Project under Alternative 2f would result in the permanent removal of 0.74 ac on which black walnut trees were observed and the permanent removal of 0.33 ac on which the Coulter's matilija poppy was observed, which are the same as discussed for Alternatives 1 and 2.

The Initial Phase and Ultimate Project under Alternative 2f would not result in temporary impacts to Southern California black walnut or Coulter's matilija poppy and would not result in permanent or temporary impacts to any other special-status plant species in the BSA.

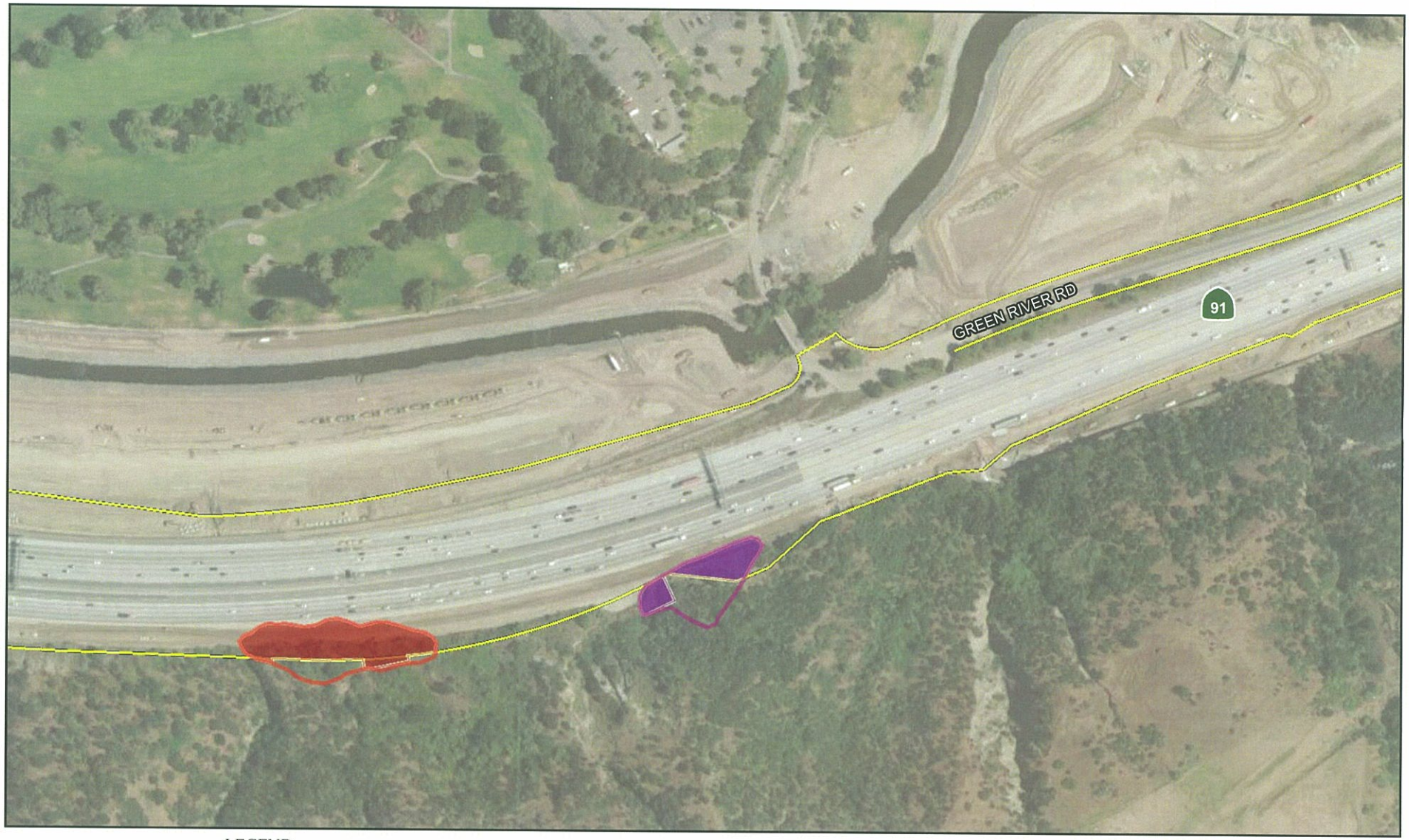
3.19.3.2 Permanent Impacts

Alternatives 1 and 2

The Initial Phases of Alternatives 1 and 2 would not result in permanent impacts to Southern California black walnut or Coulter's matilija poppy.

The Ultimate Projects for Alternatives 1 and 2 would permanently impact Southern California black walnut in Orange County and Coulter's matilija poppy in both Orange and Riverside Counties combined through the direct removal of individual plants. Figure 3.19-2 shows the permanent impacts of the Ultimate Projects under Alternatives 1 and 2 along SR-91 at the locations of the 5 to 10 Southern California black walnut trees and the approximately 50 Coulter's matilija poppy plants observed in the BSA. As shown, the permanent impacts under the Ultimate Projects for Alternatives 1 and 2 would result in the permanent removal of 0.74 ac on which black walnut trees were observed, representing approximately 80 percent of the total area occupied by the trees. The Ultimate Projects under Alternatives 1 and 2 would result in the permanent removal of 0.33 ac on which the poppy was observed, representing approximately 62 percent of the area occupied by the poppy south of SR-91.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in permanent impacts to the Coulter's matilija poppy population on the west side of I-15 shown on Sheet 2 of Figure 3.19-1.



LEGEND

SR-91 Existing State Right-of-Way

Coulter's matilija poppy (0.62ac)

Southern California black walnut (0.92ac)

Potential Imapcts to Sensitive Plant Populations

Coulter's matilija poppy (Permanent, 0.33ac)

Southern California black walnut (Permanent, 0.74 ac)

N

0 150 300

FEET

SOURCE: Bing Maps (2010)

I:\PAZ0701\GIS\Biology\Scns_Plant_Loc_Impacts.mxd (1/12/2012)

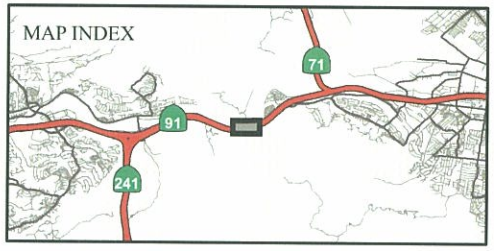


FIGURE 3.19-2

SR-91 Corridor Improvement Project

Alternative 1 and 2 Impacts to Sensitive Plant Locations

12-Ora-91-R14.43/R18.91
08-Riv-91-R0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

However, because Southern California black walnut and Coulter's matilija poppy have no legal or regulatory protection beyond the level afforded by the Western Riverside County MSHCP or a CNPS watch list, and the few individuals potentially removed under Alternatives 1 and 2 are not in any Western Riverside County MSHCP conservation areas, the effects to the individual plants under the Build Alternatives would be negligible.

Alternatives 1 and 2 would not result in direct permanent impacts to Western Riverside County MSHCP-designated NEPSSAs, CASSAs, Criteria Areas, or narrow endemic and other sensitive plant species in those areas because none of those species were observed in the BSA.

No Build Alternative

The No Build Alternative would not result in construction along the project segments of SR-91 and I-15. Therefore, the No Build Alternative would not result in permanent impacts to Western Riverside County MSHCP-designated NEPSSAs, CASSAs, Criteria Areas, or narrow endemic and other special-status plant species.

3.19.3.3 Temporary Impacts

Alternatives 1 and 2

Because Southern California black walnut and Coulter's matilija poppy will not be replaced after construction, all impacts to these species are considered permanent. Therefore, no temporary impacts to Southern California black walnut and Coulter's matilija poppy are expected from the Build Alternatives in both Orange and Riverside Counties combined. All other special-status species are considered absent from the BSA.

No Build Alternative

The No Build Alternative would not result in construction along the project segments of SR-91 and I-15. Therefore, the No Build Alternative would not result in temporary impacts to special-status plant species.

3.19.4 Avoidance, Minimization, and/or Mitigation Measures

Mitigation for effects to Southern California black walnut and Coulter's matilija poppy within Riverside County would be achieved through project consistency with the Western Riverside County MSHCP. The Western Riverside County MSHCP was conceived, developed, and is being implemented specifically to address direct, indirect, permanent, and temporary effects on species and habitats in western Riverside County resulting from the build out of planned land uses and infrastructure,

including the SR-91 CIP. Therefore, compensatory mitigation in the western Riverside County part of the project for special-status plant species is not required.

In Orange County, the removal of a few isolated individual Southern California black walnuts and/or Coulter's matilija poppies would not substantially affect the population of this species. As a result, and because neither of these species are protected by any federal, State, or local regulations, no compensatory mitigation is required. In addition, because Southern California black walnut is associated with riparian habitats and Coulter's matilija poppy is associated with CSS, efforts to protect those two sensitive habitats will benefit these two special-status plant species as well.

The measures provided in Sections 3.17, Natural Communities, and 3.21, Threatened and Endangered Species, will adequately avoid and minimize impacts to special-status plant species during construction of the Build Alternatives. Although no additional avoidance, minimization, or mitigation is required, Measure PS-1 will be implemented as part of the project to minimize the loss of Southern California black walnut and Coulter's matilija poppy.

PS-1 As part of the SR-91 CIP Habitat Mitigation and Monitoring Plan, trees and shrubs will be planted at appropriate locations, and the species list to be used for those plantings will include Southern California black walnut and Coulter's matilija poppy. At a minimum, 30 Southern California black walnut trees will be planted.

3.20 Animal Species

3.20.1 Regulatory Setting

Many State and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the State or federal Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.21, Threatened and Endangered Species below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the Fish and Game Code
- Sections 4150 and 4152 of the Fish and Game Code

In addition to the State and federal laws regulating impacts to wildlife, there are often local regulations (example: county or city) that need to be considered when developing projects. In the Riverside County part of the project area, the guidance and requirements of the Western Riverside County MSHCP apply to the project. The Western Riverside County MSHCP serves as a comprehensive, multijurisdictional Habitat Conservation Plan (HCP) pursuant to Section 10(a)(1)(B) of FESA, and an NCCP, focusing on the conservation of species and their associated habitats in western Riverside County. The Western Riverside County MSHCP is used to allow participating jurisdictions the "take" of both the plant and wildlife species identified in the Western Riverside County MSHCP area through an abbreviated authorization process with the wildlife resource agencies. Regulation of the "take" of threatened, endangered, and rare species is authorized by the wildlife resource agencies (the

USFWS and CDFG) under provisions of Section 7(a)(2) of FESA and California Fish and Game Code Section 2050–2089, respectively, which allow "take authorization" for otherwise lawful actions (e.g., public and private development) in exchange for the assembly and management of a coordinated Western Riverside County MSHCP Conservation Area. The Department is obligated to follow specific conditions, as described in Section 13.8 of the Western Riverside County MSHCP Implementation Agreement for the project.

3.20.2 Affected Environment

3.20.2.1 Identification of Special-status Animal Species

The analysis of the potential effects of the project on special-status animal species is based on the NES (June 2010). The findings of the NES are summarized in this section; detailed information, including the methodology for this analysis, is provided in the NES.

After a thorough literature review, it was determined that 76 special-status animal species occur or have the potential to occur in the BSA for the project or in the immediate vicinity of the BSA. The 76 special-status animal species that occur or have the potential to occur in the BSA are listed in Table 3.20.1. (The Latin names of the special-status animal species are provided in Table 3.20.1 but are not repeated in the text of this section.) Of these species, 19 are not discussed in this section because they are either federally and/or State-listed as endangered or threatened or proposed endangered or threatened, or are considered fully protected species by the State of California, lack suitable habitat, or both.

The remaining 57 special-status species are discussed in this section as follows (some species are discussed in more than one section):

- **Species that are Covered by the Western Riverside County MSHCP.** As shown in Table 3.20.1, 40 of the 76 identified species are covered by the Western Riverside County MSHCP. Twelve of these species are not discussed in this section due to the reasons stated above. Of the remaining 28 covered species, 6 were observed and 22 have suitable habitat in the BSA. These 28 species are discussed in Section 3.20.2.2, Western Riverside County MSHCP-Covered Species.

Table 3.20.1 Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat Present/Absent	Observed	Rationale
INVERTEBRATES					
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE CSA	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Quino checkerspot butterfly	*Euphydryas editha quino*	FE CSA	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Delhi sands flower-loving fly	*Rhaphiomidas terminatus abdominalis*	FE CSA MSHCP-Covered Species	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Riverside fairy shrimp	*Streptocephalus woottoni*	FE CSA	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
FISH					
Santa Ana sucker	*Catostomus santaanae*	FT CSC MSHCP-Covered Species	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Santa Ana speckled dace	*Rhinichthys osculus*	CSC	A	No	No suitable habitat is present in the BSA; therefore, this species is not discussed further in this section.
AMPHIBIANS					
Coast Range newt	*Taricha torosa torosa*	CSC MSHCP-Covered Species	HP	No	
Western spadefoot	*Spea hammondii*	CSC MSHCP-Covered Species	HP	No	
Arroyo toad	*Bufo californicus*	FE CSC MSHCP-Covered Species	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
REPTILES					
Southwestern pond turtle	*Actinemys marmorata pallida*	CSC MSHCP-Covered Species	HP	No	
San Diego banded gecko	*Coleonyx variegates abbotti*	CSA MSHCP-Covered Species	HP	No	
San Diego horned lizard	*Phrynosoma coronatum blainvillii*	CSC MSHCP-Covered Species	HP	No	
Orange-throated whiptail	*Aspidoscelis hyperythra*	CSC MSHCP-Covered Species	HP	No	
Coastal western whiptail	*Aspidoscelis tigris stejnegeri*	CSA MSHCP-Covered Species	HP	No	

Table 3.20.1 Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat Present/Absent	Observed	Rationale
Silvery legless lizard	*Anniella pulchra pulchra*	CSC	HP	No	
Rosy boa	*Charina trivirgata*	CSA	HP	No	
Northern red-diamond rattlesnake	*Crotalus ruber ruber*	CSC MSHCP-Covered Species	HP	No	
San Bernardino ringneck snake	*Diadophis punctatus modestus*	CSA	HP	No	
San Diego mountain kingsnake	*Lampropeltis zonata pulchra*	CSC MSHCP-Covered Species	HP	No	
Two-striped garter snake	*Thamnophis hammondii*	CSC	HP	No	
Coast patch-nosed snake	*Salvadora hexalepis virgultea*	CSC	HP	No	
BIRDS					
Cooper's hawk (nesting)	*Accipiter cooperii*	CSA MSHCP-Covered Species	HP	Yes	
Tricolored blackbird (nesting colony)	*Agelaius tricolor*	CSC MSHCP-Covered Species	HP	No	
Southern California rufous-crowned sparrow	*Aimophila ruficeps canescens*	CSA MSHCP-Covered Species	HP	No	
Grasshopper sparrow (nesting)	*Ammodramus savannarum*	CSC MSHCP-Covered Species	HP	No	
Bell's sage sparrow (nesting)	*Amphispiza belli belli*	CSA MSHCP-Covered Species	HP	No	
Golden eagle	*Aquila chrysaetos*	CFP MSHCP-Covered Species	HP	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Great egret (nesting)	*Ardea alba*	CSA	HP	Yes	
Great blue heron (nesting)	*Ardea herodias*	CSA MSHCP-Covered Species	HP	Yes	
Long-eared owl (nesting)	*Asio otus*	CSC	HP	No	
Burrowing owl (burrow sites)	*Athene cunicularia*	CSC MSHCP-Covered Species	HP	No	
Oak titmouse (nesting)	*Baeolophus inoratus*	CSA	HP	No	
Ferruginous hawk	*Buteo regalis*	CSA MSHCP-Covered Species	HP	No	
Costa's hummingbird (nesting)	*Calypte costae*	CSA	HP	No	
San Diego cactus wren	*Campylorhynchus brunneicapillus sandiegensis*	CSC MSHCP-Covered Species	A	No	No suitable habitat is present in the BSA; therefore, this species is not discussed further in this section.

Table 3.20.1 Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat Present/Absent	Observed	Rationale
Lawrence's goldfinch (nesting)	*Carduelis lawrencei*	CSA	HP	Yes	
Lark sparrow (nesting)	*Chondestes grammacus*	CSA	HP	No	
Northern harrier (nesting)	*Circus cyaneus*	CSC MSHCP-Covered Species	HP	No	
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC CE MSHCP-Covered Species	HP	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
California yellow warbler (nesting)	*Dendroica petechia brewsteri*	CSC MSHCP-Covered Species	HP	Yes	
Snowy egret (nesting)	*Egretta thula*	CSA	HP	Yes	
White-tailed kite	*Elanus leucurus*	CFP MSHCP-Covered Species	HP	Yes	This species is discussed in Section 3.21, Threatened and Endangered Species.
Southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE CE MSHCP-Covered Species	HP	No	This species is discussed further in Section 3.21, Threatened and Endangered Species.
California horned lark	*Eremophila alpestris actia*	CSA MSHCP-Covered Species	HP	No	
Merlin	*Falco columbarius*	CSA MSHCP-Covered Species	HP	No	
Bald eagle	*Haliaeetus leucocephalus*	FD CE MSHCP-Covered Species	HP	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Yellow-breasted chat (nesting)	*Icteria virens*	CSC MSHCP-Covered Species	HP	Yes	
Loggerhead shrike (nesting)	*Lanius ludovicianus*	CSC MSHCP-Covered Species	HP	No	
Black-crowned night heron (nesting)	*Nycticorax nycticorax*	CSA MSHCP-Covered Species	HP	Yes	
Double-crested cormorant (nesting)	*Phalacrocorax auritus*	CSA MSHCP-Covered Species	HP	Yes	
Nuttall's woodpecker (nesting)	*Picoides nuttallii*	CSA	HP	Yes	
Coastal California gnatcatcher	*Polioptila californica californica*	FT CSA MSHCP-Covered Species	HP	Yes	This species is discussed in Section 3.21, Threatened and Endangered Species.
Allen's hummingbird (nesting)	*Selasphorus sasin*	CSA	HP	Yes	

Table 3.20.1 Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat Present/Absent	Observed	Rationale
Black-chinned sparrow (nesting)	*Spizella atrogularis*	CSA	HP	No	
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE CE MSHCP-Covered Species	HP	Yes	This species is discussed in Section 3.21, Threatened and Endangered Species.
MAMMALS					
Pallid bat	*Antrozous pallidus*	CSC	HP	Yes	
Ringtail	*Bassariscus astutus*	CFP	HP	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	CSC MSHCP-Covered Species	HP	No	
Mexican long-tongued bat	*Choeronycteris mexicana*	CSC	A	No	No suitable habitat is present in the BSA; therefore, this species is not discussed further in this section.
Townsend's big-eared bat	*Corynorhinus townsendii*	CSC	HP	No	
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	FE CSA	A	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Stephens' kangaroo rat	*Dipodomys stephensi*	FE CT MSHCP-Covered Species	HP	No	This species is discussed in Section 3.21, Threatened and Endangered Species.
Western mastiff bat	*Eumops perotis californicus*	CSC	HP	No	
Western red bat	*Lasiurus blossevillii*	CSC	HP	No	
Hoary bat	*Lasiurus cinereus*	CSA	HP	Yes	
Southwestern yellow bat	*Lasiurus xanthinus*	CSA	HP	No	
Black-tailed jackrabbit	*Lepus californicus bennettii*	CSC MSHCP-Covered Species	HP	No	
Western small-footed myotis	*Myotis ciliolabrum*	CSA	HP	Yes	
Long-eared myotis	*Myotis evotis*	CSA	HP	Presumed	
Long-legged myotis	*Myotis volans*	CSC	HP	No	
Yuma myotis	*Myotis yumanensis*	CSA	HP	Yes	
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	CSC	HP	Presumed	
Big free-tailed bat	*Nyctinomops macrotis*	CSC	HP	No	
San Diego desert woodrat	*Neotoma lepida intermedia*	CSC MSHCP-Covered Species	HP	No	

Table 3.20.1 Special-Status Wildlife Species Potentially Occurring or Known to Occur within and in the Vicinity of the BSA

Common Name	Scientific Name	Status Listing	Habitat Present/Absent	Observed	Rationale
Southern grasshopper mouse	*Onychomys torridus ramona*	CSC	HP	No	
American badger	*Taxidea taxus*	CSA	HP	No	

Source: *Final Natural Environment Study* (June 2010).
BSA = biological study area
MSHCP = Western Riverside County Multiple Species Habitat Conservation Plan

Status:

FC = Federal Candidate
FD = Federal Delisted
FE = Federal Endangered
FP, FPE, FPT = Federal Proposed Endangered/Threatened
FT = Federal Threatened
CE = California Endangered
CFP = California Fully Protected Species
CSA = California Special Animal
CSC = California Species of Special Concern
CT = California Threatened

Habitat Present/Absent:

A = Absent; no habitat present and no further work needed.
HP = Habitat present; habitat is or may be present.

- **Other Special-Status Species.** As shown in Table 3.20.1, there are 57 special-status species that have suitable habitat in the BSA and are not federally and/or State-listed as endangered or threatened or proposed endangered or threatened, or considered fully protected species by the State of California. Of these 57 species, 17 were observed or presumed present during the surveys and 40 have suitable habitat in the BSA. As discussed above, 28 of the 57 species are covered by the Western Riverside County MSHCP. However, because the part of the project in Orange County is not covered by the Western Riverside County MSHCP, all 57 species are included in this discussion.

A complete list of the observed animal species and species identified in the literature search review is provided in Appendix D to the NES.

A description of the BSA is provided in Section 3.17.2.1, Biological Study Area.

3.20.2.2 Western Riverside County MSHCP-Covered Species

Of the 76 special-status animal species originally identified in the literature search (California Natural Diversity Database [CNDDB]) that have the potential to occur in the BSA or in the immediate vicinity of the BSA, 40 species are covered by the Western Riverside County MSHCP.

Twelve of these species are not discussed in this section because of the reasons stated in Section 3.20.2. Of the remaining 28 species, 6 were observed and 22 have suitable habitat in the BSA. The 6 species covered by the Western Riverside County MSHCP that were observed in the BSA during the 2008 field surveys are: Cooper's hawk, great blue heron, California yellow warbler, yellow-breasted chat, black-crowned night heron, and double-crested cormorant.

The remaining 22 special-status species identified in the literature search were not observed in the BSA during the surveys. Although they were not observed in the BSA during the surveys, surveys were not focused on any of these species, except burrowing owl. The remaining 21 species are coast range newt, western spadefoot, southwestern pond turtle, San Diego banded gecko, San Diego horned lizard, orange-throated whiptail, coastal western whiptail, northern red-diamond rattlesnake, San Diego mountain kingsnake, tricolored blackbird, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, ferruginous hawk, northern harrier, California horned lark, merlin, loggerhead shrike, northwestern San Diego pocket mouse, black-tailed jackrabbit, and San Diego desert woodrat.

Pursuant to the requirements of the Western Riverside County MSHCP, site surveys were conducted to determine the presence of burrowing owl. The burrowing owl is a California Species of Concern and is protected by the MBTA and California Fish and Game Code. Burrowing owls are found in open, dry grasslands, agricultural and range lands, and desert habitats often associated with burrowing animals. They also inhabit grass, forbs, and shrub stages of pinyon and ponderosa pine habitats. The Western Riverside County MSHCP identifies burrowing owl survey areas that must be assessed for the presence of this species. A habitat suitability assessment was conducted in 2008 for the Orange County section of the BSA and in the burrowing owl survey areas identified in the Western Riverside County MSHCP. A habitat suitability assessment was conducted at the Corps Prado Basin property in Riverside County in 2009. Nonbreeding season (2008) and breeding season (2009) focused surveys were conducted in all accessible properties with suitable owl habitat in the BSA. During the 2008 and 2009 surveys, no signs of owls were found (tracks, scat, potential burrows, perch sites), and no owls were observed in any of the potentially suitable areas in the Western Riverside County MSHCP-designated lands. While no burrowing owls were observed during surveys, it is possible for owls to move onto the site prior to construction.

3.20.2.3 Other Special-Status Species

As shown in Table 3.20.1, 19 of the 76 special-status animal species potentially occurring in the BSA are not discussed in this section for the reasons stated in Section 3.20.2. Of the remaining 57 species, the following 15 were observed in the BSA during the field surveys conducted in 2008: Cooper's hawk, great egret, great blue heron, Lawrence's goldfinch, California yellow warbler, snowy egret, yellow-breasted chat, black-crowned night heron, double-crested cormorant, Nuttall's woodpecker, Allen's hummingbird, pallid bat, hoary bat, western small-footed myotis, and Yuma myotis. In addition, because long-eared myotis and pocketed free-tailed bats could not be definitively identified with acoustical monitoring, and because there is a high probability of them occurring in the BSA, their presence is assumed.

Although the remaining 40 special-status species identified in the literature search were not observed in the BSA during surveys, those surveys were not focused on these species, and suitable habitat is present in the BSA for these species. As shown in Table 3.20.1, these species are: coast range newt, western spadefoot, southwestern pond turtle, San Diego banded gecko, San Diego horned lizard, orange-throated whiptail, coastal western whiptail, silvery legless lizard, rosy boa, northern red-

diamond rattlesnake, San Bernardino ringneck snake, San Diego mountain kingsnake, two-striped garter snake, coast patch-nosted snake, tricolored blackbird, southern California rufous-crowned sparrow, grasshopper sparrow, Bell's sage sparrow, long-eared owl, burrowing owl, oak titmouse, ferruginous hawk, Costa's hummingbird, lark sparrow, northern harrier, California horned lark, merlin, loggerhead shrike, black-chinned sparrow, northwestern San Diego pocket mouse, Townsend's big-eared bat, western mastiff bat, western red bat, southwestern yellow bat, black-tailed jackrabbit, long-legged myotis, big free-tailed bat, San Diego desert woodrat, southern grasshopper mouse, and American badger. While much of the habitat on site is disturbed, developed, or degraded by infestations of nonnative species, some suitable habitat exists in the BSA for these special-status species, and it is possible for them to move onto the site prior to construction.

3.20.2.4 Orange County Natural Communities Conservation Plan

The nearest lands in the Orange County NCCP are approximately 2,000 ft south of the BSA near the County line. As a result, there are no special-interest animal species in the NCCP within the BSA. Therefore, the Orange County NCCP is not discussed further in this section.

3.20.3 Environmental Consequences

3.20.3.1 Summary of Impacts

The Initial Phases and Ultimate Projects of Alternatives 1 and 2 would not result in permanent direct impacts on the burrowing owl but could result in indirect impacts to the owl as a result of the loss of potential habitat.

The Initial Phases and Ultimate Projects of Alternatives 1 and 2 would not result in permanent direct impacts to the other special-status animal species. However, the Initial Phases and Ultimate Projects of Alternatives 1 and 2 could result in permanent indirect impacts to those species as a result of habitat loss and fragmentation, and edge effects such as noise, litter, lighting, and human encroachment.

The Initial Phases and Ultimate Projects of Alternatives 1 and 2 would result in temporary effects to the burrowing owl and other special-interest animal species as a result of unavailability of potential habitat, noise, vibration, lighting, and other edge effects during construction.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. The Initial Phase and Ultimate Project under Alternative 2f would not result in permanent direct impacts on

the burrowing owl but could result in indirect impacts to the owl as a result of the loss of potential habitat.

The Initial Phase and Ultimate Project under Alternative 2f would not result in permanent direct impacts to the other special-status animal species, but could result in permanent indirect impacts to those species as a result of habitat loss and fragmentation, and edge effects such as noise, litter, lighting, and human encroachment.

The Initial Phase and Ultimate Project under Alternative 2f would result in temporary effects to the burrowing owl and other special-interest animal species as a result of unavailability of potential habitat, noise, vibration, lighting, and other edge effects during construction.

3.20.3.2 Permanent Impacts

Alternatives 1 and 2

Burrowing Owl

Although the project is not expected to directly affect any burrowing owls due to the low probability of this owl occurring in the BSA, the Initial Phases and Ultimate Projects under Alternatives 1 and 2 could result in indirect permanent effects to burrowing owls through the loss of potential habitat.

Other Special-Status Animal Species

No permanent direct effects on other special-status animal species would occur under the Initial Phases and Ultimate Projects for Alternatives 1 and 2. Permanent indirect effects to other nonlisted special-status species could occur as a result of habitat loss and habitat fragmentation under the Initial Phases and Ultimate Projects for Alternatives 1 and 2. For bridge and crevice-dwelling animal species, there is potential for the Build Alternatives to result in indirect permanent impacts through habitat loss from modifications to structures that may permanently exclude the future use of those structures by bridge and crevice-dwelling species or through the loss of adjacent foraging habitat (e.g., riparian habitat). The indirect effects of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 on animal species in areas adjacent to the project footprint could also result from edge effects such as exotic plant and animal infestations, litter, fire, noise, vibration, dust, nighttime lighting, human encroachment, and pollutants associated with vehicle use. Edge effects are expected to extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened under each Build Alternative.

The Western Riverside County MSHCP provides a comprehensive, habitat-based approach to the protection of covered species by focusing on conservation and management of lands essential for their long-term conservation. This approach is consistent with USFWS regulations concerning the designation of critical habitat in providing for the protection of "… those physical and biological features essential to the conservation …" of the species (Western Riverside County MSHCP, Volume 3, Section 14.2). In general, because of the limited amount of habitat involved and its relatively linear configuration, project effects on Western Riverside County MSHCP-covered animal species are considered minimal and are adequately addressed by the Western Riverside County MSHCP.

No Build Alternative

The No Build Alternative would not result in any improvements to SR-91 and I-15. Therefore, the No Build Alternative would not result in the loss of suitable habitat or other permanent adverse effects to Western Riverside County MSHCP-covered animal species and other special-status animal species.

3.20.3.3 Temporary Impacts

Alternatives 1 and 2

Temporary effects to several special-status animal species may occur during construction of the Initial Phases and Ultimate Projects for Alternatives 1 and 2, when habitats are temporarily disturbed during grading or other activities as described in the following sections. Because the project would be constructed in phases, project effects would be permanent if they would be disturbed longer than a single phase without replacement of habitat between phasing. No phase would take longer than 4 years to construct.

Burrowing Owl

Although the Build Alternatives are not expected to directly affect any western burrowing owls due to the low probability of this owl occurring in the BSA, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 could result in temporary construction effects to burrowing owls through the unavailability of potential habitat during construction. These temporary effects to burrowing owl cannot be quantified because they depend on a number of uncontrollable factors. Temporary effects are expected as a result of noise, vibration, dust, nighttime lighting, and human encroachment. Because focused surveys conducted for the burrowing owl have been negative so far, and due to the limited suitability of the habitat within the temporarily affected areas, it is likely that burrowing owls would continue to utilize higher-quality

habitat in this area outside the BSA. Preconstruction surveys would confirm that no burrowing owls have moved into the project construction limits prior to construction.

Other Special-Status Animal Species

As discussed earlier in Section 3.20.2.3, 15 other special-status animal species were observed in the BSA. Inconclusive acoustic data from the 2008 surveys also suggest the potential presence of pocketed free-tailed bats and long-eared myotis.

Construction of the Build Alternatives is not expected to directly affect any of these species as a result of the avoidance and minimization measures described later in Section 3.20.4. However, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 are expected to have indirect and temporary effects on these species similar to those described above for the burrowing owl. In addition, potential temporary effects on bat species may result from impeded access to existing and future roost sites in the crevices of bridges, culverts, and overhead structures during construction of Alternatives 1 and 2. Construction on each bridge, culvert, or overhead structure would occur only once during each single phase. Therefore, bat species would only have impeded access to existing and future roost sites for no longer than 4 years in any single construction phase.

No Build Alternative

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. The No Build Alternative would not result in improvements to SR-91 and I-15 other than the routine maintenance of those freeways. Therefore, the No Build Alternative would not result in any adverse temporary effects related to Western Riverside County MSHCP-covered animal species or other special-status animal species in the BSA.

3.20.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures would be required in both Orange and Riverside Counties for the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations to avoid and minimize effects to special-status animal species during construction.

AS-1 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify all areas of potential burrowing owl (BUOW) habitat within the project footprint or in the immediately surrounding areas and will designate those areas on the project specifications.

To ensure that any BUOW that may occupy the site in the future are not affected by construction activities, RCTC's Resident Engineer will require the design/build contractor to have preconstruction BUOW surveys conducted by a Designated Qualified Biologist within 30 days prior to any phase of construction in the areas identified as potential BUOW habitat. These preconstruction surveys are also required to comply with the Western Riverside County MSHCP, the federal MBTA, and the California Fish and Game Code. If any of the preconstruction surveys determine that BUOW are present, one or more of the following mitigation measures will be required: (1) avoidance of active nests/burrows and surrounding buffer area during construction activities; (2) passive relocation of individual owls; (3) active relocation of individual owls; and (4) preservation of on-site habitat with long-term conservation value for the owl. Because any documented presence of BUOW will have unique site characteristics, the RCTC Project Manager will coordinate with the Department District Biologist, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Biologist, CDFG, and USFWS to determine which specific measure(s) will be implemented.

RCTC's Resident Engineer will ensure that any BUOW measures determined to be required based on the results of the preconstruction surveys and the required coordination described above are properly implemented by the design/build contractor prior to and during construction in the BUOW areas identified in the surveys.

AS-2 During final design, RCTC's Project Engineer will coordinate with the Designated Qualified Biologist to identify all areas of potential bat habitat within and immediately adjacent to the project footprint and will designate those areas on the project specifications.

RCTC's Project Manager will require the design/build contractor to have a Designated Qualified Bat Biologist survey all potential bat habitat in June, prior to construction, to assess the potential for the presence of maternity roosts because maternity roosts are generally formed in late spring. The Designated Qualified Bat Biologist will also perform preconstruction surveys because bat roosts can change

seasonally. The surveys will include structure inspection, sampling, exit counts, and acoustic surveys.

AS-3 To avoid direct mortality to bats roosting in areas subject to effects from construction activities, RCTC's Resident Engineer will require the design/build contractor to ensure that any structure with potential bat habitat will have temporary bat exclusion devices installed under the supervision of the Designated Qualified Bat Biologist prior to construction. The installation of the exclusion devices will be conducted during the fall (September or October) to avoid trapping flightless young inside during the summer months or hibernating individuals during the winter. Such exclusion efforts must be continued to keep the structures free of bats until the completion of construction. Replacement roosting habitat may also be needed to minimize effects to excluded bats. All bat exclusion techniques and replacement roosting habitat will be coordinated among the Department District 8 Biologist, the Department District 12 Biologist, RCTC's Project Manager, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Bat Biologist, CDFG, and USFWS.

AS-4 As required in Measure NC-10, RCTC's Resident Engineer will ensure that all construction work on bridges will take place during the day to the best extent feasible. Limited evening and/or night construction may be required for operational reasons. The RCTC Project Engineer will require the design/build contractor to include construction management measures to direct lighting and noise away from bat night roosting areas in the project specifications. The RCTC Resident Engineer will require the design/build contractor to implement those measures during evening and night construction. Operational reasons may include the desire to conduct certain construction activities, such as closing multiple ramps or travel lanes, during night hours to minimize delays to the traveling public. Any night construction must be approved in writing by the RCTC Resident Engineer.

AS-5 RCTC's Project Engineer will ensure that the final design specifically addresses keeping riparian vegetation delineated on the project specifications that is adjacent to bat roosting sites (which include

crevices on bridges, culverts, and overhead structures) intact during construction per measures included in the project specifications.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly implement the measures in the project specifications to keep riparian vegetation adjacent to bat roosting sites intact.

AS-6 To prevent project effects to bridge- and crevice-nesting birds (i.e., swifts and swallows), RCTC's Resident Engineer will require the design/build contractor to ensure that all work on existing bridges with potential habitat that is conducted between February 15 and October 31 includes removal of all bird nests prior to construction under the guidance and observation of the Designated Qualified Biologist prior to February 1 of that year, before the swallow colony returns to the nesting site. Removal of swallow nests that are under construction must be repeated as frequently as necessary to prevent nest completion or until a nest exclusion device is installed (such as netting or a similar mechanism that keeps birds from building nests). Nest removal and exclusion device installation will be monitored by the Designated Qualified Biologist. Such exclusion efforts must be continued to keep the structures free of swallows until September or completion of construction. All nest exclusion techniques will be coordinated among the Department District 8 Biologist, the Department District 12 Biologist, RCTC's Project Manager, RCTC's Resident Engineer, the design/build contractor, the design/build contractor's Designated Qualified Biologist, CDFG, and USFWS.

AS-7 During final design, RCTC's Project Manager, the Department District 8 Biologist, the Department District 12 Biologist, and the Designated Qualified Biologist will determine whether structural features providing existing bat roosting habitat cannot be permanently retained following construction. If that is the case, RCTC's Project Manager, RCTC's Project Engineer, the Department District 8 Biologist, the Department District 12 Biologist, and the Designated Qualified Biologist will identify alternative roosting habitat to be installed during project construction. The project specifications will

include suitable designs and specifications for bat exclusion and habitat replacement structures.

Prior to and during construction, RCTC's Resident Engineer will require the design/build contractor to properly implement the designs and specifications for bat exclusion and habitat replacement structures included in the project specifications. The installation and maintenance of those structures will be monitored by the Designated Qualified Biologist.

AS-8 RCTC's Resident Engineer will require the design/build contractor to install and maintain silt fence barriers at all staging or construction areas at Coal Canyon and areas within CHSP to prevent small animals from entering those areas.

This page intentionally left blank

3.21 Threatened and Endangered Species

3.21.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

The Biological Opinion for the SR-91 CIP was received from the USFWS on November 30, 2011. The Biological Opinion is provided in Appendix N, Biological

Opinion, and is discussed in detail in the subsection titled "Summary of the Findings of the Biological Opinion" later in this section.

3.21.2 Affected Environment

The analysis of the potential impacts of the project on threatened and endangered species is based on the NES (June 2010) and the *Biological Assessment* (June 2011). The NES includes a number of individual technical studies, including studies focused on sensitive species. The findings of the analyses in the NES and the individual technical studies included in the NES related to threatened and endangered species are summarized in this section. Additional details not included in this summary are available in the NES and *Biological Assessment.*

The USFWS provided a letter that listed threatened, endangered, or candidate plant and wildlife species that may be present in the BSA and/or the surroundings. This letter is provided in Appendix I, USFWS Species List. The USFWS species list will be validated and updated, if necessary, as part of the Section 7 Consultation process for the project, which specifically allows for updating the species list at that time.

Other sources used in preparation of the analysis summarized in this section included the CNDDB, the CNPS On-Line Electronic Inventory of Rare and Endangered Vascular Plants of California (2008), and the Western Riverside County MSHCP. In addition, resource agency coordination meetings were held on August 12 and September 25, 2008, December 10 and December 21, 2009, and January 19, 2010, to involve resource agencies in the environmental process and to discuss the environmental surveys and possibility of an agreement for a comprehensive mitigation program.

Table 3.21.1 shows the 21 threatened and endangered species identified in the USFWS letter and/or the literature review as occurring or potentially occurring in the BSA and/or the surrounding area, and the determination regarding project effects to each species expected to be received from the USFWS. These species may also be State listed as threatened or endangered, as shown in Table 3.21.1.

Table 3.21.1 Summary of Threatened and Endangered Plant and Animal Species

Common Name	Scientific Name	Status	Habitat Potential	Determination
Plant Species				
Munz's onion	*Allium munzii*	FE CT Western Riverside County MSHCP Narrow Endemic Plant Species	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
San Diego ambrosia	*Ambrosia pumila*	FE Western Riverside County MSHCP Narrow Endemic Plant Species	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
Braunton's milk-vetch	*Astragalus brauntonii*	FE	There is potential habitat for this species in the BSA, including USFWS designated critical habitat.	May affect
Thread-leaved brodiaea	*Brodiaea filifolia*	FT CE Western Riverside County MSHCP Criteria Area Species	There is potential habitat for this species in the BSA. The closest area of revised designated critical habitat, approved on February 7, 2011, is approximately 20 miles away from the BSA. This species was not observed during surveys.	No effect
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	FC CE	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
Slender-horned spineflower	*Dodecahema leptoceras*	FE CE	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
Santa Ana River woollystar	*Eriastrum densifolium* ssp. *sanctorum*	FE CE Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
Brand's phacelia	*Phacelia stellaris*	FC Western Riverside County MSHCP Narrow Endemic Plant Species	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect

Table 3.21.1 Summary of Threatened and Endangered Plant and Animal Species

Common Name	Scientific Name	Status	Habitat Potential	Determination
Animal Species				
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE	There is no potential habitat for this species in the BSA.	No effect
Arroyo toad	*Bufo californicus*	FE Western Riverside County MSHCP-Covered Species	There is no potential habitat for this species in the BSA.	No effect
Santa Ana sucker	*Catostomus santaanae*	FT Western Riverside County MSHCP-Covered Species	Although previous discussions with the USFWS indicated the belief that this species was extirpated below Prado Dam, in a study conducted earlier in 2010, an 8-inch sucker was found (email from Christine Medak on March 12, 2010, forwarded by Sally Brown	May affect
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FC CE Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA. This species was not observed during surveys.	No effect
San Bernardino kangaroo rat	*Dipodomys merriami parvus*	FE	There is no potential habitat for this species in the BSA.	No effect
Stephens' kangaroo rat	*Dipodomys stephensi*	FE CT Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA in Riverside County. The BSA is not located in any SKR HCP Core Reserves.	No effect
Southwestern willow flycatcher (nesting)	*Empidonax traillii extimus*	FE CE Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA. However, nesting habitat is limited.	May affect
Quino checkerspot butterfly	*Euphydryas editha quino*	FE	There is no potential habitat for this species in the BSA.	No effect
Bald eagle	*Haliaeetus leucocephalus*	FD CE	There is potential habitat for this species in the BSA. However, nesting habitat is limited.	No effect
Coastal California gnatcatcher	*Polioptila californica californica*	FT Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA, including USFWS-designated critical habitat.	May affect

Table 3.21.1 Summary of Threatened and Endangered Plant and Animal Species

Common Name	Scientific Name	Status	Habitat Potential	Determination
Delhi sands flower-loving fly	*Rhaphiomidas terminatus abdominalis*	FE Western Riverside County MSHCP-Covered Species	There is no potential habitat for this species in the BSA.	No effect
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	There is no potential habitat for this species in the BSA.	No effect
Least Bell's vireo (nesting)	*Vireo bellii pusillus*	FE CE Western Riverside County MSHCP-Covered Species	There is potential habitat for this species in the BSA.	May affect

Source: *Final Natural Environment Study* (June 2010) *and the Biological Opinion* (November 2011).

Status:
- CE = California endangered
- CT = California threatened
- FC = federal candidate
- FD = federal delisted
- FE = federal endangered
- FT = federal threatened

BSA = biological study area
HCP = Habitat Conservation Plan
MSHCP = Multiple Species Habitat Conservation Plan
SKR = Stephens' kangaroo rat
USFWS = United States Fish and Wildlife Service

Of the 21 threatened, endangered, and candidate plant and animal species listed that may occur in the BSA, 6 animal species were determined to lack either suitable habitat or distribution in the BSA and are considered to be absent from the BSA at this time. Those species are San Diego fairy shrimp, Quino checkerspot butterfly, Delhi sands flower-loving fly, Riverside fairy shrimp, arroyo toad, and San Bernardino kangaroo rat. The 8 plant species and 7 animal species occurring or potentially occurring in the BSA are described in detail in the following sections.

3.21.2.1 Threatened and/or Endangered Plant Species

As indicated in Table 3.21.1, there is potential habitat in the BSA for eight threatened and/or endangered plant species. Focused botanical surveys for these species were conducted in 2008 and 2009 in the BSA during the appropriate blooming period for each species. In November 2008, the Freeway Complex fire consumed a small amount of vegetation in the BSA. Plant species in those areas requiring fire for germination would have been observed during the botanical surveys conducted during the 2009 blooming period. The survey results for all eight species were negative. Therefore, all eight plant species are considered absent from the BSA and are not discussed further in this section, with the exception of Braunton's milk-vetch. In 2006, the USFWS designated critical habitat for Braunton's milk-vetch. One of these critical habitat units is in Coal Canyon, adjacent to the BSA in Orange County. The nearest known population of Braunton's milk-vetch had been identified along SR-91 between SR-241 and SR-71, in the main channel of Coal Canyon and in the State rights-of-way for those freeways. The 2008 and 2009 survey results of the BSA were negative for this plant. Based on communications with Department biologists, the previously documented plants in the State rights-of-way are believed to have been washed away. Although the plants are believed to have been washed away, Braunton's milk-vetch requires heat or physical scarification to germinate. Because Coal Canyon was not affected by the Freeway Complex fire in the BSA, seeds for this species may still be present in the designated Coal Canyon critical habitat. This species is considered absent from the Riverside County part of the BSA.

Critical habitat was designated for thread-leaved brodiaea on February 8, 2011. There is no designated critical habitat for thread-leaved brodiaea within the BSA.

3.21.2.2 Threatened and/or Endangered Animal Species

As shown in Table 3.21.1, there is potential habitat in the BSA for seven threatened and/or endangered animal species: western yellow-billed cuckoo, southwestern willow flycatcher (SWWF), bald eagle, CAGN, least Bell's vireo (LBV), Santa Ana

sucker, and Stephens' kangaroo rat (SKR). As a result, focused protocol surveys were conducted in suitable habitat areas in the BSA for those species. The survey results for these species are described below:

- **Western Yellow-billed Cuckoo:** This is a slender, medium-sized bird that feeds on large insects, frogs, and other insectivorous birds. No western yellow-billed cuckoos were observed during the 2008 surveys, and there is a limited amount of suitable nesting habitat present for this species in the BSA. Consequently, there is little probability for the western yellow-billed cuckoo to occur in the BSA.
- **Southwestern Willow Flycatcher:** The SWWF is a migratory songbird that occurs in the region surrounding the BSA only during the breeding season. It is the only subspecies of willow flycatcher that nests in southern California. Eighteen critical habitat units for the SWWF, totaling approximately 599 mi of streams and rivers, have been designated by the USFWS. Fourteen counties in Arizona, California, and New Mexico are affected by this designation, including Riverside and San Bernardino Counties. There is no designated critical habitat for SWWF in Orange County. No SWWF were observed during the 2008 surveys. In addition, there is limited suitable habitat for this species in the BSA. The Santa Ana Water Association (SAWA) has been monitoring sensitive bird species such as the SWWF in the Santa Ana River Watershed since 1986. There have been no SWWF documented downstream of Prado Dam since that monitoring began. Therefore, the SWWF is considered absent from the BSA.
- **Bald Eagle:** The bald eagle nests in large trees and on platforms, most commonly within 1 mi of water. The bald eagle was not observed in the BSA during the 2008 and 2009 surveys, which did not focus on this species. There is marginally suitable foraging habitat in the BSA for the bald eagle, but no suitable nesting habitat. Therefore, the probability of the bald eagle occurring in the BSA is low.
- **Coastal California Gnatcatcher:** The CAGN is a nonmigratory songbird that typically nests and forages in moderately dense stands of CSS below an elevation of 2,500 ft in southern California. There is suitable CSS habitat for CAGN in the BSA. The majority of that suitable habitat in the BSA is along SR-91 just east of the SR-91/SR-241 interchange in Orange County. During the 2008 focused surveys, at least five CAGN were either observed or heard calling in the BSA. A pair of CAGN and at least two juveniles were observed on several occasions in the Coal Canyon area of the BSA in Orange County, and on two occasions a

CAGN was either observed or heard in the BSA near Wardlow Wash in Riverside County.

- **Least Bell's Vireo:** LBV is a small migratory songbird that nests in southern California. LBV were identified at a total of 27 locations in the BSA and at another 8 locations just outside of the BSA during the 2008 surveys. LBV is known to use riparian forest as nesting habitat, and riparian scrub and deepwater aquatic are known to be suitable forage habitat for LBV and to provide corridors between higher-quality areas. LBV were found during the 2008 surveys from the Gypsum Canyon Road bridge to Prado Dam. Suitable habitat for the LBV extends along SR-91 just east of the SR-71/SR-91 interchange. Of the 27 locations in the BSA, 20 are judged to have been territories and successful nesting was confirmed at 6 of those locations. The other 7 locations in the BSA hosted singing males on one or more occasions, but long-term territories were not identified at those locations. There is no LBV-designated critical habitat in the BSA. After the 2008 focused surveys, part of the riparian/riverine habitat identified as suitable for LBV was either burned in the November 2008 Freeway Complex fire or subsequently removed by the Corps' Santa Ana River Reach 9 Phase 2B Realignment project. Although the vegetation was essentially destroyed and/or removed, LBV could still use the area for foraging and as a corridor between higher-quality areas. In addition, it is likely that some of the vegetation may not have been totally destroyed and is expected to come back as riparian/riverine habitat.
- **Santa Ana Sucker:** The Santa Ana sucker (sucker) is federally listed as a threatened fish species. The sucker is endemic to coastal streams in the Los Angeles Basin and is typically found in cool, clear, flowing water and gravel, rubble, or boulder substrate. It was once believed by the USFWS that the Santa Ana sucker had been extirpated from the Santa Ana River below Prado Dam due to the lack of observation during several years of fish studies; therefore, no fish surveys were conducted. However, in early 2010, prior to a diversion of the Santa Ana River for the Corps embankment project, an 8-inch sucker was found during preconstruction surveys. No suitable habitat for the Santa Ana sucker occurs in the BSA outside of the Santa Ana River. The Santa Ana River is the only area in the BSA with constituent elements for the Santa Ana sucker.

  On December 14, 2010, the USFWS issued the final rule for revised critical habitat for the Santa Ana sucker. This revised rule includes approximately 9,331 ac of habitat in the Santa Ana River in San Bernardino, Riverside, and Orange Counties. The BSA is within Subunit 1C, which includes 10.7 mi of the

main Santa Ana River channel from below Prado Dam in Corona to 0.6 mi downstream of Imperial Highway in Anaheim Hills.

- **Stephens' Kangaroo Rat:** The SKR is a small rodent that occurs primarily in annual and perennial grasslands, but also in CSS with sparse canopy cover. The SKR is a fully covered species in the Western Riverside County MSHCP and is also addressed by the SKR HCP. The SKR HCP core reserves were incorporated into the Western Riverside County MSHCP conservation areas and contribute to the conservation of the species in the Western Riverside County MSHCP. Although part of the BSA is in SKR HCP fee areas in Riverside County, there is limited suitable habitat for this species in the BSA. There is no suitable habitat for SKR in the Orange County part of the BSA. No SKR were observed in the BSA during 2008 surveys, which did not focus on this species.

Focused surveys were not conducted for the other threatened, endangered, or candidate wildlife species listed earlier because there is no suitable habitat for these species in the Western Riverside County MSHCP-designated survey areas and the Orange County part of the BSA.

3.21.3 Environmental Consequences

3.21.3.1 Summary of Impacts

The Alternative 1 Ultimate Project would result in 6.56 ac of permanent direct impacts to CAGN-designated critical habitat and permanent indirect impacts to 0.94 ac of LBV habitat. The Alternative 2 Ultimate Project would result in 6.32 ac of permanent direct impacts to CAGN-designated critical habitat and permanent indirect impacts to 0.94 ac of LBV habitat. There are no permanent impacts to these habitats in the Initial Phases of Alternatives 1 and 2.

The Alternative 1 and 2 Ultimate Projects would result in similar permanent indirect impacts to CAGN.

The Initial Phases of Alternatives 1 and 2 would not result in direct permanent impacts to the SKR HCP fee area because the footprints do not extend far enough east to conflict with the fee area.

The Ultimate Project under Alternative 1 would result in direct permanent impacts to 1.23 ac and temporary impacts to 2.6 ac of the SKP HCP fee area.

The Ultimate Project under Alternative 2 would result in direct permanent impacts of 5.72 ac and temporary impacts to 18.88 ac of the SKR HCP fee area.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would not result in permanent impacts to Braunton's milk vetch, the Santa Ana sucker, western yellow-billed cuckoo, SWWF, and bald eagle.

The Alternative 1 Ultimate Project would result in a temporary direct impact to 1.08 ac of CAGN-designated critical habitat. The Alternative 2 Ultimate Project would result in temporary direct impacts to 2.09 ac of CAGN-designated critical habitat. The Initial Phases and Ultimate Projects for Alternatives 1 and 2 are not expected to result in direct temporary impacts to LBV.

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would result in similar temporary indirect impacts to Braunton's milk vetch, CAGN, LBV, Santa Ana sucker, western yellow-billed cuckoo, SWWF, and bald eagle.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Alternative 2f would result in the same permanent and temporary impacts to threatened and endangered species as described above for Alternative 2. This is because there are no design variations in the areas where these impacts would occur and, therefore, the impacts of Alternative 2, with any design variation, including design variation f, would be the same as described above for Alternative 2.

Summary of the Findings of the Biological Opinion

The Biological Opinion for the project was received from the USFWS on November 30, 2011. A copy of the Biological Opinion is provided in Appendix N.

Based on the Biological Opinion, the USFWS has concurred with the Department's determination that the project will have permanent and temporary (direct and indirect) impacts to Braunton's milk-vetch and its designated critical habitat (in Orange County), CAGN, Santa Ana sucker, southwestern willow flycatcher, LBV (in Riverside County), and SKR (in Riverside County) as described above for Alternatives 1 and 2.

The USFWS has concurred with the Department's determination that the project will have permanent and temporary impacts on CAGN as described above for Alternatives 1 and 2. The USFWS has concurred with the Department's determination that the project "may affect, but is not likely to adversely affect" Braunton's milk-vetch and its designated critical habitat (in Orange County), LBV (in Riverside County), SKR

(in Riverside County), southwestern willow flycatcher, and Santa Ana sucker, and would have "no effect"on LBV (in Orange County) and SKR (in Orange County).

The USFWS has concurred with the Department's determination that the Ultimate Project would likely adversely affect CAGN but the level of anticipated take is not likely to result in "jeopardy" to the recovery of CAGN. The USFWS has authorized the "incidental take" of CAGN, based on the effects of the project, as follows:

> Incidental take in the form of harm, as defined in 50 CFR Section 17.3, of one CAGN pair is authorized due to the permanent removal of 4.25 ac of CSS and 4.17 ac of vegetation communities used by CAGN for essential behaviors, including nesting, roosting, foraging, and dispersal, and the temporary removal of 1.29 ac of CSS and 1.72 ac of vegetation used by CAGN for foraging and dispersal. The take threshold will be exceeded if more than the amount of habitat identified above is graded or grubbed of if more than one pair of CAGN is killed or injured.

The USFWS has concurred with the Department's determination that the project will have permanent and temporary impacts to CAGN, LBV, and SKR in Riverside County. The adverse project impacts to CAGN, LBV, and SKR in Riverside County are addressed through compliance with the Western Riverside County MSHCP and the SKR HCP. As part of the Biological Opinion, the SR-91 CIP was determined to be consistent with the relevant Western Riverside County MSHCP policies and procedures, and with the SKR HCP and its associated implementing agreement and permit.

3.21.3.2 Permanent Impacts

Alternatives 1 and 2

As described in Section 2.0, the Build Alternatives include design variations. Those design variations would be in developed areas, and there are no biological resources in the areas in and around those design variations. As a result, there is no difference in the impacts of the Build Alternatives on threatened, endangered, and candidate species and their habitats as a result of the design variations. Therefore, the analyses in the following sections do not discuss impacts for the individual design variations in Alternatives 1 and 2.

As discussed earlier on page 3-1 and as shown on Figures 3-1 through 3-4, the majority of construction that would disturb habitat in the Initial Phases of Alternatives

1 and 2 would occur generally between SR-71 and I-15. The additional improvements for the Ultimate Projects would be largely west of SR-71 and east of I-15. As a result, the direct impacts of Alternatives 1 and 2 described in this analysis would not occur in the same areas during construction of the Initial Phases and Ultimate Projects.

Federal Section 7 Consultation between the Department (acting on behalf of FHWA) and the USFWS was conducted for potential impacts to Braunton's milk-vetch-designated critical habitat, Santa Ana sucker, LBV, CAGN, and CAGN-designated critical habitat as described in this section. Although Braunton's milk-vetch is believed to be absent from the BSA, there is designated critical habitat for this species in the BSA, but it is outside the disturbance limits for the Build Alternatives. Therefore, Braunton's milk-vetch was also included in the federal Section 7 Consultation. Formal Section 7 Consultation was initiated on June 23, 2011. The Biological Opinion was received from the USFWS on November 30, 2011. Additional information regarding the Biological Opinion is provided later in Section 3.21.3.4, Biological Opinion.

In addition, a Joint Project Acquisition/Review Process (JPARP), as outlined in Section 6.6.2 of the Western Riverside County MSHCP, was conducted among the RCTC, Western Riverside County RCA, and the wildlife agencies to address project impacts in the Riverside County part of the BSA. This process required joint review of the project's consistency with the Western Riverside County MSHCP by the RCA, the Permittee (i.e., RCTC), and the resource agencies. A copy of the Joint Project Review (JPR) was submitted by the RCA to the USFWS on April 4, 2011. Per Section 6.6.2 of the Western Riverside County MSHCP, the USFWS had 10 days from receipt of the JPR to submit any comments in writing. No comments were received. As part of the Biological Opinion for the Western Riverside County MSHCP, the SR-91 CIP was determined to be consistent with the relevant Western Riverside County MSHCP policies and procedures.

Braunton's Milk-vetch

Although this species is believed to be absent from the BSA, there is designated critical habitat for this plant in Coal Canyon, the Orange County part of the BSA. However, this critical habitat unit would not be permanently impacted by Alternatives 1 and 2 and their design variations. The permanent project features are outside the boundary of the designated critical habitat. Therefore, Alternatives 1 and 2 would not result in direct permanent impacts to Braunton's milk-vetch.

Coastal California Gnatcatcher

Direct and indirect permanent impacts to CAGN and CAGN-designated critical habitat would occur under Alternatives 1 and 2, although Alternatives 1 and 2 are not expected to result in the direct take of CAGN or CAGN occupied habitat. Alternatives 1 and 2 would result in a take of CSS habitat within CAGN-designated critical habitat along SR-91 from just east of the SR-241/SR-91 interchange to just west of the SR-91/SR-71 interchange. Alternatives 1 and 2 would also take other non-CSS communities that contain constituent elements of CAGN critical habitat; therefore, those communities were included in this impact analysis. Table 3.21.2 shows the amounts of the designated critical CSS and other habitats impacted by Alternatives 1 and 2. Occupied CSS habitat is also CSS within CAGN-designated critical habitat. Permanent impacts to CSS are shown in Table 3.17.2 in Section 3.17, Natural Communities.

Table 3.21.2 Permanent Impacts to Coastal California Gnatcatcher-Designated Critical Habitat (acres)

Habitat Type	Alternative 1	Alternative 2
Coastal sage scrub	0.14	1.24
Chaparral	1.70	1.97
Riparian forest	0.18	0.01
Nonnative grassland	1.20	0.60
Mixed ruderal and ornamental	3.34	2.50
Total	**6.56**	**6.32**

Source: *Final Natural Environment Study* (June 2010), *Biological Assessment* (June 2011), and *Biological Opinion* (November 2011).
Note: There are no permanent impacts to these habitats in the Initial Phases of Alternatives 1 and 2.

As discussed in detail in the NES, the Build Alternatives are expected to reduce congestion during peak hours in the project limits and are not expected to increase indirect impacts due to automobile traffic and litter in the area. Furthermore, noise levels associated with the Build Alternatives would be essentially the same in the vicinity of the CSS communities, with the exception of a few locations where an increase in noise of between 4 and 7 decibels (dB) may be expected as a result of the Build Alternatives. All these locations are adjacent to developed areas in which CAGN was not observed and CAGN is not likely to occur in the future.

Section 7 consultation was conducted to obtain authorization for potential impacts of the Build Alternatives to CAGN and CAGN-designated habitat within Orange County. Because the project is a Western Riverside County MSHCP-covered project

that is federally funded, the Western Riverside County MSHCP provides for an abbreviated Section 7 consultation process for the part of the project in Riverside County for the issuance of an incidental take permit.

Least Bell's Vireo

Direct and indirect permanent effects to LBV may occur as a result of project construction. The LBV is likely to occur within or near the disturbance limits at the time of construction. Due to the other areas of occupied and nesting habitat being removed by the Corps, the only take of occupied habitat expected to occur as a result of project construction is in two locations, both of which are located in Riverside County. One is in the vicinity of Wardlow Wash/Fresno Canyon, and the other is north of SR-91 and east of SR-71. The location north of SR-91 and east of SR-71 is in small isolated stands of riparian vegetation in an upland setting. Both Build Alternatives are expected to result in a total of 0.94 ac of permanent impacts to occupied habitat as a result of project implementation. No loss of individual LBV is expected as a result of the avoidance and minimization measures described above, and there are no effects expected on LBV-designated critical habitat.

Because Alternatives 1 and 2 will impact LBV habitat in Riverside County only, project impacts have been addressed by demonstrating project consistency with the Western Riverside County MSHCP. A JPR was issued by the Western Riverside County RCA on April 4, 2011.

Santa Ana Sucker

No direct or indirect permanent impacts to the Santa Ana sucker or Santa Ana sucker-designated critical habitat are expected as a result of the Build Alternatives. Because the Corps is currently relocating the Santa Ana River far enough away from SR-91 to accommodate the widening of SR-91, the Build Alternatives will not affect any areas designated as critical habitat that also contain constituent elements for the Santa Ana sucker.

Stephens' Kangaroo Rat

Direct and indirect impacts to SKR and potential habitat are expected to occur as a result of Alternatives 1 and 2. Although no direct take of SKR is expected after avoidance and minimization measures, take of SKR potential habitat within the SKR HCP fee area would occur as a result of the Build Alternatives. Under the SKR HCP, this take is offset by the establishment of a core reserve system to maintain the long-term survival of the species.

It was determined by the parties involved in establishing the Western Riverside County MSHCP that take of SKR outside the boundaries of the SKR HCP is covered under the Western Riverside County MSHCP. Therefore, the take of SKR outside the SKR HCP boundaries but within the Western Riverside County MSHCP plan area is authorized by the Western Riverside County MSHCP. Although SKR is a covered species under the Western Riverside County MSHCP, part of the project is located within the SKR HCP fee area within Riverside County. For the Initial Phases of Alternatives 1 and 2, there are no impacts to the SKR HCP fee area because the Initial Phase footprints do not extend far enough east to conflict with the fee area. Alternative 1 would result in direct permanent impacts to approximately 1.23 ac of the SKR HCP fee area. Alternative 2 would result in direct permanent impacts to approximately 5.72 ac of the SKR HCP fee area. The project would not result in any impacts to the SKR core reserve system.

Western Yellow-billed Cuckoo, Southwestern Willow Flycatcher, and Bald Eagle

Alternatives 1 and 2 are not expected to directly affect the western yellow-billed cuckoo, bald eagle, or SWWF due to the low probability of these species occurring in the BSA. These species are known to forage in the riparian/riverine communities.

The permanent loss of suitable riparian habitat under Alternatives 1 and 2 would reduce the potential habitat for these species in the area. These impacts to these species would be similar to those described above for LBV.

No Build Alternative

The No Build Alternative would not result in any improvements to SR-91 and I-15 other than routine facility maintenance. Therefore, the No Build Alternative would not result in permanent impacts to threatened, endangered, or candidate species or the habitats used by those species.

3.21.3.3 Temporary Impacts

Alternatives 1 and 2

Braunton's Milk-vetch

Even though Braunton's milk-vetch is believed to be absent from the BSA, part of the BSA south of SR-91, between SR-241 and SR-71, is designated critical habitat for this plant. Alternatives 1 and 2 would not directly affect this critical habitat area for this plant species. However, due to the proximity of the project construction to this

critical habitat, project construction activities may result in indirect impacts (e.g., noise, vibration, dust, human presence) to this designated critical habitat.

Coastal California Gnatcatcher

CAGN is likely to occur in or near the disturbance limits during construction of Alternatives 1 and 2; however, it is expected to move out of the area during construction. The project is expected to have temporary effects on CAGN as a result of the temporary loss of designated critical habitat. Because the project would be constructed in phases, project effects to CAGN habitat are considered permanent if they would be disturbed longer than a single phase without replacement of habitat between phasing. The Initial Phases of Alternatives 1 and 2 would take 4 years to construct. The Ultimate Project would take no more than 2 years to complete. Table 3.21.3 shows the amount of designated critical habitat in Orange County that would be temporarily affected by Alternatives 1 and 2. In Riverside County, there is no critical habitat in the disturbance limits for any of the Build Alternatives. Therefore, there would be no temporary impacts to CAGN-designated critical habitat in Riverside County during construction of Alternatives 1 and 2. Temporary impacts to CSS are shown in Table 3.17.3 in Section 3.17, Natural Communities.

Table 3.21.3 Temporary Impacts to Coastal California Gnatcatcher-Designated Critical Habitat (acres)

Habitat Type	Initial Phases of Alternatives 1 and 2	Alternative 1 Ultimate Project	Alternative 2 Ultimate Project
Coastal sage scrub	0.02	0.02	0.72
Chaparral	0.40	0.40	0.59
Riparian forest	0.27	0.27	0.27
Nonnative grassland	0.39	0.39	0.51
Total	**1.08**	**1.08**	**2.09**

Source: *Final Natural Environment Study* (June 2010), *Biological Assessment* (June 2011), and *Biological Opinion* (November 2011).
Note: The impacts of Alternatives 1 and 2 that are shown here are the total impacts for the Ultimate Project. Those impacts include those from the Initial Phase and the additional impacts that would occur beyond the Initial Phase to construct each Alternative.

Potential indirect temporary impacts from construction include the increased exposure of CAGN to noise, vibration, dust, and human presence. Without minimization measures, those indirect impacts could potentially impact CAGN in the immediate vicinity of construction activities. However, implementation of the minimization measures would substantially reduce the potential indirect impacts to CAGN.

Least Bell's Vireo

Alternatives 1 and 2 are not expected to result in direct temporary impacts to LBV or LBV habitat.

Because LBV is likely to occur in or near the disturbance limits at the time of construction, Alternatives 1 and 2 would result in potential indirect temporary impacts to LBV during construction. Potential indirect temporary impacts from construction include the increased exposure of LBV to noise, vibration, dust, and human presence. Without minimization measures, those impacts could potentially impact LBV in the immediate vicinity of construction activities; however, implementation of the minimization measures would substantially reduce potential indirect impacts to LBV. Because the project would be constructed in phases, project impacts to LBV habitat are considered permanent if they would be disturbed longer than a single phase without replacement of habitat between phasing.

Santa Ana Sucker

The Santa Ana River is the only area within the BSA that contains potential habitat for Santa Ana sucker. The project would not directly affect the Santa Ana River. However, all the drainages within the project footprint eventually drain into the Santa Ana River. Therefore, indirect and temporary impacts to the Santa Ana sucker may occur due to changes to water quality. The Department's SWMP is the guidance for compliance with the NPDES permit requirements for discharge. Compliance with the NPDES program is considered sufficient to mitigate impacts to water quality. As part of the Department's Project Delivery Storm Water Management Program described in the SWMP, selected Construction Site, Design Pollution Prevention, and Treatment BMPs will be incorporated into the final design of the project. On implementation of Minimization Measures WQ-1 through WQ-3 in Section 3.10, Water Quality, and compliance with the standard requirements of the SWMP and NPDES permits, the Build Alternatives would substantially reduce those potential indirect impacts.

Stephens' Kangaroo Rat

For the Initial Phases of Alternatives 1 and 2, there are no impacts to the SKR HCP fee area because the Initial Phase footprints do not extend far enough east. Alternative 1 would result in temporary impacts to approximately 2.6 ac of the SKR HCP fee area. Alternative 2 would result in temporary impacts to approximately 18.88 ac of the SKR HCP fee area. The project would not result in any temporary impacts to the SKR core reserve system.

Western Yellow-billed Cuckoo, Southwestern Willow Flycatcher, and Bald Eagle

Alternatives 1 and 2 are not expected to directly affect any western yellow-billed cuckoos, SWWF, or bald eagles due to the low probability of these species occurring in the BSA. However, Alternatives 1 and 2 would result in indirect temporary effects on these species as a result of the temporary loss of potential habitat. Because these species either occupy or forage in the same habitat as LBV (riparian/riverine habitat), the effects to these species would be the same as those described for LBV above.

No Build Alternative

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. The No Build Alternative would not result in improvements to SR-91 and I-15 other than routine maintenance of those freeways. Therefore, the No Build Alternative would not result in temporary impacts to threatened, endangered, and candidate plant and wildlife species.

3.21.3.4 Biological Opinion

FESA directs all federal agencies to work to conserve endangered and threatened species and to use their authorities to further the purposes of FESA. Section 7 of FESA, "Interagency Cooperation," is the mechanism by which federal agencies ensure that the actions they take, including those they fund or authorize, do not jeopardize the existence of any listed species. When a project that will use federal funding or require federal approval has the potential to affect species listed as threatened or endangered under FESA, or a designated Critical Habitat for such species, a Biological Assessment (BA) must be prepared. In addition to providing background information on the project and the species potentially affected by the proposed project, the BA must document the results of all surveys conducted for threatened and endangered species for the project. All potential project effects on these species or designated Critical Habitats for these species are identified in the BA. Potential cumulative effects must also be considered. Proposed avoidance, minimization, and mitigation measures are discussed in the BA.

Based largely on the BA, the USFWS prepares its Biological Opinion concerning the potential effects of a project on listed and proposed threatened and endangered species and/or their Critical Habitats. The Biological Opinion includes the project description and assessment of impacts, and sets forth the opinion of the USFWS as to whether the proposed federal action (project) will jeopardize the continued existence of a listed or threatened species or adversely modify Critical Habitat. If a Jeopardy

Opinion is issued, the federal agency must attempt to identify project modifications that avoid jeopardy or the adverse modification of Critical Habitat. Otherwise, the USFWS may identify conservation measures and include an authorization for incidental take of the listed species or impacts to Critical Habitat. It is the responsibility of the federal action agency to ensure compliance with any measures in the Biological Opinion.

As a permittee under the Western Riverside County MSHCP, the RCTC received a consistency conclusion from the Western Riverside County RCA as part of the JPR on April 4, 2011, that the SR-91 CIP demonstrates consistency with the requirements for covered road projects and with other requirements of the MSHCP for the Riverside County part of the project. The JPR was submitted by the RCA to the USFWS on April 4, 2011. Per Section 6.6.2 of the Western Riverside County MSHCP, the USFWS had 10 days from receipt of the JPR to submit any comments on the JPR in writing to the RCA. No comments were received. As part of that Biological Opinion for the Western Riverside County MSHCP, the SR-91 CIP was determined to be consistent with the relevant Western Riverside County MSHCP policies and procedures.

A letter was sent to the USFWS on June 23, 2011, requesting initiation of formal Section 7 consultation to address potential impacts of the SR-91 CIP on threatened and endangered species and/or their Critical Habitats. The BA for the SR-91 CIP was submitted to the USFWS on June 21, 2011. On July 19, 2011, a letter was received from the USFWS acknowledging the receipt of the BA and request for initiation of Section 7 consultation. A No Jeopardy Biological Opinion was issued by the USFWS on November 30, 2011, and is included in Appendix N, Biological Opinion.

Based on the Biological Opinion, the USFWS has concurred with the Department's determination that the project "may affect, but is not likely to adversely affect" Braunton's milk-vetch and its designated critical habitat (in Orange County), LBV (in Riverside County), SKR (in Riverside County), CAGN, southwestern willow flycatcher, and Santa Ana sucker. In addition, the USFWS has concurred with the Department's determination that the project would have "no effect" on LBV (in Orange County) and SKR (in Orange County).

Adverse impacts to CAGN, LBV, and SKR in Riverside County are addressed through compliance with the Western Riverside County MSHCP and SKR HCP. As part of the Biological Opinion, the SR-91 CIP was determined to be consistent with

the relevant Western Riverside County MSHCP policies and procedures, and the SKR HCP and its associated implementing agreement and permit.

The Biological Opinion has authorized the SR-91 CIP the "incidental take" of CAGN as follows:

- Incidental take in the form of harm, as defined in 50 CFR Section 17.3, of one CAGN pair is authorized due to the permanent removal of 4.25 ac of CSS and 4.17 ac of vegetation communities used by CAGN for essential behaviors, including nesting, roosting, foraging, and dispersal, and the temporary removal of 1.29 ac of CSS and 1.72 ac of vegetation used by CAGN for foraging and dispersal. The take threshold will be exceeded if more than the amount of habitat identified above is graded or grubbed or if more than one pair of CAGN is killed or injured.

The USFWS has further determined that the level of anticipated take is not likely to result in jeopardy to the recovery of CAGN.

3.21.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to measures provided in Sections 3.17 (Natural Communities), 3.18 (Wetlands and Other Waters), 3.19 (Plant Species), and 3.20 (Animal Species), the measures listed below would be required to avoid and minimize temporary and permanent impacts to threatened, endangered, and candidate species of Alternatives 1 and 2.

The following measures would be required for the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

TE-1 Prior to any ground disturbing activities, an individual will be identified as the Designated Biologist by the RCTC Project Manager. A qualified Designated Biologist must have a Bachelor's degree with an emphasis in ecology, natural resource management, or related science; 3 years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; previous experience with applying the terms and conditions of a Biological Opinion; and the appropriate permit and/or training if conducting focused or protocol surveys for listed species.

RCTC will ensure the Designated Biologist position is filled throughout the construction period. Each successive Designated Biologist (if applicable) will be approved by the USFWS and CDFG (hereafter referred to as the Wildlife Agencies). The Designated Biologist will have the authority to ensure compliance with conservation measures and will be the primary agency contact for the implementation of these measures. The Designated Biologist will have the authority and responsibility to halt activities that are in violation of the conservation measures.

TE-2 To minimize adverse effects from dust during all site disturbance, grading, and construction activities, the design/build contractor will water all active parts of the construction site a minimum of twice daily or more often when needed due to dry or windy conditions to prevent excessive amounts of dust. Additionally, the design/build contractor will sufficiently water or cover all stockpiled material to prevent excessive amounts of dust.

TE-3 All erosion and sediment control devices during project construction and operation, including fiber rolls and bonded fiber matrix, will be made from biodegradable materials such as jute, with no plastic mesh, to avoid creating a wildlife entanglement hazard.

TE-4 During all site disturbance, grading, and construction activities, the design/build contractor will control noise from construction activity consistent with Caltrans Standard Specifications, Section 14-8.02, "Noise Control," and the Caltrans Standard Special Provisions S5-310. Noise levels from construction operations within the State right-of-way between the hours of 9:00 p.m. and 6:00 a.m. will not exceed 86 dBA at a distance of 50 ft from the noise source. The noise level requirement will apply to the equipment on the job site or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the contractor.

TE-5 During all site disturbance, grading, and construction activities in and immediately adjacent to biologically sensitive areas, Western Riverside County MSHCP Conservation Areas, vegetated drainages, and coastal sage scrub in CAGN-designated critical habitat, the

design/build contractor will control noise from construction activity by using an alternative warning method instead of a sound signal unless required by safety laws. In addition, the contractor will equip all internal combustion engines with the manufacturer-recommended mufflers and will not operate any internal combustion engine on the job site without the appropriate mufflers. As directed by the RCTC Resident Engineer, the contractor will implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

TE-6 In accordance with the Municipal Codes of the Cities of Anaheim, Corona, Riverside, and Norco, the design/build contractor will limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, excluding weekends and holidays. If construction is needed outside those hours or days, the design/build contractor will be required to coordinate with the affected local jurisdiction. If the local jurisdiction approves construction hours that are different from those imposed by this measure, then the design/build contractor will immediately request that RCTC consider a modification to this measure to allow construction during the new hours that the local jurisdiction approved.

TE-7 In the major wildlife movement corridors at Coal Canyon, Wardlow Wash, and Fresno Canyon, and areas adjacent to LBV- and CAGN-occupied areas (approximately PM ORA-91-R17.16 to PM ORA-91-R18.74), construction activities will be limited to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday. Should an exception to this measure be necessary, RCTC and the Department will consult with the Wildlife Agencies to determine effective measures to avoid and minimize adverse impacts to these species and movement corridors.

3.21.4.1 Braunton's Milk-vetch Conservation Measure

TE-8 A pre-construction survey will be conducted prior to ground disturbing activities in the vicinity of the historical occurrence in Coal Canyon in

Orange County. This survey will be conducted by a biologist familiar with the species and during the appropriate time of year to optimize detection. Should Braunton's milk-vetch be found during surveys, the Designated Biologist will consult with the USFWS to determine effective measures to avoid and minimize adverse impacts to this species.

3.21.4.2 Coastal California Gnatcatcher Conservation and Compensatory Measures

Measures TE-9 through TE-13 apply to the Initial Phases and Ultimate Projects for Alternatives 1 and 2 in Orange County.

TE-9 The Designated Biologist (or his/her designee) will monitor construction in Orange County within the vicinity of CAGN-designated critical habitat areas prior to and during site preparation, grading, and construction activities, to flush any wildlife species present prior to construction and to ensure that vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented and followed.

TE-10 RCTC will offset the permanent loss of 8.42 ac of occupied CAGN habitat in Orange County, including 6.32 ac of designated critical habitat, by restoring 16.03 ac of habitat suitable for CAGN breeding, dispersal, and foraging in CHSP to be conducted during the Initial Phase of the project. If restoration is unable to be conducted in CHSP, another location will be selected on approval of the Wildlife Agencies.

TE-11 RCTC will offset the temporary loss of 3.01 ac of occupied CAGN habitat in Orange County, including 2.09 ac of CAGN-designated critical habitat, with in-kind, or better, on-site restoration after the completion of project construction.

TE-12 Prior to site preparation, grading or construction activities, a restoration plan will be developed by a qualified biologist for the permanent and temporary impacts to occupied CAGN habitat in Orange County, including designated critical habitat in Orange County. The plan will be submitted to the USFWS for review and approval. This plan will include, at a minimum, a detailed description of restoration methods, slope stabilization/erosion control, criteria for

restoration to be considered successful, and monitoring and reporting protocol(s). The restoration plan will be implemented for a minimum of 5 years, unless success criteria are met earlier and all artificial watering has been off for at least 2 years.

TE-13 During all site preparation, grading, and construction activities in Orange County, the RCTC Resident Engineer will require the design/build contractor to use shielded lighting for any nighttime construction adjacent to CSS in CAGN-designated critical habitat.

3.21.4.3 Riparian Birds Conservation Measure

TE-14 During the bird breeding season (i.e., February 15–September 15), the Designated Biologist (or his/her designee) will monitor riparian and riverine areas within 500 ft of active construction areas for the duration of the construction in those areas to survey for active nests and/or nesting activity to ensure breeding activities are not disrupted and to ensure vegetation removal, BMPs, ESAs, and all avoidance and minimization measures are properly implemented.

3.21.4.4 Measure for Light Intrusion and Wildfires

TE-15 To minimize adverse effects from light intrusion from vehicle headlights and the potential threat of increased fires from the operation of SR-91, during final design, the Department and RCTC will work with the USFWS to investigate the possibility of adding features along SR-91 in the vicinity of the Coal Canyon wildlife crossing in Orange County. For example, consideration can be given to the placement of K-rail, concrete walls, and/or hardscaping barriers along the shoulder of SR-91. In investigating these features, consideration must be given to motorist safety, freeway operations, vehicle headlight mitigation, and the potential fire threat.

3.21.4.5 Santa Ana Sucker Conservation Measures

TE-16 The Corps is in the process of constructing the SAR Reach 9 Phase 2 Green River Golf Club Embankment Protection Project within the action area. Following completion of the embankment construction, perennial stream habitat for the Santa Ana sucker will be reestablished within the construction footprint. The Department and RCTC will coordinate with the Corps during construction of the SR-91 CIP to

ensure these restoration areas will not be temporarily or permanently impacted during construction of the SR-91 CIP.

TE-17 The Department and RCTC will coordinate with the Corps during construction to ensure that the SR-91 CIP will not affect releases from Prado Dam or result in a permanent reduction of acreage within the Santa Ana River Canyon Habitat Management Area.

Measures for water quality and storm water runoff, natural communities, wetlands and other waters, plant species, and animal species, provided in other sections of this EIR/EIS, would also mitigate project effects to threatened and endangered species.

This page intentionally left blank

3.22 Invasive Species

3.22.1 Regulatory Setting

On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999, directs the use of the State's invasive species list currently maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the NEPA analysis for a project.

3.22.2 Affected Environment

This section is based on the California Invasive Plant Council's (Cal-IPC) California Invasive Plant Inventory (Inventory), which lists noxious weeds and invasive plants of California, and the NES (June 2010) for the project. The Inventory provides ratings (high, moderate, limited) designated for invasive plant species. Plants with a high rating have severe ecological impact. Plants with a moderate rating have substantial and apparent, but not severe, ecological impacts. Plants with a limited rating are invasive, but their ecological impacts are minor on a statewide level. These ratings reflect the Cal-IPC view of the statewide importance of the invasive species, the likelihood that eradication or control efforts would be successful, and the present distribution of the pest within the State.

Highway corridors can provide opportunities for the movement of invasive species through the landscape. Invasive species can move on vehicles and in the loads they carry. Invasive plants can be moved from site to site during spraying and mowing operations. Weed seed can be inadvertently introduced into a corridor on equipment during construction and through the use of mulch, imported soil or gravel, and sod. Some invasive plant species might be deliberately planted in erosion control, landscape, or wildflower projects. Transportation corridor rights-of-way provide ample opportunity for weeds in adjacent land to spread along corridors which, on a national scale, span millions of miles of highway.

SR-91 and I-15 are areas that provide habitat for a variety of plant and animal species. Several plant communities and numerous plant species were observed during the surveys in the BSA for the project. The BSA and the plant communities in the BSA

are shown in Appendix K in the NES. A list of the plant and animal species observed in the BSA is also provided in the NES.

Exotic plant species exist within nonnative plant communities throughout the BSA, within patches of native plant communities, and in areas that have been disturbed by human uses. Exotic species are typically more abundant adjacent to roads and existing developed areas along the project segments of SR-91 and I-15 and frequently border ornamental landscaping. In the past, these areas along the project segments of SR-91 and I-15 likely supported grasslands, oak woodland, CSS, chaparral, and riparian habitats. Consequently, scattered plant species associated with these plant communities are often found in these areas.

A total of 34 exotic plants among the observed plant species in the BSA are identified in the Cal-IPC California Invasive Plant Inventory. Of those 34 species, there are 5 with an overall high rating, 16 with a moderate rating, and 13 with a limited rating. The 5 species with a high rating identified in the BSA are sweet fennel (*Foeniculum vulgare*), yellow star-thistle (*Centaurea solstitialis*), Mediterranean tamarisk (*Tamarix ramosissima*), giant reed (*Arundo donax*), and foxtail chess (*Bromus madritensis* ssp. *rubens*).

3.22.3 Environmental Consequences

3.22.3.1 Summary of Impacts

Revegetation and landscaping under the Initial Phases and Ultimate Projects for Alternatives 1 and 2 would be similar, would not include any plants with high or moderated ratings in the Inventory, and therefore would help to inhibit the spread of invasive species.

Construction activities for the Initial Phases and Ultimate Projects for Alternatives 1 and 2 have similar potential to spread invasive species.

Summary of Impacts for Alternative 2f

Alternative 2f has been identified as the Preferred Alternative. Construction of the Alternative 2f Initial Phase and Ultimate Project would have the potential to spread invasive species. The permanent revegetation and landscaping under the Alternative 2f Initial Phase and Ultimate Project would not include any plants with high or moderated ratings in the Inventory. Therefore, the Alternative 2f Initial Phase and Ultimate Project would not result in long-term adverse impacts related to invasive species.

3.22.3.2 Permanent Impacts

Alternatives 1 and 2

The Initial Phases and Ultimate Projects for Alternatives 1 and 2 would require the revegetation of temporarily impacted areas. That revegetation would not include plant species listed in the California Invasive Plant Inventory, which would prevent the introduction and spread of invasive plant species. Because invasive plants with a high or moderate rating listed on the Inventory would not be used, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 are anticipated to help inhibit the spread of invasive species. Further, the Initial Phases and Ultimate Projects for Alternatives 1 and 2 have no design features that would promote the spread of invasive species of plants or animals in the BSA because none of the invasive plant species would be used as part of the landscaping plans adjacent to native habitat or conservation areas. Therefore, the Alternative 1 and 2 Initial Phases and Ultimate Projects and their design variations would not result in long-term adverse impacts related to the spread of invasive species.

No Build Alternative

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. Therefore, this alternative would not result in long-term impacts related to the introduction or spread of invasive species to or from the BSA and would not cause permanent direct or indirect adverse impacts regarding invasive species.

3.22.3.3 Temporary Impacts

Alternatives 1 and 2

The construction of the Initial Phases and Ultimate Projects for Alternatives 1 and 2 has the potential to spread invasive plant species via entering and exiting construction equipment contaminated with invasive species, the inclusion of invasive species in the seed mixtures and mulch, and the improper removal and disposal of invasive species so that the seeds are spread along the highway.

In addition, none of the species with a high or moderate rating on the Cal-IPC California Invasive Plant Inventory list is currently used by the Department for erosion control or landscaping and would not be used in the Build Alternatives. The seed mixtures used for the project would be approved by a Department District Landscape Architect and Department District Biologist.

No Build Alternative

The No Build Alternative would not result in any construction along the project segments of SR-91 and I-15. Therefore, this alternative would not result in temporary impacts related to the introduction or spread of invasive species to or from the BSA and would not cause temporary direct or indirect adverse impacts regarding invasive species.

3.22.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures will be required during the design and construction of the Initial Phases and Ultimate Projects under the SR-91 CIP Build Alternatives.

IS-1 During final design, RCTC's Project Engineer will direct a qualified landscape architect to develop a Weed Abatement Program/Non-Standard Special Provisions (Program/NSSP) for inclusion in the project specifications. That Program/NSSP will be developed in compliance with EO 13112 to minimize the potential for intrusion or export of invasive plant species to and from the BSA during project construction. At a minimum, the following will be included in the Weed Abatement Program/NSSP and implemented prior to and during construction to address potential effects associated with invasive species. The Weed Abatement Program/NSSP will define the specific details, frequency, and, if applicable, performance standards for the following individual activities and requirements:

- RCTC's Resident Engineer will require the design/build contractor to inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.
- RCTC's Resident Engineer will require the design/build contractor to limit soil and vegetation disturbance to those areas specifically required for the project construction.
- RCTC's Resident Engineer will require the design/build contractor to obtain soil, gravel, and rock from weed-free sources.
- RCTC's Resident Engineer will require the design/build contractor to use only certified weed-free straw, mulch, and/or fiber rolls for erosion control during construction.

- Prior to the completion of construction, RCTC's Resident Engineer will require the design/build contractor to revegetate affected areas adjacent to native vegetation with plant species that are native to the vicinity and approved by the Department's District 8 and District 12 Biologists.
- RCTC's Resident Engineer will require the design/build contractor to not use any species listed in the Cal-IPC California Invasive Plant Inventory with a high or moderate rating in revegetation.
- After construction, RCTC's Resident Engineer will ensure that erosion control and revegetation sites are monitored until achievement of the project-specific performance standards defined in the Program/NSSP or a period of 3 years, whichever is greater, after installation to detect nonnative species prior to the establishment of the native vegetation.
- RCTC's Resident Engineer will require the design/build contractor and the post-construction monitors to implement eradication procedures (e.g., spraying and/or hand weeding) should an infestation occur. The use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the Department District 8 and District 12 Biologists during and after project construction.
- During construction, RCTC's Resident Engineer will require the design/build contractor to reduce indirect impacts of exotic plant infestations and litter by roadside maintenance at least once daily during construction to remove litter and weeds from the right-of-way.

This page intentionally left blank

3.23 Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

3.23.1 Alternatives 1 and 2

Implementation of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations would result in attainment of short- and long-term transportation objectives while resulting in some adverse short- and long-term impacts, including economic losses from land use displacements; construction impacts related to air quality, lighting, noise, and traffic delays and detours; and permanent loss of farmlands and biological and paleontological resources. The project's transportation improvements are based on comprehensive State and local planning efforts that consider the need for present and future traffic requirements within the context of present and future land use development.

The short- and long-term losses and impacts summarized in the following sections would occur as a result of the Initial Phases and Ultimate Projects under Alternatives 1 and 2. The short- and long-term benefits and gains also summarized in the following sections would occur under Alternatives 1 and 2 as well. These short- and long-term losses, impacts, benefits, and gains would also occur under Alternative 2f, which has been identified as the Preferred Alternative.

3.23.2 Short-term Losses and Impacts

Potential short-term losses and impacts of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations, including Alternative 2f, include:

- Economic losses experienced by businesses from temporary displacements, relocations, and traffic detours;
- Temporary construction impacts to residents and visitors, such as increased noise, impaired air quality from dust and debris, increased nighttime light, blocked viewsheds, and construction in recreation areas;
- Temporary construction impacts to residents and visitors, such as disruption of local traffic patterns (traffic diversions due to local road, and temporary ramp and mainline lane closures) and access to residences, businesses, and community facilities, including transit services and increased traffic congestion;
- Temporary construction impacts to utility services, such as service interruptions or damage to facilities;

- Temporary construction impacts to sensitive viewers, including viewers along the segment of SR-91 designated as a scenic highway and views of demolition of existing structures, clearing of existing vegetation, grading of cut-and-fill slopes, construction of road improvements and structures, construction vehicles, and construction staging areas;
- Temporary impacts to natural communities, wetlands and other waters of the United States, bird and bat species, and threatened and endangered species;
- Temporary construction impacts to the Santa Ana River Trail/Bike Lane, including possible temporary detours of the trail; and
- Temporary loss of productivity on and near sites used as temporary construction staging areas.

3.23.3 Short-term Benefits

Short-term benefits of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations include:

- Increased jobs and revenue generated during construction.

3.23.4 Long-term Losses and Impacts

Long-term losses and impacts of the Build Alternatives and their design variations include:

- Permanent losses of farmland and other existing land uses;
- Permanent impacts on wetlands and other waters of the United States, Southern California black walnut and Coulter's matilija poppy, habitats for threatened and endangered species, and biological resource habitat areas;
- Permanent consumption of materials and energy during construction;
- Permanent removal of residential and nonresidential uses and possible permanent loss of those uses in the communities along the SR-91 and I-15 alignments if those uses cannot be relocated in the immediate project vicinity;
- Permanent loss of paleontological resources and the values associated with those sites;
- Permanent use of 0.48 ac of land in CHSP;
- Permanent subsurface easement of land in CHSP (a 1.65 ac subsurface easement under the Alternative 1 Ultimate Project and a 1.88 ac subsurface easement under the Alternative 2 Ultimate Project); and
- Permanent subsurface easements in the New OC Park (NNL) (0.5 ac for two permanent subsurface easements under the Alternative 1 Ultimate Project and

2.2 ac for two permanent subsurface easements under the Alternative 2 Ultimate Project).

3.23.5 Long-term Gains and Benefits

Long-term gains and benefits of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations compared to the No Build Alternative include:

- Improvement of the regional transportation network (including HOV lanes) between Riverside and Orange Counties, including improved access to transit services and facilities;
- Improvement of vehicle, person, and goods movement travel times on SR-91 and I-15 to more effectively serve existing and future travel demand between and within Riverside and Orange Counties;
- Improvements on SR-91, I-15, and intersecting local roads to more effectively serve existing and forecast intraregional travel demand and to reduce diversion of regional traffic from the freeways into the surrounding communities;
- Improvements to storm water management facilities along SR-91 and I-15;
- Improvement to storm water runoff by providing treatment for some currently untreated runoff from the existing highway facilities;
- Improvements to utility facilities crossing or within the right-of-way for SR-91 and I-15;
- Increased economic gain for the public from the use of toll revenue bonds to construct the toll facility;
- Reduced regional air quality emissions in the Basin;
- Increased jobs and revenue generated from operation of the new toll facility under Alternative 2;
- Slight decrease in overall daily fuel consumption in the SR-91 study area with Alternatives 1 and 2 in 2015 and 2035, and a slight decrease in fuel consumption in the SCAG region with Alternatives 1 and 2 in 2035;
- Improved relocated Santa Ana River Trail/Bike Lane;
- Use of a theme for architectural and landscape features to provide aesthetically attractive improvements;
- Improved access to and from local roads; and
- Improvement to the CHSP trail entrance at Prado Road.

In summary, implementation of the Initial Phases and Ultimate Projects under Alternatives 1 and 2 and their design variations would result in trade-offs between addressing short- and long-term transportation needs and goals and adverse short- and long-term environmental impacts. Specifically, the Build Alternatives and their design variations, including Alternative 2f, would provide increased capacity and improved regional transportation connecting major population and employment centers between Orange and Riverside Counties. The long-term benefits to the community of those transportation improvements would be weighed against the short- and long-term adverse environmental impacts of the Build Alternatives and their design variations, including Alternative 2f.

3.23.6 No Build Alternative

The No Build Alternative would not change the existing conditions on SR-91 and I-15. Therefore, the No Build Alternative would not result in the losses or offer any of the benefits/gains that would occur under the Build Alternatives. The No Build Alternative would not address existing and worsening congestion on SR-91 and I-15. As discussed in Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic conditions in the 2015 and 2035 No Build Alternative conditions would be worse than under Alternatives 1 and 2. As a result, the No Build Alternative would not result in any benefits to users of the project segments of SR-91 and I-15.

3.24 Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project

3.24.1 Alternatives 1 and 2

The construction of the Build Alternatives and their design variations would involve a commitment of a range of natural, physical, human, and fiscal resources. Implementation of the Build Alternatives would occur in several phases over a 20-year period from 2015 through 2035. Land used in the construction of Alternatives 1 and 2 and their design variations would be considered to result in an irreversible commitment of that land during the time period the land is used for the highway facilities. However, if a greater need arises for use of the land or if the highway facilities are no longer needed in the future, that land could be converted to another use. At present, there is no reason to believe such a conversion would ever be necessary or desirable.

Alternatives 1 and 2 and their design variations would respectively result in the conversion of designated farmlands to nonagricultural uses. This would be considered an irreversible commitment of farmlands for use as a highway facility.

Alternatives 1 and 2 and their design variations would result in an irreversible commitment of biological resource habitat areas to transportation uses. This includes take of occupied CSS, chaparral, and riparian/riverine habitats.

Excavation associated with Alternatives 1 and 2 and their design variations could encounter paleontological resources. That excavation could result in permanent irretrievable adverse impacts to paleontological resources in the following sediments: all types of Pleistocene alluvium, Norco Pliocene sediments, the Fernando Formation, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations (interfingering), the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation.

Considerable amounts of fossil fuels, labor, public capital, and construction materials (e.g., cement, aggregate, and bituminous material) would be expended for construction of Alternatives 1 and 2 and their design variations and would not be retrievable. Additionally, large amounts of labor and natural resources would be used in the making of construction materials, and these are generally not retrievable. However, labor and natural resources are not in short supply, and their use for the

project would not have an adverse effect on the continued availability of these resources in southern California. Construction of Alternatives 1 and 2 and their design variations would also require substantial expenditures of anticipated funds from local, State, and federal sources. Those funds are not retrievable. However, savings in travel time and improved transportation system efficiency would offset this use of materials, labor, resources, and funds. In addition to the costs of construction and right-of-way for the Build Alternatives, there would be increased ongoing costs for facility maintenance, including pavement, roadside litter/sweeping, signs and markers, electrical, and storm water control.

The commitment of these resources to Alternatives 1 and 2 and their design variations is based on the concept that residents, workers, travelers, and others in the immediate area, region, and State would benefit from the improved quality of the regional transportation system that connects Orange and Riverside Counties. These benefits would consist of improved accessibility, travel time, and safety, and a potentially reduced demand for fossil fuels to operate vehicles on SR-91 and I-15. These benefits of Alternatives 1 and 2 and their design variations are expected to outweigh the commitment of these resources to this project.

3.24.2 No Build Alternative

The No Build Alternative would not result in any irretrievable commitment of resources because the No Build Alternative would not result in the construction of improvements to the project segments of SR-91 and I-15. The No Build Alternative would not provide any reduction in travel times or increased efficiency and therefore would not provide benefits related to reduced demand for fossil fuels to operate cars, buses, and trucks on the project segments of SR-91 and I-15.

3.25 Cumulative Impacts

3.25.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The CEQA Guidelines Section 15130 describes when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under the NEPA, can be found in 40 CFR, Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

3.25.2 Methodology

The potential for the project to contribute to cumulative impacts was evaluated based on the following methodology:

- Identification/definition of the resources to be considered in the cumulative effect analysis, based on whether the project would result in direct or indirect impacts to the resources. The analyses contained in Sections 3.1 through 3.22 were used as the basis for determining whether the project, after any required mitigation, would potentially contribute to cumulative impacts. Resources for which the project is not expected to contribute to cumulative impacts are listed in Table 3.25.3 at the

end of this section. Resources for which the project would or could contribute to cumulative impacts are listed in Section 3.25.4.

- Definition of the geographic boundary or resource study area (RSA) for each resource evaluated in the cumulative impact analysis, based on an area appropriate to assess the overall health and status of that resource as well as the potential for the project to contribute to cumulative impacts related to that resource. The RSAs for each resource are described by resource in Section 3.25.4.
- Description of the current health and historical context of each resource as well as its status within the resource specific RSA. This information is provided in Section 3.25.4 by resource.
- Identification of the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
- Identification of current and reasonably foreseeable future actions or projects and their associated environmental impacts that have, would, or could contribute to cumulative impacts for the resources identified for the cumulative impacts analysis. Cumulative projects considered in this analysis are described in Tables 3.25.1 and 3.25.2, and are shown on Figure 3.25-1. (All tables and figures are provided following the last page of text in this section to minimize disruptions to the reader.)
- Assessment of the potential for the project and the other cumulative projects to contribute to cumulative adverse impacts to the identified resources. That evaluation is provided by resource in Section 3.25.4.
- Assessment of the need for the project to provide mitigation or other recommended actions to address its potential contribution to cumulative impacts. That assessment is provided by resource in Section 3.25.4.

Although this methodology was followed, the information is presented in a different order below to consolidate the discussions relevant to each resource in Section 3.25.4.

The discussion of cumulative impacts in this section considers the effects of the Alternative 1 and 2 Ulimate Projects. Because the Initial Phases of Alternatives 1 and 2 are merely parts of the respective Ultimate Projects, this approach adequately captures the potential contributions of the Initial Phases of Alternatives 1 and 2.

Due to fact that work areas for the Initial Phases and the Ultimate Projects generally differ (as described in Chapter 2), the impacts would typically occur only once in a specific area (during either the Initial Phases or the Ultimate Projects). The one exception is the area at the interchange of SR-91 and I-15, where there would be

construction in both the Initial Phases and Ultimate Projects. Impacts to a specific resource still could occur in both the Initial Phases and Ultimate Projects, but those impacts would not be occurring in the same specific area, except for the area at the interchange of SR-91 and I-15.

The construction of the Initial Phases of Alternatives 1 and 2, including the Preferred Alternative 2f, is estimated to take approximately 4 years and is expected to begin in 2013. As a result, the construction of the Initial Phases of Alternatives 1 and 2 and the temporary and permanent impacts of those improvements are expected to occur from 2013 to 2017. Those impacts would potentially contribute to cumulative impacts when considered with other projects that would be constructed and operational in the same time period. The impacts of the Initial Phases of Alternatives 1 and 2 would occur in the near future, largely along the segment of SR-91 from SR-71 to I-15.

The construction of the additional improvements in the Alternative 1 and 2 Ultimate Projects is estimated to take approximately 2 years. It is not known at this time when construction of the Ultimate Projects would occur, although those improvements are forecast to be operational by 2035. Because the timing of construction of the additional improvements in the Alternative 1 and 2 Ultimate Projects is not known, the timing of the contribution to cumulative impacts by the construction and operation of those improvements is unknown (but they would at least occur by 2035). The impacts of the Ultimate Projects of Alternatives 1 and 2 would occur on SR-91 west of SR-71 and east of I-15, and on I-15 north and south of SR-91.

The potential for the project to contribute to cumulative impacts is evaluated in detail in the *Final Cumulative Impacts Analysis Report* (July 2010). The findings of that cumulative impact analysis are summarized in this section.

3.25.3 Identification of the Resources to be Considered in the Cumulative Impact Analysis

If a potential impact of the project related to a specific environmental topic is fully mitigated or offset, with no net impact, or if there are no impacts related to that topic, then it was determined that there is no contribution to cumulative impacts from the project for that topic and is not discussed further in this section. As the potential effects of the Build Alternatives include Alternatives 1 and 2 and their design variations, these determinations also apply to the Preferred Alternative (Alternative 2f).

The environmental topics for which the Build Alternatives would not contribute to cumulative impacts are listed in Table 3.25.3; including summaries of why the Build Alternatives would not contribute to cumulative impacts related to those topics. (Table 3.25.3 is provided along with the other tables in this section immediately following the last page of text.)

Environmental topics for which the project may contribute to cumulative impacts are:

- **Human Environment**
- Farmlands (Section 3.25.4.1)
- Community Character and Cohesion, and Property Acquisition (Section 3.25.4.2)
- Traffic – Construction (Section 3.25.4.3)
- Visual and Aesthetics – Permanent Impacts (Section 3.25.4.4)
- **Physical Environment**
- Water Quality and Storm Water Runoff (Section 3.25.4.5)
- Paleontology (Section 3.25.4.6)
- Air Quality – Construction (Section 3.25.4.7)
- Noise – Operations (Section 3.25.4.8)
- **Biological Environment**
- Natural Communities, Plant Species, and Animal Species (Section 3.25.4.9)
- Wetlands and Other Waters of the United States (Section 3.25.4.10)
- Threatened and Endangered Species (Section 3.25.4.11)
- Invasive Species (Section 3.25.4.12)

Adopted plans that guide local and regional land use were reviewed in the vicinity of the project to determine which projects are currently being implemented or are reasonably foreseeable and may contribute to cumulative impacts. These plans include General Plans, Specific Plans, Area Plans, Community Plans, and other land use planning documents for the Cities of Anaheim, Corona, Riverside, Norco, and Temecula, and unincorporated areas in Orange and Riverside Counties.

Adopted plans that will direct future growth, development, and open space preservation in the area include the Mountain Park Specific Plan (Orange County), the Riverside County General Plan, the City of Corona General Plan, the Western Riverside County MSHCP, and individual Area and Specific Plans.

Approved and planned transportation improvements in northeastern Orange County and western Riverside County include various highway improvements, bus transit

projects, rail grade separation projects, and passenger rail service and facility improvements. These projects are described in detail in Table 3.25.1 and are shown on Figure 3.25-1. Approved and planned land use and nontransportation infrastructure projects are shown in Table 3.25.2 and on Figure 3.25-1. The potential environmental impacts of those projects, if known, are also summarized in Tables 3.25.1 and 3.25.2. The information provided in Tables 3.25.1 and 3.25.2 and on Figure 3.25.1 is the most current information available at the time the research and analyses for the cumulative impacts assessment were conducted.

The transportation and land use projects are within a large geographic area that includes all RSAs for resources of concern that could experience cumulative impacts associated with the Build Alternatives and the other cumulative projects described here. These projects are in various phases (planning, design, and construction). The majority of the cumulative transportation and land use projects considered in this analysis are within approximately 2 mi of the project segments of SR-91 and I-15.

3.25.4 Cumulative Impacts Analysis

As discussed in Chapter 2, Project Alternatives, the implementation of the SR-91 CIP Build Alternatives would occur in an Initial Phase, with the remaining improvements implemented after that phase to provide the Ultimate Project. As a result, project-related construction activities would occur in both the Initial Phase and Ultimate Project, with the short-term construction impacts occurring in both periods. The potential contribution of those short-term construction impacts would then be considered in combination with other cumulative short-term impacts during two different time periods: when the Initial Phase is constructed, and when the remaining project components are constructed later for the Ultimate Project. Although construction will not occur throughout the entire project alignment during construction of both the Initial Phase and Ultimate Project, the short-term impacts assessed in this section typically consider an area including all of the project alignments on both SR-91 and I-15. As a result, the potential contributions of the short-term project impacts to cumulative impacts in the study area described in this section are considered to occur in both the Initial Phase and Ultimate Project construction periods.

Similarly, the potential traffic-related benefits of the SR-91 CIP Build Alternatives would also occur in both the Initial Phase and the Ultimate Project. Although project improvements will not occur throughout the entire project alignment in both the Initial Phase and Ultimate Project, the beneficial project effects assessed in this

section typically consider an area including all of the project alignments on both SR-91 and I-15. As a result, the potential contributions of the beneficial effects of the project to cumulative traffic impacts in the study area described in this section are considered to occur after both the Initial Phase and the Ultimate Project are implemented.

Alternatives 1 and 2 and their design variations include project design features (PDFs) and avoidance, minimization, mitigation, and compensation measures to avoid or reduce impacts identified for those alternatives, as described in detail in Sections 3.1 through 3.24 of Chapter 3. In addition, the other cumulative projects generally include or are anticipated to include PDFs and measures to address the impacts of those projects. This section describes those avoidance, minimization, and/or mitigation measures and considers whether additional measures should be added to the Build Alternatives to assist in reducing or avoiding the identified cumulative impacts of the project and the other cumulative projects.

3.25.4.1 Farmlands

Resource Study Area for Farmlands

The RSA for farmlands was defined as areas in northern Orange County, specifically the areas now in the New OC Park (NNL), CHSP, and areas in western Riverside County, specifically in the Cities of Corona and Norco north and south of SR-91 and east and west of I-15; those areas are shown on Figure 3.3-1.

Historically, agriculture has been practiced throughout much of southern California, including Orange and Riverside Counties. Cattle ranching, row crops, and citrus have all been part of the agricultural history of northern Orange County and western Riverside County. Within the RSA for farmlands, as discussed in the *Historic Resources Evaluation Report*, agriculture (and specifically the citrus industry) was the dominant land use in the Corona area from the late 1880s to the late 1940s, when the citrus groves gradually gave way to new housing developments and in more recent decades, new commercial development. Today, there are no commercial citrus groves within or near the RSA for farmlands.

Much of the area within the RSA for farmlands has either been developed in nonagricultural uses or is within protected lands (CHSP, New OC Park [NNL]) that are no longer used for agriculture. Figure 3.3-1 in Section 3.3 shows there are only limited amounts of designated farmlands along the alignments of SR-91 and I-15 and in the RSA in northern Orange County and western Riverside County. In addition,

many of those designated farmlands, such as the lands along the project segment of SR-91, are currently vacant or developed in nonfarmland uses. Although agriculture was a major land use in this area historically, past and present development has substantially reduced the amount of agricultural activity in the RSA, and future development is expected to continue to convert designated farmlands in the RSA to nonagricultural uses. As a result, agriculture is no longer a substantial land use, part of the environment, or a major component in the economy in the RSA. The County of Orange, County of Riverside, the City of Corona and the City of Norco have no commitments in their General Plans to long-term agricultural uses along SR-91 and I-15 in the RSA for farmlands. As shown on Figure 3.3-1, the majority of lands along SR-91 and I-15 are designated as Urban and Built-up lands in the Farmland Mapping Database.

Impacts of the Build Alternatives on Farmlands

The analysis in the *Final Cumulative Impacts Analysis Report* indicates the Build Alternatives and their design variations would result in the permanent conversion of designated farmlands to nonagricultural transportation uses as shown in Table 3.3.2 in Section 3.3. Alternative 1 will convert approximately 17 acres of designated farmland, and Alternative 2 will convert approximately 20.7 acres of designated farmland within the project limits.

No mitigation has been proposed to replace land converted to nonagricultural uses by Alternatives 1 and 2 and their design variations.

Impacts of the Other Cumulative Projects on Farmlands

As noted earlier, past and present development has resulted in the conversion of a substantial amount of land in northern Orange County and western Riverside County used for agricultural uses to nonagricultural uses. Large areas of mapped farmlands within CHSP and the New OC Park (NNL) are now designated for recreational use and are no longer used or available for agricultural purposes. In addition, because there are areas designated for agricultural uses throughout western Riverside County, including both incorporated cities and unincorporated areas, other cumulative projects would result in the permanent conversion of designated agricultural lands to nonagricultural uses. For example, the *Riverside County General Plan* defines and identifies designated agricultural lands in unincorporated Riverside County. The *General Plan Final Program Environmental Impact Report* (Final EIR) identifies the General Plan policies to support protection of agricultural uses but acknowledges that the establishment of any program to accomplish that is uncertain. No additional

mitigation was proposed beyond these policies to protect agricultural uses. That Final EIR further concluded that even with implementation of the policies for protection of agricultural uses, the *Riverside County General Plan* would result in significant unavoidable impacts under CEQA related to the loss of designated agricultural lands, including areas in western Riverside County.

Of the projects listed in Tables 3.25.1 and 3.25.2 for which environmental impact information was available, six of them identified specific impacts to existing farmlands. Five of these projects [SR-79 Realignment (Gilman Springs Road to Domenigoni Parkway), Mid County Parkway Project (I-215 to SR-79), I-15/State Route 79 (SR-79) (Temecula Parkway) South Interchange Improvement Project, SR-79 (Winchester Road) Project between Thompson Road and Domenigoni Parkway, and The Villages of Lakeview] are over 20 miles away from the SR-91 CIP study area and RSA for farmlands]. The fourth project [The Ranch at Eastvale Specific Plan No. 358 – ID Number 44 (Sheet 5 of Figure 3.25-1)] was approved in 2009 and will convert a 119 acre dairy parcel into a mixed use development including light industrial and commercial retail uses.

Potential for Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects on Farmlands

As discussed above, past projects, the Build Alternatives, and some of the other cumulative projects would have already or would result in the future permanent conversion of designated agricultural lands to nonagricultural uses. Therefore, Alternatives 1 and 2 and their design variations and the other cumulative projects are considered to contribute to a cumulative adverse impact related to the conversion of designated agricultural lands to nonagricultural uses.

Potential Mitigation for Project's Contribution to Cumulative Impacts on Farmlands

The Department does not have the land use authority that would allow it to implement farmland conservation measures or encourage the creation of new agricultural land that would avoid or mitigate its contribution to this cumulative impact. Also, the Final EIR for the *Riverside County General Plan* discussed the difficulty of establishing a farmland protection and stewardship program and concluded that such a program was unlikely to be developed. Even if implemented by a local jurisdiction, such a program would only protect existing agricultural land but would not create new agricultural land, and there would still be a net loss of designated agricultural lands in the long term. As a result, Alternatives 1 and 2 and their design variations are considered to

contribute to a cumulative adverse impact – related to the conversion of designated agricultural lands to nonagricultural uses – that cannot be avoided or mitigated.

3.25.4.2 Community Character and Cohesion, and Property Acquisition

Resource Study Area for Community Character and Cohesion, and Property Acquisition

The RSA for the cumulative impacts analysis for community impacts is defined as the area covered by the cities of Anaheim, Yorba Linda, Corona, Norco, and Riverside, as well as parts of unincorporated Orange and Riverside Counties that are contiguous with those cities.

Historically, the land use in this RSA was agriculture and now includes a wide range of urban and suburban uses as well as parks and open space. As a result, the community character of the RSA varies. In some areas, such as in the cities of Corona and Riverside, the community character is suburban/urban with a wide range of land uses, including residential, commercial, industrial, and manufacturing uses. SR-91 is a major feature crossing these cities. Areas along I-15 are lower density and include more rural areas such as the city of Norco. Areas on the western part of SR-91 include substantial open space in CHSP, the New OC Park (NNL), CNF, and the Green River Golf Club. As a result, the character of the RSA spans a wide range from open space to urban uses.

The cities encompassed by the RSA developed over time. There has been a substantial shift in the community character from predominantly agricultural to many areas that are essentially built out or approaching build out in urban/suburban uses. The cities and communities along the project segments of SR-91 have their own identities that include fairly strong community cohesion based on the demographics evaluated in Section 3.4. That sense of community cohesion has likely changed over time as new roads, freeways, and major developments have been constructed.

Overall, the demographics show fairly strong community cohesion at the census tract level, but major roads and freeways such as SR-91 and I-15 have likely contributed to a reduction in cohesion between the parts of the cities and communities on either side of these transportation facilities.

Impacts of the Build Alternatives on Community Character and Cohesion, and Property Acquisition

The findings of the analysis of potential impacts of the Build Alternatives and their design variations related to community character and cohesion provided in

Section 3.4, Community Impacts, indicate that Alternatives 1 and 2 would result in impacts on community character and cohesion as a result of the acquisition of property in areas adjacent to SR-91 and I-15, changes in views, and changes to pedestrian and bicycle facilities at their crossings of SR-91 and I-15. Based on indicators of community cohesion evaluated at the census tract level, including the long tenure of many of the residents in the study area (many of the rural neighborhoods in the project study area have been in existence for decades), ethnic homogeneity, a high percentage of persons aged 65 and over, and a large number of residents who are pedestrians (based on the high percentages of transit-dependent persons), there is a high degree of community cohesion in different parts of the project study area. The City of Corona, where all the property acquisition under Alternatives 1 and 2 would occur, has a high degree of ethnic homogeneity, almost 40 percent of the population is transit-dependent, and nearly 60 percent of the residents have lived in their homes since before 1999.

Nearly all the property acquistions for Alternatives 1 and 2 will occur in the Initial Phases and will occur in the City of Corona. As a result, the majority of the project effects on community character and cohesion in the City would occur in the Initial Phases of Alternatives 1 and 2. Property acquisition would result in the removal of existing residential and nonresidential uses along SR-91 between SR-241 and SR-71, between Auto Center Drive and Maple Street in Corona. The area between SR-241 and SR-71 is predominantly less developed than the other areas along SR-91 or is in CHSP, New OC Park (NNL), and CNF, which is land protected from future development. Table 3.4.6 in Section 3.4 summarizes the potential acquisition and removal of homes and nonresidential parcels for Alternatives 1 and 2 and their design variations. Alternative 1 would result in the acquisition and removal of 21 single-family homes under all design variations, and 72 to 96 multifamily homes, depending on the design variation. Alternative 2 would result in the acquisition and removal of 18 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. Alternative 2f would result in the acquisition and removal of 18 single-family homes and 127 multifamily homes. As a result, Alternative 2f would acquire and remove the lowest number of single-family homes and nearly the highest number of multifamily homes, compared to the other Alternative 2 design variations. The majority of the homes acquired and removed under Alternatives 1 and 2 are in the City of Corona along SR-91 between Green River Road and I-15.

As shown in Table 3.4.9, Alternative 1 would displace between 110 and 189 businesses, depending on the design variation. Alternative 2 would displace between

88 and 275 businesses, depending on the design variation. Alternative 2f would displace 88 businesses, the lowest number of businesses impacted by a Build Alternative.

Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated that there would be ample relocation sites, homes, and business resources for all residential and commercial owners and tenant displacees. However, the removal of homes and business would change the community character of the affected areas. Measures CI-1 through CI-3 would only partially minimize the effects of Alternatives 1 and 2 to community character and cohesion as a result of property acquisition and the removal of the existing land uses on those properties.

Community character would also be affected by the improvements provided under Alternatives 1 and 2. Specifically, the project would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The heights of the retaining walls under Alternatives 1 and 2 would range from 3 to 40 ft, depending on the location. These changes would modify the visual quality of the project study area by introducing more urbanized and hardscape elements and, as a result, would affect the existing community character. However, with the consideration of aesthetic features for retaining walls, sound walls, and bridge structures during final design as required in Measures V-1 to V-3, some of the project visual impacts to community character would be minimized. Additional landscaping consistent with the 215/91 Corridor Master Plan would be implemented where existing landscaping is removed during construction and/or where the expanded right-of-way allows. The additional landscaping would further minimize potential visual impacts of Alternatives 1 and 2 to community character. Although Measures V-1 through V-3 would minimize some of the impacts to community character in the City of Corona, the widened freeway facilities would contribute to continued urbanization of the area. As a result, not all the impacts of Alternatives 1 and 2 related to community character can be mitigated.

On the local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings. As a result, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting for vehicles and pedestrians consistent with local standards.

However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design that includes the provision of appropriate lighting in the new parts of the undercrossings and additional lighting in the existing parts of the undercrossings, if it is determined to be necessary. Measure V-1, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists may perceive the modified overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion.

Measures CI-1 through CI-3, T-1, T-4, and V-1 to V-3 would partially minimize the effects of Alternatives 1 and 2 and their design variations, including Alternative 2f, related to community character and cohesion.

Impacts of the Other Cumulative Projects on Community Character and Cohesion, and Property Acquisition

Tables 3.25.1 and 3.25.2 list a substantial number of approved and planned projects in the cities and unincorporated areas in northeast Orange County and western Riverside County. As discussed in Section 3.4, Community Impacts, the SR-91 CIP's impact to community character and cohesion is within the City of Corona due to the removal of homes and businesses under Alternatives 1 and 2. Based on the review of available information for the transportation projects shown on Figure 3.25-1 and listed in Table 3.25-1, none of the projects in the Corona area (Transportation Project Map ID Numbers 3, 5, 12, 13, 14, 15, 16, 18, 21, 25, 26, 57, 58, and 59) would result in removal of homes and businesses or would otherwise impact community cohesion through loss of access within the affected community. The I-15 Corridor Improvement Project (Transportation Project Map ID Number 17) could result in removal of some homes or businesses along I-15, but specific impacts are unknown at this time until the range of alternatives is finalized. The Elevated 4-Lane Facility (MIS Corridor A) would be elevated to minimize right of way impacts, but project development has not been initiated so no specific information is available. Based on the review of available information for the Land Development and Non-Transportation Infrastructure projects shown on Figure 3.25-1 and listed in Table 3.25-2, none of the projects in the Corona area (Land Development Project Map ID Numbers 23, 32, 33, 35, 36, 37, and 39, and Public Infrastructure Map ID Numbers

47 and 48) would result in removal of homes and businesses or would otherwise impact community cohesion through loss of access within the affected community. Based on the above review of cumulative projects that would impact the area within Corona that is impacted by the SR-91 CIP, the cumulative projects listed in Tables 3.25.1 and 3.25.2 would result in limited impacts related to the acquisition of homes and the displacement of residents, and would therefore not contribute to changes in community character in the RSA.

The majority of the cumulative transportation projects in the RSA would be expected to enhance mobility and community cohesion, but some of those projects could result in degradation of community cohesion if they result in more difficult travel paths or modified opportunities for pedestrians and bicyclists, similar to the effects under Alternatives 1 and 2.

Potential Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects on Community Character and Cohesion, and Property Acquisition

As discussed above, Alternatives 1 and 2 and their design variations would result in the acquisition and removal of homes and the displacement of residents. Some of the other cumulative projects are also expected to result in the acquisition and removal of homes and the displacement of residents in the RSA. As a result, Alternatives 1 and 2, including Alternative 2f, would contribute incrementally to cumulative impacts to community character related to the removal of homes and the displacement of residents in the RSA. However, this potential cumulative effect would be substantially offset by the implementation of the approved and planned residential land development projects listed in Table 3.25.2.

As discussed above, Alternatives 1 and 2, including Alternative 2f, would result in changes in the visual character of the area and changes in community cohesion associated with the wider overcrossings and undercrossings at SR-91 and I-15. Some of the cumulative transportation projects in the RSA could result in degradation of community cohesion if they result in more difficult travel paths or modified opportunities for pedestrians and bicyclists, similar to the effects under Alternatives 1 and 2.

As a result, Alternatives 1 and 2, including Alternative 2f, would contribute incrementally to continuing changes in community character and cohesion in the RSA.

Potential Mitigation for Project's Contribution to Cumulative Impacts on Community Character and Cohesion, and Property Acquisition

The acquisition of property, including homes and the removal of the existing land uses on those properties, for the Build Alternatives would comply with the requirements of the Uniform Act (Public Law 91-646, 84 Statute 1894). The Uniform Act mandates that certain relocation services and payments be made available by a project proponent to eligible residents, businesses, and nonprofit organizations displaced by its project. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their residences, businesses, or farms, and establishes uniform and equitable land acquisition policies. In addition, if a Build Alternative is selected for implementation, design refinements to avoid or minimize impacts to existing land uses, including residential uses, would also be incorporated in the final design of that alternative.

Other projects with federal assistance, including many of the transportation projects listed in Table 3.25.1, would also be required to comply with the requirements of the Uniform Act for any property acquisition. The private projects listed in Table 3.25.2 would likely result in far fewer displacements of residential uses. The acquisition of land, the removal of the existing land uses, and the displacement of any residents on those properties for private projects would be subject to individual negotiations with each property owner and may also be subject to local regulations regarding displacement of tenants in rented units.

Additional measures for the Build Alternatives, beyond compliance with the Uniform Act, are not warranted because compliance with the Uniform Act would substantively reduce or mitigate the effects of the Build Alternatives related to the acquisition and removal of residential uses and the displacement of residents.

Measures T-4 and V-1 provide mitigation to reduce adverse community cohesion impacts of Alternatives 1 and 2 on pedestrians and bicyclists using undercrossings to cross SR-91 and I-15. Other transportation projects that increase the lengths of undercrossings may also include similar mitigation. Land use projects would not affect the undercrossings and, therefore, would not require mitigation related to effects at undercrossings.

Measures V-1 through V-3 would address many of the visual impacts of Alternatives 1 and 2 and would mitigate some of the changes related to visual impacts on community character. The other cumulative projects would be expected to include

similar mitigation to address visual impacts of new/expanded hardscape, new development, and other changes to the visual environment. However, even with mitigation, Alternatives 1 and 2 and the other cumulative projects would contribute to continuing changes in community character and cohesion in the RSA.

3.25.4.3 Short-Term Impacts on Traffic Circulation

Resource Study Area for Short-Term Impacts on Traffic Circulation

The RSA for evaluating the potential for cumulative short-term traffic impacts during construction of the SR-91 CIP and other cumulative project focuses on the length of time a specific area would be under construction. These areas would include the roads and intersections in the vicinity of the construction zone, and other projects under construction in the same area. Cumulative short-term traffic impacts could occur if the SR-91 CIP was under construction at the same time as other projects in the same area.

As shown in Table 3.6.5 in Section 3.6, nine GP segments on SR-91 operated deficiently under Baseline/Existing (2007) conditions, with five segments operating at LOS F for both peak directions of travel. More than half the study segments on SR-91 operated deficiently in the westbound direction, which is the peak direction of travel during the a.m. peak-hour period. The segments adjacent to the SR-71 interchange were among those LOS F interchanges that experienced the highest traffic densities in 2007. All the toll/HOV segments on SR-91 operated at acceptable LOS in 2007.

All segments on I-15 operated at acceptable LOS during both peak hours, with the exception of two southbound segments that operated deficiently during the p.m. peak hour.

Impacts of the Build Alternatives Related to Short-Term Impacts That Are Related to Traffic Congestion

The construction of Alternatives 1 and 2 and their design variations and the potential short-term effects of that construction on traffic circulation are discussed in the Preliminary TMP. The Preliminary TMP acknowledges that the construction of Alternatives 1 and 2 and their design variations, including Alternative 2f, may result in temporary delays, temporary detours and/or lane, street, ramp and/or freeway closures. The TMP addresses the short-term traffic impacts during project construction on travelers, emergency service providers, local businesses, local jurisdictions, pedestrians, and others affected by traffic impacts during construction. Although the TMP includes substantial measures to address short-term traffic

impacts, there still may be a considerable public perception that those short-term traffic impacts during construction are substantial and not fully mitigated by the TMP.

Impacts of the Other Cumulative Projects Related to Short-Term Impacts on Traffic Circulation

Construction of the other cumulative transportation projects, including rail and rail-associated projects, may also result in some or all of the same kinds of short-term traffic impacts as would occur under the Build Alternatives. The Initial Phase of the SR-91 CIP is scheduled to start construction in 2013 and be completed by late 2017. A specific construction schedule has not been identified for the Ultimate Project of the SR-91 CIP. The transportation projects shown on Figure 3.25-1 and listed in Table 3.25-1 were reviewed to determine which projects may be under construction at the same time as the SR-91 CIP. Of the projects listed, eight of the projects are complete and would not be under construction at the same time as the SR-91 CIP (Transportation Project Map ID Numbers 1, 2, 3, 13, 14, 15, 19, and 21) and nine projects either have unknown schedules or are programmed to be constructed after 2017 (Transportation Project Map ID Numbers 11, 12, 18, 25, 26, 52, 57, 58, and 59).

The following five projects would be under construction at the same time as the SR-91 CIP:

- **SR-91 Widening Between the SR-91/State Route 55 (SR-55) Separation and the SR-91/SR-241 Separation – ID Number 4 (Sheets 1 and 2 of Figure 3.25-1):** This project is currently under construction and is scheduled to be completed in 2015. Because the easterly limit of this project is at SR-241, it would not directly conflict with the construction area of the SR-91 CIP Initial Phase (westerly limit at SR-241), but traffic management activities such as lane closures will need to be coordinated between the two projects.
- **SR-71/SR-91 Interchange Improvements – ID Number 5 (Sheet 3 of Figure 3.25-1):** This project is scheduled to start construction in 2015; therefore, traffic management activities such as lane closures will need to be closely coordinated with the SR-91 CIP construction.
- **SR-241/SR-91 HOV/High-Occupancy Toll (HOT) Connector – ID Number 9 (Sheet 2 of Figure 3.25-1):** This project is scheduled to complete construction by 2018; therefore, traffic management activities such as lane closures will need to be closely coordinated with the SR-91 CIP construction.

- **I-15/Cajalco Road Interchange Improvement Project – ID Number 16 (Sheet 6 of Figure 3.25-1):** This project is scheduled to complete construction by 2015, but it is located south of the southerly terminus of the SR-91 CIP on I-15 at El Cerrito Road; therefore, construction of this project should not conflict with SR-91 CIP construction.
- **I-15 Corridor Improvement Project – ID Number 17 (Sheets 4, 5, and 6 of Figure 3.25-1):** This project is scheduled to start construction in 2015; therefore, traffic management activities such as lane closures will need to be closely coordinated with the SR-91 CIP construction.

These five projects would also have TMPs specific to each project and the local conditions in the area of each project. Similar to the SR-91 CIP, those TMPs would address the short-term traffic impacts during construction on travelers, emergency service providers, local businesses, local jurisdictions, pedestrians, and others affected by traffic impacts during construction.

The construction of the majority of land development projects does not typically result in substantial short-term traffic impacts. Larger projects or projects with substantial materials transport needs may require traffic controls on and near the project sites to minimize impacts to local traffic. Projects that result in the construction of new driveways or the modification of existing driveways may also need site-specific traffic control in those areas during the construction of those project components. However, the short-term traffic impacts associated with land use projects are typically very site-specific and are not likely to result in impacts very far from the individual project sites.

Potential Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects Related to Short-Term Impacts on Traffic Circulation

As discussed above, five transportation projects or may be under construction at the same time as the Initial Phase of the SR-91 CIP. The TMP for the SR-91 CIP Initial Phase will specifically address coordination of lane closures and detours required for the SR-91 CIP with those five projects.

As discussed above, most land development projects result in short-term needs for traffic control only in the immediate vicinity of the individual project sites. Therefore, none of the land development projects listed in Table 3.25-2 would result in cumulative short-term traffic impacts.

Potential Mitigation for Project and Cumulative Short-Term Impacts on Traffic Circulation

The appropriate measure to address short-term traffic impacts is a TMP specific to each project. A key component of most TMPs is appropriate coordination with local jurisdictions and area emergency service providers to ensure that traffic effects are minimized based on ongoing coordination and appropriate provision of signing and advance information to keep those parties informed as to the status of street, ramp, freeway, and lane closures, detours, and other conditions in the study area. In addition, to minimize the potential for short-term cumulative traffic impacts, coordination of the TMPs with local jurisdictions for projects that are under construction concurrently will be required. No further measures would be necessary to address the project's contribution to short-term cumulative traffic impacts during construction of the Build Alternatives.

3.25.4.4 Visual and Aesthetics – Permanent Impacts

Resource Study Area for Visual and Aesthetics – Permanent Impacts

Section 3.7, Visual/Aesthetics, describes the visual environment along the project segments of SR-91 and I-15. That environment includes views of open space, recreational, residential, industrial, and commercial uses. The visual environment in the project study area also includes a substantial amount of infrastructure, including local roads and freeways. The freeways include interchanges, overhead structures, embankments, and highway ramps within those highway segments.

The RSA for visual/aesthetics is defined as the areas along the project segments of SR-91 and I-15, areas that can be seen from those freeways, and areas from which those freeways or components of those freeways can be seen.

The RSA includes two major landscape units centered along SR-91 and I-15:

- **Open Space/Recreational Landscape Unit:** This unit is on either side of SR-91 in the Cities of Anaheim, Yorba Linda, and Corona, and in unincorporated areas of Orange and Riverside Counties. It includes views of SR-91 and the open space and recreational areas adjacent to the freeway. This area is in the foothills of the Santa Ana Mountains, with elevations ranging from 401 to 800 ft amsl. Scenic features in this landscape unit from which SR-19 is visible and that are visible from SR-91 include CHSP, Featherly Regional Park, CNF, the New OC Park (NNL), the Santa Ana River, and the Green River Golf Club.

- **Urban Use Landscape Unit:** This landscape unit is in the Cities of Corona, Riverside, and Norco, and unincorporated areas of Riverside County. It includes views of SR-91, I 15, and commercial, industrial, and residential areas adjacent to those freeways. The primary features visible in this landscape unit are urban/suburban features and include substantial amounts of hardscape such as buildings, walls, freeway and road surfaces, and freeway structures.

Impacts of the Build Alternatives Related to Visual and Aesthetics

As discussed earlier, Alternatives 1 and 2 would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The heights of the retaining walls under Alternatives 1 and 2 would range from 3 to 40 ft, depending on the location. These changes would modify the visual quality of the RSA by introducing more urbanized and hardscape elements and, as a result, would affect the existing community character. However, with the consideration of aesthetic features for retaining walls, sound walls, and bridge structures during final design, some of the project impacts to community character would be minimized. Additional landscaping consistent with the *215/91 Corridor Master Plan* would be implemented where existing landscaping is removed during construction and/or where the expanded right-of-way allows. The additional landscaping would further minimize potential impacts of Alternatives 1 and 2 to community character. Although Measures V-1 and V-2 would minimize some of the impacts to community character in the City of Corona, the widened freeway facilities would contribute to continued urbanization of the RSA. As a result, not all the visual impacts of Alternatives 1 and 2 and their design variations, including Alternative 2f, can be mitigated.

Impacts of the Other Cumulative Projects Related to Visual and Aesthetics

The cumulative transportation and development projects listed in Tables 3.25.1 and 3.25.2 would also contribute to changes in the visual environment in the communities along SR-91 and I-15 in the RSA as a result of property acquisition, development of new land uses, and overall increasing urbanization in the area. Where the CEQA (and NEPA, if applicable) documents for the cumulative projects identify significant visual and aesthetic impacts, the cumulative projects would include mitigation to address visual impacts of new/expanded hardscape, new development, and other changes to the visual environment similar to the measures included in Alternatives 1 and 2.

Potential Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects Related to Visual and Aesthetics

The project, combined with other transportation and development projects, would contribute incrementally to the increasing urbanization in the area that changes the visual environment along SR-91 and I-15 in the RSA.

Potential Mitigation for Project and Cumulative Impacts Related to Visual and Aesthetics

Measures V-1 through V-3 would partially mitigate the project's contribution to visual impacts with the RSA. The other cumulative projects would be expected to include mitigation to address visual impacts of new/expanded hardscape, new development, and other changes to the visual environment similar to the measures included in Alternatives 1 and 2. However, even with mitigation, Alternatives 1 and 2 would contribute to the continuing changes in the visual environment in the RSA.

3.25.4.5 Water Quality and Storm Water Runoff

Resource Study Area for Water Quality and Storm Water Runoff

The RSA is the same as the study area for the water quality analysis discussed in Section 3.10, Water Quality and Storm Water Runoff: the Santa Ana River Watershed. The Santa Ana River extends about 96 mi from its headwaters to the Pacific Ocean. The headwaters for the Santa Ana River and its tributaries are in the San Gabriel and San Bernardino Mountains to the north and the San Gorgonio and San Jacinto Mountains to the east. From the San Bernardino and San Gabriel Mountains, the Santa Ana River flows through the Santa Ana Valley, Prado Basin, and a narrow pass in the Santa Ana Mountains, and then southwest to the Pacific Ocean. The Santa Ana River Watershed is divided into upper and lower watersheds at Prado Dam.

Water quality in this watershed has been affected historically by past and present runoff from agricultural and urban land uses. The current health and historic context of water resources in this region are discussed in Section 3.10.2.6, Water Quality Impairments.

Pollutants of concern during operation of a transportation facility include sediments, trash, and debris that can be generated from facility maintenance and vehicles operating on the facility. In addition to sediments and trash, pollutants of concern during operation of a transportation facility include petroleum products, metals, nutrients, solvents, waste paint, herbicides, and pesticides. These pollutants of

concern can be generated from maintenance activities as well as vehicles operating on the facility, and thus have the potential for accidental spills and discharges to receiving waters. Increased impervious areas associated with urbanizing development increase the volume of runoff during a storm, which more effectively transports pollutants to receiving waters and may lead to adverse effects on water quality and downstream erosion. Reach 3 of the Santa Ana River is listed as impaired for lead, copper, and pathogens. Santa Ana River Reach 2 is listed as impaired for indicator bacteria. Temescal Creek Reach 1 is listed as impaired for pH.

The potential impacts of construction activities on water quality focus primarily on sediments, turbidity, and pollutants that might be associated with sediments (e.g., phosphorus and pesticides) and how these may impact water quality objectives and/or beneficial uses. Construction-related activities that are primarily responsible for sediment releases are related to exposing soils to potential erosion by rainfall/runoff and wind. Non-sediment-related pollutants of concern during construction include waste construction materials; chemicals, liquid products, and petroleum products (such as paints, solvents, and fuels) used in construction or the maintenance of heavy equipment; and concrete-related waste streams. These construction-related pollutants may be spilled, leaked, or transported via storm runoff into receiving waters and may potentially impair water quality objectives and/or beneficial uses.

Impacts of the Build Alternatives Related to Water Quality and Storm Water Runoff

Alternative 1 would increase the impervious surface area by 117 ac (i.e., 27.0 percent) compared to the existing freeway facilities. Alternative 2 would increase the impervious surface area by 173 ac, a 39.6 percent increase, compared to the existing freeway facilities. As part of the Build Alternatives, BMPs will be implemented to target constituents of concern in runoff from the additional freeway facilities under Alternatives 1 and 2. All the runoff from the new net impervious surface areas (117 ac under Alternative 1 and 173 ac under Alternative 2) and some parts of the existing freeway facilities would be treated by BMPs such as biofiltration swales, infiltration basins, detention basins, and/or media filters. The BMPs would be implemented in accordance with NPDES Permit requirements and would reduce the impact to existing water quality.

During construction of Alternatives 1 and 2, excavated soil would be exposed and there would be increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate.

There is also potential for construction-related pollutants to be discharged into storm drains and surface waters during construction. The total area estimated to be disturbed during construction under Alternatives 1 and 2 is approximately 351 ac and approximately 503 ac, respectively. Under the Construction General Permit, a SWPPP would be prepared and implemented, including implementing specific erosion and sediment control BMPs detailed in the SWPPP during construction activities. Appropriate construction site BMPs for work in high-risk areas would be identified in the SWPPP and implemented during construction. Construction BMPs would be properly designed, implemented, and maintained during all construction activities under Alternatives 1 and 2.

Impacts of the Other Cumulative Projects Related to Water Quality and Storm Water Runoff

The other cumulative projects in Tables 3.25.1 and 3.25.2 would all result in increases in impervious areas in the RSA and, as a result, would result in increases in storm water and other runoff from those project sites during construction and operations in the Santa Ana River Watershed. That water could include a number of pollutants of concern. The cumulative projects would be required to provide for control and treatment of storm water and other runoff on those project sites prior to discharge of the water off site. Those controls could include a wide range of BMPs during both construction and operations.

Potential Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects Related to Water Quality and Storm Water Runoff

The Build Alternatives and the cumulative projects would result in a cumulative increase in impervious surfaces in the RSA and in the amount of storm water and other runoff from the sites of all the projects in the Santa Ana River Watershed. That water could include a wide range of pollutants of concern. Even with construction and operations BMPs, there is no certainty that 100 percent of all new storm water and other runoff from those sites would be captured and treated prior to release off site. As a result, in the long-term, the Build Alternatives and the other cumulative projects would result in an adverse impact on water quality in the Santa Ana River Watershed.

Potential Mitigation for Project's Contribution to Cumulative Impacts Related to Water Quality and Storm Water Runoff

As noted above, the Build Alternatives and the other cumulative projects would be required—during both construction and operations—to capture and treat storm water and other runoff prior to discharge off the project sites. Nonetheless, the Build

Alternatives and the other cumulative projects would result in a cumulative adverse impact on water quality in the Santa Ana River Watershed because there is no certainty that 100 percent of all new storm water and other runoff generated in the RSA during construction and operation of those projects can be captured and properly treated prior to release off site. This potential cumulative adverse impact on water quality in the RSA would be minimized based on implementation of BMPs, and compliance with applicable NPDES Permit conditions and other water quality regulations by the Build Alternatives and the other cumulative projects.

3.25.4.6 Paleontology

Resource Study Area for Paleontology

The project segments of SR-91 and I-15 are located in the northwestern Peninsular Range Province of southern California. This Province is bounded on the north by the Transverse Ranges, on the east by the Colorado Desert, and on the west by the Pacific Ocean, and extends south to include the entire Baja California Peninsula. Igneous, metamorphic, and sedimentary rocks are exposed throughout the Province. The project segments of SR-91 and I-15 pass through the Santa Ana Mountains and a structural feature known as the Perris Block. The Santa Ana Mountains contain exposures of Jurassic to Cretaceous (145 to 65 mya) metamorphic and igneous rocks covered by limited exposures of younger sediments dating from the Cretaceous to the present. There are 21 formally named sedimentary formations or unnamed sedimentary units in the project study area.

The RSA for paleontology covers northern Orange County and western Riverside County, including the Santa Ana Mountains and the Santa Ana River Valley, as this is the area where the SR-91 CIP could contribute to cumulative impacts to paleontological resources.

As discussed in Section 3.12.2, Affected Environment, which describes the historical context for paleontological resources, many of the formations and rock types in this area are considered moderately to highly sensitive for paleontological resources. Any removal or destruction of paleontological resources during construction on projects in the RSA would contribute to a cumulative loss of paleontological resources.

Impacts of the Build Alternatives on Paleontology

The analysis of the potential impacts of Alternatives 1 and 2 and their design variations, including Alternative 2f, on paleontological resources is provided in Section 3.12, Paleontology. That analysis indicated construction of the project would

result in permanent impacts to paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. While there would be minor differences in areas actually disturbed during construction, the impacts of Alternatives 1 and 2 and their design variations on these sediments would be very similar because the construction of these alternatives would use similar techniques and would disturb approximately the same areas along the alignments.

In summary, excavation for Alternatives 1 and 2 would potentially disturb two fossiliferous Cretaceous Formations, nine fossiliferous Tertiary Formations, and four fossiliferous early to late Pleistocene sediments. These potential permanent impacts would be partially reduced based on the implementation of the PMP stipulated in Measure PAL-1, described in Section 3.12.4.

Impacts of the Other Cumulative Projects on Paleontology

The cumulative projects would also be expected to result in permanent impacts to paleontological resources when excavation for those projects extends into fossiliferous formations. The following sediments in the area would be expected to be impacted during construction of most of the cumulative projects, to varying degrees: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. The quantity and severity of those impacts would be related to the amount (acres) of soil disturbed, the depth of excavation, and the resources, if any, encountered during construction.Where significant impacts to paleontological resources are identified in the CEQA (and NEPA, where applicable) documents for the cumulative projects, the cumulative projects would be required to include mitigation measures to address potential impacts to paleontological resources encountered during construction.

Potential for Cumulative Impacts of the Build Alternatives and Other Cumulative Projects on Paleontology

The construction of Alternatives 1 and 2 and many of the cumulative projects in the RSA would occur in sediments sensitive for paleontological resources, which would

The RSA for paleontology covers the areas in Orange County and western Riverside County north and south of the project segment of SR-91 and east and west of the project segment of I-15. The RSA includes parts of the Santa Ana Mountains and the Santa Ana River Valley.

As discussed in Section 3.12.2, Affected Environment, many of the formations and rock types along the project segments of SR-91 and I-15 are considered moderately to highly sensitive for paleontological resources. Any removal or destruction of paleontological resources during construction on projects in the RSA would contribute to a cumulative loss of paleontological resources.

Impacts of the Build Alternatives on Paleontology

The analysis of the potential impacts of Alternatives 1 and 2 and their design variations, including Alternative 2f, on paleontological resources is provided in Section 3.12, Paleontology. That analysis indicated construction of the project would result in permanent impacts to paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. While there would be minor differences in areas actually disturbed during construction, the impacts of Alternatives 1 and 2 and their design variations on these sediments would be very similar because the construction of these alternatives would use similar techniques and would disturb approximately the same areas along the alignments.

In summary, excavation for Alternatives 1 and 2 would potentially disturb two fossiliferous Cretaceous Formations, nine fossiliferous Tertiary Formations, and four fossiliferous early to late Pleistocene sediments. These potential permanent impacts would be partially reduced based on the implementation of the PMP stipulated in Measure PAL-1, described in Section 3.12.4.

Impacts of the Other Cumulative Projects on Paleontology

The cumulative projects would also be expected to result in permanent impacts to paleontological resources when excavation for those projects extends into fossiliferous formations. The following sediments in the area would be expected to be impacted during construction of most of the cumulative projects, to varying degrees: all types of Pleistocene alluvium, sedimentary rocks of the Norco area, the Fernando

Formation, sandstone of the Norco area, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations, the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. The quantity and severity of those impacts would be related to the amount (acres) of soil disturbed, the depth of excavation, and the resources, if any, encountered during construction.Where significant impacts to paleontological resources are identified in the CEQA (and NEPA, where applicable) documents for the cumulative projects, the cumulative projects would be required to include mitigation measures to address potential impacts to paleontological resources encountered during construction.

Potential for Cumulative Impacts of the Build Alternatives and Other Cumulative Projects on Paleontology

The construction of Alternatives 1 and 2 and many of the cumulative projects in the RSA would occur in sediments sensitive for paleontological resources, which would result in adverse impacts to those resources. A PMP would require appropriate fieldwork, monitoring during construction, and specimen collection, identification, and curation. However, the impacts of the Build Alternatives and the other cumulative projects would result in a net loss of paleontological resources in the RSA because the mitigation for the impacts on the affected resources would not create new paleontological resources to replace those impacted during construction. As a result, the SR-91 CIP, including Alternative 2f, would contribute to a permanent cumulative impact related to paleontological resources in the RSA.

Potential Mitigation for Project's Contribution to Cumulative Impacts on Paleontology

There is no mitigation that would replace paleontological resources impacted during construction. However, the Build Alternatives and most other construction projects would require appropriate preconstruction fieldwork to identify potential areas of resources; measures during construction in areas identified as sensitive for paleontological resources; and the collection, identification, and curation of specimens from the affected sediments and formations. This work would partially reduce impacts to paleontological resources. However, because the impacts are permanent even with these measures, Alternatives 1 and 2 and their design variations would incrementally contribute to cumulative impacts to paleontological resources in the RSA.

3.25.4.7 Air Quality – Construction

Resource Study Area for Short-Term Air Quality

The project's only potential contribution to cumulative air quality impacts are temporary construction related impacts that can result from equipment operations as well as dust generated during grading or travel on unpaved surfaces. The RSA for short-term air quality impacts focuses on areas in proximity to active construction areas for the project and other nearby cumulative projects under construction at the same time.

Over time, the air quality in the Basin, including the RSA for short-term air quality impacts, has been substantially degraded by short- and long-term emissions of pollutants and dust generated by a wide variety of land uses, including agricultural, urban, industrial, and manufacturing uses.

Impacts of the Build Alternatives Related to Short-Term Air Quality

The analysis of the potential air quality impacts of Alternatives 1 and 2 and their design variations, including Alternative 2f, is provided in Section 3.14. That analysis indicated that construction of the Build Alternatives would result in substantial short-term air quality impacts associated with fugitive dust and construction equipment emissions. Section 3.14 identified several measures that would substantially reduce these short-term impacts during project construction: compliance with SCAQMD Rule 403, maintaining equipment engines in good condition and in proper tune per the manufacturer specifications, control of truck loads to avoid material spilling on public roads by compliance with California Vehicle Code (CVC) Section 23114, and compliance with Department Standard Construction Specifications, Sections 10 and 18 (dust control) and 39-3.06 (asphalt concrete plant emissions).

Impacts of the Other Cumulative Projects Related to Short-Term Air Quality

Construction of the other cumulative projects would also result in short-term air quality impacts associated with fugitive dust and construction equipment emissions. As described above in Section 3.25.4.3, Short-Term Impacts on Traffic Circulation, there are five transportation projects that would be under construction at the same time as the SR-91 CIP. It is these five projects that have the potential to result in cumulative short-term air quality impacts related to construction activities.

The quantity and severity of those impacts would be related to the amount of soil disturbed, the types and numbers of pieces of construction equipment, weather

conditions, and other factors specific to each project. The five concurrent construction projects are required to comply with some or all of the applicable SCAQMD rules as well as local jurisdictions' requirements for dust and emission controls during construction. In addition, all projects on State highways are required to comply with the Department's Standard Construction Specifications, Sections 10 and 18 (dust control) and 39-3.06 (asphalt concrete plant emissions). All construction material hauling is required to comply with CVC Section 23114 to avoid material spilling on public roads.

Potential Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects Related to Short-Term Air Quality

With the construction of Alternatives 1 and 2 and the five other cumulative transportation projects listed in Section 3.25.4.3[1] occurring concurrently and in proximity to each other, there is potential for cumulative impacts related to short-term fugitive dust and construction equipment emissions in the RSA. The cumulative short-term air quality impacts of the SR-91 CIP and the five other cumulative projects could be substantial, depending on the specific construction activities on any specific day, weather and climatic conditions, and other factors. Therefore, Alternatives 1 and 2 and their design variations, including Alternative 2f, have potential to contribute to cumulative short-term air quality impacts in the RSA during construction, even with minimization measures.

Potential Mitigation for Project's Contribution to Cumulative Impacts on Short-Term Air Quality

As noted above, the Build Alternatives include substantial measures to address short-term dust and equipment emissions. These types of measures are typically required of most major construction projects in the Basin by the SCAQMD and/or the local jurisdictions. As a result, the potential short-term cumulative air quality impacts of the Build Alternatives and the five other cumulative projects that would be constructed concurrently would be substantially reduced based on compliance with SCAQMD regulations.

---

[1] These five projects are the SR-91 Widening between the SR-91/SR-55 Separation and the SR-91/SR-241 Separation, SR-71/SR-91 Interchange Improvements, SR-241/SR-91 HOV/HOT Connector, I-15/Cajalco Road Interchange Improvement Project, and I-15 Corridor Improvement Project.

3.25.4.8 Noise – Operations

Resource Study Area for Long-Term Noise Impacts

The RSA for long-term noise impacts focuses on areas in proximity to SR-91and I-15 where long-term noise exposure increases as a result of the SR-91 CIP Build Alternatives. As discussed in Section 3.15, Noise, the study area for the project was centered along the alignments of SR-91 and I-15 and focused on those areas in the vicinity of the freeways with potentially noise-sensitive uses, including residential uses, parks, and open space uses, or areas of frequent human activity. Noise in this area is generated by traffic on the freeways and area roads, equipment operations, urban uses, aircraft, and other noise sources typical in urban and developed areas.

As discussed earlier, much of this area was historically used for agriculture; therefore, there were only limited sources of high noise levels. As development occurred, the background levels of noise in much of the RSA have increased and can, in some areas, already exceed the applicable noise standards.

Long-Term Noise Impacts of the Build Alternatives

The analysis of the potential for operations-related noise impacts of the Build Alternatives and their design variations is provided in Section 3.15. The study area for the noise impacts analysis considered the effects of the Build Alternatives on sensitive land uses adjacent to or very close to the project segments on SR-91, I-15, and the intersecting local streets. The findings of that analysis indicate that operation of the project improvements would result in increased noise levels at sensitive receptors compared to the No Build Alternative. Existing noise levels in the area range from 53 to 79 dBA at residential uses. As expected, the majority of that noise is generated by traffic on SR-91, I-15, and local streets. Alternatives 1 and 2 are predicted to result in noise levels ranging from 56 to 84 dBA at residential uses.

Long-Term Noise Impacts of the Other Cumulative Projects

As shown in Table 3.25.1, a large number of transportation projects are proposed in the RSA in northeast Orange County and western Riverside County. The following projects shown on Figure 3.25-1 could result in increases in the ambient noise levels in the long term that cannot be avoided or substantially mitigated: Transportation Project Map ID Numbers 1, 2, 3, 4, 5, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 25, 26, 52, 57, 58, and 59. Because all of these projects (except Number 11, MIS Corridor A) were included in the traffic modeling for the SR-91 CIP which was used as the traffic data input for the noise studies for the SR-91 CIP, the cumulative noise impacts of these projects have been accounted for in the SR-91 noise analysis.

Table 3.15.13 in Section 3.15, Noise, indicates that the noise levels at monitored and modeled locations along the alignments of the project segments of SR-91 and I-15 will not increase between the Existing (2007) and 2035 No Build Alternative conditions. This is not unexpected because those monitored and modeled locations are focused on the freeways and not in areas away from the freeways that might experience increased noise generated by land development or other projects farther away from the freeways. However, as Table 3.15.13 shows, Alternative 1 would result in the following:

- Noise levels in 2035 greater than 67 dBA at up to 38 locations, depending on the design variation.
- Noise level increases from existing levels to 2035 by 12 or more dBA at 6 or 7 receivers, depending on the design variation.
- Noise levels in 2035 at 75 dBA or greater at 34 to 37 receivers depending on the design variation.

Alternative 2 would result in the following as shown in Table 3.15.12:

- Noise levels in 2035 greater than 67 dBA at up to 41 locations, depending on the design variation.
- Noise level increases from existing levels to 2035 by 12 or more dBA at 6 or 7 receivers, depending on the design variation.
- Noise levels in 2035 at 75 dBA or greater at 37 to 41 receivers depending on the design variation.

The increases in noise levels by 2035 described above are related to the increased traffic volumes on the project segments of SR-91 and I-15 which include traffic generated by the cumulative land development projects listed in Table 3.25.1 and shown on Figure 3.25-1. As a result, the noise effects described above reflect the effects of long-term noise generated by Alternatives 1 and 2 and the cumulative land development projects.

In addition, some of the cumulative land use projects shown in Table 3.25.1 would result in development in areas that are currently largely rural or very low-density development and, as a result, have lower ambient noise levels than more developed areas. New land uses in those areas are anticipated to result in increases in ambient noise levels that likely would not be fully mitigated.

Potential for Cumulative Long-Term Noise Impacts of the Build Alternatives and the Other Cumulative Projects

As discussed above, Alternatives 1 and 2 and their design variations would result in increased noise levels in the project study area compared to the No Build Alternative, and some of those increases cannot feasibly be mitigated. It is also expected that many of the other cumulative transportation and land use projects in the area would also result in increases in long-term noise levels in the RSA, some of which may also not be substantially or feasibly mitigated. As a result, it is possible that Alternatives 1 and 2 and their design variations, including Alternative 2f, when considered with other cumulative projects, would contribute to long-term cumulative noise impacts in the RSA.

Although there are areas in northeast Orange County and western Riverside County that would not be developed in urban/suburban uses (such as CHSP and other protected open spaces), the general trend in this area is toward urban/suburban uses based on adopted transportation and land use plans. As a result, it is expected that ambient noise levels in much of this area would increase over time as additional land uses are developed and transportation facilities and improvements are implemented. As a result, the incremental contribution of Alternatives 1 and 2 and their design variations to cumulative increases in ambient noise levels in the RSA would likely be small when considered against a background of substantial existing, adopted, and planned land development and other transportation improvements in northeast Orange County and western Riverside County. With the implementation of noise barriers, the increased noise levels under Alternatives 1 and 2 would be minor. As a result, the operation of Alternatives 1 and 2 and their design variations would result in only a minor contribution to cumulative noise impacts in the RSA.

Potential Mitigation for the Project's Contribution to Cumulative Long-Term Noise Impacts

Alternatives 1 and 2 and their design variations include some new sound walls as well as increases in heights in existing sound walls along the project segments of SR-91 and I-15 and would result in only a minor increase in ambient noise levels. Where the other cumulative transportation and land use projects in the RSA result in substantial, direct noise impacts, the cumulative projects would also include appropriate noise mitigation for long-term impacts on sensitive receptors, which could include new sound walls, increases in heights of existing sound walls, other buffers, and/or structural features (sound proofing, double pane windows, etc.), as appropriate for each project. However, it is not expected that all the increases in noise levels in the

RSA associated with those projects can be mitigated to levels equivalent to those under no project conditions. As a result, the SR-91 CIP and the other cumulative projects will contribute to a long-term increase in ambient noise levels in the RSA with the likelihood that some of those effects cannot be substantially mitigated.

3.25.4.9 Natural Communities, Plant Species, and Animal Species

Resource Study Area for Natural Communities, Plant Species, and Animal Species

As discussed earlier in Sections 3.17, Natural Communities, through 3.22, Invasive Species, the BSA for the project included parts of the Santa Ana River Watershed, Santa Ana Mountains, Puente-Chino Hills, Prado Basin, and Lake Mathews-Estelle Mountain Reserve. The RSA for biological resources, which includes these areas, was defined as northeastern Orange County, western Riverside County, and southern San Bernardino County.

As described in *The Jepson Manual* (Hickman, J.C., ed. 1993), the BSA and the RSA are located in the South Coast subregion of the Southwestern California region of the California Floristic Province. That subregion is characterized by valleys and small hills extending from the coast inland to the foothills of the Transverse and Peninsular Mountain Ranges. Historically, the natural vegetation communities in this subregion consisted primarily of chaparral, CSS, annual grasslands, and some riparian scrub and woodland, along with the special-status plants and wildlife associated with these vegetation communities. However, much of the area has been modified from these natural plant communities as a result of agriculture and the development of urban and suburban uses.

As noted in the NES, cumulative impacts to wildlife movement across Santa Ana Canyon have developed over many years, beginning with substantial road improvements and increases in traffic in the area after World War II. Land development and increases in road capacity continued to contribute to wildlife movement impacts well into the 1980s, until information about the wildlife movement issue and research on the importance of Santa Ana Canyon in particular became well known. Since that time, there have been substantial efforts to reverse the trend toward increasing impacts on wildlife movement, most notably the acquisition and/or dedication of open space in Santa Ana Canyon and the decommissioning of the Coal Canyon Road freeway access ramps to provide a dedicated wildlife undercrossing at SR-91 near Coal Canyon.

Much of the area in the RSA for biological resources is within lands (CHSP, Western Riverside County MSHCP Reserve, County of Orange Central & Coastal Subregion NCCP/HCP) that are protected from development to preserve biological resources and natural habitat. Much of the remaining areas of natural vegetation in the RSA and the plant and wildlife species associated with that natural vegetation occur in lower quality, scattered, often fragmented patches on hills or in other areas not easily developed. The RSA for biological resources described here is applicable to the resources discussed in Sections 3.25.4.9, 3.25.4.10, 3.25.4.11, and 3.25.4.12.

Biological Environment: Natural Communities, Plant Species, and Animal Species

The potential for the Build Alternatives and their design variations to result in cumulative impacts on biological resources is provided in the *Cumulative Impacts Analysis Report*. The potential impacts of Alternatives 1 and 2 that may contribute to cumulative impacts on biological resources are discussed in this section and the following sections for the following topics:

- Natural Communities, Plant Species, and Animal Species
- Wetlands and Other Waters
- Threatened and Endangered Species
- Invasive Species

There is some overlap among these categories, as noted in the following discussions. In addition, the avoidance, minimization, mitigation, and compensation measures described here frequently address impacts to multiple categories of biological resources.

Impacts of the Build Alternatives on Natural Communities, Plant Species, and Animal Species

The impacts of the Initial Phases of Alternatives 1 and 2 would occur predominantly on SR-91 between SR-71 and I-15, and the impacts of the Alternative 1 and 2 Ultimate Projects would occur predominantly west of SR-71 and east of I-15 and on I-15 north and south of SR-91. As a result, direct construction-related impacts to resources, including biological resources, would occur only once in a given area. However, biological resources in the vicinity of SR-91 could be subject to indirect impacts such as air quality and noise during and after construction of both the Initial Phases and Ultimate Projects for Alternatives 1 and 2.

The *Cumulative Impacts Analysis Report* concluded that Alternatives 1 and 2 and their design variations, including Alternative 2f, would potentially contribute to cumulative impacts on a number of natural communities of special concern and the plant and animal species associated with those natural communities. As discussed in Sections 3.17.3, 3.19.3, and 3.20.3, Alternatives 1 and 2 and their design variations would result in the permanent and/or temporary removal of CSS, riparian/riverine, and oak woodland habitats within the project disturbance limits and would result in impacts to plant and animal species which inhabit these natural communities.

As discussed in Section 3.17, Natural Communities, Alternatives 1 and 2, including Alternative 2f, would not result in substantive temporary impacts on the Coal Canyon wildlife crossing and would retain effective openness ratios at the crossing where the undercrossing would be permanently widened. The openness of the Coal Canyon undercrossing with the widening would still be sufficient to allow large mammals to move between the Santa Ana Mountains and the Puente-Chino Hills areas.

The Build Alternatives would result in temporary adverse impacts on wildlife movement during construction. Those temporary impacts would be mitigated through implementation of Measures NC-6 through NC-16, and NC-20. The Build Alternatives, including Alternative 2f, would not result in adverse impacts related to wildlife movement after the completion of construction. The improvements to the Coal Canyon undercrossing would provide more cover for the wildlife crossing.

As discussed in detail in Section 3.20, Alternatives 1 and 2, including Alternative 2f, include design features to improve wildlife crossings at a number of locations along SR-91. As a result, Alternatives 1 and 2 would beneficially affect wildlife movement in the area.

The only cause of indirect effects such as noise and lighting at Coal Canyon would be traffic. As described in Table 3.6.22, the total daily traffic volumes will be the same in 2035 with or without the project. Because traffic levels will remain relatively the same, indirect effects caused by traffic (e.g., noise and lighting) will remain relatively the same with or without the project. The noise level at the Coal Canyon undercrossing is not expected to increase as a result of the proposed project. Although noise, in general, will not increase as a result of the SR-91 CIP, noise impacts are expected to extend into the surrounding natural habitat by approximately the same distance that SR-91 is being widened.

Because many wildlife corridor improvements have already been implemented at Coal Canyon (e.g., closure of the Coal Canyon interchange and installation of wildlife fencing to guide animals toward the wildlife undercrossing on either side of SR-91), construction and operation of the Build Alternatives, including Alternative 2f, are not expected to result in substantial temporary, permanent or indirect effects on wildlife movement, and would not contribute to an adverse cumulative impact on wildlife corridors.

Impacts of the Other Cumulative Projects on Natural Communities, Plant Species, and Animal Species

Although detailed environmental analyses were not available for many of the cumulative projects in the RSA, it is very likely that some of those projects would result in the permanent and/or temporary removal of natural communities, specifically the three natural communities in the BSA for the Build Alternatives. Because many of those projects are in the same approximate geographic area as the project, it is reasonable to assume that they would impact the same types of natural communities as the project. Therefore, it is reasonable to conclude that some of the cumulative projects listed in Tables 3.25.1 and 3.25.2 would result in impacts related to the permanent and/or temporary removal of the following natural communities and the various plant and animal species associated with CSS, riparian/riverine, and oak woodland habitats in the RSA.

As shown in Tables 3.25.1 and 3.25.2, quantified information on the impacts of many of the other cumulative projects to these natural communities is not available. However, based on the types and locations of these cumulative projects, it is reasonable to assume they would result in the removal of limited amounts of CSS, riparian/riverine, and oak woodland habitats because these natural communities are themselves limited in the RSA. Past transportation and land use projects in the RSA, including historical agricultural and grazing activities, have resulted in a substantial reduction in the total amounts of these natural plant communities in northeast Orange County and western Riverside County. As a result, the cumulative past, present, and future projects have contributed to a cumulative adverse impact on these natural communities in the RSA.

In addition, depending on the location and design of the other cumulative projects, some of those projects could include design features that beneficially affect wildlife movement and some could adversely affect wildlife movement.

Potential for Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects on Natural Communities, Plant Species, and Animal Species

Alternatives 1 and 2, including Alternative 2f, would result in the permanent and temporary removal of small amounts of CSS, riparian/riverine habitat, and oak woodland habitat, and therefore would result in impacts to the plant and animal species that inhabit those natural communities. The Build Alternatives include extensive measures to address impacts on natural communities, and the project is a covered project in the Western Riverside County MSHCP.

Some of the other cumulative projects, because they are in the same geographic areas, would also result in the permanent and/or temporary removal of CSS, riparian/ riverine, and oak woodland habitats and would also result in impacts on the plant and animal species associated with those natural communities in the RSA. Therefore, Alternatives 1 and 2 and their design variations would contribute incrementally to cumulative impacts on these natural communities in the RSA.

Potential Mitigation for Project and Cumulative Impacts on Natural Communities, Plant Species, and Animal Species

As discussed in Sections 3.17.2, 3.19.2, and 3.20.2, Alternatives 1 and 2 and their design variations are covered projects in the Western Riverside County MSHCP. The Western Riverside County MSHCP provides a comprehensive, habitat-based approach to the protection of covered species by focusing on conservation and management of lands essential for their long-term conservation. The Western Riverside County MSHCP provides mitigation for cumulative impacts to covered species and their habitats. Project consistency with the Western Riverside County MSHCP ensures that cumulative and indirect impacts to those species are effectively mitigated.

As permittees under the Western Riverside County MSHCP, the RCTC and Department are obligated to implement specific conditions as described in Sections 13.7 and 13.8 of the Western Riverside County MSHCP Implementation Agreement and to abide by the Section 10(a)(1) permit conditions. These requirements include compliance with the policies for the Protection of Species Associated with Riparian/ Riverine Areas and Vernal Pools in Section 6.1.2 of the Western Riverside County MSHCP, compliance with the policies for the Protection of Narrow Endemic Plant Species as set forth in Section 6.1.3 of the Western Riverside County MSHCP, conduct of surveys as described in Section 6.3.2 of the Western Riverside County

MSHCP, compliance with the Urban/Wildlands Interface Guidelines in Section 6.1.4 of the Western Riverside County MSHCP, and compliance with the BMPs and the siting and design criteria in Section 7.0 and Appendix C of the Western Riverside County MSHCP.

In addition to compliance with the Western Riverside County MSHCP, substantial avoidance, minimization, mitigation, and compensation measures are included in the Build Alternatives to address the permanent and temporary impacts on natural communities and other biological resources. Similarly, it is expected that other cumulative projects in the area that impact natural communities would also include appropriate measures to address the permanent and temporary impacts of those projects on natural communities. Some of the other cumulative projects in the RSA may also be covered projects under the Western Riverside County MSHCP.

Additional measures for Alternatives 1 and 2 and their design variations, beyond those described in Sections 3.17.4, 3.19.4 and 3.20.4, are not warranted because those measures already substantively reduce or mitigate the effects of the Build Alternatives on natural communities and the plant and animal species associated with those communities.

The project, the SR-91/71 Interchange Improvement Project, and other projects in Santa Ana Canyon, would provide minor incremental improvements to wildlife movement as a result of widening of bridges and extensions of culverts. The impacts due to the project are described in detail in the NES and Appendix H of the NES. Avoidance, minimization, and mitigation measures for these impacts are provided in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. One of those mitigation measures includes RCTC participation in the Western Riverside County MSHCP, as discussed above, including substantial funding contributions. As part of its participation, RCTC is committed to cooperating with the Western Riverside County MSHCP RCA, USFWS, CDFG, and the Department for all its projects. Through this cooperation, and in light of recent information about the importance of the B Canyon culvert, this multi-agency group has begun development of a separate project to increase the effectiveness of the B Canyon culvert for wildlife movement. Similarly, the same group is working with the Corps to improve the effectiveness of the north end of the Fresno Canyon/Wardlow Wash bridge undercrossing. These separate projects would offset some of the past contributions to cumulative effects on wildlife movement in the Santa Ana Canyon.

Specifically, past and present SR-91 transportation improvements and other development in the RSA have contributed incrementally to the reduction of opportunities for wildlife to move north and south between the Santa Ana Mountains and Chino Hills. The conversion of the Coal Canyon interchange on SR-91 to a wildlife crossing and acquisition of adjacent lands have greatly increased wildlife movement opportunities across SR-91. However, cumulative impacts remain that stem from the original construction of SR-91 and other development projects in the RSA. Recent studies by the USGS have shown that B Canyon, which is approximately 0.4 mi east of the Riverside/Orange County line, may be more important as a wildlife corridor between the Santa Ana Mountains, the Puente-Chino Hills, and the Prado Basin than was once believed. Future development along Green River Road, the Green River Ranch, and Fresno Canyon would further constrain Proposed Constrained Linkage (PCL) 1 and PCL 2, thereby increasing the importance of B Canyon for wildlife movement.

It is not reasonable for any one project such as the project or a private development project to mitigate for these cumulative impacts. As such, the RCTC has proposed, as a separate project, to improve the existing B Canyon culvert beneath SR-91 as a wildlife crossing to replace PCL 1. PCL 1 is identified in the Western Riverside County MSHCP as crossing SR-91 east of the Green River Road interchange to connect the CNF with the Santa Ana River, CHSP, and Prado Basin; however, its viability has been compromised. RCA, in conjunction with the USFWS and CDFG, has identified B Canyon as a suitable replacement location (approximately 0.8 mi to the west) for PCL 1. The B Canyon wildlife crossing is a holistic approach toward mitigating the cumulative impacts of projects on wildlife movement in this area.

Because of this, RCA and the wildlife agencies would like to amend the Western Riverside County MSHCP to relocate PCL 1 from its current location to B Canyon. In order for this to be a viable option, participation of the involved stakeholders is imperative. RCTC has committed to developing a separate project to improve B Canyon to accommodate more wildlife movement through widening the crossing under SR-91. This project is dependent on RCA's ability to amend the Western Riverside County MSHCP and to obtain the necessary property rights to ensure the corridor will be a successful long-term solution.

The B Canyon wildlife crossing is estimated to cost about $7.5 million. RCTC intends to use $2.35 million in Transportation Enhancement funds, supplemented by

additional RCTC-controlled funding for that project. In addition, USFWS has applied for a $500,000 grant that would also be applied toward funding this wildlife crossing.

3.25.4.10 Wetlands and Other Waters of the United States

Impacts of the Build Alternatives on Wetlands and Other Waters of the United States

The analysis of the potential for Alternatives 1 and 2 and their design variations to impact wetlands and other waters of the United States is provided in the *Cumulative Impacts Analysis Report.* As shown in Tables 3.18.2 and 3.18.3 in Section 3.18, Wetlands and Other Waters, Alternatives 1 and 2 and their design variations, including Alternative 2f, would result in permanent and temporary impacts to waters under the jurisdiction of the Corps, other nonjurisdictional waters, and areas under the jurisdiction of the CDFG and RWQCB.

Those impacts will occur once in a given area, and those impacts would depend on whether the affected water resource is in the area that would be affected by the Initial Phases (SR-91 from SR-71 to I-15) or Ultimate Projects (SR-91 west of SR-71 and east of I-15, and I-15 north and south of SR-91) of Alterantives 1 and 2.

The Build Alternatives would require permits from the following agencies:

- Corps – pursuant to Section 404 of the federal CWA
- CDFG – pursuant to Section 1602 of the California Fish and Game Code
- RWQCB – pursuant to Section 401 of the federal CWA

In addition, compensatory mitigation for Alternatives 1 and 2 would be expected to result in a net increase in wetlands and other waters in the area.

Impacts of the Other Cumulative Projects on Wetlands and Other Waters of the United States

Although detailed environmental analyses were not available for many of the other cumulative projects described in Tables 3.25.1 and 3.25.2, it is very likely that some of those projects would result in permanent and/or temporary effects on wetlands and other jurisdictional waters in the RSA because of the presence of substantial water resources (Santa Ana River, creeks, drainages, etc.) in northeast Orange County and western Riverside County. As a result, it is reasonable to assume that some of those cumulative projects would impact various jurisdictional waters similar to the waters affected by the Build Alternatives. Therefore, it is reasonable to conclude that some of the cumulative projects listed in Tables 3.25.1 and 3.25.2 would result in impacts

related to waters under the jurisdiction of the Corps, CDFG, and/or RWQCB in the RSA.

Potential for Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects on Wetlands and Other Waters of the United States

As shown in Tables 3.18.2 and 3.18.3 in Section 3.18, Alternatives 1 and 2 would result in permanent and/or temporary impacts to jurisdictional and other waters. As shown in Tables 3.25.1 and 3.25.2, quantified information on the impacts of many of the other cumulative projects to wetlands and other waters is not available. However, based on the types and locations of these cumulative projects, it is reasonable to assume they would result in the removal of limited amounts of wetlands and other waters in the RSA because the water resources themselves are limited in this area. Past transportation and land use projects in the RSA, including historical agricultural and grazing activities, have resulted in a substantial reduction in the total amounts of wetlands and other waters in northeast Orange County and western Riverside County. Depending on the location and design of the other cumulative projects, some of those projects could include design features and/or compensatory mitigation that beneficially affect wetlands and other waters as well as some that could adversely affect wetlands and other waters. Nonetheless, the cumulative past, present, and future projects in the RSA have contributed and would continue to contribute to a cumulative adverse impact on wetlands and other waters. As a result, Alternatives 1 and 2 and their design variations would contribute incrementally to cumulative impacts on jurisdictional and other waters in the RSA.

However, as noted above, compensatory mitigation for Alternatives 1 and 2 would be expected to result in a net increase in wetlands and other waters in the RSA. As a result, Alternatives 1 and 2 would result in a slightly beneficial contribution to cumulative impacts on waters in the RSA.

Potential Mitigation for Project and Cumulative Impacts on Wetlands and Other Waters of the United States

Alternatives 1 and 2 and their design variations include compensatory measures to address the permanent and temporary project effects on jurisdictional and other waters under riparian/riverine communities, as discussed in Section 3.18.4. In addition, the Build Alternatives would require permits from the Corps, CDFG, and RWQCB, and the conditions from those permits will be included in the final design, construction, and operation of the project. Similarly, it is expected that other cumulative projects in the RSA that impact waters would also include appropriate

avoidance, minimization, mitigation, and compensation measures in those individual projects to address the permanent and temporary impacts on those projects.

Additional measures for Alternatives 1 and 2 and their design variations, beyond those described above, are not warranted because those measures already substantively reduce or mitigate the effects of the project on jurisdictional and other waters.

3.25.4.11 Threatened and Endangered Species

Impacts of the Build Alternatives on Threatened and Endangered Species

The analysis of the potential for the project to impact threatened and endangered species is provided in the *Cumulative Impacts Analysis Report*. Species observed or potentially occurring in the BSA for Alternatives 1 and 2 and their design variations, including Alternative 2f, that are protected under FESA and/or CESA are:

- **Braunton's milk-vetch:** Federal endangered; not observed in the project disturbance limits but critical habitat outside the project disturbance limits could experience indirect impacts;
- **Least Bell's vireo:** Federal and California endangered; observed in the BSA during the 2008 surveys;
- **Coastal California gnatcatcher:** Federal threatened; observed in the BSA during the 2008 surveys; and
- **Stephens' kangaroo rat:** Federal endangered, State threatened, fully covered under the Western Riverside County MSHCP; no suitable habitat in the BSA in Orange County.

Sections 3.17.2, 3.19.2 and 3.20.2 describe other special-interest plant and animal species potentially occurring in the BSA and in the three natural communities in the BSA.

The impacts of Alternatives 1 and 2 and their design variations to the four threatened and endangered species and the other special-interest species would include removal of individual plants, critical habitat, individual animals/birds, and/or indirect effects resulting in degradation of habitat as described in Sections 3.17.3, 3.19.3, 3.20.3, and 3.21.3.

Impacts of the Other Cumulative Projects on Threatened and Endangered Species

As shown in Tables 3.25.1 and 3.25.2, quantified information on the impacts of many of the other cumulative projects to threatened and endangered species and other special-status species is not available. However, based on the types and locations of these cumulative projects in the RSA, it is reasonable to assume they would result in the loss of limited amounts of threatened and endangered species and other special-status species because those species are themselves limited in this area. Past transportation and land use projects in the RSA, including historical agricultural and grazing activities, have resulted in a substantial reduction in the total amounts of habitat available for threatened and endangered species and other special-status species in northeast Orange County and western Riverside County. As a result, the cumulative past, present, and future projects in the RSA have contributed and would continue to contribute to a cumulative adverse impact on threatened and endangered species and other special-status species and their potential habitat.

Potential for Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects on Threatened and Endangered Species

As summarized in Section 3.21.3, Alternatives 1 and 2 and their design variations, including Alternative 2f, would potentially result in permanent and/or temporary impacts on threatened and endangered species and other special-interest species. Some of the other cumulative projects, because they are in the same geographic area, may also result in the permanent and/or temporary impacts to threatened and endangered species and other special-interest species in the RSA. As a result, Alternatives 1 and 2 and their design variations are anticipated to contribute incrementally to cumulative impacts on threatened and endangered species and other special-interest species in the RSA.

Potential Mitigation for Project and Cumulative Impacts on Threatened and Endangered Species

The project is a covered project in the Western Riverside County MSHCP. In addition, as discussed in Section 3.21.4, substantial avoidance, minimization, mitigation, and compensation measures are included in Alternatives 1 and 2 and their design variations to address the permanent and temporary project impacts on threatened and endangered species and other special-interest species. Similarly, it is expected that other cumulative projects in the area that impact threatened and endangered species and other special-interest species would also include appropriate avoidance, minimization, mitigation, and compensation measures to address the

permanent and temporary impacts on those projects. Some of the other cumulative projects may also be covered projects under the Western Riverside County MSHCP.

Additional measures for Alternatives 1 and 2 and their design variations, beyond those described above, are not warranted because those measures already substantively reduce or mitigate the effects of the project on threatened and endangered species and other special interest species.

3.25.4.12 Invasive Species

Impacts of the Build Alternatives Related to Invasive Species

The analysis of the potential for the project to result in impacts related to invasive species is provided in the *Cumulative Impacts Analysis Report*. That analysis indicates that 34 exotic plants in the Cal-IPC California Invasive Plant Inventory were identified in the BSA. Of those, there are 5 with an overall high rating, 16 with a moderate rating, and 13 with a limited rating. Invasive species that have severe ecological effects are given a high rating. The species with high ratings observed in the BSA are sweet fennel (*Foeniculum vulgare*), yellow star-thistle (*Centaurea solstitialis*), Mediterranean tamarisk (*Tamarix ramosissima*), giant reed (*Arundo donax*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). The potential for Alternatives 1 and 2 to result in impacts related to invasive species would be partially mitigated based on the development and implementation of a detailed Weed Abatement Program that would be developed in compliance with EO 13112 during final design, would be implemented at the initiation of construction, and would end approximately 3 years after project operations are initiated, as required in Measure IS-1 provided in Section 3.22, Invasive Species. The primary activities and requirements that will be included in the Weed Abatement Program are summarized in Measure IS-1.

Impacts of the Other Cumulative Projects Related to Invasive Species

Because some of the other cumulative projects are near areas of natural plant communities or resources that provide protection to natural plant communities in the RSA, such as CHSP and CNF, those projects would potentially result in impacts related to invasive species. The number of potential invasive species of concern could be substantial, with the 34 exotic plants identified in the BSA by the Cal-IPC California Invasive Plant Inventory, and potentially more species in other parts of the RSA near the cumulative projects.

Potential for Cumulative Impacts of the Build Alternatives and the Other Cumulative Projects Related to Invasive Species

As discussed above, Alternatives 1 and 2 and their design variations, including Alternative 2f, would potentially result in impacts related to invasive species. Some of the other cumulative projects may also result in impacts related to invasive species in the RSA. As a result, Alternatives 1 and 2 and their design variations would contribute incrementally to cumulative impacts related to invasive species in the RSA in northeast Orange County and western Riverside County.

Potential Mitigation for Project and Cumulative Impacts Related to Invasive Species

The potential for the Build Alternatives to result in impacts related to invasive species will be partially mitigated based on the development and implementation of a detailed weed abatement program. In addition, after construction, impacted areas adjacent to native vegetation will be revegetated with plant species approved by the Department Biologist that are native to the vicinity. Similarly, it is expected that other cumulative projects in the RSA that may result in impacts related to invasive species would also include appropriate measures in those individual projects to address the potential impacts of those projects related to invasive species.

Additional measures for Alternatives 1 and 2 and their design variations, beyond those described above, are not warranted because those measures already substantively reduce or mitigate the effects of the project related to invasive species. However, there may be opportunities for the measures for the project to be integrated with measures from other projects to address invasive species on a larger scale. For example, invasive species removal in the Santa Ana River may be an appropriate measure for multiple projects, and combining those efforts could potentially result in more effective removal of invasive species than when conducted on a project-by-project basis.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
New Interchange (SR-91) at Fairmont Boulevard – ID Number 8 (Sheet 1 of Figure 3.25-1) • In the City of Anaheim near the Anaheim and Yorba Linda city limits • City of Anaheim project • This project is anticipated to be constructed between 2013 and 2015.	This is an SR-91 improvement project proposed for implementation by 2015. The project is part of the second set of proposed projects described in the SR-91 Implementation Plan to improve SR-91. This project would construct a new interchange with SR-91 at Fairmont Boulevard. Two options are being considered. Option 1 would provide a new partial overcrossing at Fairmont Boulevard that would provide a northerly access for Yorba Linda. The on- and off-ramps would connect Fairmont Boulevard to eastbound and westbound SR-91. Option 2 would provide a new partial overcrossing at Fairmont Boulevard for northerly access for Yorba Linda from the SR-91 express lanes. Drop ramps on the east side of the overcrossing would provide entrance to the eastbound SR-91 express lanes and an exit from the westbound SR-91 express lanes.	The environmental evaluation for this project is in the initial phase. There was no specific information regarding environmental analyses, documentation or issues available for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
SR-241/SR-91 HOV/High-Occupancy Toll (HOT) Connector – ID Number 9 (Sheet 2 of Figure 3.25-1) • In the Cities of Anaheim and Corona and unincorporated Orange and Riverside Counties • Not yet proposed by a particular agency • This project is anticipated to be operational in late 2018.	This is an SR-91 improvement project proposed for implementation by 2020. The project is part of the third set of proposed projects described in the SR-91 Implementation Plan to improve SR-91. This project would construct a SR-241/SR-91 HOV/HOT direct connector from northbound SR-241 to the eastbound SR-91express lanes and westbound SR-91 express lanes to southbound SR-241. Widening would be required on the outside right-of-way on the south side of SR-91 to realign the eastbound SR-91 lanes.	No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Sources: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009; and Draft IS/MND/EA (LSA Associates, Inc., January 2010).
SR-55/SR-91 Interchange Improvements – ID Number 10 (Sheet 1 of Figure 3.25-1) • In the City of Anaheim • Not yet proposed by a particular agency • This project is anticipated to be constructed by 2020.	This is an SR-91 improvement project proposed for implementation by 2020. The project is part of the third set of proposed projects described in the SR-91 Implementation Plan to improve SR-91. This project would reconstruct the SR-91/SR-55 interchange to add capacity, restripe the existing lanes, modify the SR-55 connectors to SR-91, and improve the connector from westbound SR-91 to southbound SR-55. These interchange improvements are expected to provide congestion relief for westbound SR-91 and to improve the connection from westbound SR-91 to southbound SR-55.	No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Elevated Four-Lane Facility (Major Investment Study [MIS] Corridor A) from SR-241 to I-15 – ID Number 11 (Sheets 2, 3, and 4 of Figure 3.25-1) • Extends from the City of Anaheim east to I-15 • Not yet proposed by a particular agency • The expected date for the initiation of construction has yet to be determined.	This is an SR-91 improvement project proposed for implementation by 2030. The project is part of the fourth set of proposed projects described in the SR-91 Implementation Plan to improve SR-91. The MIS Corridor A is a segment of SR-91 in Santa Ana Canyon. This project would construct a new elevated four-lane facility on SR-91 from SR-241 to I-15 with freeway-to-freeway connectors at the interchanges. The facility may include managed lanes and the potential to reverse the operational traffic flow. The project would coordinate with the Anaheim-to-Ontario International Airport High Speed Rail.	No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Four-Lane Facility (MIS Corridor B) from SR-241/State Route 133 (SR-133) to I-15/Cajalco Road • In the City of Corona and unincorporated Orange and Riverside Counties • Not yet to be proposed by a particular agency • The expected date for the initiation of construction has yet to be determined. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This is an SR-91 improvement project proposed for implementation by 2030. The project is part of the fourth set of proposed projects described in the SR-91 Implementation Plan to improve SR-91. This project would construct a new four-lane highway facility through the Cleveland National Forest (CNF) with freeway-to-freeway connectors at the SR-241/SR-133 interchange and I-15/Cajalco Road. This new freeway may include managed lanes. The four-lane facility would be a continuation of SR-133 in Orange County on the west end of the corridor and the Mid County Parkway (MCP) in Riverside County on the east end.	No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Cajalco Road Widening and Safety Enhancement Project • In western Riverside County between Perris and I-15 • Proposed by the Riverside County Transportation Department (RCTD) and the Department • This project is south of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1. • This project is anticipated to be operational in 2019.	This proposed project would widen Cajalco Road from two to four lanes between Harvill Avenue on the east and Temescal Canyon Road on the west, and from four to six lanes between the I-215 southbound ramps and Harvill Avenue. This project would provide an improved connection between I-15 and I-215, improve east-west mobility, and improve safety in this corridor. Additional proposed improvements include traffic signals, bus turnouts, additional turn lanes, and watercourse crossing and drainage improvements.	The County of Riverside is proposing to widen Cajalco Road from two to four lanes between Harvill Avenue to the east and Temescal Canyon Road to the west, and from four to six lanes between the I-215 southbound ramps and Harvill Avenue. The proposed project would provide an improved connection between I-15 and I-215, improve east-west mobility, and improve safety along the corridor. Other proposed improvements include traffic signals, bus turnouts, additional turn lanes, and watercourse crossing and drainage improvements. The RCTD intends to prepare an EIR under CEQA. This report will be prepared jointly with the Department as an EA under NEPA for proposed improvements to Cajalco Road. The Notice of Preparation (NOP) was issued in September 2011. Source: Riverside County Transportation Department website (http://rcprojects.org/cajalco/) accessed September 9, 2011, and November 9, 2011.
HIGHWAY PROJECTS: I-15 PROJECTS		
El Cerrito Road/I-15 Interchange – ID Number 13 (Sheet 6 of Figure 3.25-1) • In and near the City of Corona • Department, County of Riverside, and City of Corona project • Construction was completed in 2008.	This project widened the northbound and southbound off-ramps, installed a ramp meter on the northbound on-ramp, and installed automated traffic signals at the ramps. El Cerrito Road was widened from two to four lanes between Bedford Canyon and the northbound on-ramps to increase access to the interchange. The project added streetlights in the area to increase visibility and installed pavement delineation and signage.	A CE/PCE was approved for the project on September 21, 2004. Sources: www.wrcog.cog.ca.us, accessed March 2009; and http://www.ci.corona.ca.us, accessed March 2009.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
I-15/Indian Truck Trail Interchange Improvements • In the City of Corona • Riverside County project • The expected date for the initiation of construction has yet to be determined. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would widen Indian Truck Trail from Campbell Ranch Road to Temescal Canyon Road from two to four travel lanes with turning lanes. The project would construct retaining walls under the I-15 bridges to accommodate the widening of Indian Truck Trail, widen the existing ramps to three lanes at the northbound entrance ramp to I-15, and signalize the intersections at the I-15 ramps and Temescal Canyon Road.	An ND was completed for this project on August 27, 2004. The potential environmental impacts for this project include: aesthetics/visual, air quality, archaeological and historic resources, floodplain/flooding, geologic/seismic, growth inducing, land use, minerals, noise, public services, soil/erosion/compaction/grading, toxic/hazardous, traffic/circulation, vegetation, water quality, wetland/riparian, wildlife and cumulative effects. Source: www.ceqanet.ca.gov/, accessed April 2009 and January 2010.
Magnolia Corridor/I-15 to Fullerton Avenue – ID Number 14 (Sheets 3 and 6 of Figure 3.25-1) • In the City of Corona • City of Corona (with Transportation Uniform Mitigation Fee [TUMF]–Western Riverside Council of Governments [WRCOG]) project • Construction was completed in 2008.	The project widened Magnolia Avenue from four to six lanes to provide an appropriate interface with the new I-15/Magnolia Avenue interchange project to the east. The project improvements included construction of turn lanes and curbs and gutters with the additional pavement construction.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.wrcog.cog.ca.us, accessed January 2010.
I-15/Magnolia Avenue Interchange – ID Number 15 (Sheets 4 and 6 of Figure 3.25-1) • In the City of Corona • Department, RCTC, and City of Corona project • Construction was completed in June 2009.	This project improved the interchange at I-15 and Magnolia Avenue. The bridge was widened to accommodate nine lanes in February 2009. A new northbound I-15 hook on-ramp was completed in April 2009. The existing northbound on-ramp was revised/realigned in May 2009. A realigned/new northbound off-ramp was completed in February 2009. Drainage would be improved along both of the northbound ramps of I-15. Traffic signal upgrades are ongoing as of January 2010.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Sources: www.dot.ca.gov/dist8/projects, accessed January 2010; and http://www.ci.corona.ca.us/index.cfm?section=City%20Departments&page=Public%20Works&cat=Regional%20Transportation&viewpost=2&ContentId=241 (accessed January 15, 2010).
French Valley Parkway/I-15 Overcrossing and Interchange Improvements (I-15/ Winchester to Margarita) • In the City of Temecula • Department and City of Temecula project This project is south of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would construct a new southbound off-ramp from I-15 to French Valley Parkway, construct the northern half of French Valley Parkway from the off-ramp at Jefferson Avenue, widen the existing southbound off-ramp from I-15 to Winchester Road, and construct an auxiliary lane between French Valley Parkway and the Winchester Road southbound off- ramp. This project would complement the ultimate freeway interchange project.	This project is in the Plans, Specifications and Estimates (PS&E) phase. The City of Temecula is preparing 95 percent of the PS&E, which is Phase 1 of this project. As of January 2010, the City is establishing dedication for right-of-way limits. The potholes of existing utilities within the Area of Potential Effects (APE) are complete. A conceptual landscape/aesthetics concept was selected by the City of Murrieta and the Department, and was incorporated into the draft Structures PS&E submittal. Sources: www.wrcog.cog.ca.us, and www.cityoftemecula.org/Temecula/Government/PublicWorks/CIPWPS.htm, accessed March 2009; and http://www.cityoftemecula.org/Temecula/government/publicworks/cipwps.htm, accessed January 2010.
I-15/State Route 79 (SR-79) (Temecula Parkway) South Interchange Improvement Project • In the City of Temecula • Department and City of Temecula project • Construction began in 2008 and is expected to be completed by late 2012. This project is south of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would remove the existing southbound I-15 ramps and construct a new far side exit loop paired with a new southbound entrance ramp, which would intersect SR-79 South opposite the existing Front Street intersection. The southbound exit would be reconfigured to provide a two-lane exit with approximately 1,300 ft of auxiliary lane preceding the exit. A new bridge structure would be constructed over SR-79 South to accommodate the new southbound exit ramp configuration. The northbound I-15 exit ramp would be widened to provide four lanes at the ramp intersection. The northbound entrance ramp would be widened to provide three lanes at the ramp intersection and a three-lane ramp meter entrance to I-15. SR-79 South improvements include elimination of the sidewalk, curb, gutter, and parkway on the south side of SR-79 through the interchange area and paving/restriping to provide three through lanes and two left-turn lanes in each direction of travel.	An ND was prepared for this project. The potential environmental impacts and issues for this project identified in the ND were aesthetics/visual, agricultural land, air quality, archaeological and historic resources, biological resources, cumulative effects, drainage/absorption, floodplain/flooding, geologic/seismic, growth inducing, land use, noise, recreation/parks, soil erosion/compaction/grading, toxic/hazardous, traffic/circulation, vegetation, water quality, and wetland/riparian. The ND was approved on March 20, 2008. A CE prepared by the Department for NEPA compliance concluded there were no impacts. Sources: www.ceqanet.ca.gov/, accessed April 2009; http://www.ceqanet.ca.gov/DocDescription.asp?DocPK=617791, accessed January 20, 2010; and Steven Keel at RCTC (July 26, 2010, verbal communication).
SR-79 (Winchester Road) between Thompson Road and Domenigoni Parkway • Near the City of Murrieta in unincorporated Riverside County • RCTD, in cooperation with Department District 8, project • Anticipated dates of construction are not known. This project is south of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would widen SR-79 between Thompson Road and Domenigoni Parkway, a distance of approximately 7.4 miles. The project is north of the City of Murrieta in an unincorporated part of southwestern Riverside County. The northern end of the project is approximately 4.4 miles east of I-215; the southern end is approximately 2.8 miles east of I-215. SR-79 is locally known as Winchester Road.	An MND was prepared for this project. The potential environmental impacts and issues identified in the MND were aesthetics/visual, agricultural land, air quality, archaeological and historic resources, biological resources, cumulative effects, floodplain/flooding, geologic/seismic, growth inducing, land use, noise, population and housing, public services, parks and recreation, schools and universities, sewer capacity, toxic/hazardous, traffic/circulation, vegetation, water quality, water supply, and wetland/riparian. With the use of standard conditions during construction and implementation of the mitigation measures, these impacts would be reduced. Source: http://www.ceqanet.ca.gov/ProjectList.asp, accessed January 20, 2010.
I-15/Cajalco Road Interchange Improvement Project – ID Number 16 (Sheet 6 of Figure 3.25-1) • In the City of Corona • Department and City of Corona project • Construction is anticipated to begin in 2014 and be completed by late 2015.	This project proposes to widen Cajalco Road from two to six through lanes from Temescal Canyon Road to Bedford Canyon Road in Corona. This project also proposes several improvements to the on- and off-ramps and auxiliary lanes.	The environmental analysis and Categorical Exemption/Categorical Exclusion (CE/CE) determined the project would have no significant impacts with the implementation of mitigation measures. The CE/CE was approved on July 1, 2009. Sources: Draft Categorical Exemption/Categorical Exclusion for the I-15/Cajalco Road Interchange Project, LSA Associates, Inc., April 2009; and http://www.ceqanet.ca.gov/projectlist.asp, accessed January 20, 2010.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
I-15 Corridor Improvement Project – ID Number 17 (Sheets 4, 5, and 6 of Figure 3.25-1) • Between the City of Murrieta and the Riverside/San Bernardino County line, through Wildomar, Lake Elsinore, Corona, Eastvale, Jurupa Valley, and unincorporated areas of Riverside County • RCTC and Department project • The project is in initial environmental analysis. • Construction is anticipated to begin after 2015.	The project would improve traffic capacity and operations on the I-15 from just north of the I-15/I-215 separation in Murrieta, north to the San Bernardino County line. The project is approximately 44 miles long and would add two HOT lanes and one mixed-flow lane in each direction. The project would also provide selected interchange ramp improvements; improve the movement of vehicles, people, and goods to serve the existing and future regional travel demand; and provide system connectivity from I-15 to the SR-91 express lanes. The project is a major element of RCTC's 10-year Western County Highway Delivery Plan and is a high priority project in the region.	An EIR under CEQA and an EA under NEPA will be prepared. The NOP is anticipated for release in early 2012 and will be followed by public scoping. Sources: www.i15project.info, accessed January 2010; Email communication from Shawn Oriaz at the Department to Elise McCollister at LSA Associates, Inc. on January 21, 2010; and Steven Keel (RCTC), November 7, 2011.
HIGHWAY PROJECTS: I-215 PROJECTS		
I-215 Barton Road Interchange • In the City of Grand Terrace • San Bernardino Associated Governments (SANBAG), Department, and City of Grand Terrace project • The preliminary engineering/environmental document phase is expected to be completed in early 2010. • Construction may begin by 2013 and be completed by 2015. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project proposes to realign the freeway on-ramps and off-ramps at Barton Road and La Crosse Avenue. Barton Road would also be widened over I-215. The interchange is expected to aid traffic operations by improving the flow of vehicles on the new bridge and ramps. The interchange would accommodate the future widening of I-215, and the proposed project is to provide earlier traffic congestion relief at this intersection.	The anticipated environmental document is an EIR/EIS. Source: www.sanbag.ca.gov/, accessed March 2009.
I-215 Widening from Interstate 10 (I-10) to University Parkway • In the City of San Bernardino • Department, SANBAG, FHWA, and City of San Bernardino project • Construction of Phase 1 is expected to be completed in 2009; construction of Phase 2 began in 2007 and is expected to be completed in 2010; and construction of Phases 3 and 4 are expected to begin in 2009 and be completed in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would widen I-215 from I-10 to University Parkway. Phase 1 would reconstruct and widen the 5th Street Bridge. Phase 2, from Orange Show Road to Rialto Avenue, would add an HOV lane and a mixed-flow lane in each direction. New bridges would be provided at Inland Center Drive with two lanes in each direction and turn lanes. The Mill Street ramps would be realigned. Mill Street would be widened from two to three lanes in each direction with the addition of left-turn lanes. Braided connector ramps would be installed between Orange Show Road, Inland Center Drive, and Mill Street. The bridges over Warm and Lytle Creeks would be widened. Drainage improvements would be constructed throughout the project. Aesthetic design would be added to new retaining walls. Phase 3 would widen I-215 from Rialto Avenue to Massachusetts Avenue, and Phase 4 would construct the flyover connectors from I-215 to State Route 210 (SR-210).	An EIR/EIS was approved for this project on October 3, 2008. Source: www.sanbag.ca.gov/, accessed March 2009.
I-215 North Widening from Nuevo Road to SR-60 • In the Cities of Perris, Moreno Valley, and Riverside in Riverside County • RCTC and Department project • Future planned project	The project would add one carpool lane in each direction on I-215 and a westbound auxiliary lane to improve traffic merging on SR-60.	RCTC has long-term plans to widen I-215 and SR-60 in Perris, Riverside, and Moreno Valley. This is the northernmost project of RCTC's 29.25-mile freeway widening effort between Murrieta Hot Springs Road in Murrieta and SR-60. Priority has been given to the southern and central projects along the I-215 corridor because the freeway narrows to only two lanes in each direction in those areas. The I-215 North project proposes to add one carpool lane in each direction on I-215 and a westbound auxiliary lane to improve traffic merging on SR-60. Source: http://www.i215project.info/north/, accessed November 9, 2011.
I-215 Central Widening from Scott road to Nuevo Road • Through Murrieta, Menifee, and Perris in Riverside County • RCTC and Department project • Construction is scheduled to begin in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project proposes to widen a 12.5-mile section of I-215 from Scott Road north of Murrieta to Nuevo Road in Perris. One lane and a shoulder will be added in each direction in the unused portion of the center median, creating three GP freeway lanes in each direction. RCTC can use the existing freeway median for the project. In some portions of the project, the median is 46 feet wide and can accommodate the planned widening. In other portions, the median is only 22 feet wide and is not adequate to accommodate the planned widening. In the areas where the median is only 22 feet wide, outside widening will be required. Using the median to the greatest extent possible will reduce the impacts to homes and businesses located adjacent to the freeway.	An MND (CEQA) and a FONSI (NEPA) were approved on April 12, 2011. Source: www.rctc.org, accessed March 2009; and http://www.i215project.info/central/, accessed November 9, 2011..
I-215 South Widening from Murrieta Hot Springs Road to Scott Road • In City of Murrieta • RCTC and Department project • Construction began in mid-2011. This project is southeast of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project will add one GP lane to both northbound and southbound I-215, creating three lanes in each direction. Work will occur within the existing freeway median, which will reduce the project's impact on the community.	An IS/MND was approved on November 14, 2008. With the use of standard conditions during construction and implementation of the mitigation measures, the project impacts would be reduced. Construction is expected to be completed in 2012. Sources: Email communication from Shawn Oriaz at Department District 8 to Elise McCollister at LSA Associates, Inc. on February 10, 2010; Email communication from Steven Keel at RCTC/Bechtel to Elise McCollister on February 11, 2010; and http://www.i215project.info/south/, accessed November 9, 2011.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
HIGHWAY PROJECTS: OTHER HIGHWAY PROJECTS		
Mid County Parkway (MCP) • In western Riverside County • RCTC, Department, and FHWA project • A Draft EIR/EIS was circulated for public review in 2008. Review of comments received from the public and agencies occurred in 2009–2010. • Due to redefinition of the project, a revised Draft EIR/EIS is anticipated to be circulated in 2012. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The MCP project is a proposed 16-mile transportation corridor that would relieve traffic congestion for east-west travel in western Riverside County between the San Jacinto and Perris areas and would help address future transportation needs through 2035. Traffic in the MCP study area is projected to double in some segments and increase as much as five times in others. The MCP would provide logical connections with north-south corridors including SR-79 and I-215. It would also serve multimodal bus and rail facilities planned as part of the Perris Valley Line Metrolink service that would connect Perris to Riverside.	The Draft EIR/EIS identified the following potential environmental impacts and issues for this project: biological resources, archaeological and historic resources, floodplain/flooding, toxic/hazardous, noise, recreation/parks, aesthetics/visual, farmlands, water supply, soil erosion/ compaction/grading, geologic/seismic, and traffic/circulation. As of November 2011, work on the Draft EIR/EIS and revised technical studies continues. Sources: www.midcountyparkway.org/, Draft EIR/EIS, LSA Associates, Inc., October 2008, accessed March 2009; http://www.midcountyparkway.org/default.asp?link=15, accessed January 21, 2010; and Steven Keel (RCTC), November 9, 2011.
Foothill Parkway Westerly Extension – ID Number 18 (Sheet 3 of Figure 3.25-1) • In the City of Corona and unincorporated Riverside County • City of Corona project • Construction is anticipated to begin in late 2009 and be completed in 2011.	This project would be an extension to the western segment of Foothill Parkway into a four-lane facility from approximately 600 ft west of Skyline Drive to Green Valley River Road, a distance of approximately 2 miles. The project would include either two parallel bridge structures or an aboveground arch structure to protect the existing 108-inch Metropolitan Water District of Southern California feeder line located approximately 1,000 ft east of Paseo Grande. The improvements would require right-of-way acquisition for curb, shoulders, travel lanes, and landscaped medians. Slope easement areas, drainage facilities, and temporary construction easements would be necessary. The project also includes a new signalized intersection at Paseo Grande and two possible additional signalized intersections at the proposed Border Avenue and Chase Drive connections. Source: www.discovercorona.com/, accessed March 2009.	The Final EIR for this project determined there would be significant and unavoidable impacts from short-term construction impacts, impacts to scenic vistas, impacts to the existing character/quality, and cumulative impacts due to the development of the proposed roadway. The project would contribute to significant and unavoidable impacts to air quality from nitrogen oxides (NO_x), particulate matter less than 10 microns but larger than 2.5 microns in size (PM_{10}), and particulate matter less than 2.5 microns in size ($PM_{2.5}$) emissions during construction, that would remain above the South Coast Air Quality Management District (SCAQMD) thresholds, cumulative construction impacts related to regional emissions would also be significant and unavoidable. Short-term construction noise impacts would have the potential to exceed the City's noise standards and are considered significant and unavoidable. The construction of the project would result in significant and unavoidable impacts to historical resources. Cumulative historical resource impacts would also be significant and unavoidable. Implementation of geologic mitigation measures may not fully mitigate for potential fault rupture impacts, and the project would also cumulatively contribute to fault rupture impacts. Environmental review was finished in 2007. Sources: Foothill Parkway Westerly Extension Final EIR, City of Corona, January 2009, http://www.discovercorona.com/, accessed March 2009; and http://www.discovercorona.com/documents/Public%20Works/Construction%20Projects/4-396B_d.pdf, accessed on January 20, 2010.
State Route 79 (SR-79) Realignment • Near the Cities of Hemet and San Jacinto • RCTC, Department, FHWA, Riverside County, and Cities of Hemet and San Jacinto project • Construction is anticipated to begin in 2014. This project is southeast of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would realign SR-79 between Domenigoni Parkway and Gilman Springs Road. The project would improve efficiency, safety, and capacity in the area and provide a more direct route in the San Jacinto Valley. Two corridor alternatives are being analyzed. Both corridors begin south of Domenigoni Parkway and end immediately south of the San Jacinto River on Sanderson Avenue.	The Draft EIR/EIS is under preparation and is anticipated to be circulated for public review in late 2011. Source: http://www.sr79project.info/, accessed March 2009, January 2010, and November 2011.
OTHER TRANSPORTATION PROJECTS IN LOCAL CITIES		
La Sierra Bridge Overpass/SR-91 – ID Number 19 (Sheet 4 of Figure 3.25-1) • In the City of Riverside • City of Riverside project • Construction was completed in 2009.	This project would replace the La Sierra/SR-91 interchange with a new 10-lane bridge over the freeway. La Sierra would have three lanes in each direction with dual left-turn lanes onto SR-91. The freeway ramps would be widened to three lanes. This is the third and last phase of a joint effort by the City and County of Riverside to complete La Sierra from Lake Mathews to SR-91.	A CE/PCE was approved for this project on March 10, 2004. Sources: http://www.riversideca.gov/pworks/ and www.wrcog.cog.ca.us/ewrcog/etumf0702_main1.html, accessed April 2009.
Improvements to Grand Boulevard – ID Number 59 (Sheet 4 of Figure 3.25.1)] • In the City of Corona • Various City and Department projects in the past • No active projects at this time	Past transportation projects have affected the Grand Boulevard Historic District. Specifically, the construction of the original SR-91 facility and other projects in the area have impacted the Grand Boulevard Historic District. Those projects have included a wide range of changes in the Historic District (e.g., road resurfacing and restriping; the installation of traffic and pedestrian control signals and signage; replacement of streetlights in-kind; the relocation, replacement, and removal of street trees; and modifications to the parkways, curbs, and sidewalks). As a result, these projects have resulted in cumulative effects on the Grand Boulevard Historic District that are largely related to the removal of features such as parkways or sidewalks. Some of those projects that have affected the integrity of and resources in the Grand Boulevard Historic District include: • In the northernmost segment, near the SR-91 bridges, the road was widened to 80 ft, elevated, and restriped in 1976. • The parkways under the SR-91 mainline were narrowed in 1961 and are unplanted.	Information on specific environmental analyses for the various projects that have affected the Grand Boulevard Historic District were not available at the time the cumulative impacts analysis was conducted. The information regarding the past projects described here is from the Finding of Effect (August 2011) for the SR-91 CIP.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
	• North of SR-91, most of the original parkways have been narrowed and filled with concrete and tree wells, leaving only a few segments of the original parkway adjacent to the inner curve of Grand Boulevard. • Many segments of the original sidewalks have been narrowed or replaced, and handicapped access ramps have been added to the sidewalks along the entire length of Grand Boulevard. • In 1961, SR-91 was constructed, crossing the northern part of Grand Boulevard generally north of Second Street. The width and configuration of Grand Boulevard were not changed by the construction of SR-91, but the parkways under and adjacent to the freeway were narrowed and the vegetation removed some intersections were altered or removed and two northern pocket parks were removed. • In 1976, a grade separation project elevated the northernmost segment of Grand Boulevard to meet North Main Street, which was reconstructed as a railroad overpass. That segment of the road was widened to accommodate the rising curve by adjusting the outer curve parkway width for approximately 150 ft on either side of the North Main Street intersection. Relocated historic Mexican fan palms, new magnolias, and historic-period streetlights were retained and incorporated in the widened Grand Boulevard segment.	
BUS TRANSIT PROJECTS		
Express Bus Improvements • Throughout Orange and Riverside Counties • OCTA, RCTC, and Riverside Transit Agency (RTA) project • Project began in 2006 with the Riverside County to South Coast Metro route; future routes are planned for implementation by 2010–2011.	This is an SR-91 improvement project proposed for implementation by 2010. The expansion of the Express Bus service between Riverside and Orange County employment centers would add four bus routes from Riverside County to the Northeast Anaheim Canyon Business Center and California State University Fullerton; Anaheim Civic Center, Western Medical Center, and Anaheim Resort; and Irvine Business Complex and University of California, Irvine. Bus service would be coordinated with demand needs. Depending on future budget authority, future routes are planned for implementation by 2010–2011.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Corona Multimodal Transit Center – ID Number 21 (Sheet 3 of Figure 3.25-1) • In the City of Corona • RCTC and RTA project • Project construction is expected to begin in the summer of 2009.	This project would construct the Corona Bus Transit Terminal one block north of SR-91 and one-half mile west of I-15, next to the Corona Metrolink Station. The terminal would provide intercity train commuters access to the RTA bus system. The project consists of a 10- to 15-bus bay plaza, parking area, and retail shops to accommodate transit patrons. The transit terminal would provide a transfer point for several bus routes serving western Riverside County.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.wrcog.cog.ca.us, accessed April 2009.
Perris Multimodal Facility • In the City of Perris • RCTC project • Construction began in January 2009 and has been completed. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct the Perris Multimodal Facility with an RTA bus transit center, a future platform for the Metrolink Perris Valley Line, and a commuter parking lot. The project consists of an eight-bus bay plaza and 141 parking spaces. The project also includes improvements on San Jacinto and C Streets and would close 2nd Street between C and D Streets.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctc.org/, accessed April 2009.
City of Temecula/Murrieta Transit Center • At the boundary between the Cities of Temecula and Murrieta • Project is in the early planning stages • The City of Temecula is proposing to conduct a study of transit center options. This project is southwest of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project proposes the City of Temecula/Murrieta Transit Center adjacent to I-15 and the proposed French Valley Parkway Interchange.	The project is only in the planning stages. No environmental review has been conducted for this project to date. Source: www.rta, accessed April 2009.
RAIL AND RAIL-ASSOCIATED PROJECTS		
Perris Valley Line • In the Cities of Riverside and Perris and unincorporated Riverside County • RCTC and Federal Transit Administration (FTA) project • Project is anticipated to be operational in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would extend Metrolink commuter rail service as the Perris Valley Line from the existing Riverside Downtown Station approximately 24 miles to the City of Perris, mostly along the existing San Jacinto Branch Line (SJBL) parallel to I-215. The Perris Valley Line would be operated by the Southern California Regional Rail Authority (SCRRA). Project features include initial construction of four commuter rail stations and appurtenances, replacement of existing track, as necessary, construction of a maintenance-of-way facility, construction of a train layover facility, in-kind replacement of two existing bridges over the San Jacinto River, construction of the Citrus Connection between the Burlington Northern Santa Fe (BNSF) Line to the SJBL in Riverside, construction of about 9 miles of parallel track from south of the SR-60/I-215 interchange to Perris, and improvements to affected rail crossings. This project is part of the Metrolink 91 Line expansion plan.	An EIR was prepared for CEQA compliance; it was certified by RCTC in July 2011. A Supplemental Environmental Assessment (SEA) was prepared for NEPA compliance, and a FONSI is anticipated in early 2012. Sources: Draft EA and Section 4(f) Report, FHWA and RCTC, July 2004, www.perrisvalleyline.info/pdf/draftEA_july04.pdf, accessed March 2009; RCTC, written correspondence from Steven Keel dated October 26, 2009; and Steven Keel (RCTC), November 7, 2011.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
North Main Street Corona Metrolink Station Parking Structure – ID Number 21 (Sheet 3 of Figure 3.25-1) • In the City of Corona • RCTC project • Project is complete.	The project consists of a six-level parking structure with 1,100 parking stalls. The demand for parking has exceeded the capacity at the station. With the addition of the new parking structure, existing demand for parking is anticipated to be met, and Metrolink ridership at this station is also expected to increase as a result of the increased number of parking spaces.	Source: http://www.rctc.org/railprojects.asp, accessed November 9, 2011.
Metrolink Short-Term Expansion Plan • Orange County to Riverside County • OCTA, RCTC, SANBAG, and SCRRA project • Project is expected to be completed by 2010. This project proposes increased rail service levels but does not specifically propose physical improvements at the rail stations; therefore, this project is not shown on Figure 3.25-1.	This project is part of the first set of projects to relieve congestion on SR-91. The project is a short-term expansion that would add two additional Inland Empire-Orange County (IEOC) trains and four additional trains to the 91 Line (which operates from the Inland Empire to Los Angeles via Orange County, and parallels SR-91). Currently, 25 trains run daily, and the project would increase the amount of daily trains to 31.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Metrolink Service and Station Improvements • Projects in the City of Anaheim, from Orange County through San Bernardino County to Riverside County • OCTA, RCTC, SANBAG, and SCRRA project • This project is expected to be constructed by 2020. This project proposes increased rail service levels but does not specifically propose physical improvements at the rail stations; therefore, this project is not shown on Figure 3.25-1.	This is an SR-91 improvement project proposed for implementation by 2020. The project would provide an extensive expansion of train service from the Inland Empire to Orange County. Additional trains would be added to the IEOC Line that currently provides service between San Bernardino, Riverside, and Orange Counties. Additional service would be added to the 91 Line that provides service from the Inland Empire to Los Angeles via Orange County and parallels SR-91.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Anaheim to Ontario International Airport High Speed Rail (HSR) • From the City of Anaheim to the City of Ontario • California High-Speed Rail Authority and Federal Railroad Administration (FRA) project • The expected date for the initiation of construction has yet to be determined. The first HSR project would come into Orange County from Los Angeles Union Station to the Anaheim Regional Transportation Intermodal Center (ARTIC) in Anaheim. The rail line and the ARTIC center are southwest of the SR-91 CIP project limits and are not shown on Figure 3.25-1.	This is an SR-91 improvement project proposed for implementation by 2030. Different alternative alignments for the HSR line are being studied. The alignment could be located as part of the MIS Corridor A, which would require right-of-way adjacent to SR-91. A different alignment may be considered along SR-57, west of SR-55. This project is a section of the proposed HSR system to the Nevada state line.	A project-level EIR/EIS environmental document is being prepared for the Los Angeles Union Station to Orange County ARTIC center segment of the proposed HSR system. The project for HSR from Anaheim to Ontario International Airport is in the planning stages, and no tiered environmental review has been conducted for this project to date. Source: RBF 2008 SR-91 Implementation Plan from www.sr91project.info/_pdf/91-IP_06-2008_Final.pdf, accessed March 2009.
Anaheim Regional Transportation Intermodal Center (ARTIC) • In the City of Anaheim • OCTA and City of Anaheim project • The project is in the initial stages of environmental review. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would construct a new Metrolink station across from the Honda Center in Anaheim. The state-of-the-art facility would develop a transportation hub and mixed-use activity center on a 16-acre site. The center would connect the Platinum Triangle, Anaheim Resort, the Southern California region and beyond. Modes of transit would include train, intercity bus, taxi, car, and local transit. The facility would also include plans for future HSR service and necessary infrastructure.	The project is only in the planning stages. No environmental review has been conducted for this project to date. Source: www.octa.net/articnew.aspx, accessed March 2009.
SR-90 Imperial Highway Rail Grade Separation Project (Orange County) – ID Number 24 (Sheet 1 of Figure 3.25-1) • At the border of the Cities of Anaheim and Yorba Linda • OCTA, Cities of Anaheim and Yorba Linda, County of Orange, and BNSF project • The project is under construction and is expected to be operational in 2010.	This project would provide a bridge that would widen and separate Imperial Highway from its existing at-grade crossing of the BNSF north of La Palma Avenue at the Imperial Highway/Esperanza Road/Orangethorpe Avenue intersection. The project would improve traffic flow at the crossing, improve safety, and reduce train whistle noise at the intersection.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.octa.net/imperial.aspx, accessed March 2009.
Auto Center Drive/BNSF Grade Separation Project (Riverside County) – ID Number 25 (Sheet 3 of Figure 3.25-1) • In the City of Corona • City of Corona project • Project is in final design phase. • The project is expected to be operational in May 2013.	This project would provide a four-lane bridge on Auto Center Drive that passes over the existing BNSF tracks. Construction of this project is expected to begin in late 2011 and be completed in May 2013. A gap between the Auxiliary Dike and Floodwall Project (part of the Corps Santa Ana River Mainstem Project) and this grade separation project is now a component of the grade separation project. The funding for that project component will be provided by the City of Corona.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Sources: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009; County of Orange Agenda Staff Report (March 22, 2011); and State of California, Department of Transportation Memorandum to the California Transportation Commission meeting (August 10–11, 2011).

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
Columbia Avenue/BNSF and Union Pacific Railroad (UPRR) Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • Project construction was completed in 2010. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This project would provide a four-lane bridge on Columbia Avenue that passes over the existing BNSF and UPRR tracks.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009.
Iowa Avenue/BNSF and UPRR Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • Project is in the PS&E phase. • The project is expected to be operational in 2011. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a four-lane bridge on Iowa Avenue that passes over the existing BNSF and UPRR tracks. The construction of this grade separation would begin after the completion of the Columbia Avenue Overpass in 2010. Modifications would also be made to east and west Citrus Avenue intersections at Iowa Avenue.	Environmental clearance was obtained on July 31, 2008, for this project. No other information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Sources: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009; and www.riversideca.gov/gs/iowa.asp, accessed April 2009.
Magnolia Avenue/UPRR Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • Project is in the right-of-way acquisition and design phases. • Construction was completed in 2010. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would lower Magnolia Avenue under the UPRR tracks and construct a two-track railroad bridge over Magnolia Avenue. The project would also shift the alignment of Magnolia Avenue approximately 50 ft to the west. Beatty Drive would be widened between Brockton and De Anza Avenues, and traffic signals would be installed at the intersections of Beatty Drive with Brockton, Magnolia, and De Anza Avenues. Merrill Avenue (on the east and west side of Magnolia Avenue) would be converted to a right-turn-in/out at Magnolia Avenue to facilitate traffic flow.	The City of Riverside adopted a Notice of Exemption on June 26, 2006 in compliance with Public Resources Code Section 21080.13 (any railroad grade-separation project which eliminates an existing grade crossing is exempt). The California Public Utilities Commission agreed that the Notice of Exemption is the documentation required by CEQA and is adequate for their decision-making purposes. Sources: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009; and docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/99950.pdf, accessed May 2009.
Third Street/BNSF and UPRR Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • Project is in the preliminary engineering phase. • The project is expected to be operational in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a new BNSF/UPRR bridge and lower Third Street to pass under the existing railroad tracks.	Environmental review for this project is in progress. No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009.
Clay Street Railroad Grade Crossing/UPRR (Riverside County) • In the City of Riverside • Riverside County project • Project is expected to be operational in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a new UPRR bridge and lower Clay Street to pass under the existing railroad tracks.	Environmental review for this project is in progress. No information was available on the potential environmental impacts and issues for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 Grade Separation Funding Strategy, accessed February 2009.
Magnolia Avenue/BNSF Grade Separation Project (Riverside County) – ID Number 26 (Sheet 4 of Figure 3.25-1) • In the City of Riverside • Riverside County project • The project is expected to be operational in 2015.	The project would construct a four-lane bridge on Magnolia Avenue that passes over the existing BNSF tracks. This grade separation project is a funding Priority B project and an RCTC Priority Tier 1 project in the Grade Separation Funding Strategy: A Blueprint for Advancing Projects. This project is not yet fully funded.	This project is in the conceptual engineering/Project Study Report (PSR) phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Riverside Avenue/UPRR Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • The project is expected to be operational in 2012. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a four-lane bridge on Riverside Avenue that passes over the existing UPRR tracks. This grade separation project is a funding Priority B project and an RCTC Priority Tier 1 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	Environmental review for this project is in progress. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
Streeter Avenue Grade Separation/UPRR Grade Separation Project (Riverside County) • In the City of Riverside • City of Riverside project • The project is expected to be operational in 2013. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a four-lane bridge on Streeter Avenue that passes over the existing UPRR tracks. This grade separation project is a funding Priority B project and an RCTC Priority Tier 2 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	Environmental review for this project is in progress. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
McKinley Street/BNSF Grade Separation Project – ID Number 12 (Sheet 4 of Figure 3.25-1) • In the City of Corona • RCTC project • The project completion date is not available.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 1 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	This project is in the conceptual engineering/PSR phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Sunset Avenue/UPRR Grade Separation Project • In the City of Banning • RCTC project • The project is expected to be operational in 2013. This project is located east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is a funding Priority A project and an RCTC Priority Tier 1 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is fully funded.	This project is in the preliminary engineering phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Madison Street/BNSF Grade Separation Project • In the City of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is ranked 20th in the Draft Priority Listing for FY2008/09 by the California Public Utilities Commission (CPUC). No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Jurupa Road/UPRR Grade Separation Project • In the County of Riverside • RCTC project • The project is expected to be operational in 2015. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 1 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded. The project is expected to be completed in 2015.	This project is in the conceptual engineering/PSR phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Tyler Street/BNSF Grade Separation Project – ID Number 52 (Sheet 4 of Figure 3.25-1) • In the City of Riverside • RCTC project • The project completion date is not available.	This grade separation project is ranked 20th in the Draft Priority Listing for FY2008/09 by the CPUC. No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Bellegrave Avenue/UPRR Grade Separation • In the County of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 3 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	This project is in the conceptual engineering/PSR phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Jane Street/BNSF Grade Separation Project – ID Number 54 (Sheet 4 of Figure 3.25-1) • In the City of Riverside • RCTC project • The project completion date is not available.	This grade separation project is ranked 46th in the Draft Priority Listing for FY2008/09 by the CPUC. No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Pierce Avenue/BNSF Grade Separation • In the City of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is ranked 49th in the Draft Priority Listing for FY2008/09 by the CPUC. No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
Mary Street/BNSF Grade Separation Project • In the City of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 1 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	This project is in the preliminary engineering phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Smith Avenue/BNSF Grade Separation Project – ID Number 57 (Sheet 3 of Figure 3.25-1) • In the City of Corona • RCTC project • The project completion date is not available.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 2 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	This project is in the conceptual engineering/PSR phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Railroad Street/BNSF Grade Separation Project – ID Number 58 (Sheet 3 of Figure 3.25-1) • In the City of Corona • RCTC project • The project completion date is not available.	This grade separation project is a funding Priority C project and an RCTC Priority Tier 3 project in the *Grade Separation Funding Strategy: A Blueprint for Advancing Projects*. This project is not yet fully funded.	This project is in the conceptual engineering/PSR phase. Preliminary analyses indicate this grade separation could result in reduced surface traffic delays, accidents, air quality and greenhouse gas emissions, and noise levels. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Brockton Street/UPRR Grade Separation Project • In the City of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is ranked 76th in the Draft Priority Listing for FY2008/09 by the CPUC. No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Palm Avenue/UPRR Grade Separation Project • In the City of Riverside • RCTC project • The project completion date is not available. This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	This grade separation project is ranked 93rd in the Draft Priority Listing for FY2008/09 by the CPUC. No further information for this project was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted.	No information on the status of environmental clearance for this grade separation was available at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: RCTC 2008 *Grade Separation Funding Strategy*, accessed February 2009.
Orange County Gateway (OCG)/BNSF Grade Separation Project (Orange County) – ID Number 27 (Sheet 1 of Figure 3.25-1) • In the Cities of Anaheim and Placentia • City of Placentia and OCTA project • Final EIR November 2008; Final EIS expected mid-2009 • Project is ready for final design. The Kraemer Boulevard undercrossing is not shown on Figure 3.25-1; it is located west of the Orangethorpe Avenue overcrossing.	The project would construct eight grade separations in northeastern Orange County where roads cross the BNSF railroad tracks along Orangethorpe Avenue and Crowther Avenue, between SR-57 and SR-90 (Imperial Highway). The following overcrossings and undercrossings would be constructed for the project: • Kraemer Boulevard undercrossing • Orangethorpe Avenue overcrossing • Tustin Avenue/Rose Drive overcrossing • Jefferson Street overcrossing • Van Buren Street overcrossing • Richfield Road overcrossing • Lakeview Avenue overcrossing • Kellogg Drive undercrossing	Visual impacts would be created by the bridge structures at Orangethorpe Avenue, Tustin Avenue/Rose Drive, Jefferson Street, Van Buren Street, Richfield Road, and Lakeview Avenue separations. The construction of the Orangethorpe Avenue roadway bridge would create a visual impact. The construction of the overcrossings would result in permanent visual impacts. Measures would help to reduce the impacts, but would not completely eliminate them. Community impacts due to property acquisitions for the project, along with potential acquisitions from the SR-90 Grade Separation project, may contribute to cumulative impacts to socioeconomics. The proposed project would contribute to an increase in local traffic noise and create a cumulative effect. The Final EIR determined that the following environmental resources would need mitigation measures for the construction of the project: land use impacts, community impacts, traffic/transportation impacts, visual/aesthetic impacts, hydrology impacts, water quality impacts, geologic/seismic issues, hazardous wastes and materials issues, noise and vibration impacts, energy issue due to efficient lighting fixtures and energy uses, biological resource impacts to wetlands and other waters of the United States and invasive species not introduced to the project area during construction activities. Sources: Orange County Gateway Project, Final EIR, LSA Associates, Inc., December 2008; and Final EIS (LSA Associates, Inc., June 2009).

Table 3.25.1 Summary of Transportation Projects in the SR-91 CIP Study Area[1]

Project Name and ID Number (refer to Figure 3.25-1)[2,3,4]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts
BNSF Freight Services • BNSF line between Hobart Yard in the Inland Empire and the Los Angeles Redondo Junction This project is east of the SR-91 CIP limits and is not shown on Figure 3.25-1.	The BNSF right-of-way across Orange and Riverside Counties is mostly a three-track cross section. Because the BNSF is a primary east-west rail route for goods being shipped from the Ports of Los Angeles and Long Beach to locations throughout the United States, it is likely that, at some point in the future, the BNSF would install a third track in its right-of-way in the OCG study area to provide a continuous three-track cross section across this part of southern California. Changes in facilities (tracks) or services (number and length of trains) in this corridor and any environmental analyses for those improvements would be entirely within the purview of the BNSF and the applicable passenger service providers. As of March 2010, there is no information available regarding possible improvements in the BNSF rail corridor. It is anticipated that the BNSF would increase the numbers and lengths of freight trains in this corridor in the future. However, there is no information available at this time regarding these possible service increases.	No environmental documentation has been prepared to date, and no further information on possible increases in the number of trains on the BNSF line or improvements to the BNSF tracks is available. Sources: Orange County Gateway Project, Final EIR, LSA Associates, Inc., December 2008, and Final EIS (LSA Associates, Inc., June 2009).

Source: *Final Cumulative Impacts Analysis Report* (July 2010).

[1] This table was updated in January 2010. All the information available at that time is included in this table.

[2] For listed projects that are outside the project vicinity and that are not shown on Figure 3.25-1, the project locations are described in regard to the SR-91 CIP project limits.

[3] Identification numbers 22 and 23 were not assigned to transportation projects and therefore are not cited in this table as being shown on Figure 3.25-1. Identification numbers 22 and 23 were assigned to land development projects as shown in Table 3.25.2.

[4] Sites 20, 51, 53, 55 and 56 are missing from this table.

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
PROJECTS IN THE CITY OF ANAHEIM		
Mountain Park Specific Plan – ID Number 28 (Sheet 2 of Figure 3.25-1) • An Irvine Company project • The construction date has not yet been determined.	This 3,179-acre (ac) Specific Plan is in the northeast part of the Hill and Canyon area (Gypsum Canyon) in the City of Anaheim, south of State Route 91 (SR-91) and west of Coal Canyon (the existing Cypress Canyon Specific Plan area). The amended Specific Plan provides for the development of up to 2,500 dwelling units (DUs), a City fire station, schools, community parks, public and private recreational facilities, trails, and open space. In addition, the project includes the construction of the State Route 241 (SR-241)/Weir Canyon Road interchange, and a bridge over SR-91 that would connect development areas east and west of SR-241.	An Environmental Impact Report (EIR) was prepared for this project. The analysis determined that potentially significant impacts of this project would include impacts to: landform changes (visual/aesthetics); geology and soils; biological resources (such as a mitigation plan for impacts to wetlands that includes a total of 14.1 ac of riparian mitigation for United States Army Corps of Engineers [Corps] and California Department of Fish and Game [CDFG] jurisdictional areas, a translocation program for the many-stemmed dudleya, and mitigation for the Yuma myotis, as well as the need for a biologist for monitoring and for construction activities to occur outside of the nesting season); traffic and circulation; air and noise quality; and cultural resources. The Final Environmental Impact Report (FEIR) was approved on August 24, 2005. Sources: www.anaheim.net/, accessed March 2009; and Mountain Specific Plan No. 90-4 Amendment No. 1, Mountain Park Specific Plan Amendment, FEIR No. 331 (August 2005), http://www.anaheim.net/citydepartments/planning/specific_plans/mountain_park/Appendix_G-1_Notice_of_Determination(EIR).pdf, accessed January 22, 2010.
RRM Properties, LTD. Tentative Tract Map No. 17289 – ID Number 29 (Sheet 2 of Figure 3.25-1) • RRM Properties, LTD project • The construction date would coincide with the construction of the Mountain Park Specific Plan and would not begin until 2014 at the earliest.	This project would develop a single-family residential subdivision on approximately 15.7 ac. It would include the construction of 56 single-family detached residences, streets, sidewalks, landscaped areas, wet and dry utilities, storm drains, and other related infrastructure improvements. The project site is adjacent to the Mountain Park Specific Plan to the south, west, and north, with vacant land to the northeast, east, and southeast. Being adjacent to the Mountain Park development helps to accommodate and coordinate the infrastructure improvements necessary to support both these developments.	The project would result in less than significant impacts after mitigation related to air quality, biological resources, cultural resources, geologic issues, hazards and hazardous materials, land use and planning, and utilities and service systems. Sources: www.anaheim.net/, accessed March 2009; Initial Study (IS)/Mitigated Negative Declaration (MND) (LSA Associates, Inc., March 2009); and http://www.anaheim.net/images/articles/1854/ResponsetoComments.pdf, accessed January 22, 2010.
Deer Canyon Estates – ID Number 30 (Sheet 1 of Figure 3.25-1) • The construction date has not yet been determined.	This 18.9 ac project would provide 35 single-family residences on a parcel south of Santa Ana Canyon Road, west of Festival Drive, and east of South Eucalyptus Drive. The project would include roads, landscaping, architectural elements, fuel modification zones, and over 13 ac of open space, including nearly 7 ac of wildlife habitat.	An EIR was prepared for this project. The analysis determined there are potentially significant impacts during construction that include cumulative air quality impacts. Source: Deer Canyon Estates Draft EIR, January 2005, www.anaheim.net/, accessed March 2009.
PROJECTS IN THE CITY OF YORBA LINDA		
SAVI Ranch Center Retail/Showroom and Office Development – ID Number 31 (Sheet 2 of Figure 3.25-1) • Burke Real Estate Group project • The project is in final planning/design phases.	The project would develop a 3.2 ac site with mixed uses (showroom commercial/general office), including a 28,981 square foot (sf) showroom retail building and a 17,168 sf combination showroom/retail building (8,381 sf of showroom/retail plus a 8,787 sf second-floor office). The project is located at 22744 Eastpark Drive, within the existing SAVI Ranch Business Park.	A Mitigated Negative Declaration (MND) was prepared for the project. No information on the potential project impacts and mitigation was available at the time the research for this cumulative impacts analysis was conducted. Sources: www.ylonline.org/, accessed April 2009; and www.burkesaviranchcenter.com/, accessed January 2010.
The Glen at Yorba Linda (Tentative Tract Map No. 16986) • City of Yorba Linda and Christian Development Company, LLC project • The construction date has not yet been determined. This project is north of and outside the SR-91 Corridor Improvement Project (CIP) limits and is not shown on Figure 3.25-1.	The proposed project is a request to subdivide the 8.378 gross acres into 15 single-family estate lots, for a residential density of 1.8 DUs per acre. The property is located at 5216 Highland Avenue, located south of Yorba Linda Boulevard, west of Lakeview Avenue, on the south side of Highland Avenue. The project would demolish an existing single-family residence and deserted oil production facilities. The project would also construct infrastructure improvements that would support the development of the project. A 10-foot (ft) wide equestrian trail easement would be dedicated as part of the project to connect to an existing trail easement along the eastern boundary of the adjacent properties.	An Initial Study (IS) was prepared for the project. For parks and recreation impacts, the applicant would need to pay in-lieu fees. Mitigation would be needed for the following environmental issues: impacts to air quality due to construction activities (dust emissions), and exhaust emissions from construction equipment. Impacts to biological resources for vegetation removal would need to occur outside of the nesting bird season and would require a biologist to survey all suitable habitats before any clearing of vegetation. Impacts to cultural resources would require the need for monitoring during excavation for cultural and paleontological resources. Impacts to geological issues such as landslides and expansive soils would require that the recommendations from the Preliminary Geotechnical Investigation be followed and a qualified geotechnical engineer be present for excavation, grading, and site preparation activities. There is potential for the release of hazardous materials during site preparation activities because the site was historically used for oil production. These activities include the capping of the oil derrick, removal or treatment of contaminated soils, and conducting a soil gas survey on site. Asbestos and lead-based paint surveys for the existing residence would need to be conducted. Mitigation for noise impacts requires that construction equipment be equipped with noise reduction devices and that the use of construction equipment be staggered so as not to combine construction noise sources. No impacts were considered to contribute to cumulative effects. Source: www.yorba-linda.org/government/departments/Glen%20portal%20page.htm, accessed May 2009.
PROJECTS IN UNINCORPORATED ORANGE COUNTY		
There are no current land development projects in unincorporated Orange County in the project area.		

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
PROJECTS IN THE CITY OF CORONA		
North Main Street District – ID Number 32 (Sheet 3 of Figure 3.25-1) • City of Corona and City of Corona Redevelopment Agency project • The construction of the parking structure for the transit center has begun. The construction date for the additional development has yet to be determined.	This project consists of seven Planning Areas (PAs) in the City's adopted North Main Street District Specific Plan. The project site is just north of SR-91 and west of Interstate 15 (I-15). The Specific Plan area includes approximately 258 ac and generally consists of the north-south commercial corridor along North Main Street, extending north from Grand Boulevard to the Corona/Norco city limits. PAs 1, 2, and 3 are planned for the development of approximately 650 residential units and 124,200 sf of commercial space. PA 4, which is approximately 11 ac, is under consideration for a residential/retail mixed-use area. PA 5, which is approximately 11 ac, may be developed in approximately 240,000 sf of general commercial uses or 528 dwelling units and 191,664 sf of commercial uses. PA 6 would provide three parking structures with 2,174 parking spaces for the Metrolink train station, and approximately 7 ac for a mixed-use project containing 75 percent residential and 25 percent commercial uses.	A Draft EIR was prepared for this project. Potentially significant impacts of this project include the reduction of visual access to the Corona Depot; increased regional air quality emissions for some receptors in the area; exterior noise levels would be exceeded; cumulative population growth would exceed the Southern California Association of Governments (SCAG) projections; funding for police services may potentially be impacted; transportation impacts at six intersections and one road segment; and impacts to Congestion Management Program (CMP) facilities, including SR-91 and I-15. Source: Draft Environmental Impact Report North Main Street District Specific Plan Amendment, www.discovercorona.org/documents/communitydev/, accessed March 2009.
Dos Lagos Specific Plan (SP-99-03) – ID Number 33 (Sheet 6 of Figure 3.25-1) • Located in the City of Corona • SE Development project • The construction of the project is ongoing.	Dos Lagos is a master-planned mixed-use development on a 534 ac site, situated immediately east of I-15 between the Cajalco and Weirick Road interchanges and bisected by Temescal Canyon Road, which is a north/south arterial. The project includes single-family homes, live and work lofts, and senior condominiums. The development includes an 18-hole championship golf course, resort hotels, shopping centers, movie theaters, a 575,000 sf retail village adjacent to the two lakes that are the center of the project. A 65,000 sf office space would be constructed on the east side of Temescal Canyon Road near the golf course. A 575,000 sf office space would be constructed on 15 ac near the highway and next to the Lake District, and 135 ac of hillside open space and habitat would be preserved and restored as are the wetland areas on the golf course.	The Dos Lagos Specific Plan was approved by the Corona City Council in June 2000 and amended in June 2002. No other information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Sources: Dos Lagos Specific Plan, SE Corporation, 2000, amended June 2002, doslagos.net/news/pdf/Specific_Plan/ExecutiveSummary.pdf, accessed April 2009; and http://www.doslagos.net/, accessed January 22, 2010.
Eagle Valley (East) General Plan Amendment, Specific Plan – ID Number 34 (Sheet 4 of Figure 3.25-1) • Eastern Sphere of Influence for the City of Corona, Riverside County • City of Corona and Eagle Valley Developers, LLC project • Construction is expected to be in five phases. Phase 1 began in late 2008 and is anticipated to be completed by 2010, and Phase 5 (the last phase) is set to begin in 2017 and to be completed in 2023.	The project would develop an 801 ac site for a maximum of 4,600 DUs for single-family attached and detached units and multi-family attached units. A Town Center, which includes mixed-use with 200,000 sf of commercial use, 100 live/work flats, and 224 senior units. A 3 ac Community Campus Center with a Day Care Center is also planned. Facilities for police, schools, and a 45,000 sf office/medical facility would be provided. A regional aquatic center, 40 ac for parks, 46 ac for greenbelt park areas, and 218 ac for open space are planned.	A Draft EIR is being prepared for this project. The environmental evaluation for this project is in the initial phase and there was no specific information regarding environmental analyses, documentation or issues available for this project at the time the research for the cumulative impacts analysis for the SR-91 CIP was conducted. Source: www.ci.corona.ca.us/documents/communitydev/environment_impact_rpt.pdf, accessed April 2009.
El Cerrito Sports Park (DPR07-001) – ID Number 35 (Sheet 6 of Figure 3.25-1) • On El Cerrito Road east of the El Cerrito Road/I-15 interchange • Riverside County and the City of Corona project • El Cerrito Park opened on June 5, 2010	El Cerrito Sports Park is a 26.6 ac public park owned by the County of Riverside and maintained by the City of Corona. Amenities at the park include two full-size baseball/softball diamonds, two Little League baseball/softball diamonds, one T-ball multi-use field, two full-size soccer fields, two basketball courts, a 465-square-meter (5,000-square-foot) community center building, off-street parking, restrooms, landscaping, fencing, sports field lighting, tot lots, and a concession stand. Vehicle access to this park is via Rudell Road, on the northeast side of the park. Pedestrian access to this park is via Rudell Road and El Cerrito Road.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Sources: Foothill Parkway Westerly Extension Project EIR, www.ci.corona.ca.us/documents/communitydev/, accessed March 2009. http://innercirclecorona.com/blogs/inner-circle/May-2010/El-Cerrito-Sports-Park-Grand-Opening, accessed September 2010.
Springhill Suites Hotel (DPR07-004) – ID Number 36 (Sheet 6 of Figure 3.25-1) • On Compton Avenue, north of Ontario Avenue • OTO Development, LLC project • Construction has begun on this project.	The project requires a Specific Plan Amendment to change 2.6 ac from Light Industrial to Office Professional uses. The planned hotel is to be developed at 2025 Compton Avenue, north of East Ontario Avenue in the City of Corona. The hotel would be a four-story building with 130 suites.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.discovercorona.org/, accessed March 2009.
Meta Housing Corporation (Conditional Use Permit [CUP] 08-012, PM 36169) – ID Number 37 (Sheet 3 of Figure 3.25-1) • South of East Sixth Street, west of Rimpau Avenue , in the City of Corona • Meta Housing Corporation and the City of Corona project • The project is expected to be built by 2010.	A CUP was granted for a four-story senior apartment complex consisting of 152 units on approximately 3 ac on the south side of East Sixth Street, approximately 385 ft west of Rimpau Avenue in the pending Transitional Commercial (TC) designation of the Downtown Corona Revitalization Specific Plan (SP98-1). The parcel map was approved February 2009.	An MND was prepared for this project; however, no information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.discovercorona.org/, accessed April 2009.
PROJECTS IN THE CITY OF NORCO		
Gateway Specific Plan (SP) – ID Number 23 (Sheets 3 and 5 of Figure 3.25-1) • City of Norco project	The area designated as Gateway SP is west of I-15, between Hidden Valley Parkway, Hamner Avenue, and the southern city limits. The primary purpose of this SP is to facilitate private development projects, public infrastructure, and road improvement projects. The Gateway SP area encompasses approximately 345 ac and is currently developed with a self-storage facility, fast food restaurants, a gas station, and a boat sales business.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: City of Norco General Plan, Land Use Element (City of Norco, June 6, 2001, page 21).
Norco Auto Mall Specific Plan (SP) – ID Number 22 (Sheet 5 of Figure 3.25-1) • City of Norco project	The SP designation for this project in the study area is the Norco Auto Mall SP. This is an approximately 55 ac site intended for new car dealerships (both sales and service facilities) and auto-related existing commercial uses. There are several car dealerships located in this area.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: City of Norco General Plan, Land Use Element (City of Norco, June 6, 2001, page 24).

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
Silverlakes Equestrian and Sports Park Project – ID Number 38 (Sheet 5 of Figure 3.25-1) • City of Norco, the Norco Redevelopment Agency, and Belstarr Sports Management project • The construction was expected to begin in late 2008 and would be completed in late 2009.	This project proposes a 122 ac equestrian center and sports facility. The project site is at 5555 Hamner Avenue, adjacent to I-15 and bordering the community of Eastvale. The facility would be used for equestrian events, soccer, football, lacrosse, etc. The project may include equestrian trails, campground, recreational vehicle area with water and electrical hook ups, storage and maintenance facilities, temporary and permanent lighting, temporary and permanent horse stalls, and on-site parking.	A Final EIR was prepared for this project in December 2008. The findings indicated the project would produce significant and unmitigable impacts to air quality, transportation, and climate change. The impacts to air quality and climate change are from the long-term emissions of air pollutants (both criteria and greenhouse gases [GHGs]) during operation of the park, including impacts to sensitive receptors, consistency with the Air Quality Management Plan (AQMP), and cumulative emissions from the project. The impacts to transportation are from the obstruction to Hamner Avenue at Sixth Street. The City of Norco found that the project would provide specific economic, social, and other benefits that outweigh the unavoidable environmental impacts of the project such that those impacts are considered acceptable. Sources: www.norco.ca.us/depts/silverlakes, accessed March 2009; Environmental Findings of Fact for the Environmental Impact Report, Silverlakes Equestrian and Sports Park, Michael Brandman Associates, December 2008; and www.norco.ca.us/civica/filebank/blobdload.asp, accessed January 2010.
Gateway to Norco Horsetown USA Retail Center – ID Number 39 (Sheets 3 and 5 of Figure 3.25-1) • City of Norco project • The construction of the project has been completed.	The project is a 4.5 ac shopping center at the northwest corner of Hidden Valley Parkway and I-15. The center includes four buildings with a total of 23,138 sf. Pedestrian/equestrian access would be connected from Valley View Avenue with an equestrian tie-up corral for equestrian patrons.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed March 2009.
Walking Horse Ranch – ID Number 40 (Sheet 5 of Figure 3.25-1) • The construction of this project was recently completed.	The project provides 83 residential units on approximately 49 ac at the corner of Fifth Street and Hillside Street in Norco, California.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Hidden Hills Estates – ID Number 41 (Sheets 4 and 5 of Figure 3.25-1) • Beazer Homes project • The construction of this project was recently completed.	The project provides 177 residential units on approximately 46 ac at the southeastern City boundary. The development is located at 1508 Valley Drive, north of Hidden Valley Parkway and east of I-15 in Norco, California.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Painted Canyon and Breton Gait • Pacer Communities project • The construction of this project was recently completed. This project is north of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project provides 122 residential units on approximately 93 ac at the southeastern City boundary.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Chaparral at Norco Ridge Ranch • SunCal Companies project • The project is under construction. This project is north of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would provide 55 residences on approximately 35 ac at the end of Mount Shasta and south of Fifth Street and east of Pedley Avenue. Models are open for viewing, and Phases 1 through 4 are under construction.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Norco Ridge Estates • SunCal Companies project • The project is under construction. This project is north of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would provide 139 residential units on approximately 113 ac south of Ingall's Park along the eastern City boundary. Models are open for viewing, and the final three phases are under construction.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Cielo at Norco Ridge Ranch • In the City of Norco • SunCal Companies project • The project is under construction. This project is north of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would provide 124 residential units on approximately 86 ac west of Crestview Drive and east of Pedley Avenue. Models are open for viewing, and the final phase is under construction.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.
Hawk's Crest (KB Home) – ID Number 42 (Sheet 5 of Figure 3.25-1) • A KB Homes project • The construction of this project was recently completed.	The project provides 50 residential units on approximately 38 ac at Fifth Street and California Avenue. The construction of this project was recently completed.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.norco.ca.us/depts/, accessed January 2010.

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
PROJECTS IN THE CITY OF RIVERSIDE		
La Sierra Senior Center • In the City of Riverside • City of Riverside project • Construction has recently begun on the project and is anticipated to be completed in 2010. This project is north of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a 14,000 sf Senior Center that includes a full-service kitchen, fitness room, billiard room, arts and crafts room, computer lab, banquet room, and restrooms. The project also includes a new parking lot north of the building and landscaping around the site. The existing community center would also be remodeled, enhancing the entrance from the south side from the parking lot. This project is adjacent to the existing La Sierra Community Center.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: http://calendar.riversideca.gov/Lists/Calendar/DispForm.aspx, accessed May 2009 and January 2010.
Arlanza Public Library • In the City of Riverside • City of Riverside project • Construction has begun on the project. This project is northeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a new library at 8267 Philbin Avenue in Riverside. This new library would be a cybrary, which is a library that provides electronic access to reference material. The library would have 50 public computers, internet access, a children's area, and a multipurpose community room.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: http://calendar.riversideca.gov/Lists/Calendar/DispForm.aspx, accessed May 2009.
Arlington Heights Sports Park Master Plan • In the City of Riverside • City of Riverside project • Construction on the project has begun and is expected to be completed in 18 months. This project is southeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a 35 ac sports complex bounded by Victoria Avenue on the north, Van Buren Boulevard on the west, Cleveland Avenue on the south, and Gibson Street on the east. Various recreational facilities at the complex include three lighted baseball fields, eight lighted soccer/football fields, two lighted basketball courts, a children's play area, picnic facilities, a multipurpose recreational trail, public restrooms, and lighted parking lots.	A Master Plan and MND were prepared for this project. No other information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: http://aquarius.riversideca.gov/clerkdb/docview.aspx?id=58399, accessed May 2009.
Whitegate Reservoirs 1 & 2 • In the City of Riverside • City of Riverside project • Construction begun in 2007 and is expected to be completed in 2010. This project is east of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct two replacement concrete reservoirs with adjoining booster pump stations and connecting pipeline for a combined capacity of 9.0 million gallons. The project is located at Overlook Parkway in the Alessandro Heights area in the City of Riverside.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.riversiderenaissance.org/projectsdetail.aspx, accessed May 2009.
Alvord Unified School District Joint Use Aquatics Facility – ID Number 43 (Sheet 4 of Figure 3.25-1) • In the City of Riverside • City of Riverside project • The project is in the design phase and is expected to be completed in 2011.	The project would construct an aquatics complex, tennis courts, and a park at the Alvord Unified School district's new high school.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.riversiderenaissance.org/projectsdetail.aspx, accessed May 2009.
Arlington Childcare Center • In the City of Riverside • City of Riverside project • The project is in the design phase, and construction is expected to be completed in 2009. This project is northeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would construct a 3,000 sf childcare facility at the Arlington Park site located at 3860 Van Buren Boulevard. The building would have four classrooms, a director's office, a staff room, and restroom facilities for staff and children.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.riversiderenaissance.org/projectsdetail.aspx, accessed May 2009.
PROJECTS IN UNINCORPORATED RIVERSIDE COUNTY		
Alessandro Commerce Centre (EIR #510, TPM #35365, Plot Plan #22925) • In the unincorporated area of Riverside County in the Lake Mathews/Woodcrest Area Plan • Riverside County and Amstar/Kaliber, LLC project • The project is in environmental review, and a construction date for this project has yet to be determined. This project is east of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project includes Tentative Parcel Map No. 35365 for subdividing 54.4 gross acres into six industrial/commercial parcels. Plot Plan No. 22925 proposed eight buildings comprising approximately 258,100 sf of office, 42,300 sf of light industrial/multi-tenant, 409,400 sf of industrial warehouse/distribution, and 10,000 sf of retail on a 51.21-net-acre site with a total building area of 750,000 sf, including 1,784 parking spaces and 974,727 sf of landscaping area (40 percent). The Draft EIR document for the project ended the public review period on April 10, 2009. The location of the project is east of Interstate 215 (I-215), adjacent to Alessandro Boulevard, west of Brown Street, and east of Gem Lane.	An IS was prepared and the Draft EIR is in review for the project. The IS identified the following environmental concerns for the project: mitigation would be necessary for air quality and noise impacts during construction activities. Access to the Draft EIR was not available at the time of the cumulative review for the SR-91 CIP. Sources: Initial Study EA No. 41468, County of Riverside, June 2008, accessed May 2009; and http://www.amstargroup.com/news/index.asp?page=release_October_20_06, accessed January 28, 2010.

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
The Villages of Lakeview (Specific Plan No. 342) • In the unincorporated area of Riverside County known as the Lakeview/Nuevo community • Riverside County and Lewis Operating Corporation project • Construction of this project is scheduled to begin in 2011, and construction of the entire project is anticipated to take 20 years. This project is east of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project site is east of the City of Perris and directly west of the City of San Jacinto on both sides of the Ramona Expressway. The project is nestled between the Lakeview Mountains and the San Jacinto River and is adjacent to the San Jacinto Wildlife Area, which is operated by CDFG. The project proposes development of a 2,800 ac master-planned community, including 11,350 DUs, 500,000 sf of commercial uses concentrated in a Mixed-Use Town Center area located immediately south of the Ramona Expressway, up to four new K–8 schools, over 150 ac of passive and active parks, and nearly 1,000 ac of open space/conservation proposed for permanent protection and conservation. Existing infrastructure such as water, sewer, storm drain, and roadways would also be expanded to serve the site.	An EIR was prepared for this project. The analysis concluded that the potentially significant impacts of this project include aesthetic impacts to the distant panoramic views; loss of agricultural land; project and cumulative air quality impacts, and cumulative GHG emissions; project and cumulative impacts on cultural resources; changes in land use designations and intensity of development; conversion of open space to urban uses; noise impacts due to increases to ambient noise levels in excess of 5 A-weighted decibels (dBA); population and housing impacts due to a substantial increase in residential land use over regional projections for the area; and project contribution and cumulative traffic impacts in the area. Sources: www.rctlma.org/planning/, accessed March 2009; www.rctlma.org/planning/content/temp/villages_of_lakeview.html, accessed April 2009; and http://www.rctlma.org/planning/content/temp/villages_of_lakeview/responses_to_TVOL_letters_041509_thru_121509.pdf, accessed January 28, 2010.
The Ranch at Eastvale Specific Plan No. 358, General Plan Amendment No. 827, Change of Zone No. 7345, and Agricultural Preserve Case No. 791 – ID Number 44 (Sheet 5 of Figure 3.25-1) • In unincorporated Riverside County in the Eastvale Specific Plan Area • County of Riverside Transportation and Land Management Agency and Master Development Corp. project • Construction is expected to begin in 2010.	The proposed project consists of 119.9 ac of the following land use applications: Specific Plan No. 358, which includes the land use plan, designation of planning areas, development standards, and design and landscaping guidelines associated with the development of The Ranch at Eastvale project site. The Ranch at Eastvale Specific Plan includes approximately 42.9 ac of light industrial uses, 47.7 ac of business park uses, 17.5 ac of commercial/retail uses, and 11.8 ac of major roads. Change of Zone No. 7345 proposes to change the site zoning from A-2-10 (Heavy Agriculture – 10 ac minimum lot size) to SP (Specific Plan), which would reflect the proposed project's land use designations and development standards. General Plan Amendment No. 827 proposes to establish the boundaries of Specific Plan No. 358 in the General Plan and to change the land use designations shown on the General Plan's Eastvale Area Plan Land Use Map from Community Development: Light Industrial (CD:LI) (0.25-0.60 Floor Area Ratio) and Community Development: Medium Density Residential (CD:MDR) (2-5 Dwelling Units per Acre) to Community Development: Commercial Retail (CD:CR) (0.20-0.35 Floor Area Ratio), Community Development: Business Park (CD:BP) (0.25-0.60 Floor Area Ratio), and Community Development: Light Industrial (CD:LI) (0.25-0.60 Floor Area Ratio) within the boundaries of The Ranch at Eastvale Specific Plan. The project is located east of Hellman Avenue and west of Cucamonga Creek, and the Riverside and San Bernardino County lines form the northern and western boundaries, respectively.	An EIR was prepared for this project. A planning department report stated that EIR No. 498 mitigated most of the impacts either by the design of the project or by conditional measures. The impacts include cumulative and direct impacts to agricultural resources for the conversion of agricultural land to urban uses, cumulative and indirect impacts to air quality due to the project's vehicular-related emissions to contribute to the region's inability to attain the ozone standard based on the South Coast Air Quality Management District (SCAQMD) established significance levels for mobile source emissions. Because of the project's incremental contribution to traffic noise, the project would have unavoidable cumulative noise impacts. Some roads have existing noise levels that already exceed the County's noise standards. The project would also contribute to cumulative transportation and traffic impacts to adjacent intersections and road segments that are currently operating at unacceptable levels. On June 30, 2009, the Riverside County Planning Commission recommended: • Certification of EIR No. 498, based on the findings incorporated in the EIR and the conclusion that the project would not have a significant effect on the environment • Approval of Specific Plan No. 358, subject to conditions of approval and based on the findings and conclusions incorporated in the staff report • Approval of General Plan Amendment No. 827, based on final adoption by the Riverside County Board of Supervisors • Approval of Change of Zone No. 7345, based on final adoption by the Riverside County Board of Supervisors Sources: www.scag.ca.gov/igr/pdf/Clearinghouse/2009/, accessed April 2009; www.rctlma.org/planning/content/hearings/pc/2009/pc041509_agenda/ sr_5.1.pdf, accessed May 2009; and http://www.clerkoftheboard.co.riverside.ca.us/proceeds/2009/p2009_06_30_files/16.01.pdf, accessed January 29, 2010
Eastvale Specific Plan No. 300 • In unincorporated Riverside County in the Jurupa Community Area Plan • The project is nearly built out. This project is northwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project site is in northwest Riverside County, north of the City of Norco. The Specific Plan covers an approximately 687 ac site. The residential component would provide 2,769 DUs. The project would also provide 51.8 ac of public uses (i.e., an 8 ac elementary school site, 35.2 ac of public park area, and 8.6 ac of open space). As of May 2008, 2,529 units had been built, with the potential to build a maximum of 205–240 additional single-family residences.	A Specific Plan was prepared for this project. No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Lake Hills Estates Specific Plan No. 144 – ID Number 45 (Sheet 4 of Figure 3.25-1) • In unincorporated Riverside County in the Lake Mathews/Woodcrest Area Plan • The project is nearly built out.	The project site is in northern Riverside County, south of SR-91 and south of the City of Riverside. The Specific Plan proposed a total of 1,757 DUs. As of May 2008, 1,414 DUs had been built, with the potential to build a maximum of 250–343 additional residences.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Victoria Grove Specific Plan No. 270 – ID Number 46 (Sheet 4 of Figure 3.25-1) • In unincorporated Riverside County in the Lake Mathews/Woodcrest Area Plan • The project is partially built out.	The project Specific Plan was approved in December 1992. As of May 2008, 1,050 DUs had been built, with the potential to build a maximum of 10–144 additional residences.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
The Retreat Specific Plan No. 317 • West of I-15, south of the City of Corona • The project is partially built out. This project is southwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	Approximately 1,032 ac are being developed with 545 DUs, a golf course, parks, open space, and a trail. As of May 2008, 342 dwelling units had been built, with the potential to build a maximum of 174–203 additional residences.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Mountain Springs Specific Plan No. 221 • West of I-15, south of the City of Corona in the Temescal Canyon Plan Area • The project is partially built out. This project is southwest of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	As of May 2008, 1,200 DUs had been built, with the potential to build a maximum of 124–371 additional dwelling units.	No information regarding environmental analyses, documentation or issues for this project was found in the research for the cumulative impacts analysis for the SR-91 CIP. Source: www.rctlma.org/, accessed April 2009.
Toscana Specific Plan No. 327, Final EIR No. 439 • West of I-15, south of the City of Corona in the Temescal Canyon Plan Area • County of Riverside and Sunny Sage LLC project • The project is partially built out. This project is southeast of and outside the SR-91 CIP limits and is not shown on Figure 3.25-1.	The project would develop 960 ac within the Temescal Canyon area of unincorporated Riverside County. Within 353.29 ac of land, approximately 1,443 residential units would be constructed, which would be an average residential density of approximately 3.21 DUs per acre. A 4.4 ac site would be developed into neighborhood retail commercial use or for an institutional use such as a library or child care center. A known archaeological site within the development would be preserved and left undisturbed. A park, recreation center, and three pocket parks would be part of the development. The recreation center would have a meeting room with kitchen, pool, tennis courts, basketball courts, and a tot lot. A major feature of the project is the inclusion of approximately 510 ac of open space, with 110 ac of the entire length of Temescal Wash within the development, that would be designated as open space-conservation. Construction in this area would be limited to the construction of two bridges crossing Temescal Wash. The conservation of 510 ac fulfills the reserve requirements of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The on-site open space would preserve a corridor connecting Temescal Wash in the south to Lake Mathews/Estelle Mountain Reserve to the east, and protect a vital wildlife movement linkage for the region.	The Final EIR determined that potential impacts could be mitigated to a less than significant level. However, a Statement of Overriding Considerations was required for unavoidable impacts to air quality due to pollutant emissions that exceed the SCAQMD standards on regional air quality; impacts to water resources include the incremental increase and cumulative demand for water supply; impacts to biological resources due to loss of habitat, direct and indirect take of wildlife, the creation of barriers to wildlife movement, and the disturbances related to urban land uses; impacts to aesthetic resources due to the conversion of open space areas to urban land uses; and for the project's incremental contribution to the County's cumulative impacts to traffic and circulation issues. Source: Toscana Specific Plan No. 327, Draft EIR No. 439, County of Riverside, December 2005.
PUBLIC INFRASTRUCTURE PROJECTS		
Santa Ana River Mainstem Project Reach 9 Phases IIA and IIB – ID Number 47 (Sheets 1, 2, and 3 of Figure 3.25-1) • Located along the 75-mile reach of the Santa Ana River in Orange, Riverside, and San Bernardino Counties • Phase IIA is below Prado Dam and is expected to be approved in late 2011 • Phase IIB is near the Riverside/Orange County line; construction began in December 2009 and is expected to be completed in October 2012 • Orange, Riverside, and San Bernardino Counties, working closely with the Corps, project • Improvements to project features began in 1991 and are ongoing. Prado Dam improvements are expected to be completed in 2010.	The project would provide improvements to the flood control system that is connected to the Santa Ana River. The project would increase levels of flood protection to more than 3.35 million people in the three county areas. The project includes seven independent elements, which are: the Seven Oaks Dam, the Mill Creek Levee, the San Timoteo Creek, the Oak Street Drain, Prado Dam, Santiago Creek, and Lower Santa Ana River. The Lower Santa Ana River improvements began construction in 1991 and were completed in 2006. The Seven Oaks Dam construction began in 1994 and was completed in 1999. Construction of the Prado Dam improvements began in 2003 and is expected to be completed in 2010. As a result of raising the Prado Spillway 20 ft to a total elevation of 563 ft, an additional 2,300 ac of land in the Prado Spillway Flood Control Basin will need to be acquired. Nine dikes and structures are to be constructed in that. Three of those structures have been completed: the housing dike, sewage treatment dike, and the State Route 71 (SR-71) dike. The Auxiliary Embankment (dike and floodwall), which is currently under construction, extends from the Prado Dam Spillway to Auto Center Drive. Construction of the Yorba-Slaughter Adobe structure is planned for fiscal year 2012, the Alcoa Dike and Prison Dike are planned for fiscal year 2013, and the Norco Bluffs and River Road Dike are planned for fiscal year 2014. The timing of the construction of the 566 "take line" structure in Corona was not available.	Individual and combined effects of the elements of the Santa Ana River Mainstem Project were addressed in the 1988 General Design Memorandum Phase II Supplemental Environmental Impact Statement (SEIS). Sources: www.ocflood.com/SAR_projects.asp, accessed April 2009; and http://bos.ocgov.com/legacy3/newsletters/pdf/SARM_SPD_Col_Wehr_22_Aug_2011.pdf, accessed November 7, 2011.
Santa Ana Regional Interceptor (SARI) Repairs Upstream of Prado Dam (Reaches IV-A and IV-B) Project – ID Number 48 (Sheet 3 of Figure 3.25-1) • Located within the unincorporated area of Riverside County, within the Sphere of Influence of the Cities of Corona and Riverside, and within the City of Chino in San Bernardino County • Owned and operated by the Santa Ana Watershed Project Authority (SAWPA) and the Orange County Sanitation District • This project is in environmental/public review phase with a Draft EIR document. The EIR is expected to be certified by July 2009. • Final design is expected to be completed in February 2010 • Orange County SARI Line – Construction began July 2011; estimated completion is August 2013 • Riverside County SARI Line – Construction is scheduled to begin May 2012; estimated completion is July 2013	The project would make repairs and improvements to a portion of the current system of over 90 miles of pipeline that transport "brine" and wastewater from Orange, Riverside, and San Bernardino Counties to the Orange County Sanitation District's Regional Treatment Plant No. 1 or No. 2. The SARI is a regional water quality asset because it removes "brine" (salts contained in water) from being discharged into the Santa Ana River, which would then percolate into Orange County's groundwater basin. This project would repair, replace, and/or realign the pipeline in areas designated as Reaches IV-A and IV-B. Reach IV-A serves the Chino Basin area, and Reach IV-B serves the southwestern portion of the City of Riverside. Five types of repair options are being analyzed for the project. Repairs to other portions of the pipeline have either recently been completed or are currently under construction.	A Draft EIR was prepared for this project. Potential impacts of the project include significant and unavoidable impacts after mitigation to air quality issues due to construction activities and impacts related to cumulative projects, which would result in significant short-term air quality effects. Significant and unavoidable impacts would occur from the project due to the conflict of the provisions of an adopted Habitat Conservation Plan (HCP) in the project vicinity. A Determination of Biological Equivalent or Superior Preservation may be required for impacts to 14.69 ac of riparian/riverine habitat, and focused surveys may be required for narrow endemics or criteria area species. The project and its alternatives would affect endangered species and their habitats, including: the Santa Ana sucker, least Bell's vireo, and the southwestern willow flycatcher. Sources: Draft EIR, February 2009, www.sawpa.org/documents/sari/Executive_Summary.pdf, accessed April 2009; and http://bos.ocgov.com/legacy3/newsletters/pdf/SARM_SPD_Col_Wehr_22_Aug_2011.pdf, accessed November 7, 2011.

Table 3.25.2 Summary of Land Development and Nontransportation Infrastructure Projects in the SR-91 CIP Study Area

Project Name and ID Number (refer to Figure 3.25-1)[1]	Project Description	Summary of Environmental Evaluation, Documentation, and Impacts[2]
Western Municipal Water District Riverside-Corona Feeder Project Programmatic Environmental Impact Report (PEIR) – ID Number 49 (Sheets 4 and 6 of Figure 3.25-1) • Located within the unincorporated area of Riverside, and the Cities of San Bernardino, Colton, Grand Terrace, Riverside and Corona • Western Municipal Water District project • The project is being re-evaluated in a Supplemental PEIR environmental review	The Western Municipal Water District (WMWD) is planning the construction of the proposed Riverside-Corona Feeder (RCF) project that would convey potable water from the San Bernardino Basin Area. The RCF would extend across six jurisdictions, including unincorporated portions of Riverside County and the Cities of San Bernardino, Colton, Grand Terrace, Riverside, and Corona. The proposed infrastructure would allow the WMWD to purchase State Water Project water from the Metropolitan Water District when water is available and recharge it in the Basin. The proposed project would also allow the WMWD to extract water from the Basin when the District needs water. The project would include 30 miles of major feeder pipeline that is capable of delivering up to 40,000 acre-feet per year of groundwater at 100 cubic feet per second from the San Bernardino Basin Area to the WMWD's customers and water purveyors within the WMWD boundaries. Other project features include several turnouts along the major feeder, a 2,500 horsepower pump station, and 20 new or existing wells. On June 5, 2007, the House of Representatives passed HR 1139, the Riverside-Corona Feeder Water Supply Act, which would provide budget authority for the Secretary of the Interior in the amount of $50 million for planning, design, and construction of WMWD's proposed RCF project.	A Final PEIR in 2005 was prepared for this project. Potentially significant impacts that would result from the proposed project include short-term impacts from construction emissions that would have a cumulative contribution. The project would have the potential to create construction emissions for every reach that would have construction activities in it (potentially 2.4 to 6.7 times the allowable threshold for emissions). A Statement of Overriding Considerations would be necessary for construction of the project. A Notice of Preparation for a Draft Supplemental Program EIR was filed with the State Clearinghouse on July 31, 2008, for this project. Sources: Final Programmatic Environmental Impact Report for the Western Municipal Water District Riverside-Corona Feeder Project, Webb Associates, May 2005, www.wmwd.com/pdfs/RivCorFeederFinalPEIR0505.pdf, accessed May 2009; and www.ceqanet.ca.gov/, accessed May 2009.
B Canyon Wildlife Crossing – ID Number 50 (Sheet 2 of Figure 3.25-1) • Located near the border of Orange and Riverside Counties at the east end of the Green River Golf Club • Several agencies with current projects in the area of the B Canyon culvert. These agencies include the City of Corona, the Corps, the Department, and RCTC.	The B Canyon box culvert provides a potential wildlife crossing across SR-91. B Canyon is believed to be an important linkage between the open spaces in the Santa Ana Mountains, the Puente Chino Hills and Prado Basin. Future development along Green River Road, the Green River Ranch and Fresno Canyon Wildlife Corridors could cause further constrained wildlife movement in this area. No project details are available at this time.	No environmental documentation exists for this project. Sources: Regional Conservation Authority (RCA) of Western Riverside County (April 2010).

Sources: *Final Cumulative Impacts Analysis Report* (July 2010) and Regional Conservation Authority (RCA) of Western Riverside County (2010).
[1] For listed projects that are outside the project vicinity and not shown on Figure 3.25-1, the project locations are described in regard to the SR-91 CIP limits.
[2] Significance of impacts as cited in this table refers to the signfiicance of impacts under the California Environmental Quality Act (CEQA) only.

This page intentionally left blank

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
Land Use and Planning	As discussed in Section 3.1, Land Use, Alternatives 1 and 2 are included in and/or consistent with the SCAG 2008 RTP, 2008 RCP, and 2011 FTIP. Alternatives 1 and 2 are consistent with the Circulation Elements of the area General Plans in terms of providing improvements to the regional transportation system components to address congestion. Those Circulation Elements either reference improvements to SR-91 specifically or encourage HOV lanes as part of the regional transportation system. Although the Preferred Alternative (Alternative 2f) will remove existing HOV lanes on SR-91 between the Riverside County/Orange County line and Piece Street and convert them to tolled express lanes, this change is consistent with SCAG's proposed Strategic Express/HOT Lanes network (*Express Travel Choices Study*, SCAG 2011). General Plan Amendments would be required under Alternatives 1 and 2 as a result of the incorporation of land designated for nontransportation uses into the SR-91 and I-15 facilities. The General Plan Amendments would ensure project consistency with land uses as designated in the local general plans. Measure LU-1 would mitigate these impacts. Because Alternatives 1 and 2 and their design variations would not result in direct or indirect impacts related to land use after mitigation, the potential for the Build Alternatives to contribute to cumulative land use impacts was not further evaluated in this analysis.
Parks and Recreation, and Section 4(f) and 6(f) Properties	As discussed in Section 3.1, Alternatives 1 and 2 would result in permanent effects on CHSP as a result of a permanent use of 0.48 ac of land for two columns that would be placed in CHSP to support the elevated Green River Road off-ramp structure, and an aerial easement for that structure. They would also result in visual impacts on trail users, which would be part of the visual impacts of the project that could contribute to cumulative adverse visual and community character impacts as discussed in Section 3.25.5.4, Permanent Impacts. On April 5, 2012, State Parks provided written concurrence that the transportation use of the Section 4(f) resource, together with the 4(f) impact avoidance, minimization, and mitigation or enhancement measures incorporated in the SR-91 CIP, does not adversely affect the activities, features, and attributes that qualify CHSP for protection under Section 4(f). A copy of that letter is provided in Appendix B. Because Alternatives 1 and 2 and their design variations would result in de minimis impacts on Section 4(f) properties, the potential for the SR-91 CIP to contribute to cumulative impacts related to these resources was not further evaluated in this analysis. Visual impacts at CHSP and other sensitive viewsheds are discussed in Section 3.25.5.4. As discussed in Section 3.1, Alternatives 1 and 2 and their design variations would not result in permanent impacts to trails in the vicinity of SR-91 and I-15 but would result in the permanent relocation of an approximately 200 ft long segment of the trail. It is possible that a short segment of the Santa Ana River Trail/Bike Lane may be closed for a short period (hours/days) during construction, for the safety of the users and project construction workers. When it is necessary to close the Santa Ana River Trail/Bike Lane, a temporary detour would be provided. Because Alternatives 1 and 2 and their design variations would not contribute to cumulative impacts to trails, the potential for the Build Alternatives to contribute to cumulative impacts to trails was not evaluated further in this analysis.

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
Growth-Related Effects	As discussed in Section 3.2, Growth, Alternatives 1 and 2 and their design variations would have little influence on the location, amount, rate, or type of growth in the study area. Because Alternatives 1 and 2 and their design variations would not result in direct or indirect growth-related effects, the potential for the SR-91 CIP to contribute to cumulative impacts related to growth inducement was not further evaluated in this analysis. No mitigation is required.
Timberlands	As discussed in Section 3.0, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures, there are no designated timberlands affected by Alternatives 1 and 2 and their design variations. Therefore, no direct or indirect impacts to timberlands are anticipated, and timberlands were not evaluated further in this analysis.
Environmental Justice	As discussed in Section 3.4.3, Environmental Justice, the detailed demographic data for the project study area indicate there are both transit-dependent and minority/low-income populations in the census tracts adjacent to the project segments of SR-91 and I-15. As discussed in Section 3.4.3, Alternatives 1 and 2 would not have disproportionately high impacts on Non-White, Hispanic, or low-income populations compared to the totals of those populations in the City of Corona and Riverside County because they would not result in impacts being predominantly borne by an environmental justice population, and the impacts would not be appreciably more severe to these populations. As a result, Alternatives 1 and 2 and their design variations would not result in direct or indirect impacts related to environmental justice, and this environmental topic was not further evaluated in this analysis. No mitigation is required.
Utilities	As discussed in Section 3.5, Utilities/Emergency Services, Alternatives 1 and 2 include modifications to existing storm drains to accommodate the project improvements. Alternatives 1 and 2 would not provide increased capacity for utilities or storm drains and would not include construction of new utility facilities. The effects of Alternatives 1 and 2 on utility facilities would be substantially addressed by encasement or protection in place, relocation of the utility, or removal. Measures UES-1 through UES-3 and Measure HW-17 would mitigate these impacts. As a result, Alternatives 1 and 2 and their design variations would not contribute to cumulative impacts related to utilities and, therefore, this environmental topic was not further evaluated in this analysis.
Public Services	As discussed in Section 3.5, because there are no public service facilities in the disturbance and right-of-way limits for Alternatives 1 and 2, they would not result in direct effects on any public service facilities. Alternatives 1 and 2 and their design variations could result in indirect effects on some public service providers as a result of a short-term increase in the risk of wildfires; temporary ramp/lane closures and other delays to emergency service providers and transit and school bus services; and disposal of construction waste related to landfill capacity and life span. Measures UES-2, T-1, and T-2 would mitigate these impacts. With the implementation of the project-specific measures, Alternatives 1 and 2 and their design variations would not result in direct or indirect impacts related to public services. Therefore, the potential for Alternatives 1 and 2 to contribute to cumulative impacts related to this environmental topic was not further evaluated in this analysis.

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
Traffic – Long-Term	As discussed in Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, traffic conditions on average would be better with than without the Build Alternatives. Alternatives 1 and 2 would improve travel conditions in 2035 and in several deficient intersections. Measure T-3 would mitigate those impacts. Because Alternatives 1 and 2 are not anticipated to contribute to traffic impacts, long-term traffic was not further evaluated in this analysis.
Traffic – Pedestrian and Bicycle Facilities	As discussed in Section 3.6, project construction on local streets would include replacing the sidewalks and bicycle facilities. The replaced sidewalks would be consistent with the applicable ADA requirements for handicap access. As a result of the Build Alternatives, the existing pedestrian and bicycle facilities on local streets would either experience no change from the existing conditions or would be improved. Because Alternatives 1 and 2 and their design variations would not result in long-term impacts related to pedestrian and bicycle facilities, this environmental topic was not further evaluated in this analysis. During construction of Alternatives 1 and 2 and their design variations, some sidewalks and on-street bicycle facilities may be temporarily closed at some crossings. One approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane within the SR-91 right-of-way would be relocated to the north as part of the Initial Phases of Alternatives 1 and 2 and their design variations. Segments of the Trail/Bike Lane may be temporarily detoured during construction for the safety of users of the Trail/Bike Lane and the construction personnel. These closures are anticipated to be of very limited duration (e.g., hours and days) and alternate access would be provided. Measures T-1 and T-2 would mitigate these impacts. The short-term impacts to pedestrian and bicycle facilities during construction of the Initial Phases of Alternatives 1 and 2 and their design variations would be largely mitigated based on the implementation of a TMP prior to and during all project construction activities.
Visual and Aesthetic Resources – Temporary Impacts	As discussed in Section 3.7, Visual/Aesthetics, there would be temporary views of construction activity, equipment, and staging areas during the construction of Alternatives 1 and 2. Some night construction lighting may also be visible outside the active construction areas. Measures V-1 and V-3 would mitigate these impacts. However, because these are short-term impacts and would occur only in areas where construction is occurring, these impacts would not contribute to cumulative visual and aesthetics impacts.
Hydrology and Floodplains	As discussed in Section 3.9, Hydrology and Floodplains, the alignments of the Build Alternatives cross or are within floodplains for the Santa Ana River and Wardlow Wash, and the floodplain east of West Grand Boulevard. The Build Alternatives would result in a longitudinal encroachment in the Santa Ana River floodplain near Wardlow Wash; however, SR 91 already encroaches into this floodplain. Avoidance of this longitudinal encroachment because of the Mindeman Landslide on the south side of SR 91 in this area is not practical. Alternatives 1 and 2 and their design variations would not result in any other longitudinal encroachments and would not result in significant risks associated with the project, support of incompatible floodplain development, or significant effects on natural and beneficial floodplain values. In addition, they would not require special measures to minimize impacts or restore

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
	and preserve natural and beneficial floodplain values, special construction procedures, or significant floodplain encroachments. As discussed in Section 3.10, Water Quality and Storm Water Runoff, Construction Site, Design Pollution Prevention, and Treatment BMPs will be implemented to minimize water quality-related impacts to the 100-year floodplain and the associated beneficial uses. As discussed in Section 3.17, Natural Communities, and Section 3.18, Wetlands and Other Waters, measures to minimize impacts and preserve natural and beneficial floodplain values include installation of construction fencing around riparian/riverine vegetation to be preserved and compensatory mitigation for temporary and permanent impacts to riparian and aquatic habitats. These measures would benefit the hydrologic conditions in the project study area. As a result, because Build Alternatives would not result in impacts related to hydrology and floodplains after mitigation, these environmental topics were not evaluated further in this analysis.
Geology, Soils, Seismicity, and Topography	As discussed in Section 3.11, Geology/Soils/Seismic/Topography, geologic issues in the SR-91 area include the Mindeman Landslide and a number of other ancient and recent smaller landslides; the location of the project site in a seismically active area potentially subject to seismic shaking, soil liquefaction, seismic compaction of soils, the potential slope instability, and other effects associated with earthquakes; the potential for blind or currently unmapped faults or fault traces in the area; and the potential for erosion during and after project construction. Because the analysis indicates the Build Alternatives would not result in substantial impacts related to geology, soils, seismicity, and topography after mitigation, the potential for the Build Alternatives to contribute to cumulative impacts related to these environmental topics is not evaluated further in this analysis.
Hazardous Wastes and Hazardous Materials	As discussed in Section 3.13, Hazardous Waste/Materials, the analysis of the potential hazardous waste and materials impacts of the Build Alternatives indicates potential concerns, during construction and/or operation, related to contaminated groundwater and soil; hazardous waste generators and handlers; asbestos in buildings and freeway structures; lead-based paint in buildings and freeway structures; PCBs and heavy metals in overhead or pad-mounted electrical transformers and in soils around railroad tracks; and pesticides and herbicides in agricultural soils. In addition, the SCE substation located south of SR-91 and west of South Sherman Way may include PCBs in transformers, PCBs in soils surrounding transformers, and asbestos-containing materials in electric insulators. Alternative 2, with design variations 2c, 2d, 2g, or 2h, would require the relocation of that substation. Therefore, there is a potential that such materials may be encountered during the substation relocation. Measures HW-1 through HW-17 would mitigate these impacts prior to and during construction. The analysis of the potential impacts of the Build Alternatives related to hazardous wastes and materials indicates that the SR-91 CIP would not result in substantial impacts related to hazardous wastes and materials after implementation of the measures included in the project. Therefore, the potential for the Build Alternatives to contribute to cumulative impacts related to hazardous wastes and materials was not evaluated further in this analysis.

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
Air Quality – Long-Term	As discussed in Section 3.14, Air Quality, operations under Alternatives 1 and 2 would not result in any exceedances of the 1-hour and 8-hour CO standards. That cumulative analysis for air quality also determined that the operation of the Build Alternatives would not contribute to any hot spots related to fine or coarse particulate matter. The analysis also indicated that the potential for MSATs during project operations would be similar to or lower than the MSAT levels under the No Build Alternative. The SR-91 CIP is included in the 2008 RTP, which was found to be conforming by FHWA/FTA on June 5, 2008. The SR-91 CIP is also included in the 2011 FTIP, which was found to be conforming by the FHWA/FTA on November 17, 2008. Because the Build Alternatives would not result in substantial impacts related to long-term air quality, this environmental topic was not evaluated further in this analysis. No mitigation is required.
Noise – Construction	As discussed in Section 3.15, Noise, construction noise would result in a short-term impact on noise-sensitive receivers. Construction noise is not generally considered a substantial impact because of the temporary nature of that noise and the limited exposure of sensitive receptors to construction noise. The construction of the Build Alternatives would include the use of typical construction equipment, which may result in noise levels ranging from 80 to 89 dBA at 50 ft from the noise source, depending on the type of construction equipment. The noise analysis concluded that the project construction would not result in noise effects because the effects are short-term and would be masked by existing traffic-related noise levels on SR-91, I-15, and local streets in the area. In addition, construction-related noise would be substantially controlled based on compliance with Department Standard Specifications Section 7-1.01I and the applicable local jurisdictions' noise standards. Measures N-2 and N-3 would mitigate these impacts. Because Alternatives 1 and 2 and their design variations would not result in impacts related to short-term noise effects during construction, the potential for the Build Alternatives to contribute to cumulative impacts related to this environmental topic was not evaluated further in this analysis.
Energy and Global Climate Change	As discussed in Sections 3.16, Energy, and 3.14, Air Quality, the operation of Alternatives 1 and 2 and their design variations would result in a slight decrease in fuel consumption (i.e., up to a 3.0 percent reduction in 2015 and up to a 4.2 percent reduction in 2035) in the SR-91 CIP study area. However, in the overall SCAG region, this project-related long-term increase in fuel consumption would be negligible in 2015 and would result in a slight decrease (up to a 2.4 percent reduction) in 2035. Therefore, the Build Alternatives would not result in a substantial increase in fuel consumption. Because Alternatives 1 and 2 would not result in impacts related to long-term fuel consumption, this environmental topic was not evaluated further in this analysis. The analysis of the potential for the Build Alternatives to contribute to GHG emissions indicates that the Build Alternatives would not result in a substantial increase in CO_2 emissions compared to the No Build Alternative. Alternatives 1 and 2 would result in a slight decrease in CO_2 emissions (i.e., up to a 4.4 percent decrease) in the SR-91 CIP study area compared to the No Build Alternative. Further,

Table 3.25.3 Resources for Which the Build Alternatives Would not Contribute to Cumulative Impacts

Resource/Impact Category	Reason Why the SR-91 Build Alternatives Would Not Contribute to a Cumulative Impact for the Resource
	Alternatives 1 and 2 would result in a slight decrease in CO_2 emissions in the SCAG region in the short term (2015) and no change in the long term (2030) compared to the No Build Alternative. Because the Build Alternatives would not result in a substantial increase in CO_2 emissions compared to the No Build Alternative, and would not contribute to cumulative increases in CO_2, this environmental topic was not evaluated further in this analysis. Construction of the Build Alternatives would involve the use of diesel-powered heavy equipment, portable diesel generators, and other battery-operated support equipment as well as electricity from the existing grid. It is not expected that operation of the Build Alternatives would substantially change these current energy demands. The energy consumed during project construction would represent a negligible fraction of regional energy consumption. Indirect energy demand associated with manufacturing materials used in the project construction would also represent a negligible fraction of regional energy consumption. Because construction of Alternatives 1 and 2 and their design variations would not result in substantial short-term energy demand, this environmental topic was not evaluated further in this analysis. No mitigation is required.

Sources: Analyses provided in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures (2011); and *Final Cumulative Impacts Analysis Report* (July 2010).

ADA = Americans with Disabilities Act
BMPs = best management practices
Department = California Department of Transportation
CIP = Corridor Improvement Project
CO = carbon monoxide
CO_2 = carbon dioxide
dBA = A-weighted decibels
FHWA = Federal Highway Administration
FTA = Federal Transit Administration
ft = feet
GHG = greenhouse gas
HOT = high-occupancy toll
HOV = high-occupancy vehicle
I-15 = Interstate 15
mi = miles
MSATs = Mobile Source Air Toxics
National Register = National Register of Historic Places
NEPA = National Environmental Policy Act
NPDES = National Pollutant Discharge Elimination System
PCBs = polychlorinated biphenyls
PMP = Paleontological Mitigation Plan
RCP = Regional Comprehensive Plan
RTIP =Regional Transportation Improvement Program
RTP = Regional Transportation Plan
SCAG = Southern California Association of Governments
SCE = Southern California Edison
SR-91 = State Route 91
SVP = Society of Vertebrate Paleontology
SWPPP = Storm Water Pollution Prevention Plan
TMP = Traffic Management Plan

Table 3.25.4 National Register of Historic Places-Listed Historic Properties

Name and Address of Resource and Listing Number	Date Listed	Historic Significance	Period of Significance	Location Relative to the Project Segments of SR-91 and I-15
City of Anaheim				
Anaheim Colony Multiple Resource Area Bounded by Harbor Boulevard, Sycamore Street, Santa Fe Railroad, and Santa Ana Street No. 78003496	1978	Not Available	Not Available	Slightly more than 1.0 mi south of the SR-91/ Harbor Boulevard interchange (12 mi west of the western terminus of the SR-91 CIP)
Ferdinand Backs House 225 North Claudina Street No. 80000826	1980	Architecture/Engineering	1900 to 1924	Approximately 1.3 mi south of the SR-91/Harbor Boulevard interchange (12 mi west of the western terminus of the SR-91 CIP)
Carnegie Library 241 South Anaheim Boulevard No. 79000511	1979	Event	1900 to 1924	Approximately 1.5 mi southeast of the SR-91/ Harbor Boulevard interchange (12 mi west of the western terminus of the SR-91 CIP)
Kroger [Kroeger]-Melrose District Bounded by Lincoln Avenue, South Kroeger, West Broadway, and South Philadelphia No. 85001326	1985	Event, Architecture/Engineering	1875 to 1924	Approximately 1.6 mi southeast of the SR-91/Harbor Boulevard interchange (12 mi west of the western terminus of the SR-91 CIP)
Weir Canyon Archaeological District Address restricted No. 80004631	1980	Not Available	Not Available	In the vicinity of Weir Canyon (1–2 mi west of the western terminus of the SR-91 CIP)
City of Yorba Linda				
Anaheim Union Water Company Canal and Pomegranate Road ***(aka Old Cajon Canal and Bixby Ranch Road)*** ***23901 and 23905 Pomegranate Road*** ***No. 98001604***	1998	Event, Person, Architecture/Engineering	1925 to 1949 1900 to 1924	Approximately 0.5 mi northwest of the SR-91/ Gypsum Canyon interchange and the western terminus of the project segment of SR-91
Bixby-Bryant Ranch House ***5700 Susanna Bryant Drive*** ***No. 96001537***	1997	Person	1925 to 1949	Approximately 0.6 mi northeast of the SR-91/ Gypsum Canyon interchange and the western terminus of the project segment of SR-91
City of Corona				
Andrew Carnegie Library ***(aka Old Corona Public Library)*** ***Eighth and Main Streets*** ***No. 777000324***	1977	Event, Architecture/Engineering	1900 to 1924	Approximately 0.5 mi south of the SR-91/Main Street interchange along the project segment of SR-91
Corona High School ***(aka Corona Civic Center)*** ***815 West Sixth Street*** ***No. 05000772***	2005	Event, Architecture/Engineering	1950 to 1975 1925 to 1949 1900 to 1924	Approximately 0.6 mi southwest of the SR-91/Main Street interchange along the project segment of SR-91
Corona Theatre ***(aka Landmark Building)*** ***201 East Sixth Street*** ***No. 9002127***	1991	Architecture/Engineering, Event	1925 to 1949	Approximately 0.3 mi southeast of the SR-91/Main Street interchange along the project segment of SR-91

Table 3.25.4 National Register of Historic Places-Listed Historic Properties

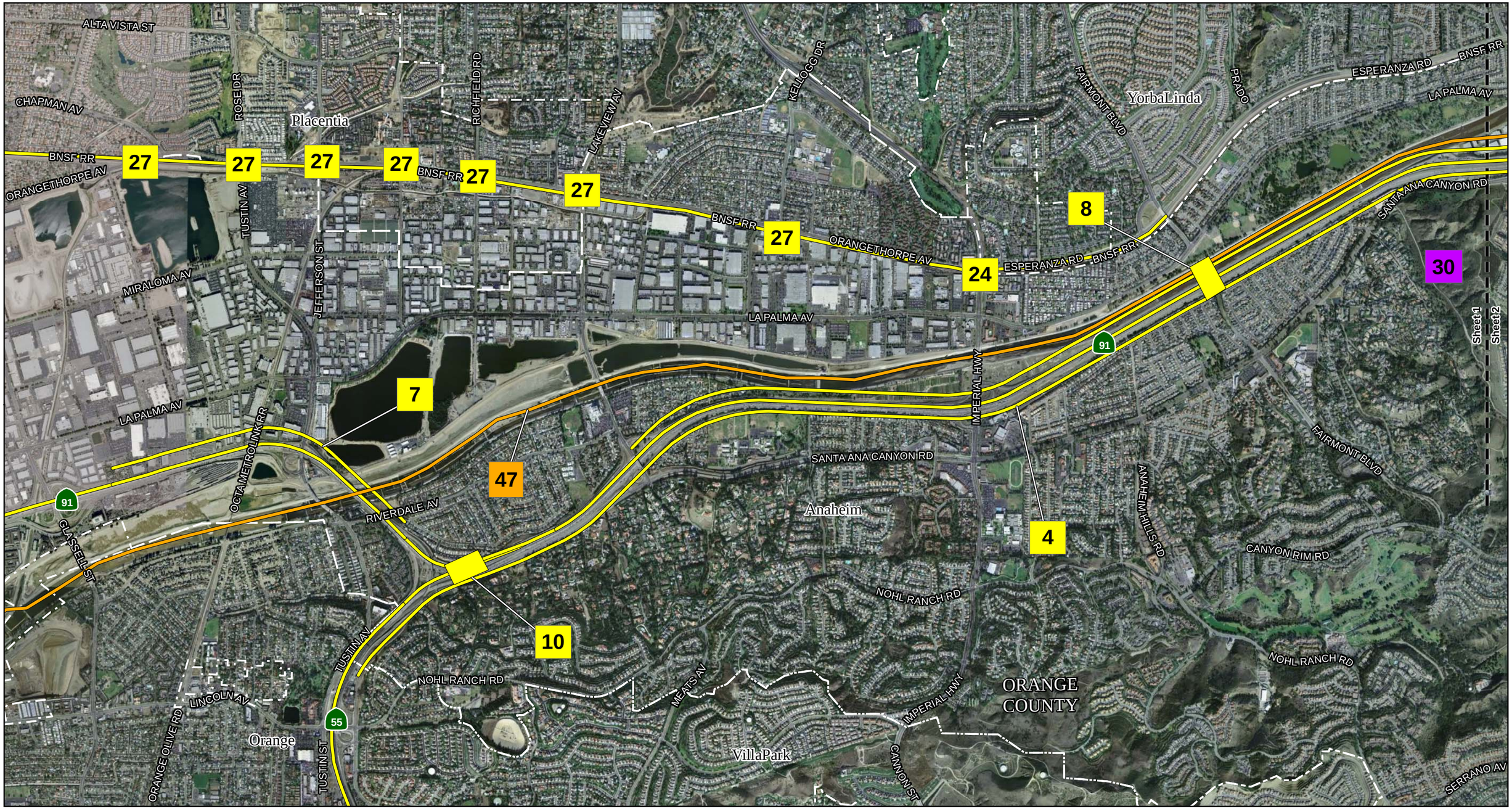
Name and Address of Resource and Listing Number	Date Listed	Historic Significance	Period of Significance	Location Relative to the Project Segments of SR-91 and I-15
City of Norco				
Lake Norconian Club Junction of Fifth and Western Avenues No. 0000033	2000	Architecture/Engineering, Event	1925 to 1949	Approximately 1.8 mi northwest of the SR-91/I-15 interchange
City of Riverside				
Sherman Institute Administration Building (aka Sherman [Indian] Museum or Sherman Indian High School) 9010 Magnolia Avenue No. 80000831	1980	Event, Architecture/Engineering	1900 to 1924	Approximately 0.6 mi southeast of the SR-91/ McKinley Street interchange along the project segment of SR-91
Heritage House (aka Bettner House) 8193 Magnolia Avenue No. 73000423	1973	Architecture/Engineering	1875 to 1899	Approximately 0.5 mi north of the SR-91/Adams Street interchange (east of the eastern terminus of the project segment of SR-91)
Arlington Branch Library and Fire Hall 9556 Magnolia Avenue 93000668	1993	Architecture/Engineering, Event	1925 to 1949 1900 to 1924	Approximately 0.5 mi northwest of the SR-91/Van Buren Boulevard interchange (3 mi east of the eastern terminus of the SR-91 CIP)
All Souls Universalist Church (aka Unitarian-Universalist Church of Riverside) 3657 Lemon Street 78000736	1978	Person, Architecture/Engineering	1875 to 1891	Approximately 0.5 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
Federal Post Office (aka Riverside Municipal Museum) 3720 Orange Street No. 78000737	1978	Architecture/Engineering	1900 to 1924	Approximately 0.6 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
Masonic Temple 3650 11th Street No. 80000832	1980	Architecture/Engineering	1900 to 1924	Approximately 0.6 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
Mission Inn 3649 Seventh Street (Mission Inn Avenue) No. 71000173	1971	Architecture/Engineering	1900 to 1924	Approximately 0.6 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
First Church of Christ, Scientist (aka Cultural Heritage Board Landmark No. 7, City of Riverside) 3606 Lemon Street No. 92001250	1992	Architecture/Engineering	1900 to 1924	Approximately 0.7 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
Chinatown (aka Chinatown Archaeological Site) Brockton and Tequesquite Avenues No. 90000151	1990	Information Potential, Event	1925 to 1949 1900 to 1924 1875 to 1899	Approximately 0.8 mi northwest of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)

Table 3.25.4 National Register of Historic Places-Listed Historic Properties

Name and Address of Resource and Listing Number	Date Listed	Historic Significance	Period of Significance	Location Relative to the Project Segments of SR-91 and I-15
Harada House 3356 Lemon Street No. 77000325	1977	Event	1900 to 1924	Approximately 0.8 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
Mission Court Bungalows 3355 to 3373 Second Street and 3362 First Street No. 93000549	1993	Architecture/Engineering	1925 to 1949	Approximately 1.0 mi north of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
First Congregational Church of Riverside 3504 Mission Avenue No. 97000297	1997	Architecture/Engineering	1900 to 1924	Approximately 1.9 mi northwest of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
William Childs House 1151 Monte Vista Drive No. 99000895	1999	Architecture/Engineering	1900 to 1924	Approximately 2.5 mi southeast of the SR-91/14th Street interchange (10 mi east of the eastern terminus of the SR-91 CIP)
March Field Historic District (aka March Field Air Force Base) Eschscholtzia Avenue No. 94001420	1994	Event, Architecture/Engineering	1925 to 1949	Approximately 11 mi south of the SR-91/I-215 interchange (12 mi east of the eastern terminus of the SR-91 CIP)

Source: http://www.nationalregisterofhistoricplaces.com, website accessed March 1, 2012.
Bold italics = Cultural resources within approximately 1 mi of the project segment of SR-91.
I-15 = Interstate 15
I-215 = Interstate 215
mi = miles
SR-91 = State Route 91
CIP = Corridor Improvement Project

This page intentionally left blank



LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

0 1000 2000 FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (7/28/2010)

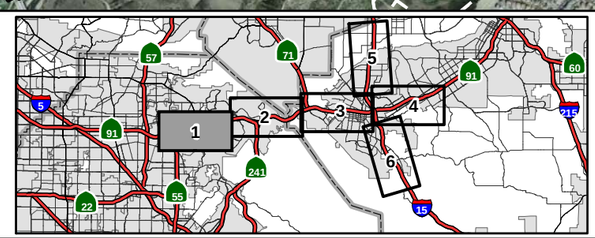


FIGURE 3.25-1
Sheet 1 of 6

SR-91 Corridor Improvement Project

Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

ORANGE COUNTY
SAN BERNARDINO COUNTY
RIVERSIDE COUNTY
ORANGE COUNTY
YorbaLinda
ChinoHills
Corona
Anaheim
YORBA LINDA BLVD
BNSF RR
LA PALMA AV
SANTA ANA CANYON RD
WEIR CANYON RD
SERRANO AV
GYPSUM CANYON RD
GREEN RIVER RD
Sheet1
Sheet2
Sheet2
Sheet3
91
241
4
31
11
1
47
2
50
3
9
28
29
6

LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

0 1000 2000
FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (3/23/2011)

FIGURE 3.25-1
Sheet 2 of 6

SR-91 Corridor Improvement Project
Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

N

0 1000 2000
FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (7/28/2010)

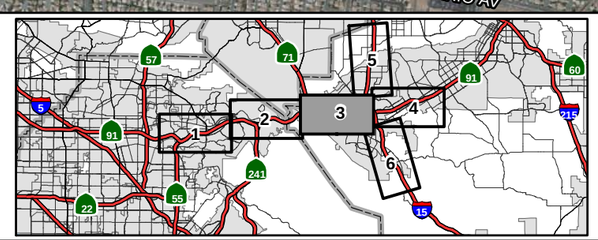


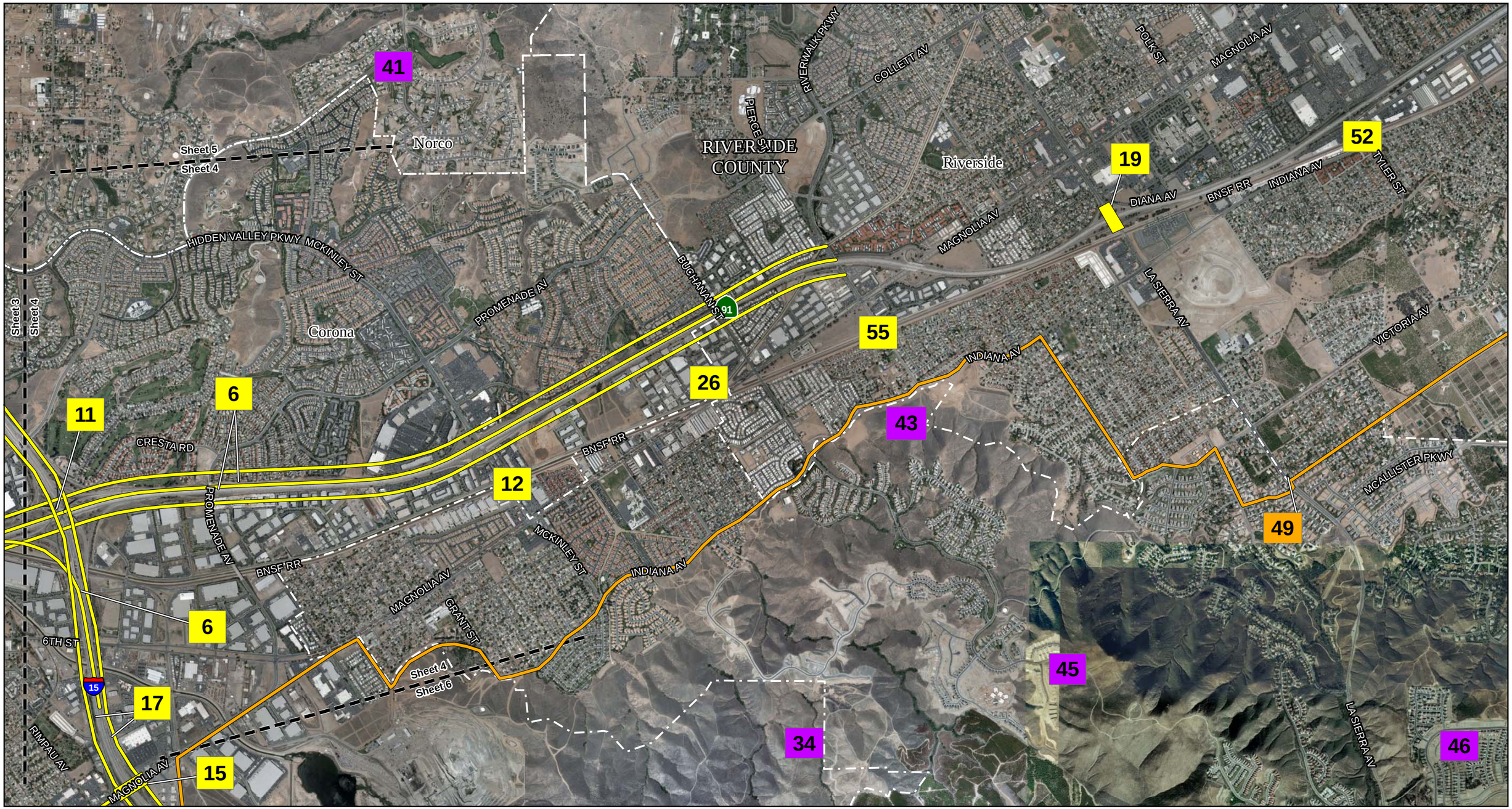
FIGURE 3.25-1
Sheet 3 of 6

SR-91 Corridor Improvement Project

Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

N

0 1000 2000
FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (7/28/2010)

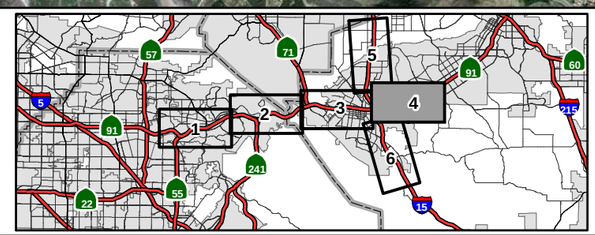
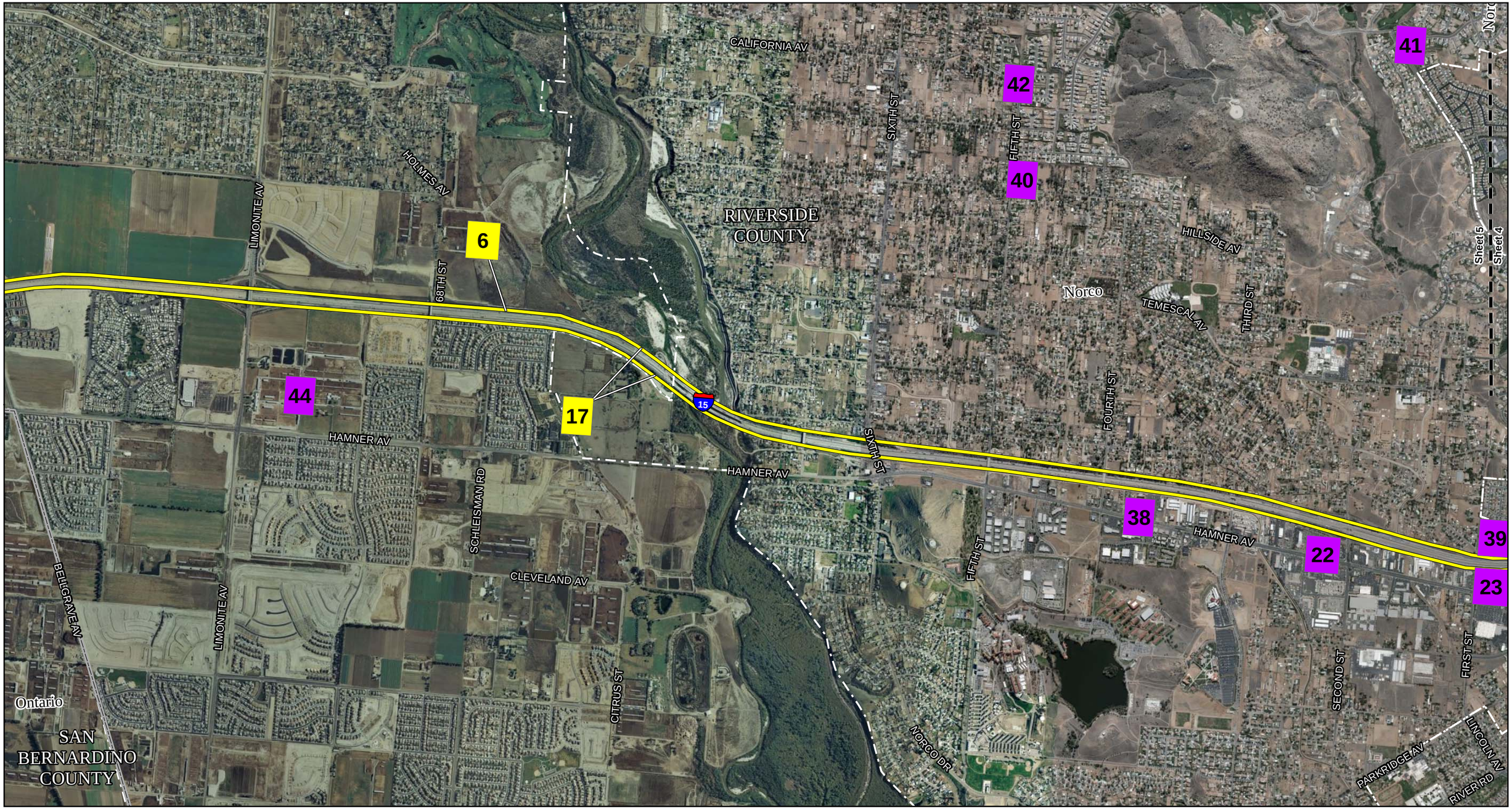


FIGURE 3.25-1
Sheet 4 of 6

SR-91 Corridor Improvement Project
Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

0 1000 2000
FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (7/28/2010)

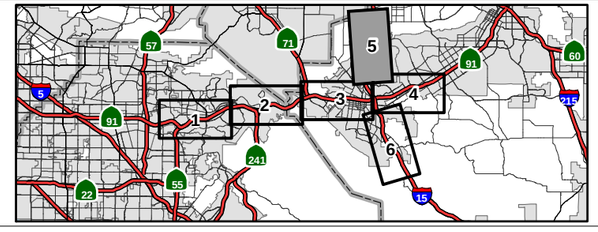


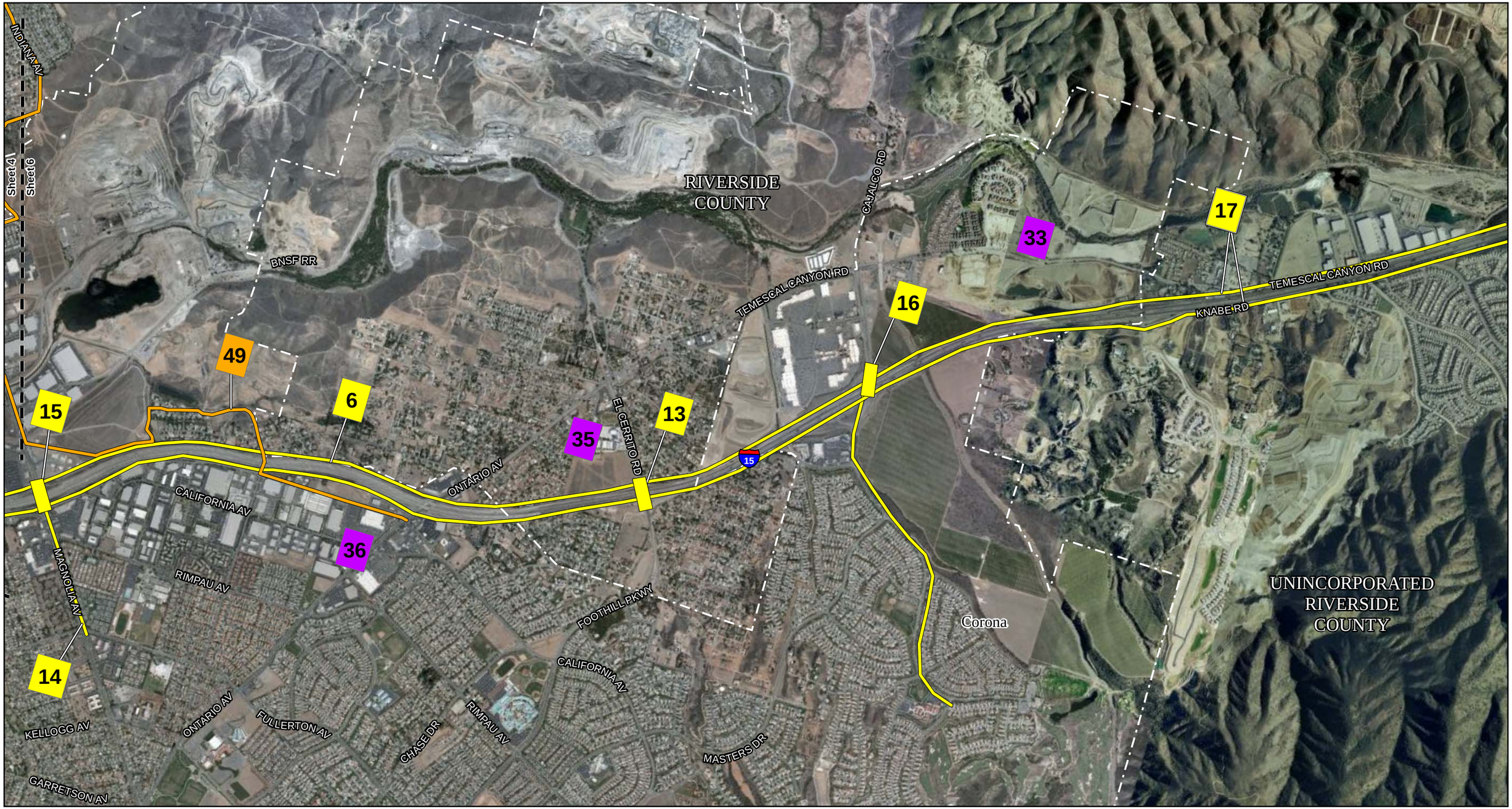
FIGURE 3.25-1
Sheet 5 of 6

SR-91 Corridor Improvement Project

Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank



LEGEND

- Public Infrastructure Projects
- Land Development Projects
- Transportation Projects
- City Boundary
- Match Line

0 1000 2000
FEET

SOURCES: Thomas Bros. (2007) and LSA Associates, Inc. (2010)

I:\PAZ0701\GIS\Cumulative\Cumulative_3.25-1.mxd (7/28/2010)

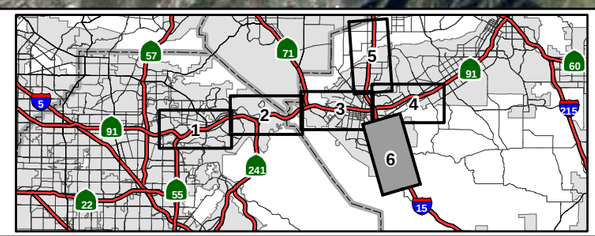


FIGURE 3.25-1
Sheet 6 of 6

SR-91 Corridor Improvement Project

Locations of Cumulative Projects

12-Ora-91-R14.43/R18.91
08-Riv-91-R.0.00/R13.04
08-Riv-15-35.64/45.14
EA 0F540

This page intentionally left blank

Chapter 4 California Environmental Quality Act Evaluation

4.1 Determining Significance Under the California Environmental Quality Act

The project is subject to federal as well as RCTC and State environmental review requirements because the RCTC proposes the use of federal funds and/or the project requires a federal approval action. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. The RCTC is the project proponent and the Department is the lead agency under CEQA. FHWA's responsibility for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for this project is being, or has been, carried out by the Department under its assumption of responsibility pursuant to 23 USC 327.

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or some lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) *as a whole* has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the Department to identify each "significant effect on the environment" resulting from the project and ways to mitigate each significant effect. If the project may have a significant effect on any environmental resource, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the CEQA Guidelines list a number of mandatory findings of significance, which also require the preparation of an EIR. There are no types of actions under NEPA that parallel the findings of mandatory significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

4.2 Discussion of Significance of Impacts

The significance of the potential impacts of the Build Alternatives under CEQA was assessed based on the CEQA Environmental Checklist provided in Appendix A, CEQA Environmental Checklist, and the analyses of project impacts discussed in detail in Chapter 3, Affected Environment, Environmental Consequences, and Avoidance, Minimization and/or Mitigation Measures. The impacts of the Build Alternatives are summarized in the following sections, including the identification of the level of significance of the potential adverse effects under CEQA. This section discusses the impacts of the two Build Alternatives and their design variations. For discussion of the impacts of the No Build Alternative, refer to Chapter 3.

Because the significance discussion is categorized by level of impact, starting with No Impact and concluding with Significant Effects, and because the CEQA Environmental Checklist asks a variety of questions for each environmental topic, certain environmental topics may be discussed in more than one level of significance discussion. For example, the discussion on Farmlands appears in both the No Impact discussion as it relates to Williamson Act contract lands and in the Significant Effects discussion as it relates to the conversion of designated agricultural lands. Similarly, temporary and permanent impacts for certain resources may be discussed in two different areas because the project would result in different levels of effects on those resources. The environmental topic headings provide clarification on the particular environmental subset being addressed where it appears in more than one level of significance discussion. To better help the reader, the specific CEQA Environmental Checklist questions that are addressed in the discussion are referenced below each heading for each environmental topic.

Lastly, the discussion on GHG emissions and global climate change is discussed in detail later in Section 4.3, Climate Change.

4.2.1 No Impacts of the Project

Based on the CEQA Environmental Checklist in Appendix A and the detailed analyses in Chapter 3, the Build Alternatives are not anticipated to result in impacts related to the following environmental topics. In addition, because there are no impacts to these environmental topics, no avoidance, minimization, or mitigation measures are required.

4.2.1.1 Agriculture and Forest Resources

Checklist Questions: II(b)(ii), (c), (d) and (e)

As described in Section 3.3, Farmlands/Timberlands, Alternatives 1 and 2 and their design variations would not affect any Williamson Act contract lands or cause other changes that would result in the conversion of farmland to nonagricultural uses. There are no timberlands in the project area.

4.2.1.2 Air Quality

Checklist Questions: III(a) and (e)

As discussed in Section 3.14, Air Quality, the project is included in the 2008 RTP and 2011 FTIP. An amendment separating the two phases of the project has been submitted to SCAG to be included in amendment #24 to the 2011 FTIP and in the upcoming 2012 RTP. Once FHWA determines that the 2012 RTP and the updates to 2011 FTIP conform to the SIP, expected June 2012, the SR-91 CIP will be consistent with the SCAQMD AQMP. Road widening projects do not typically produce odors that would affect off-site sensitive receptors. Therefore, Alternatives 1 and 2 and their design variations would not result in impacts related to consistency with the RTP, FTIP, and AQMP, or odors.

As described in Section 3.14, the *Air Quality Conformity Analysis* for the SR-91 CIP documents that all the transportation conformity requirements for the project have been met. The interagency consultation requirement was met when the PM10 hot-spot analysis for the SR-91 CIP was first presented to the SCAG TCWG on September 22, 2009, and again on April 24, 2012. Opportunities for review were provided to the public when the Draft EIR/EIS was circulated for public review in May 2011.

One June 6, 2012, FHWA approved the project-level *Air Quality Conformity Analysis* for the SR-91 CIP in Orange and Riverside Counties. A separate project-level air quality conformity determination will be necessary prior to approval of a ROD for the Ultimate Project.

4.2.1.3 Biological Resources

Checklist Question: IV(e)

There are no known local policies or ordinances for the protection of biological resources applicable to the project segments of SR-91 and I-15. Therefore, Alternatives 1 and 2 and their design variations would not result in impacts related to local policies or ordinances for the protection of biological resources.

As discussed in Section 3.17, Natural Communities, Alternatives 1 and 2 and their design variations are not expected to result in direct permanent impacts to Western Riverside County MSHCP-designated NEPSSAs, CASSAs, criteria areas, or narrow endemic and other sensitive plant species in those areas because none of those species were observed in the BSA.

4.2.1.4 Geology and Soils

Checklist Question: VI(e)

Alternatives 1 and 2 would not include any septic tanks or alternative wastewater disposal systems and, therefore, would not result in any impacts related to soils incapable of supporting the use of those types of disposal systems.

4.2.1.5 Hazards and Hazardous Materials, and Noise

Checklist Questions: VIII(e), (f), and (h), and XII(e), (f)

SR-91 is approximately 0.75 mi from the Corona Municipal Airport. It is the only airport or private air strip within 2 mi of the project. However, the project would not impact or be impacted by the Corona Municipal Airport because the runways are parallel to SR-91. Therefore, the Airport would not have any land use or operating restrictions that would affect SR-91 because these types of restrictions are located at the approach and departure areas at the ends of these parallel runways. As shown on Figure 3.15-1 (Sheet 6), the land uses between SR-91 and the Corona Municipal Airport are commercial uses. In the noise analysis, commercial uses are identified as Activity Category C uses, which are not considered sensitive receptors. Because the runways are parallel to SR-91, the Airport is a general aviation airport with no commercial flight activity, and there are no sensitive land uses between the Airport and SR-91, Alternatives 1 and 2 would not expose people to excessive noise levels associated with an airport. Therefore, Alternatives 1 and 2 and their design variations would not result in impacts related to airport operations, land use plans, or safety policies.

Alternatives 1 and 2 and their design variations would not elevate the risk associated with wildland fires because freeways generally provide a fuel break for containment of wildland fires. Although, on occasion, fires can proceed across freeways when humidity and wind conditions allow for it, the Build Alternatives would widen the existing freeway by a minimum of one lane in each direction, which would widen the fuel break by a minimum of an additional 20 ft. Therefore, the project would have a beneficial effect related to wildland fire hazards.

4.2.1.6 Hydrology and Water Quality

Checklist Questions: IX(b), (g), (i), and (j)

The Build Alternatives would not result in the use of groundwater supplies or in the construction of any structures or project features that would affect groundwater recharge.

As discussed in Section 3.9, Hydrology and Floodplains, Alternatives 1 and 2 would not have any improvements that would result in the placement of housing within a 100-year flood area. The project area is too far from the Pacific Ocean to be affected by a tsunami and is not near other bodies of water that could result in other flooding hazards such as a seiche or mudflow.

4.2.1.7 Mineral Resources

Checklist Questions: XI(a) and (b)

The project limits for the project are not within a mineral resource recovery site designated in a local General Plan, Specific Plan, or other land use plan. Classification of land for aggregate mining in California takes place according to a priority list established by the State Mining and Geology Board (SMGB) in 1982 or when the SMGB is petitioned to classify a specific area. The SMGB has established Mineral Resources Zones (MRZs) to designate lands that contain mineral deposits. At the interchange of SR-91 and I-15 in Corona, there is an MRZ where the available geologic information indicates a likelihood of substantial mineral deposits. In addition, the area southwest of the SR-91/I-15 interchange has several active or previously active mines. There is also a mining operation near the project limits south of SR-91 just east of SR-241. However, no active mines would be directly or indirectly impacted by the Build Alternatives. In addition, the areas where mineral resources occur are currently not available for resource extraction due to their proximity to SR-91. No productive oil or gas wells would be impacted by the Build Alternatives. Therefore, the Build Alternatives and their design variations would not impact extraction potential or current mining operations of mineral resources.

4.2.1.8 Noise

Checklist Question: XII(d)

Construction noise represents a short-term impact on noise-sensitive receivers. Receivers affected by freeway noise could also be adversely affected by project construction noise. Construction noise is not considered a significant impact because of its temporary nature and limited nighttime exposure. Sound control will conform to the provisions in Section 14-8.02 of the Department “Sound Control Requirements”

and adhere to the updated SSP S5-310, which will be refined specifically for this project for incorporation in the project specifications during the PS&E phase.

The design/build contractor will be responsible for complying with the applicable ordinances for the Cities of Anaheim, Corona, Norco, and Riverside, which all prohibit excessive noise between 7:00 p.m. and 7:00 a.m. during construction days. The noise level requirement will apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers, or transient equipment that may or may not be owned by the design/build contractor. The use of loud sound signals will be avoided in favor of light warnings except those required by safety laws for the protection of personnel. Construction noise would be short term, intermittent, and in many cases largely overshadowed by existing traffic noise. Refer to Section 4.2.1.5, Hazards and Hazardous Materials, and Noise, for discussion of potential noise effects associated with airports and air strips.

4.2.1.9 Population and Housing

Checklist Question: XIII(a)

As discussed in Section 3.2, Growth, the project is in an area that has experienced substantial population, housing, and employment growth over the last few decades. Substantial future growth is projected for Orange and Riverside Counties. A number of regional and subregional transportation improvements, in addition to the project, are planned to accommodate the existing and forecasted transportation demand in the area. Tables 3.25.1 and 3.25.2 in Section 3.25, Cumulative Impacts, are detailed lists of existing and planned transportation and land use projects in the vicinity of SR-91 and I-15. The type and location of the SR-91 CIP Build Alternatives are not sufficient to result in pressure for additional growth in western Riverside County. The Build Alternatives will accommodate existing, approved, and planned growth in the area but will not influence the amount, timing, or location of growth in the area as a result of the type or location of the project.

4.2.1.10 Public Services, and Utilities and Service Systems

Checklist Questions: XIV(a)(i), (a)(ii), and (a)(iii), and XVII(b), (d), (e), (f), and (g)

Alternatives 1 and 2 and their design variations would not result in temporary or permanent impacts to fire services, police protection, schools, wastewater treatment facilities or providers, water supplies (including groundwater recharge), or landfill policies or capacity because the project would not provide new housing or increase the population in the area.

As discussed in Section 3.5, Utilities/Emergency Services, Alternatives 1 and 2 and their design variations would improve traffic throughput and travel times, and reduce delays on the project segments of SR-91 and I-15. These improvements would benefit law enforcement, fire protection, and emergency service providers because the Build Alternatives may improve response times for emergency services using the project segments of SR-91 and I-15. Accommodations for CHP enforcement facilities have been incorporated into the designs of Alternatives 1 and 2. Therefore, Alternatives 1 and 2 and their design variations would not result in impacts to these public services.

The project was initiated in response to existing and forecast traffic congestion as a result of past and forecasted growth. It does not include the construction of residential or nonresidential uses that would generate wastewater. As discussed in Section 3.2, Alternatives 1 and 2 would not result in growth-inducing impacts. Therefore, Alternatives 1 and 2 would not result in impacts related to wastewater treatment requirements.

4.2.1.11 Recreation

Checklist Questions: XV(a) and (b)

As discussed in Section 3.1.3.5, Land Use, Alternatives 1 and 2 and their design variations would not result in temporary or permanent impacts to, or increased demand for, local or regional parks that would physically deteriorate these facilities. The Build Alternatives do not include construction of new or expansion of existing parks. The Build Alternatives do not have operation or construction components that would lead to park deterioration.

4.2.1.12 Transportation/Traffic

Checklist Questions: XVI(a), (b), (c), and (d)

Permanent Effects

As discussed in Chapter 1, the purpose of the project is to improve traffic movement on the SR-91 in the project limits. The project is currently programmed in the 2012 RTP, which was found to conform by the FHWA/FTA on June 4, 2012. The project is also programmed in the SCAG financially constrained 2011 FTIP (through Amendment 24), which was also found to be conforming by the FHWA/FTA on June 4, 2012. The description of the project in the 2012 RTP is as follows: Project ID No. RIV071250; Description: Phase 1: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce) (OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15

– construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). Phase 2: on SR-91/I-15: SR91 – Add 1 mixed flow lane in each direction (SR241 – SR71) (I15 – Pierce); I15 – add toll express lane (TEL) median direct connector (SB15 to WB91 & EB91 to NB15), 1 TEL each direction from Hidden Valley –SR-91 direct connector and from Ontario Interchange to Cajalco Interchange.

The description of the Initial Phase (Phase 1 as described in the RTP) in the 2011 FTIP (Amendment 24) is as follows: Project ID No. RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce) (OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 TEL and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange) (I-15 PM 37.56-42.94).

As described in Section 3.14, the *Air Quality Conformity Analysis* for the SR-91 CIP documents that all the transportation conformity requirements for the project have been met. The interagency consultation requirement was met when the PM10 hot-spot analysis for the SR-91 CIP was first presented to the SCAG TCWG on September 22, 2009, and again on April 24, 2012. Opportunities for review were provided to the public when the Draft EIR/EIS was circulated for public review in May 2011.

On June 6, 2012, FHWA approved the project-level *Air Quality Conformity Analysis* for the SR-91 CIP in Orange and Riverside Counties. A separate project-level air quality conformity determination will be necessary prior to approval of a ROD for the Ultimate Project.

Section 3.6, Traffic and Transportation/Pedestrian and Bicycle Facilities, compares the performance of SR-91 and I-15 with the Build Alternatives to traffic conditions in Baseline/Existing (2007), 2015, and 2035 traffic conditions with the No Build Alternative. Because the Build Alternatives propose to improve existing over-capacity conditions on the SR-91, the permanent traffic impacts of Alternatives 1 and 2 with their design variations would be beneficial to regional and local traffic, as described below.

2007 Traffic Effects

Section 3.6 provides analyses of the SR-91 CIP Build Alternatives in comparison to Baseline/Existing (2007) conditions for freeway corridor daily VMT, VHT, VHD, and peak-hour travel time; freeway segment LOS; freeway ramp LOS; and intersection LOS. These analyses conclude that the transportation system improvements provided by the Build Alternatives for each of these performance metrics when comparing the 2035 Build Alternatives to the 2035 No Build condition also result when comparing the effects of the Build Alternatives. These analytical comparisons of the Build Alternatives to the Baseline/Existing 2007 conditions are provided in the following tables in Section 3.6:

- Freeway corridor daily VMT, VHT, VHD, and peak-hour travel time (Tables 3.6.9 and 3.6.20)
- Freeway segment LOS (Tables 3.6.11 and 3.6.22)
- Freeway ramp LOS (Tables 3.6.12 and 3.6.23)
- Intersection LOS (Tables 3.6.13 and 3.6.24)

2015 Traffic Effects

In Section 3.6, Table 3.6.6 summarizes the freeway ramp LOS in 2015 with the Initial Phase of Alternative 2. When compared to the No Build Alternative, fewer ramps are forecast to operate at LOS F, especially in the vicinity of the Lincoln Avenue and Main Street interchanges on SR-91 under the Initial Phase of Alternative 2. In 2015 with the Initial Phase of Alternative 2, 17 ramps in the a.m. peak hour and 10 ramps in the p.m. peak hour would operate at LOS F, respectively.

Table 3.6.7 shows the LOS for the study area intersections in 2015 with the Initial Phase of Alternative 2. As shown, 4 intersections in the a.m. peak hour and 5 intersections in the p.m. peak hour would operate with unsatisfactory LOS E or F. Fewer intersections under the Initial Phase of Alternative 2 would operate at unsatisfactory LOS in the p.m. peak hour compared to the No Build Alternative.

The Initial Phase of Alternative 1 is anticipated to result in benefits in 2015 similar to the traffic benefits described above for the Initial Phase of Alternative 2.

2035 Traffic Effects

When Alternative 1 2035 LOS is compared to the No Build Alternative 2035 LOS, three freeway segments on SR-91 would be improved from LOS F to LOS D or E under Alternative 1. On I-15, one segment would worsen from LOS E to F, and one segment would improve from LOS F to LOS E. Under Alternative 2 in 2035, six

segments on SR-91 would improve from LOS F to LOS D or E, and on I-15, two segments would improve from LOS F and one segment would worsen to LOS F compared to the No Build Alternative in 2035. Alternatives 1 and 2 would both result in fewer ramps operating at LOS F than under the No Build Alternative.

As shown in Table 3.6.29, generally the same intersections would operate at unsatisfactory LOS E or F under Alternatives 1 and 2. In 2035 with the No Build Alternative, 11 intersections in the a.m. peak hour and 16 intersections in the p.m. peak hour would operate with unsatisfactory LOS E or F. Under Alternative 1 in 2035, 12 intersections in the a.m. peak hour and 13 intersections in the p.m. peak hour would operate at LOS E or F. Under Alternative 2, 13 intersections in both the a.m. and p.m. peak hours would operate at LOS E or F. Alternatives 1 and 2 would result in fewer intersections operating at unsatisfactory LOS in the p.m. peak hour than under the No Build Alternative.

The Build Alternatives would not include any structures that could interfere with designated air space or affect air traffic patterns over the SR-91 and I-15 corridors and surrounding areas. The Build Alternatives would not result in any changes in demand for air travel or any changes that would result in substantial safety risks associates with air travel.

As discussed in Chapter 1, design deficiencies on the existing SR-91 were identified. These SR-91 design deficiencies and connections to local road networks would be improved under Alternatives 1 and 2 and their design variations. Therefore, the implementation of the Build Alternatives would improve the design deficiencies, resulting in a beneficial effect with regard to design.

Because there is limited access to SR-91, and the SR-91 corridor is mostly urban in nature, there are no uses in the project limits that would generate hazards on the freeway, such as farm equipment.

4.2.2 Less Than Significant Effects of the Project

Based on the CEQA Environmental Checklist in Appendix A and the analyses in Chapter 3, the Build Alternatives are anticipated to result in less than significant impacts related to the following environmental topics. No measures are required for these impacts.

4.2.2.1 Agricultural and Forest Resources

Checklist Questions: II(a) and II(b)(i)

Permanent Impacts

Permanent impacts to Farmlands of Local Importance would occur under each Build Alternative, as discussed in Section 3.3. This loss of farmland would occur on the north side of SR-91 in the western part of Riverside County and on the south of SR-91 and east of I-15, as shown on Figures 3.3-2 through 3.3-4. Alternatives 1 and 2 and their design variations would result in the permanent conversion of designated farmlands to nonagricultural uses as follows:

- **Alternative 1:** 17.0 ac
- **Alternative 2:** 20.7 ac
- **Initial Phases of Alternatives 1 and 2:** 6.5 ac

The permanent impacts of Alternatives 1 and 2 related to the conversion of agricultural soils to nonagricultural uses are not considered significant because the results of the analysis documented on the Form NRCS-CPA-106, as described in Section 3.3, determined that the effects of the Build Alternatives are "…well below the 160-point threshold and should be given the minimum level of consideration for protection."

There is no mitigation for land converted to nonagricultural uses by the Build Alternatives. Therefore, no avoidance, minimization, or mitigation measures related to farmlands have been identified for the Build Alternatives. As a result, the permanent impacts of Alternatives 1 and 2 and their design variations related to the conversion of farmlands to nonagricultural uses are unavoidable but not significant adverse impacts of the project.

As discussed in Section 3.3, land currently zoned for agricultural uses would be acquired and converted to transportation uses by Alternatives 1 and 2 and their design variations. As a result, the affected local jurisdictions are anticipated to revise their local zoning codes to reflect the change in land use on the affected parcels.

Temporary Impacts

As discussed in Section 3.3, the Build Alternatives could result in temporary impacts to farmlands where farmland is used as TCEs during construction. Because agricultural production in the project study area is very limited, and because temporary impacts would occur within and adjacent to the existing public rights-of-way, these temporary impacts of the Build Alternatives are not anticipated to disrupt

access to farms or farming equipment located off site. The TCEs would not be available for farmland activities (e.g., cultivation or grazing) during construction of Alternatives 1 and 2 and their design variations but would be available for farmland uses once project construction is complete. The temporary impacts to farmland are:

- **Alternative 1:** 3.4 ac of temporary impacts to Grazing Land
- **Alternative 2:** 0.1 ac of temporary impacts to Farmland of Local Importance, and 3.5 ac of temporary impacts to Grazing Land

The Initial Phases of Alternatives 1 and 2 and their design variations would result in no temporary impacts to farmlands.

These impacts are considered less than significant because once the construction of the Build Alternatives is completed, the TCEs would no longer be necessary and the farmland would again be available for farming activities. Therefore, Alternatives 1 and 2 and their design variations would not result in significant adverse temporary impacts to farmland.

4.2.2.2 Air Quality

Checklist Questions: III(b), (c), and (d)

As discussed in Section 3.14, historical air quality data show that existing CO levels for the project area and the general vicinity do not exceed either the State or federal AAQS. The Build Alternatives would help to improve traffic flow and reduce congestion on road links in the project vicinity. The project is located in an attainment area for federal CO standards. Using the Department Transportation Project-Level Carbon Monoxide Protocol (Protocol), a screening level CO hot-spot analysis was conducted to determine whether the project would result in any exceedance of the CO federal AAQS. It was determined that Alternatives 1 and 2 and their design variations would not result in any exceedance of the 1-hour or 8-hour CO standards.

The MSAT analysis provided in Section 3.14 indicates there would be similar or lower MSAT emissions in the study area under the Build Alternatives relative to the No Build Alternative in 2035 or Baseline/Existing (2007) conditions due to the improvement in the LOS and the reduction of delay at the project intersections, as well as improvements resulting from stricter engine and fuel regulations issued by the EPA. Therefore, Alternatives 1 and 2 and their design variations would not result in impacts related to MSAT emissions.

The project is located in Orange and Riverside Counties, which are not among the counties listed as containing serpentine and ultramafic rock. Therefore, the impact from naturally occurring asbestos (NOA) during project construction would be minimal to none.

Compliance with SCAQMD rules and regulations during construction would reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions to below a level of significance. In addition, standard conditions SC-1 through SC-15 address temporary air quality impacts.

4.2.2.3 Biological Resources, and Land Use and Planning

Checklist Questions: IV(a) and (f), and X(c)

Special-Status Plant and Animal Species

As discussed in Section 3.19, Plant Species, temporary impacts to special-status plant species would occur during construction of Alternatives 1 and 2 and their design variations where habitats in construction areas and TCEs are disturbed or removed during grading, staging, or other construction activities. These impacts would be temporary and would cease on project completion. The TCEs and any other areas disturbed during construction but not incorporated in the road facilities would be revegetated.

Alternatives 1 and 2 and their design variations would affect Southern California black walnut (*Juglans californica* var. *californica*) and Coulter's matilija poppy (*Romneya coulteri*), which are Western Riverside County MSHCP-covered species found in the BSA during the 2008 and 2009 surveys. However, because Southern California black walnut and Coulter's matilija poppy have no legal or regulatory protection beyond the level afforded by the Western Riverside County MSHCP or a CNPS watch list, and the few individuals potentially removed under Alternatives 1 and 2 are not in any Western Riverside County MSHCP conservation areas, the effects to the individual plants under the Build Alternatives are considered less than significant.

As discussed in Section 3.20, Animal Species, the Western Riverside County MSHCP provides a comprehensive, habitat-based approach to the protection of covered animal species by focusing on conservation and management of lands essential for their long-term conservation. This approach is consistent with USFWS regulations concerning the designation of critical habitat in providing for the protection of "…those physical and biological features essential to the conservation …" of the species (Western

Riverside County MSHCP, Volume 3, Section 14.2). In general, because of the limited amount of habitat involved and its relatively linear configuration, project effects on Western Riverside County MSHCP-covered animal species are considered minimal and below a level of significance based on compliance with the Western Riverside County MSHCP.

Braunton's Milk-vetch

As discussed in Section 3.21, Threatened and Endangered Species, this species is believed to be absent from the BSA. However, there is designated critical habitat for this plant in Coal Canyon in the BSA. This critical habitat unit would not be directly impacted by Alternatives 1 and 2 and their design variations because the previously documented population in this area has been presumed absent from the State right-of-way. The permanent project features are outside the boundary of the critical habitat. Therefore, Alternatives 1 and 2 and their design variations would not result in direct permanent effects to Braunton's milk-vetch.

Coastal California Gnatcatcher

Construction of Alternatives 1 and 2 would each temporarily affect 0.42 ac of CSS habitat in CAGN-designated critical habitat in Orange County. Construction of Alternative 2f will result in temporarily affecting up to 2.09 ac of CAGN-designated critical habitat in Orange County. The temporary loss of CAGN-designated critical habitat will be compensated by restoring habitat in-kind, or better, on-site after the completion of the project. Because the project will be constructed in phases, temporarily affected areas will be replaced between phases if they will be disturbed longer than a single phase. In Riverside County, there is no CAGN critical habitat in the disturbance limits for any of the Build Alternatives and their design variations. Therefore, there would be no temporary effects to CAGN critical habitat in Riverside County during construction of Alternatives 1 and 2.

The Build Alternatives are expected to reduce congestion during peak hours in the project limits and are not expected to increase indirect effects due to automobile traffic and litter in the area. Noise levels with the Build Alternatives would be essentially the same in the vicinity of CSS plant communities, with the exception of a few locations where an increase in noise of between 4 and 7 dB may be expected as a result of the Build Alternatives. All these locations are adjacent to developed areas in which CAGN was not observed and CAGN is not likely to occur in the future. Therefore, Alternatives 1 and 2 and their design variations are not expected to result in noise impacts to CAGN.

Stephens' Kangaroo Rat

It was determined by the agencies and groups involved in developing the Western Riverside County MSHCP that take of SKR outside the boundaries of the SKR HCP area is adequately addressed by the Western Riverside County MSHCP. Therefore, take of SKR outside the SKR HCP boundary in Western Riverside County MSHCP areas is authorized by the Western Riverside County MSHCP. Although SKR is a covered species under the Western Riverside County MSHCP, part of the project is in the SKR conservation fee area in Riverside County. The Initial Phases of Alternatives 1 and 2 and their design variations would not impact the SKR conservation fee area because the Initial Phase footprints do not extend far enough east to conflict with the fee area.

Western Yellow-billed Cuckoo, Southwestern Willow Flycatcher, and Bald Eagle

Alternatives 1 and 2 and their design variations are not expected to directly affect the western yellow-billed cuckoo, SWWF, or bald eagle due to the low probability of these species occurring in the BSA. Effects to these species would be similar to the effects related to the loss of riparian communities. The Initial Phases of Alternatives 1 and 2 and their design variations would result in no permanent effects to riparian habitat.

4.2.2.4 Cultural Resources

Checklist Questions: V(a), (b), and (d)

As discussed in Section 3.8, Cultural Resources, the Grand Boulevard Historic District is listed on the National Register and the California Register, is a Historic District designated by the City of Corona, and is also a historical resource for the purposes of CEQA in accordance with Section 15064.5(2) of the CEQA Guidelines. The Grand Boulevard Historic District is limited to the public right-of-way. Its primary character-defining feature is its circular design, which is 1 mi in diameter and was part of the original design of the Corona town site in 1886. The road retains its historic-period width of 100 ft, as well as many early acorn-style street lights. The Grand Boulevard Historic District is within the APE for Alternatives 1 and 2 and their design variations.

The Alternative 1 and 2 improvements will require the temporary removal of up to seven acorn-style streetlights, with replacement of those streetlights as close to their original locations as possible based on the project design or elsewhere in the Grand Boulevard Historic District. They will also include curb replacement and restriping in

places within the Grand Boulevard Historic District. Alternatives 1 and 2 would also result in the removal of 18 trees from within the boundary of the Historic District, but those trees would be replaced elsewhere in the Historic District in consultation with the City of Corona.

Conditions placed on the project, provided in Section 3.8, would substantially reduce the impacts of the temporary removal of the acorn-style streetlights and trees during project construction by requiring that the streetlights be relocated and the replacement trees be planted in the Historic District. These are not considered adverse impacts because the changes to the historical resource as a result of the project would be very minor, would be limited to the street right-of-way, and would not be intrusive. In addition, the project improvements are in an area that has previously been altered and does not retain its historic integrity.

As described in detail in Section 3.8, based on the FOE, the finding for the project under Section 106 is No Adverse Effect without Standard Conditions. The Department has used the information in the FOE to make a determination of the potential effect of Alternatives 1 and 2 on the Historic District under CEQA. Based on the FOE, the Department determined that Alternatives 1 and 2 and their design variations would result in no substantial adverse change/less than significant impact under CEQA.

As discussed in Section 3.8, it is possible that previously unknown cultural materials could be discovered during construction of the Build Alternatives. If that occurs, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find. In addition, if human remains are discovered during construction of the Build Alternatives, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains and the County Coroner will be contacted. Pursuant to PRC Section 5097.98, if the remains are thought to be Native American, the coroner will notify the NAHC, who will then notify the MLD. At that time, the Department District 8 Environmental Branch Chief or Native American Coordinator will be contacted so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable. No further action would be necessary to address discovery of previously unknown cultural resources or human remains during construction of Alternatives 1 and 2 and their design variations.

4.2.2.5 Energy

Checklist Question: N/A

Direct Energy

Direct energy is defined as the energy needed to move a vehicle in the transportation system. As discussed in Section 3.16, Energy, the Build Alternatives would improve the traffic flow in the project study area and the greater SCAG region. The traffic analysis for the Build Alternatives shows that the road improvements would enhance the traffic flow, resulting in an increase in average vehicle speeds and VMT. This is due to enhanced traffic flow, minimizing vehicle delay, and improving vehicle fuel efficiency. Based on the VMT and VHT, the Build Alternatives would result in a slight decrease in direct energy consumption in the SR-91 study area, ranging from 0.83 to 4.15 percent reductions, depending on the analysis year (2015, 2035) and the Build Alternative. In the larger SCAG region, the only decreases in direct energy consumption compared to the No Build Alternative occur in 2035 for Alternatives 1 and 2; there would be no change from the No Build Alternative in direct energy consumption in 2015. Therefore, Alternatives 1 and 2 would not result in impacts related to direct consumption of energy.

Indirect Energy

Indirect energy demand assessed for the project focused on the energy required to manufacture and build automobiles and trucks using the transportation facilities. In the project study area, Alternatives 1 and 2 would result in very minor increases in indirect consumption of energy (associated with vehicle manufacturing and maintenance) of 0.45 and 0.67 percent, respectively, compared to the No Build Alternative. However, in the larger SCAG region, there would be no increase in total indirect energy consumption as a result of the Build Alternatives. Therefore, the impacts of Alternatives 1 and 2 and their design variations related to indirect energy consumption would be considered less than significant.

4.2.2.6 Hydrology and Water Quality, and Utilities and Service Systems

Checklist Questions: IX(c), (d), (e), and (h), and XVII(c)

As discussed in Section 3.9, the Santa Ana River is being improved and relocated north of SR-91 as part of a separate Corps project. Construction of that Santa Ana River realignment and bank protection project began in late 2009 and would be completed and operational before the project's construction starts. An LOMR would be necessary as part of the Corps project to redefine the floodplains for the affected segment of the Santa Ana River. The LOMR would show the 100-year floodplain of

the Santa Ana River shifted to the north. In addition, the floodplain that extends through the Wardlow Wash double 12 x 9 ft RCB that is used as a wildlife crossing would be extended as part of the separate Corps project to meet the new bank protection area. Prado Dam is currently being raised as part of the Corps Santa Ana River Mainstem Project. That project would result in revisions to the existing floodplain near Prado Dam.

The analysis of possible floodplain encroachments by the Build Alternatives was based on the Santa Ana River having already been shifted to the north and the Prado Dam height having been raised as part of the separate projects described above. That analysis indicates that neither Build Alternative would encroach on the Santa Ana River floodplain near Wardlow Wash or the encroachment would be less than indicated when compared to the existing FEMA FIRMs. Because it is unclear at this time whether or not an encroachment would occur at this location after the Corps projects have been constructed, the analysis assumes an encroachment would still occur under the project. The analysis of floodplain encroachment is based on the existing floodplain, which represents a worst-case scenario.

Without the relocation of the Santa Ana River, the Build Alternatives would result in an encroachment downstream of Prado Dam at the Green River Golf Club. However, after implementation of the Corps projects, the Build Alternatives would not encroach on the floodplain at this location. Because this analysis of floodplain encroachment assumes the Santa Ana River would be relocated prior to construction of the Build Alternatives, it is assumed no encroachment would occur at this location. As a result, no project structures would impede or redirect flood flows, and impacts would be considered less than significant. Therefore, Alternatives 1 and 2 and their design variations would result in an overall finding of less than significant adverse impacts to floodplains.

All storm drain systems for Alternatives 1 and 2 and their design variations have been accounted for in the project design, and improvements were included in the design where necessary. Therefore, impacts to storm water facilities would be less than significant.

4.2.2.7 Land Use and Planning

Checklist Questions: X(b) and (c)

Permanent Impacts

The purpose of the project is to reduce existing and forecast traffic congestion on SR-91 to accommodate existing demand and approved growth in the area and to facilitate movement of people, freight, and goods. The project is consistent with County and City General Plan Circulation Elements and transportation plans. These plans anticipate substantial growth in the study area and include specific goals and policies to reduce congestion. The General Plan Circulation Elements either reference improvements to SR-91 specifically or encourage HOV lanes as part of the regional transportation system. Therefore, Alternatives 1 and 2 and their design variations are supportive of, and consistent with, these local plans. The project's improvements would support continued economic vitality of the surrounding communities by improving conditions for the movement of goods and people. The project would enhance public safety and security through the improvement of driving conditions, would enhance environmental conditions through an improvement in traffic mobility and accessibility, and would serve as a benefit to the surrounding communities and future land use goals.

The project is consistent with the requirements of the Western Riverside County MSHCP. Alternatives 1 and 2 would result in direct or indirect construction-related impacts to any designated NCCP lands in Orange County.

Temporary Impacts

As discussed in Section 3.1, temporary construction impacts to land use during construction of Alternatives 1 and 2 and their design variations include disruption of local traffic patterns and access to residences and businesses; increased traffic congestion; and increased noise, vibration, and dust. Although some businesses could close or relocate during a prolonged construction period, this impact would be localized and would not likely result in long-term changes in land uses. Temporary land use impacts also include lands used as TCEs. At the completion of construction, those TCEs would be returned to their original conditions and original owners. As a result, the TCEs are not expected to be inconsistent with the existing General Plan designations for those parcels or to result in long-term changes in land uses on the parcels. Therefore, these temporary land use impacts under Alternatives 1 and 2 and their design variations are considered less than significant.

4.2.2.8 Noise

Checklist Question: XII(b)

As discussed in Section 3.15, Noise, highways typically are not major sources of ground-borne noise or vibration. Ground-borne vibrations are mostly associated with passenger vehicles and trucks traveling on roads with poor conditions, such as potholes, bumps, expansion joints, or other discontinuities in the road surface. Passenger vehicles and trucks would cause effects such as rattling of windows, and the source is almost always airborne noise. Because the project would use new asphalt pavement, there would be no potholes, bumps, expansion joints, or other discontinuities in the road surface that would generate ground-borne vibration or noise impacts from vehicular traffic traveling on SR-91. Therefore, ground-borne vibration impacts generated by vehicles traveling on SR-91 under the Build Alternatives would be considered less than significant.

However, during construction, there would likely be construction activities involving elevated vibration. Some examples of these activities include earth moving, pile driving, and explosive charges. Construction equipment can result in varying degrees of ground vibration, depending on the equipment. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings on soil near the active construction area respond to these vibrations, which range from no perception to low rumbling sounds with perceptible vibrations and slight damage at the highest vibration levels. Typically, construction-related vibrations do not reach vibration levels that would result in damage to nearby structures. These impacts would be temporary in nature and would be addressed with the standard construction nuisance abatement/reduction measures. Therefore, short-term construction impacts related to vibration or ground-borne noise would be less than significant.

4.2.2.9 Utilities and Service Systems

Checklist Question: XVII(c)

The Build Alternatives include modifications to existing storm water drainage facilities within the State and local street rights-of-way to accommodate the widened freeway facilities. The Build Alternatives also include other storm water management features in the State and local street rights-of-way (which are described in detail in Chapter 2, Project Alternatives) to accommodate storm water flows off the widened freeway facilities. Those facilities would not result in significant impacts related to the human and natural environments because they would not result in the need for

expanded or new storm water facilities outside the State and local street rights-of-way.

4.2.3 Significant Environmental Effects of the Project

The impacts of Alternatives 1 and 2 and their design variations discussed in this section have been determined to be significant and adverse under CEQA. As discussed below, the majority of these significant adverse impacts can be mitigated to below a level of significance based on implementation of specific measures included in the Build Alternatives. Adverse impacts that cannot be mitigated to below a level of significance are identified as significant unavoidable adverse impacts of the Build Alternatives in these discussions and are summarized later in Section 4.2.4, Unavoidable Significant Environmental Effects of the Project.

4.2.3.1 Aesthetics

Checklist Questions: I(a), (b), (c), and (d)

As discussed in Section 3.7, Visual/Aesthetics, expanded right-of-way; modified and new ramps, overcrossings and bridges, and concrete barriers; and new retaining, tieback, and sound walls are all anticipated under Alternatives 1 and 2 and their design variations. Those improvements would modify the visual quality of the study area. Aesthetic features would be considered during final design of the Build Alternatives for retaining walls, sound walls, and bridge structures to reduce potential adverse visual impacts. Landscaping consistent with the *215/91 Corridor Master Plan* would be implemented where expanded right-of-way allows. Overall, long-term adverse impacts under Alternative 1 and its design variations are anticipated to be low to moderate and would be reduced to below a level of significance based on implementation of Measures V-1 through V-3.

Public structures are often the target of graffiti. The permanent structures under Alternatives 1 and 2, including bridges, overcrossings, structural supports, retaining and sound walls, and traffic control devices, may be attractive targets for graffiti. Alternatives 1 and 2 will include treatments on many of those structures that may deter graffiti as described in Measures V-1 through V-3. Those may include anti-graffiti coatings, wall texturing and aesthetic surface treatments and landscaping/ plantings (ivy). In addition to the measures described above, which include wall texturing and aesthetic surface treatments, and landscaping/plantings (ivy) that may deter graffiti, the Department, area cities, and Riverside County have existing ongoing maintenance programs for the control and removal of graffiti. Those ongoing programs would apply to all new and modified structures in Alternatives 1 and 2, on

public and private property, as appropriate. As a result, the potential impacts of the project related to graffiti would be below a level of significance.

Although the visual impacts would remain low to moderate under Alternative 2, the visual quality of the study area would be altered more by Alternative 2 than by Alternative 1 because of the channelizers along SR-91 and I-15, which would be associated with the extension of the express lanes under Alternative 2. This potential visual impact of Alternative 2 would primarily be visible to drivers along those highways; therefore, the overall exposure would be moderate because of the high number of viewers but low rating of the activity (driving) and duration (seconds or minutes). In addition, the extension of the express lanes would be along highway segments where the adjacent uses are primarily commercial and industrial. Therefore, long-term adverse visual impacts as a result of Alternative 2 are also anticipated to be low to moderate and would be reduced to below a level of significance based on implementation of Measures V-1 through V-3.

Community character would be affected by the improvements provided under Alternatives 1 and 2. Specifically, the project would result in expanded right-of-way, which would add additional hardscape, graded slopes, modified and new ramps, overcrossings and bridges, concrete barriers, and new retaining, tieback, and sound walls. The average heights of the retaining walls under Alternatives 1 and 2 would range between 3 and 40 ft, depending on the location along the alignment. These changes would modify the visual quality of the area by introducing more urbanized and hardscape elements and, as a result, would affect the existing community character. However, with the consideration of aesthetic features for retaining walls, sound walls, and bridge structures during final design, some of the project impacts to community character would be minimized. Additional landscaping consistent with the *215/91 Corridor Master Plan* will also be implemented where existing landscaping is removed during construction and/or where the expanded right-of-way allows. The additional landscaping would further minimize the potential impacts of Alternatives 1 and 2 to community character. With the implementation of Measures V-1 through V-3, provided in Section 3.7, impacts associated with the changes in visual character would result in less than significant impacts.

Alternatives 1 and 2 would improve pedestrian and bicycle facilities within the project limits on the arterials crossing SR-91. In addition, an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane would be relocated north,

further away from SR-91 which would improve the pedestrian and bicycling experience in that area.

On local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks that are on the overcrossings or in the undercrossings. Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting for vehicles and pedestrians consistent with local standards. However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design, including the provision of appropriate lighting in the new parts of the undercrossings and additional lighting in the existing parts of the undercrossings if it is determined necessary. Measure V-1, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways, which may inhibit their desire to cross the freeways. With the implementation of Mitigation Measures T-4 and V-3, the community cohesion impacts related to pedestrians and bicyclists would be minimized to below a level of significance.

Although Alternatives 1 and 2 would result in an adverse impact to a segment of SR-91 that is eligible for designation as a State Scenic Highway (refer to the Key View 1 impact discussion in Section 3.7), Alternatives 1 and 2 would also result in a decrease in visual quality to a segment of I-15 that is eligible as a State Scenic Highway (refer to the impact discussion under Key View 8). With implementation of Measures V-1 through V-3, the project would not substantially damage scenic resources (including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway), and impacts would be considered less than significant with mitigation.

As discussed in Section 3.7, existing urban and suburban uses in the study area receive light at night from traffic, street lighting, lighted parking lots, security lighting, signalization at the intersections and freeway on- and off-ramps, and other light sources from commercial and residential uses. Existing lighting on existing

streets and freeways would be modified or relocated under Alternatives 1 and 2. Except for safety lighting at the interchanges (e.g., additional lighting to minimize the "tunnel effect" where bridge decks will be widened), no new lighting is anticipated along the project segments of SR-91 and I-15. To minimize light spill into adjoining areas, light fixtures will be designed to direct light downward to only those areas requiring illumination for safety purposes.

Alternatives 1 and 2 would create new sources of glare, shadow, and shade associated with fill slopes, bridges, and other structures. These shade and shadow effects are considered minimal because very few, if any, sensitive viewers would be in the shade or shadow footprints of the individual project features. Increased glare from walls, structures, and pavement will be mitigated by Measures V-1 and V-2, as described in Section 3.7. Therefore, Alternatives 1 and 2 and their design variations would result in less than significant impacts related to light, glare, shade, and shadow.

SR-91 and I-15, within the SR-91 CIP project limits, are not officially designated as State Scenic Highways[1]; therefore, the Build Alternatives and their design variations would have no visual or aesthetic impacts to a State Scenic Highway.

4.2.3.2 Biological Resources

Checklist Questions: IV(b), (c), and (d)

As discussed in Section 3.17, the Build Alternatives would result in direct temporary effects to natural communities of special concern through disturbance and/or removal of existing vegetation. Areas of temporary effect would only be affected during construction to allow for construction and equipment staging. Temporary effects are limited to incidental encroachment to three natural communities: CSS, riparian/riverine, and oak woodland.

Alternatives 1 and 2 and their design variations would result in permanent impacts to CSS. Alternatives 1 and 2 and their design variations would permanently impact riparian/riverine and oak woodland, but the Initial Phases of Alternatives 1 and 2 would not impact those two communities. Measures NC-1 through NC-5 and NC-17 through NC-20 in Section 3.17 (Natural Communities), WQ-1 in Section 3.10 (Water Quality and Storm Water Runoff), and IS-1 in Section 3.22 (Invasive Species) address both temporary and permanent impacts to these natural communities. The impacts to CSS and riparian/riverine communities can be mitigated to below a level

[1] Source: State Scenic Highways list, http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

of significance based on implementation of Measures NC-1 through NC-5, NC-17 through NC-19, WQ-1, and IS-1.

Operation of the Build Alternatives is not expected to increase indirect permanent effects to CSS, riparian/riverine, and oak woodlands due to automobile traffic, litter, or noise in the area.

Because the development of mature large oak trees requires 40–80 years, the direct removal of oak trees and oak habitat would result in an unavoidable short-term loss of habitat. Alternative 1 would result in a direct permanent effect to 0.01 ac of oak woodland habitat. Alternative 2 would result in 0.02 ac of direct permanent effect to oak woodland habitat. These impacts to oak woodland habitat would be significant unavoidable adverse impacts of Alternatives 1 and 2 and their design variations.

The Build Alternatives would result in temporary, but not significant, adverse impacts on wildlife movement during construction. Those temporary impacts would be mitigated to below a level of significance based on implementation of Measures NC-6 through NC-16, and NC-20. The Build Alternatives would not result in adverse impacts related to wildlife movement after the completion of construction.

Permanent Impacts

Coastal California Gnatcatcher

The Initial Phases of Alternatives 1 and 2 would not result in permanent effects to CSS or chaparral habitats. Alternative 1 would result in 1.84 ac of permanent effects to CAGN-designated critical habitat, and Alternative 2 would result in 3.09 ac of permanent effects to CAGN-designated critical habitat but the Build Alternatives are not expected to result in direct take of CAGN. Alternatives 1 and 2 and their design variations would result in a take of the CSS and CAGN-designated habitat along SR-91 from just east of the SR-241 interchange to just west of the SR-91/ SR-71 interchange. Alternatives 1 and 2 and their design variations would also take chaparral communities that contain constituent elements of CAGN critical habitat and, therefore, those chaparral communities were included in identified project impacts to CAGN. Alternatives 1 and 2 and their design variations would impact 1.84 ac and 3.09 ac, respectively, of combined CSS and chaparral habitat. Measures NC-1 through NC-19, WQ-1, and IS-1 address impacts to natural communities including CSS, which is the habitat of CAGN. As discussed in Section 3.21.4.1, Compensatory Measures, Section 7 Consultation would be necessary to obtain authorization for potential adverse

effects of the Build Alternatives to CAGN and CAGN-designated critical habitat in Orange County. Because the project is a Western Riverside County MSHCP-covered project that is federally funded, the Western Riverside County MSHCP provides for an abbreviated Section 7 permit consultation process for the part of the project in Riverside County for the issuance of an incidental take permit.

The implementation of these measures addresses impacts to habitat and CAGN in compliance with the Western Riverside County MSHCP, ensuring that impacts to CAGN would be less than significant.

Least Bell's Vireo

Alternatives 1 and 2 and their design variations would not result in the direct take of LBV or LBV-designated critical habitat. However, Alternative 1 and its design variations would result in the take of 0.5 ac of occupied riparian/riverine habitat, and Alternative 2 and its design variations would result in the take of 0.82 ac of riparian/riverine habitat. By achieving project consistency with the Western Riverside County MSHCP and implementing measures prior to and during construction, direct effects to LBV would be minimized, although potential adverse effects to occupied habitat may still occur under Alternatives 1 and 2 and their design variations.

Because Alternatives 1 and 2 and their design variations would impact LBV habitat, a Section 7 Consultation would be necessary to obtain authorization for potential adverse project effects to LBV. Authorization from the CDFG for take of LBV would also be required.

Stephens' Kangaroo Rat

Alternative 1 and its design variations are expected to potentially result in direct permanent effects to approximately 1.2 ac of the SKR conservation fee area. Alternative 2 and its design variations are expected to potentially result in direct permanent effects to approximately 5.7 ac of the SKR conservation fee area.

Western Yellow-billed Cuckoo, Southwestern Willow Flycatcher, and Bald Eagle

The permanent loss of suitable riparian habitat under Alternatives 1 and 2 and their design variations would limit the potential habitat for these species in the area. These effects to these species would be similar to those described above for riparian communities and for permanent impacts to LBV.

Compensatory mitigation addresses the potentially significant adverse impacts of Alternatives 1 and 2 to the threatened and endangered species described above, and would reduce those adverse impacts to below a level of significance.

Temporary Impacts

As discussed in Section 3.21, because LBV is likely to occur in or near the disturbance limits at the time of project construction, Alternatives 1 and 2 and their design variations could result in potential indirect temporary effects to LBV during construction. Those effects could include increased exposure of LBV to noise, vibration, dust, and human presence. Without minimization measures, those impacts could potentially adversely affect LBV in the immediate vicinity of construction activities. Potential indirect effects could also occur to the CAGN and Braunton's milk-vetch. Measures NC-2, NC-3, NC-10, and NC-20 address the temporary impacts of the Build Alternatives on these species. Compensatory mitigation would address temporary and permanent impacts to LBV. The impacts of Alternatives 1 and 2 and their design variations on threatened and endangered species would be reduced to below a level of significance based on the implementation of those mitigation measures.

Impacts on Waters

As discussed in Section 3.18, Wetlands and Other Waters, the Build Alternatives would result in temporary and permanent effects on jurisdictional and other waters. The potential temporary effects of Alternatives 1 and 2 and their design variations on Corps jurisdictional and nonjurisdictional areas are summarized in Table 3.18.3. As discussed in Section 3.18, there would be temporary effects on wetland or nonwetland waters of the United States (i.e., areas under Corps jurisdiction) under Alternatives 1 and 2 and their design variations.

Alternatives 1 and 2 and their design variations would result in temporary effects to CDFG and RWQCB jurisdictional areas.

Alternatives 1 and 2 and their design variations would result in permanent effects to wetland and nonwetland waters of the United States. The Build Alternatives would affect waters of the United States and CDFG and RWQCB jurisdictional areas as a result of widening, modifying, or otherwise improving drainages and culverts to accommodate the widening of and improvements to SR-91 and I-15.

The temporary and permanent impacts of the Build Alternatives on wetlands and other waters would be addressed by the required permits described in Measures

WET-1 through WET-3. Impacts to wetland and other waters would be below a level of significance based on implementation of Measures WET-1 and WET-2.

Additional discussion of impacts to biological resources is provided earlier in Section 4.2.2.3, Biological Resources.

4.2.3.3 Paleontological Resources

Checklist Question: V(c)

As discussed in Section 3.12, Paleontology, the Build Alternatives and their design variations would alter existing landforms and potentially expose fossil resources during grading activities such as excavation along the alignment, excavation to various depths to reach competent soil, excavation for wall footings, and excavation for relocated or new utilities.

Paleontological resources could be encountered during excavation and grading for the Build Alternatives. Specifically, construction and excavation for Alternatives 1 and 2 and their design variations could impact paleontological resources in the following sediments: all types of Pleistocene alluvium, sedimentary rocks and sandstone of the Norco area, the Fernando Formation, Chino Hills Pliocene sediments, the Puente Formation, the Topanga Formation, the Sespe and Vaqueros Formations (interfingering), the Santiago Formation, the Silverado Formation, the Williams Formation, and the Ladd Formation. Measure PAL-1 requires a PMP to address paleontological resources that may be encountered during construction. Measure PAL-1 would minimize potential impacts of Alternatives 1 and 2 and their design variations to paleontological resources. Therefore, impacts to paleontological resources under the Build Alternatives are considered less than significant after mitigation.

4.2.3.4 Geology and Soils

Checklist Questions: VI(a)(i–iv), (b), (c), and (d)

Permanent Impacts

The road, structures, slopes, and other features of the Build Alternatives could be impacted by ground motion and liquefaction and possibly ground surface rupture during seismic events. The design and construction of the Build Alternatives to current highway and structure design standards, including applicable seismic standards, would minimize the potential impacts of seismic events on the project facilities.

The primary geologic and geotechnical constraints potentially affecting the design of Alternatives 1 and 2 and their design variations are:

- Moderate to high ground acceleration due to nearby active faults, including the Elsinore (Whittier segments), China-Central Avenue, Elsinore (Glen Ivy segments), Puente Hills Blind Thrust, and San Jacinto faults
- Fault rupture associated with the Whittier and Chino-Central Avenue faults
- Liquefaction and seismic compaction in areas of shallow groundwater and loose granular soils. Areas of high liquefaction potential or liquefaction hazard include the SR-91/I-15 interchange, I-15 north of the interchange in the vicinity of Corona Avenue and Hidden Valley Parkway, SR-91 east of the interchanges in the vicinity of McKinley Street, Buchanan Street, and Pierce Street, and the segment of SR-91 in Orange County between SR-241 and the Orange/Riverside County line
- Slope stability in areas of ancient landslides and other areas of steep natural terrain or cut slopes
- Erosion and surficial instability in hillside areas and areas adjacent to the Santa Ana River floodplain
- Non-rippable (i.e., difficult to excavate) granitic bedrock along SR-91 from I-15 to approximately Pierce Street
- Possibly corrosive soils in areas along westbound SR-91 in the vicinity of the Orange/Riverside County line and along I-15
- A permanent subsurface easement in a designated NNL for underground tiebacks for the tieback wall along SR-91.

These potential impacts are addressed in Measures GEO-1 and GEO-2, which require specific surveys and treatment of these conditions as part of the final design. With these measures, the potential permanent adverse impacts of Alternatives 1 and 2 and their design variations related to geology and soils would be reduced to below a level of significance.

Temporary Impacts

As discussed in Section 3.11, Geology/Soils/Seismic/Topography, Alternatives 1 and 2 and their design variations would alter existing landforms as a result of grading and cut-and-fill. Construction may also temporarily disturb soil outside the project footprint but within the freeway rights-of-way, primarily in the trample zone around work areas, heavy equipment traffic areas, and material laydown areas. Temporary impacts would include soil compaction and an increased possibility of soil erosion.

During construction of the Build Alternatives, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The construction of the Build Alternatives would be required to adhere to the requirements of the General Construction Permit and implement erosion and sediment control BMPs specifically identified in a project SWPPP to keep sediment from moving off site into receiving waters.

The construction activities associated with the Build Alternatives could be impacted by ground motion from seismic activities, possible ground rupture, and liquefaction if an earthquake were to occur during construction. Implementation of safe construction practices and compliance with Department and Cal-OSHA requirements would minimize the impacts of these conditions.

These potential impacts would occur only during the construction of Alternatives 1 and 2 and their design variations. Measures GEO-1 and GEO-2 require specific surveys and treatment of these conditions as part of the final design and construction.

Alternatives 1 and 2 and their design variations may require blasting in areas underlain by non-rippable granitic bedrock, particularly in areas along SR-91 east of the I-15 interchange. Measure GEO-3 requires that the design/build contractor prepare a blasting plan that will address all applicable standards during final design.

With these measures, the temporary potential adverse impacts of Alternatives 1 and 2 and their design variations related to geology and soils would be reduced to below a level of significance.

4.2.3.5 Hazards and Hazardous Materials

Checklist Questions: VIII(a), (b), (c), (d), and (g)

As discussed in Section 3.13, Hazardous Waste/Materials, based on the project ISA, there is no evidence of recognized environmental conditions in connection with the subject property except for the following:

- Potential soil and/or groundwater contamination at two hazardous waste/materials sites that would be used as a TCE and/or a full or partial acquisition
- Potential presence of hazardous wastes routinely stored or generated at multiple industrial and automotive facilities within the disturbance limits of the Build Alternatives

- Asbestos in rails, bearing pads, support piers, expansion joint material in bridges, asphalt, and concrete and road building materials, and other building materials
- LBP on building and freeway structures and lead in yellow paint and tape used for pavement marking
- PCBs in pole-mounted or pad-mounted transformers and/or light ballasts
- Potential soil and/or groundwater contamination in soils adjacent to the railroad right-of-way
- Relocation of the SCE substation under Alternative 2 with design variations 2c, 2d, 2g, and 2h.
- Creosote and pentachlorophenol in wooden utility poles, railroad ties, and other wood treated objects.

Measures HW-1 through HW-15 address the potential impacts from hazards that would potentially occur under both Alternatives 1 and 2. Most of these measures are standard procedures and/or code regulations controlling these types of hazardous materials. Measure HW-15 addresses impacts from hazards that could potentially result from the relocation of the SCE substation under Alternative 2 with design options 2c, 2d, 2g, and 2h. All impacts related to hazardous materials would be reduced to below a level of significance based on implementation of Measures HW-1 through HW-15.

4.2.3.6 Hydrology and Water Quality, and Utilities and Service Systems

Checklist Questions: IX(a) and (f), and XVII(a)

Currently, runoff from SR-91 and I-15 in the study area is untreated. Alternatives 1 and 2 would result in a permanent increase of impervious surfaces and a permanent increase in runoff and pollutant loading (including sediments, trash, and debris) from the project segments of SR-91 and I-15. Compared with existing conditions, there would be a slight increase in runoff volumes due to the addition of new impervious areas from the freeway improvements under Alternatives 1 and 2. Those increases would generally shorten the time of concentrations and runoff travel time to the Santa Ana River. However, because the flow increase to the Santa Ana River is expected to be minimal, the hydrologic impact is considered negligible.

The operation of Alternatives 1 and 2 will be subject to the requirements of the Department's NPDES Permit. Specifically, during project operation, the Department must comply with the requirements of the 1999 Department Statewide NPDES Permit and any subsequent permit, consider approved BMPs to treat the runoff from the

project site, and install these BMPs where feasible. As part of the project, BMPs would be implemented to target constituents of concern in runoff from the newly added freeway facilities. Drainage from the newly added freeway facilities would be treated by biofiltration swales, infiltration basins, detention basins, and/or media filters. All the runoff from the new net impervious surface areas would be treated by the BMPs included in the Build Alternatives. The BMPs would treat runoff from an area equivalent to the impervious surface area added by the project as well as runoff from part of the existing freeway facilities.

The Department has provisions to evaluate and monitor BMP effectiveness in the SWMP. The SWMP also lists provisions to replace a BMP with an alternative practice if monitoring finds the BMP not performing as designed or expected.

BMPs would be implemented in accordance with NPDES Permit requirements as described in Measure WQ-3 in Section 3.10, Water Quality and Storm Water Runoff. They would be implemented in phases as the project improvements are implemented, with 100 percent of the net new impervious area treated for each phase as well as runoff from part of the existing freeway facility. Therefore, Alternatives 1 and 2 would not result in substantial adverse water quality impacts related to sediments, turbidity, and floating materials.

In addition to sediments and trash, pollutants of concern during operation of a transportation facility include petroleum products, metals, nutrients, solvents, waste paint, herbicides, and pesticides. These pollutants of concern can be generated from maintenance activities as well as vehicles operating on the facility. New impervious areas associated with freeway facilities increase the volume of runoff during a storm, which more effectively transports pollutants to receiving waters and may lead to downstream erosion and impairment of water quality objectives and/or beneficial uses of receiving waters.

There would be a net increase in impervious areas under Alternatives 1 and 2 that would result in an increase in the volume of runoff during a storm or a subsequent increase of pollutant loading (including petroleum products, metals, and chemicals) to receiving waters.

The Department’s road maintenance activities under Alternatives 1 and 2 would be similar to existing conditions. The new BMPs would require maintenance and would target pollutants of concern from maintenance activities (such as oil and grease). There would be fewer BMPs to maintain for the Initial Phases of Alternatives 1 and 2

compared to Alternatives 1 and 2; therefore, there would be fewer maintenance activities and a lower potential for spills or leaks of petroleum products. Alternative 2 would include construction of a greater number of BMPs compared to Alternative 1. This would increase maintenance activities and therefore increase the potential for spills or leaks of petroleum products. In summary, Alternatives 1 and 2 would not substantially increase the potential for pollutants associated with maintenance activities to impact water quality or result in substantial adverse water quality impacts related to oil, grease, and chemical contamination.

The construction of Alternatives 1 and 2 would also result in temporary effects to potential RWQCB jurisdictional areas; the RWQCB often asserts jurisdiction of these areas under the Porter-Cologne Act. Prior to initiation of construction, a CWA Section 401 Water Quality Certification from the RWQCB will be obtained.

Under the General Construction Activity NPDES Permit, a SWPPP would be prepared and implemented, including implementing specific erosion and sediment control BMPs during construction as detailed in the SWPPP. Appropriate construction BMPs for work in high risk areas would be identified in the SWPPP and implemented during construction. Alternatives 1 and 2 may include, but not be limited to, the construction site BMPs listed in Table 3.10.5. Construction BMPs would be properly designed, implemented, and maintained, as described in Measure WQ-1. Therefore, no substantial adverse water quality impacts related to sediment, turbidity, and floating materials would occur during the construction of Alternatives 1 and 2.

As discussed earlier, under the General Construction Activity NPDES Permit, a SWPPP would be prepared and implemented, including implementing specific construction site BMPs detailed in the SWPPP during construction activities. Measures to control spills, leakage, and dumping during construction would be addressed by structural and nonstructural BMPs. Construction BMPs would be properly designed, implemented, and maintained, and the requirements of the De Minimus Permit (Order No. R8 2009-0003) will be complied with as presented in Measures WQ-1 and WQ-2. Therefore, no substantial adverse water quality impacts related to oil, grease, and chemical contamination would occur during construction of Alternatives 1 and 2.

Dewatering may be necessary to construct structure footings under Alternatives 1 and 2. Dewatered groundwater may contain high levels of TDS, salinity, high nitrates,

or other contaminants. Groundwater and any other non-storm-water dewatering activities are subject to the requirements of the De Minimus Permit, which covers discharge of groundwater and non-storm-water construction waste in the Santa Ana Region. This permit requires monitoring of dewatering discharges and adherence to effluent and receiving water limitations in the permit so that the water quality of surface waters is ensured protection. Compliance with this permit, as described in Measure WQ-2, would minimize the potential for substantial adverse water quality impacts of Alternative 1 during dewatering.

Therefore, with the implementation of measures WQ-1 through WQ-3, Alternatives 1 and 2 and the Initial Phases of Alternatives 1 and 2 would not violate any water quality standards or waste discharge requirements, and impacts would be considered less than significant.

4.2.3.7 Land Use and Planning, and Population and Housing

Checklist Questions: X(a) and XIII(b) and (c)

Permanent Impacts

Alternative 1 and its design variations would result in the acquisition and removal of 21 single-family homes under all variations, and 72 to 96 multifamily homes, depending on the design variation. Alternative 2 and its design variations will result in the acquisition and removal of 23 to 24 single-family homes and 81 to 129 multifamily homes, depending on the design variation. The majority of the homes acquired and removed under both Alternatives 1 and 2 are located in the City of Corona along SR-91 between Green River Road and I-15. Because of Corona's demographics and the commercial and residential resources available in the immediate areas surrounding the project limits, it is anticipated there will be ample resources for all residential and commercial owners and tenant displacees. Refer to Attachments 3.4.A to 3.4.I in Section 3.4, which list available replacement housing and business opportunities. Measures CI-1 through CI-3 would partially mitigate the effects of Alternatives 1 and 2 and their design variations related to community character and cohesion. The remaining impacts would be adverse but not significant after mitigation.

As discussed in Section 3.1, Alternatives 1 and 2 and their design variations would result in permanent impacts to General Plan-designated land uses as a result of the acquisition of right-of-way and the change in land uses on that land to transportation uses. The impacted General Plan-designated land uses are shown on Figures 3.1-3 (Sheets 1–3) and 3.1-4 (Sheets 1–3) for Alternatives 1 and 2, respectively. The total

acres of General Plan-designated land uses affected by the Build Alternatives are summarized in Table 3.1.4. Alternative 1 and its design variations would permanently impact between 191.3 ac and 220.6 ac of land. Alternative 2 and its design variations would permanently impact between 304.5 ac and 345.2 ac of land. The Initial Phases of Alternatives 1 and 2 would impact 190.5 ac of land. As a result, Alternatives 1 and 2 and their design variations may require the affected counties and cities to amend their General Plan Land Use designations for the land currently not designated for transportation uses, which is incorporated in the transportation uses as described in Measure LU-1.

As discussed in Section 3.4, Community Impacts, construction of the Build Alternatives would temporarily affect the communities adjacent to the project segments of SR-91 and I-15. Temporary construction impacts could disrupt local traffic patterns and affect access to residences, businesses, and community facilities. These construction impacts would only be temporary, and would not change or alter community character and cohesion, or divide an existing community adjacent to the project segments of SR-91 and I-15. The TMP required in Measure T-1 would address the short-term impacts during construction through education of motorists, business owners/operators, and local residents about construction activities in each community, local road closures, ramp and connector closures, and detour routes available to maintain traffic flow throughout the construction areas.

Permanent impacts to community character and cohesion during the operation of the project would redistribute traffic flow that currently uses the local road system. As a result, some local residences may be exposed to less local road noise and traffic. On local streets affected by the Build Alternatives, sidewalks and crosswalks familiar to the residents would be modified and/or replaced with new sidewalks and crosswalks. Existing routes that are used to travel from one part of the community to another and are familiar to residents would be redesigned to accommodate associated project-related interchange and road improvements. Additionally, property acquisition would result in the relocation of residents, which would impact community character and cohesion. Measures CI-1, CI-2 and CI-3 would avoid, minimize, and mitigate adverse impacts of the Build Alternatives related to relocations and real property acquisition and the impacts to community character and cohesion.

On local streets that cross SR-91 and I-15, the widened freeway cross sections would result in wider overcrossings and undercrossings, which would increase the lengths of the roads and sidewalks that are on the overcrossings or in the undercrossings.

Therefore, the amount of time pedestrians and bicyclists spend on the overcrossings or in the undercrossings would increase compared to existing conditions. The new parts of the undercrossings would include lighting for vehicles and pedestrians consistent with local standards. However, the segments of those roads under the existing overcrossings would experience a reduction in the amount of natural light, which could be perceived by pedestrians and bicyclists as adversely affecting their experiences crossing under SR-91. Measure T-4, provided in Section 3.6, addresses lighting in the undercrossings during final design, including the provision of appropriate lighting in the new parts of the undercrossings and the provision of additional lighting in the existing parts of the undercrossings, if it is determined to be necessary. Measure V-1, provided in Section 3.7, provides for aesthetic treatments on paved slopes at undercrossings. Nonetheless, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and therefore may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion. As a result, the impacts of Alternatives 1 and 2 on community cohesion related to pedestrian and bicyclist access effects will be adverse but not significant after mitigation.

As discussed in Section 3.4, it is estimated that Alternative 1 would acquire and remove 93 to 117 homes and displace 110 to 189 businesses, depending on the design variation. Alternative 2 would acquire and remove 114 to 161 homes and displace 88 to 275 businesses, depending on the design variation All the relocations would occur in the City of Corona. The residential displacements involve multifamily, mobile homes, and single-family units. Adequate resources appear to exist at the present time to relocate the displaced residents and businesses. Measures CI-1, CI-2, and CI-3, provided in Section 3.4, address property acquisition under the Build Alternatives. As described in those measures, all relocations required for the Build Alternatives would be handled by RCTC in accordance with the Uniform Act. Therefore, the displacement and relocation impacts of Alternatives 1 and 2 and their design variations would be mitigated to below a level of significance.

Temporary Impacts

As discussed in Section 3.4, the Build Alternatives have the potential to result in short-term effects to neighborhoods (e.g., temporary road closures) during construction. These activities include grading, excavation, road detours, and temporary road closures. Implementation of a TMP, which is discussed in Measure T-1 in Section 3.6, would reduce the project-related adverse temporary impacts of

Alternatives 1 and 2 and their design variations to community character and cohesion to below a level of significance.

4.2.3.8 Noise

Checklist Questions: XII(a) and (c)

Table 3.15.13 shows that receivers in the project area would experience a traffic noise level increase from future no project noise levels of up to 15 dBA under Alternative 1 and 16 dBA under Alternative 2. A noise level increase of 3 dBA or more is perceptible by the average human ear in an outdoor environment and a noise level increase of 12 dBA or more would be substantial. The increase in noise levels from future no project noise levels under Alternatives 1 and 2 for all receivers within the project area would be perceptible but not substantial, except for Receivers 16, 127M, 28M, 29M, 22, and 23 under Alternative 1, and Receivers 23M, 127M, 20, 28M, 29M, 22, and 23 under Alternative 2. These receivers would experience a substantial noise increase under their respective alternatives and design options.

Tables 3.15.24 and 3.15.25 for Alternative 1 and Tables 3.15.26 and 3.15.27 for Alternative 2 in Section 3.15 show the recommended barriers for the SR-91 CIP.

Even with the implementation of Measures N-1, N-4, and N-5, the noise barriers described in the tables cited above would not reduce traffic noise levels to future no project levels or below. Therefore, the project would result in significant traffic noise impacts under CEQA.

4.2.3.9 Public Services

Checklist Questions: XIV(a)(iv) and (a)(v)

As shown in Table 3.1.7, the Build Alternatives would result in the temporary use of small land areas in CHSP, Featherly Regional Park, Griffin Park, the Santa Ana River Trail/Bike Lane, Griffin Park, and El Cerrito Sports Park for TCEs. The TCEs and permanent easements at these recreation resources are discussed in detail below:

- **Chino Hills State Park:** Alternatives 1 and 2 would result in the permanent use of 0.48 ac of land from CHSP for two columns for the elevated westbound SR-91 off-ramp at Green River Road, an aerial easement for that off-ramp, and a small area south of the off-ramp. Alternatives 1 and 2 would also result in permanent subsurface easements at CHSP. The construction of Alternatives 1 and 2 would result in the temporary use of 2 ac, or approximately 0.0014 percent of the total area of CHSP, for TCEs.

- **Featherly Regional Park:** Alternatives 1 and 2 would not result in the permanent use of land from Featherly Regional Park. The construction of Alternatives 1 and 2 would result in the temporary use of 0.2 ac, or approximately 0.055 percent of the total area of Featherly Regional Park, for TCEs.
- **Griffin Park:** Alternatives 1 and 2 would not result in permanent impacts to this park but would result in the temporary use of 0.5 ac, or approximately 3.88 percent of the total area of Griffin Park, for TCEs.
- **Santa Ana River Trail/Bike Lane:** The Initial Phases of Alternatives 1 and 2 and their design variations would result in temporary use and possible temporary closures of the Santa Ana River Trail/Bike Lane during project construction. The Initial Phases of Alternatives 1 and 2 would relocate an approximately 200 ft long segment of the Santa Ana River Trail/Bike Lane into the Green River Road right-of-way, which would result in the temporary use and possible closure of this trail/bike lane. Any trail closures would be temporary and alternate access would be available during the possible closure. The trail/bike lane would not be closed during construction. The Ultimate Projects Alternative 1 and 2 would not result in any temporary use of the Santa Ana River Trail/Bike Lane. In addition, the Initial Phases of Alternatives 1 and 2 would include the construction of an approximately 30-space parking lot for Santa Ana River Trail/Bike Lane users. Neither of the Build Alternatives or their design variations would permanently use property from the Santa Ana River Trail/Bike Lane. As a result, the impacts of Alternatives 1 and 2 on the Santa Ana River Trail/Bike Lane will be below a level of significance and would not be substantial.
- **El Cerrito Sports Park.** Alternatives 1 and 2 would not result in the permanent use of land from this park. However, Alternatives 1 and 2 would result in the temporary use of 0.173 ac of land from this park for TCEs.
- **New Orange County Park (National Natural Landmark).** Alternatives 1 and 2 would result in a permanent use of two small areas for permanent subsurface easements totaling 0.4 ac and 2.2 ac, respectively. Alternatives 1 and 2 would not result in the temporary use of land from the New OC Park (NNL).

In summary, Alternatives 1 and 2 and their design variations would temporarily use land from public parks and recreation properties for TCEs, would result in some permanent easements at two parks, would result in the permanent use of land from one park (i.e., CHSP), and would result in permanent subsurface easements at two parks (CHSP and New OC Park [NNL]).

As described in Section 3.5, Alternatives 1 and 2 and their design variations would impact existing utility facilities. Measures UES-1 to UES-3, provided in Section 3.5, and Measure HW-15, provided in Section 3.13, require appropriate coordination with utilities prior to and during construction to ensure appropriate project-related utility relocations, removals, and protection in-place.

The existing SCE substation would be impacted by Alternative 2 with design variations 2(c), 2(d), 2(g), and 2(h). Because Alternative 2 would conflict with the substation operations, this alternative would require relocation of the substation facilities. The substation would be permanently relocated to a vacant site west of and adjoining the existing substation property. A project-related BMP water quality basin would also be located on that parcel. There appears to be sufficient space on the parcel to accommodate both the BMP water quality basin and the relocated substation. The substation relocation would require placement of new transformers, steel racks, and switch gear on the new substation site. In addition, minor modifications of the existing overhead electric conductors would be required on the east edge of the existing substation site along South Sherman Avenue. Construction of the relocated substation would not affect any schools, parks or residential uses because the relocation site is a vacant site just west of the existing substation. Once the relocation of the substation is completed, no additional permanent impacts to this facility would occur under Alternative 2 with design variations. The substation would not be affected by Alternative 1. Measure UES-1 addresses impacts associated with relocation of the SCE substation.

Based on compliance with Measures UES-1 to UES-3, Alternatives 1 and 2 and their design variations would not result in permanent adverse impacts to utility providers and facilities. Therefore, the Build Alternatives would result in less than significant adverse impacts related to utilities.

Alternatives 1 and 2 would result in the permanent use of 0.48 ac of land for two columns for the elevated Green River Road off-ramp, an aerial easement for the off-ramp, and a small area south of the off-ramp. Measures PR-1 through PR-3, provided in Section 3.1, Land Use, would substantially reduce the effects of the SR-91 CIP Build Alternatives on CHSP.

4.2.3.10 Transportation/Traffic

Checklist Questions: XVI(e) and (f)

As discussed in Section 3.6, construction of Alternatives 1 and 2 and their design variations would result in short-term adverse traffic impacts. These impacts include temporary lane closures, detours, and ramp closures that may impair the ability of law enforcement, fire, and other emergency service providers to meet response time goals. These impacts are addressed in Measures T-1 and T-2, provided in Section 3.6, which require development and implementation of a TMP and a ramp closure plan, respectively, during construction. These measures will reduce short-term adverse traffic impacts during construction of Alternatives 1 and 2 and their design variations to below a level of significance.

As discussed in Section 3.6, the final design of Alternatives 1 and 2 will include returning the local streets that cross the project segments of SR-91 and I-15 to their existing or, in some cases, widened cross sections. The project construction on local streets would include replacing the sidewalks and bicycle facilities that were closed temporarily during construction and that were not improved in the Initial Phases of Alternatives 1 and 2. In addition, most of the sidewalks replaced under Alternatives 1 and 2 would be designed consistent with the applicable ADA requirements for handicap access. As a result of Alternatives 1 and 2, the existing pedestrian and bicycle facilities on local streets affected by the construction of those alternatives would either experience no change from the existing conditions or would result in improved pedestrian and bicycle facilities compared to existing conditions. Table 3.6.31 provides details of the improvements to existing pedestrian and bicycle facilities under the Build Alternatives. As discussed earlier in Section 4.2.3.7, some pedestrians and bicyclists may perceive the longer overcrossings and undercrossings as negatively affecting their experiences as they cross the freeways and therefore may inhibit their desire to cross the freeways, which would be an adverse effect on community cohesion. Measures T-4 and V-3 would partially mitigate those effects. As a result, the impacts of Alternatives 1 and 2 on community cohesion related to pedestrian and bicyclist access effects will be adverse but not significant after mitigation.

Because the specific alignments and cross sections of proposed bicycle facilities in the study area are not known and right-of-way has not been identified or reserved for those facilities, it is not possible to identify the potential for the Build Alternatives to impact those types of planned facilities. However, if any of these proposed facilities are constructed prior to the construction of Alternatives 1 or 2, potential project

effects and benefits to those facilities would be similar to the effects described above for the existing facilities in the project area. No avoidance, minimization, or mitigation measures are required.

4.2.4 Unavoidable Significant Environmental Effects of the Project

Pursuant to Section 15091 of the CEQA Guidelines, the following adverse impacts of the Build Alternatives cannot be mitigated to below a level of significance and are, therefore, unavoidable significant adverse impacts under CEQA that would require overriding considerations:

- **Long-Term Noise:** Alternatives 1 and 2
- **Permanent Impacts to Oak Woodland Habitat:** Alternatives 1 and 2
- **Cumulative Impacts:** Discussed in detail in Section 3.25 and summarized below in Section 4.2.6.2
- **Adverse Effects on Human Beings:** Discussed in detail below in Section 4.2.6.3

4.2.5 Significant Irreversible Environmental Changes

Sections 3.23, Relationship between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity, and 3.24, Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project, describe the potential long-term commitments of resources if a Build Alternative is implemented. The construction of the Build Alternatives would result in long-term and permanent commitments of natural, physical, human, and fiscal resources to the project. Land acquired for the project would be permanently committed to a transportation use and would no longer be available for residential, nonresidential, historical resource, or other uses. Other permanent environmental changes associated with the Build Alternatives include the loss of agricultural lands, altered viewsheds, consumption of construction materials and energy, permanent impacts to wetlands and other natural communities, removal of residential and nonresidential uses, and the potential loss of paleontological resources.

4.2.6 Mandatory Findings

The discussion in this section provides mandatory findings as required in Section 15065 of the CEQA Guidelines.

4.2.6.1 Wildlife and History

Checklist Question: XVIII(a)

As discussed above, the project-related adverse impacts to cultural, paleontological, and biological resources can be mitigated to below a level of significance based on implementation of the measures identified for the project, with the exception of the permanent loss of 0.02 ac of oak woodland. Therefore, Alternatives 1 and 2 and their design variations do not have the potential to directly or indirectly impact cultural or biological resources in a way that would eliminate examples of California history or prehistory, or jeopardize the health of wildlife populations.

4.2.6.2 Cumulative Effects

Checklist Question: XVIII(b)

As discussed in detail in Section 3.25, Alternatives 1 and 2 and their design variations are not anticipated to contribute to cumulative adverse impacts related to the following environmental topics:

- Human Environment
  - Land Use and Planning
  - Parks and Recreation and Section 4(f) and 6(f) Properties
  - Growth Inducement
  - Timberlands
  - Environmental Justice
  - Utilities
  - Public Services
  - Traffic – Long-Term
  - Traffic – Pedestrian and Bicycle Facilities
  - Cultural Resources – Historic Resources
  - Cultural Resources – Archaeological Resources
- Physical Environment
  - Hydrology and Floodplains
  - Geology, Soils, Seismicity, and Topography
  - Paleontological Resources
  - Hazardous Wastes and Hazardous Materials
  - Air Quality – Long-Term
  - Noise – Construction
- Energy and Global Climate Change

The environmental topics for which the project may result in adverse impacts that are not mitigated or offset and which were determined to potentially contribute to cumulative adverse impacts are:

- Human Environment
  - Farmlands
  - Community Character and Cohesion, and Property Acquisition
  - Traffic – Construction
  - Visual and Aesthetic Resources
- Physical Environment
  - Water Quality and Storm Water Runoff
  - Air Quality – Construction
  - Noise – Operations
- Biological Environment
  - Natural Communities, Plant Species, and Animal Species
  - Wetlands and Other Waters of the United States
  - Threatened and Endangered Species
  - Invasive Species

4.2.6.3 Adverse Effects on Human Beings

Checklist Question: XVIII(c)

The Build Alternatives, when combined with other cumulative projects, would potentially contribute to cumulative impacts for some environmental topics as described above. The Build Alternatives also have the potential to result in substantial adverse effects on human beings, particularly as a result of the significant unavoidable impacts described earlier. While not specifically affecting humans, these impacts would change the environment, which could be perceived by some humans as a substantial adverse impact on humans.

4.3 Climate Change

4.3.1 Checklist Question: VII

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases (GHGs), particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization's in 1988, has led to increased efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs related to human activity that include carbon dioxide (CO_2), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s,s,s,2 –tetrafluoroethane), and HFC-152a (difluoroethane).

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas (GHG) Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts due to climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).[1]

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States (U.S.) is electricity generation followed by transportation. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower GHG fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively. The following regulatory setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

4.3.1.1 Regulatory Setting

State

With the passage of several pieces of legislation including State Senate and Assembly Bills and Executive Orders, California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level.

[1] http://climatechange.transportation.org/ghg_mitigation/

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (AB 1493), 2002: Requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year. In June 2009, the U.S. Environmental Protection Agency (U.S. EPA) Administrator granted a Clean Air Act waiver of preemption to California. This waiver allowed California to implement its own GHG emission standards for motor vehicles beginning with model year 2009. California agencies will be working with Federal agencies to conduct joint rulemaking to reduce GHG emissions for passenger cars model years 2017-2025.

Executive Order S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

AB32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

Executive Order S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this Executive Order, the carbon intensity of California's transportation fuels is to be reduced by at least ten percent by 2020.

Senate Bill 97 (Chapter 185, 2007): Required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the State CEQA Guidelines for addressing greenhouse gas emissions. The Amendments became effective on March 18, 2010.

Federal

Although climate change and GHG reduction is a concern at the federal level; currently there are, no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514 – Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also direct federal agencies to participate in the interagency Climate Change Adaptation Task Force, which is engaged in developing a U.S. strategy for adaptation to climate change.

On April 2, 2007, in Massachusetts v. EPA, 549 U.S. 497 (2007), the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act and that the U.S. EPA has the authority to regulate GHG. The Court held that the U.S. EPA Administrator must determine whether or not emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

On December 7, 2009, the U.S. EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator found that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding**: The Administrator found that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

Although these findings did not themselves impose any requirements on industry or other entities, this action was a prerequisite to finalizing the U.S. EPA's *Proposed Greenhouse Gas Emission Standards for Light-Duty Vehicles*, which was published on September 15, 2009.[1] On May 7, 2010 the final *Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards* was published in the Federal Register.

[1] http://www.epa.gov/climatechange/endangerment.html.

U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations. These steps were outlined by President Obama in a memorandum on May 21, 2010.[1]

The final combined U.S. EPA and NHTSA standards that make up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon (MPG) if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards will cut GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and greenhouse gas standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

4.3.1.2 Project Analysis

Short-Term Construction-Related Impacts

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the

[1] http://epa.gov/otaq/climate/regulations.htm.

GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) Road Construction Emissions Model, Version 6.3.2, was used to estimate the CO_2 emissions from a peak day during each of the expected construction phases. Table 4.1 lists these peak-day emissions rates.

Table 4.1 Short-Term Construction Emissions

Project Phases	CO_2 (lbs/day)
Grubbing/Land Clearing	34,200
Grading/Excavation	63,800
Drainage/Utilities/Sub-Grade	18,200
Paving	13,000
Maximum (lbs/day)	63,800
Total (tons/construction project)	26,700

Source: Riverside County Transportation Commission (2011) and the SMAQMD Road Construction Emissions Model, Version 6.3.2 (November 2011).
Notes: Project Start Year = 2013
Project Length = 60 months
Total Project Area = 165 acres
Maximum Area Disturbed/Day = 20 acres
Total Soil Imported/Exported = 4,000 cy/day
CO_2 = carbon dioxide
cy/day = cubic yards per day
lbs/day = pounds per day
SMAQMD = Sacramento Metropolitan Air Quality Management District

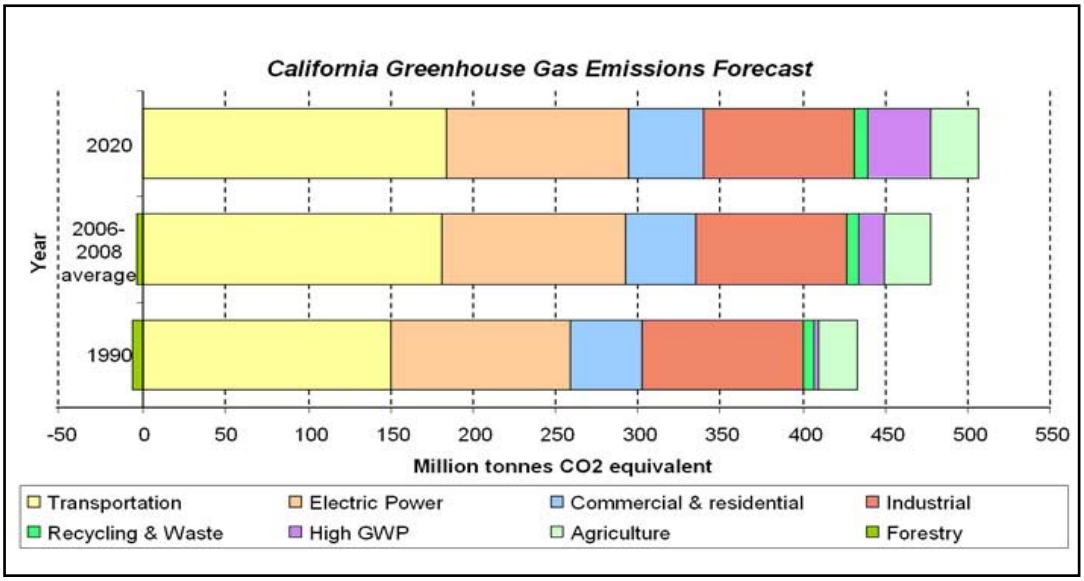
While the quantitative analysis shown above was conducted for purposes of better informing project decisions, it is important to note that the CO_2 emissions numbers are only useful for a comparison between construction of the SR-91 CIP and construction of other roadway projects. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be because CO_2 emissions are dependent on other factors that are not part of the model, such as the fuel mix (EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), load factor, and the efficiency of the vehicles.

Long-Term Impacts

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of

GHG.[1] In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(h)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

The AB 32 Scoping Plan contains the main strategies California will use to reduce GHG. As part of its supporting documentation for the Draft Scoping Plan, CARB released the GHG inventory for California (Forecast last updated: 28 October 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008. The California GHG forecast is shown in Figure 4-1.



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm

Figure 4-1 California Greenhouse Gas Forecast

[1] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the SCAQMD (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans that was published in December 2006 (see Climate Action Program at Caltrans (December 2006).[1]

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of CO_2 from mobile sources, such as automobiles, occur at stop-and-go speeds (0–25 mph) and speeds over 55 mph; the most severe emissions occur from 0–25 mph (see Figure 4-2). To the extent that a project relieves congestion by enhancing operations and improving travel times in high congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

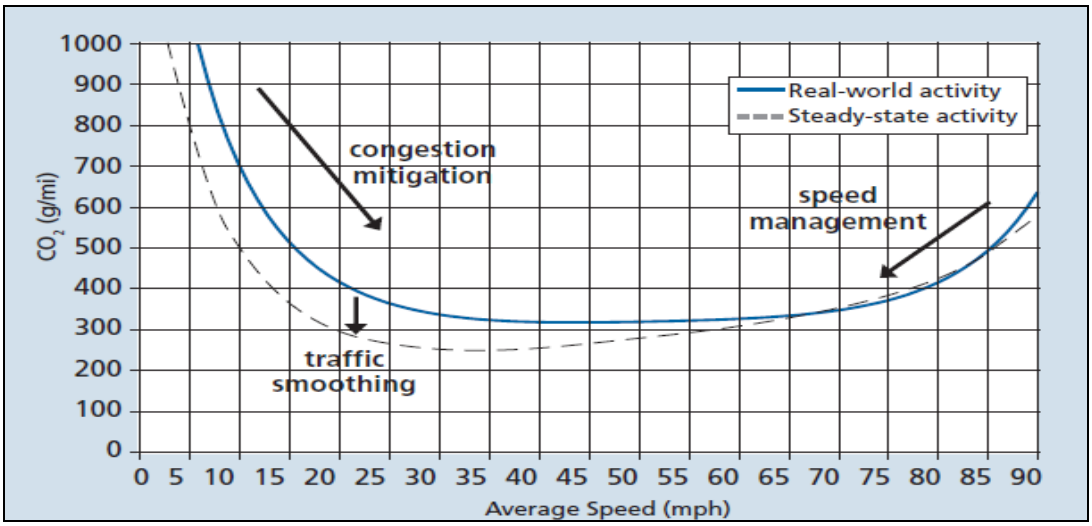


Figure 4-2 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emission[2]

1 Caltrans Climate Action Program is located at the following web address: http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

2 Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010) <http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>

The purpose of the project is to address existing and projected deficiencies regarding mobility, access, goods movement, and freeway capacity within the project segments of SR-91. The project will not generate new vehicular traffic trips since it will not construct new homes or businesses. However, there is a possibility that some traffic currently utilizing other routes would be attracted to use the new facility, thus resulting in slight increases in VMT. The impact of GHG emissions is a global rather than a local issue. However, due to lack of global models for project-level analyses, the impact of the Build Alternatives on GHG emissions was calculated using traffic data for the project region.

Table 4.2 lists the estimated daily CO2 emissions associated with the vehicle trips for each SR-91 CIP Build Alternative in the SR-91 CIP study area and SCAG region for 2015 and 2035. These emissions are based on emissions factors from the EMFAC2007 model for the various years specified (2008 for Baseline/Existing [2007]). As shown in Table 4.2, the SR-91 Build Alternatives would result in a slight decrease in CO_2 emissions (i.e., up to a 4.4 percent decrease by 2035 under Alternative 2) in the SR-91 CIP study area compared to the No Build Alternative.

Table 4.2 SR-91 CIP Study Area and SCAG Region CO_2 Emissions

Alternative	VMT	VHT	CO_2 Emissions (tons/day)			Percent Change from No Build
			Auto	Truck	Total	
SR-91 CIP Study Area						
Baseline/Existing (2007)	11,003,152	334,688	3,650	1,180	4,830	N/A
2015 No Build	13,671,088	446,546	4,690	1,720	6,410	N/A
2015 Alternative 1	13,894,035	437,352	4,680	1,670	6,350	-0.9%
2015 Alternative 2	13,889,079	428,063	4,600	1,600	6,200	-3.3%
2015 Alternative 2 Initial Phase	13,662,654	433,152	4,630	1,530	6,160	-3.9%
2035 No Build	16,824,059	583,945	5,960	2,160	8,120	N/A
2035 Alternative 1	16,928,339	571,919	5,860	2,080	7,940	-2.2%
2035 Alternative 2	16,984,946	562,795	5,760	2,000	7,760	-4.4%
SCAG Region						
Baseline/Existing (2007)	405,189,479	12,581,617	145,200	32,300	177,500	N/A
2015 No Build	475,317,065	15,386,962	169,300	42,100	211,400	N/A
2015 Alternative 1	475,217,556	15,369,936	169,300	42,000	211,300	0.0%
2015 Alternative 2	475,098,337	15,340,716	169,200	42,000	211,200	-0.1%
2015 Alternative 2 Initial Phase	475,119,071	15,384,975	169,300	41,900	211,200	-0.1%
2035 No Build	558,475,650	19,990,371	226,400	52,700	279,100	N/A
2035 Alternative 1	558,199,250	19,905,264	226,300	52,700	279,000	0.0%
2035 Alternative 2	558,409,584	19,904,436	226,400	52,600	279,000	0.0%

Source: LSA Associates, Inc. (2011).
CO_2 = carbon dioxide
N/A = not applicable
SCAG = Southern California Association of Governments
SR-91 CIP = State Route 91 Corridor Improvement Project
VHT = vehicle hours traveled
VMT = vehicle miles traveled

Additionally, in the SCAG region, the Build Alternatives would result in a slight decrease in CO_2 emissions in the short term (2015) and no change in the long term (2035). When the 2035 GHG emissions are compared to the Baseline/Existing (2007) conditions, there is a 3,000 ton/day increase in GHG emissions within the SR-91 region. This increase is due to regional growth that is independent of the project and that would therefore occur with or without the project. Therefore, implementation of either SR-91 CIP Build Alternative would not result in a substantial increase in CO_2 emissions compared to the No Build Alternative.

As the proposed project would improve an existing facility, there would be no substantial change in the long-term non-traffic-related emissions. The landscaped area within the project vicinity would be similar to or less than under the existing conditions. Therefore, the amount of water required for irrigation is not projected to increase. Any new or replacement lighting would be of higher efficiency, such as light emitting diode (LED), than the lighting currently in use. Therefore, the electricity consumption is not projected to increase.

While the quantitative analysis discussed above was conducted for purposes of better informing project decisions, it is important to note that the CO_2 emissions numbers are only useful for a comparison between alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions would be because CO_2 emissions are dependent on other factors that are not part of the model, such as the fuel mix (EMFAC model emission rates are only for direct engine-out CO_2 emissions, not full fuel cycle; fuel cycle emission rates can vary dramatically depending on the amount of additives like ethanol and the source of the fuel components), rate of acceleration, and the aerodynamics and efficiency of the vehicles.

4.3.1.3 Time and Efficiency Enhancement of the Project

As discussed in Chapter 1, the purpose of and need for the project address a variety of regional goals. These goals include greater efficiency along the corridor, resulting in reduced travel times. Table 4.3 summarizes SR-91 corridor travel times and speeds under Baseline/Existing (2007), 2015, and 2035 conditions based on peak direction of travel (i.e., westbound in the a.m. peak hour and eastbound in the p.m. peak hour). The travel time and speed comparison of all the Build Alternatives reveals that the a.m. peak-hour westbound travel time through the SR-91 corridor increases by 8 minutes from existing conditions to the No Build Alternative in 2015, and by approximately 15 minutes (or an increase of over 50 percent) from existing conditions

to the 2035 No Build Alternative in 2035. In the eastbound direction for the p.m. peak hour, an increase of 35 minutes in travel time from existing conditions to the No Build Alternative in 2015 is projected, and an 86-minute travel time (an increase of 42 minutes from existing conditions, a 95 percent increase in travel time) is projected along the SR-91 corridor from existing to the No Build Alternative in 2035.

HOV/express lane travel times increase substantially under the No Build Alternative in the future over existing conditions. Due to increased congestion, the HOV lanes in Riverside County are experiencing increased levels of congestion as mainline congestion increases. The a.m. peak-hour westbound corridor speeds in the HOV lanes decrease to approximately 38 mph and 27 mph from the existing 57 mph under existing conditions for the No Build Alternative in 2015 and 2035, respectively.

Existing p.m. peak-hour eastbound corridor speeds in the HOV lanes are low at 23 mph, and this degrades further to approximately 17 and 15 mph under the No Build Alternative in 2015 and 2035, respectively.

Table 4.3 SR-91 Corridor Travel Time Summary

Lanes	Existing	2015				2035		
		No Build	Alt 1	Alt 2	Alt 2 Initial Phase	No Build	Alt 1	Alt 2
SR-91 Westbound (AM Peak Hour)								
Travel Time (min)								
General-Purpose	28.5	36.1	30.7	28.9	32.6	43.2	36.6	37.3
HOV/Express	12.1	18.4	15.5	13.1	12.0	25.9	23.5	12.6
Travel Speed (mph)								
General-Purpose	24.2	19.1	22.5	23.8	21.2	16.0	18.9	18.5
HOV/Express	56.8	37.5	44.4	52.8	57.3	26.6	29.4	55.0
SR-91 Eastbound (PM Peak Hour)								
Travel Time (min)								
General-Purpose	44.0	79.1	66.3	63.7	70.6	86.4	73.3	73.7
HOV/Express	30.0	39.7	31.2	13.0	12.5	47.0	48.1	13.8
Travel Speed (mph)								
General-Purpose	15.7	8.7	10.4	10.8	9.8	8.0	9.4	9.4
HOV/Express	23.0	17.4	22.1	53.0	55.0	14.7	14.4	50.0

Source: Speed Surveys, RCTC Model.
Alt = Alternative
HOV = high-occupancy vehicle
min = minutes
mph = miles per hour
RCTC = Riverside County Transportation Commission
SR-91 = State Route 91

Alternative 1, which adds a GP lane between SR-241 and Pierce Street, improves travel times and speeds compared to the No Build Alternative in 2015 and 2035. The a.m. peak-hour westbound GP lanes for Alternative 1 experience a 15 percent improvement compared to the No Build Alternative, and this 15 percent improvement

holds for 2035 conditions. The p.m. peak-hour eastbound GP lanes experience a similar improvement over the No Build Alternative.

Alternative 2 would provide additional travel time savings through the SR-91 corridor, specifically on the express lanes. While the mainline travel times drop from the No Build Alternative, there is a slight increase from Alternative 1. This is a result of the redistribution of traffic in the SR-91 corridor due to implementation of the express lanes in Alternative 2. While some traffic shifts out of the existing HOV lane into the GP lanes, more overall traffic is attracted to the corridor due to the increased capacity of the facility from implementation of the dual express lanes in each direction. Under the 2035 Alternative 2 conditions, the most substantial improvement is in the express lanes, where the a.m. peak-hour westbound travel time of 12.6 minutes with a speed of 55 mph is reduced to almost the existing travel time (i.e., 12.1 minutes with a speed of 57 mph). The eastbound p.m. peak-hour travel time under the 2035 Alternative 2 conditions is reduced from existing conditions on the HOV lane (i.e., 30 minutes with a speed of 23 mph) to 13.8 minutes with a speed of 50 mph. Therefore, a substantial improvement in travel time is experienced with Alternative 2.

In addition to reducing travel time, the project would also reduce VHT in the project area. Although the project may result in a net increase in VMT, the CO_2 emissions would be reduced due to the reduction in VHT and the improved traffic flow. In most cases, because motor vehicles produce more exhaust per mile at slower speeds and this project would reduce traffic slow-downs, the effect should be to reduce emissions per mile as well as reducing exposure of the population to toxic constituents from vehicle exhaust. Therefore, the added benefit from reduced travel time is an overall reduction in air emissions under Alternatives 1 and 2 and their design variations.

4.3.1.4 Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the

GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

As discussed below in Section 4.3.1.6, idling times would be restricted to 10 minutes in each direction for passenger cars during lane closures and 5 minutes for construction vehicles. Restricting idling times reduces harmful emissions from passenger cars and diesel-powered construction vehicles.

4.3.1.5 CEQA Conclusion

As discussed above, CO_2 emissions are projected to increase over existing levels in both the No Build and Build conditions. The Department does, however, anticipate a reduction in GHG emissions in the horizon years (2015 and 2035) with the project when compared to the horizon years (2015 and 2035) without the project.

Construction of the proposed project would generate up to 26,700 tons of CO_2. Implementing the proposed project is expected to reduce the long-term vehicle emissions CO_2 per day within the SR-91 CIP region as well as within the SCAG region. Therefore, the short-term construction emissions would be offset by the long-term emission reductions

Based on the above, it is the Department's determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding the direct impact of the project and its contribution on a cumulative scale to climate change. The Department is taking further measures to help reduce energy consumption and GHG emissions throughout the State.

4.3.1.6 Greenhouse Gas Reduction Strategies

AB 32 Compliance

The Department continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to

do this while accommodating growth in population and the economy. A suite of investment options has been created that combined together are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 4-3: The Mobility Pyramid.

The Department is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority.

Figure 4-3 Mobility Pyramid

The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; the Department is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by U.S. EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

Table 4.4 summarizes the Department and statewide efforts that it is implementing in order to reduce GHG emissions. More detailed information about each strategy is included in the Climate Action Program at Caltrans (December 2006).

To the extent that it is applicable or feasible for the project and through coordination with the project development team, the following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. Landscaping reduces surface warming, and through photosynthesis, decreases CO_2. Landscaping would be provided where necessary within the corridor to provide aesthetic treatment, replacement planting, or mitigation planting for the project. The landscape planting would help offset any potential CO_2 emissions increase.
2. The project would incorporate the use of energy-efficient lighting, such as LED traffic signals, to the extent feasible. LED bulbs—or balls, in the stoplight vernacular—cost $60 to $70 apiece but last 5 to 6 years, compared to the 1-year average lifespan of the incandescent bulbs previously used. The LED balls themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project's CO_2 emissions.[1]
3. According to Caltrans Standard Specification Provisions, idling time for lane closure during construction is restricted to 10 minutes in each direction. In addition, the contractor must comply with Title 13, California CCR Section 2449(d)(3) was adopted by the ARB on June 15, 2008. This regulation restricts idling of construction vehicles to no longer than 5 consecutive minutes. Compliance with this regulation reduces harmful emissions from diesel-powered construction vehicles.

4.3.1.7 Adaptation Strategies

"Adaptation strategies" refer to how the Department and others can plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the

[1] Knoxville Business Journal, "LED Lights Pay for Themselves," May 19, 2008 at http://www.knoxnews.com/news/2008/may/19/led-traffic-lights-pay-themselves/.

Table 4.4 Climate Change/CO_2 Reduction Strategies

Strategy	Program	Partnership		Method/Process	Estimated CO_2 Savings (MMT)	
		Lead	Agency		2010	2020
Smart Land Use	Intergovernmental Review (IGR)	Caltrans	Local Governments	Review and seek to mitigate development proposals	Not Estimated	Not Estimated
	Planning Grants	Caltrans	Local and regional agencies & other stakeholders	Competitive selection process	Not Estimated	Not Estimated
	Regional Plans and Blueprint Planning	Regional Agencies	Caltrans	Regional plans and application process	0.975	7.8
Operational Improvements & Intelligent Trans. System (ITS) Deployment	Strategic Growth Plan	Caltrans	Regions	State ITS; Congestion Management Plan	0.07	2.17
Mainstream Energy & GHG into Plans and Projects	Office of Policy Analysis & Research; Division of Environmental Analysis	Interdepartmental effort		Policy establishment, guidelines, technical assistance	Not Estimated	Not Estimated
Educational & Information Program	Office of Policy Analysis & Research	Interdepartmental, CalEPA, CARB, CEC		Analytical report, data collection, publication, workshops, outreach	Not Estimated	Not Estimated
Fleet Greening & Fuel Diversification	Division of Equipment	Department of General Services		Fleet Replacement B20 B100	0.0045	0.0065 0.045 0.0225
Non-vehicular Conservation Measures	Energy Conservation Program	Green Action Team		Energy Conservation Opportunities	0.117	0.34
Portland Cement	Office of Rigid Pavement	Cement and Construction Industries		2.5% limestone cement mix 25% fly ash cement mix > 50% fly ash/slag mix	1.2 0.36	4.2 3.6
Goods Movement	Office of Goods Movement	CalEPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					**2.72**	**18.18**

transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat, increasing storm damage from flooding and erosion, and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the White House CEQ, the Office of Science and Technology Policy (OSTP), and the NOAA, released its interagency report October 14, 2010, outlining recommendations to President Obama for how federal agency policies and programs can better prepare the United States to respond to the impacts of climate change. The Progress Report of the Interagency Climate Change Adaptation Task Force recommends that the federal government implement actions to expand and strengthen the nation's capacity to better understand, prepare for, and respond to climate change.

Climate change adaption must also involve the natural environment as well. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed EO S-13-08, which directed a number of State agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

The California Natural Resources Agency (Resources Agency) was directed to coordinate with local, regional, State, and federal public and private entities to develop the California Climate Adaptation Strategy (Dec 2009),[1] which summarizes the best known science on climate change impacts to California, assesses California's vulnerability to the identified impacts, and then outlines solutions that can be implemented within and across state agencies to promote resiliency.

The strategy outline is in direct response to EO S-13-08, which specifically asked the Resources Agency to identify how State agencies can respond to rising temperatures,

[1] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF.

changing precipitation patterns, sea level rise, and extreme natural events. Numerous other State agencies were involved in the creation of the California Climate Adaptation Strategy document, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continue to be developed and collected, the State's adaptation strategy will be updated to reflect current findings.

The Resources Agency was also directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010[1] to advise how California should plan for future sea level rise. The report is to include:

- Relative sea level rise projections for California, Oregon, and Washington, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- The range of uncertainty in selected sea level rise projections;
- A synthesis of existing information on projected sea level rise impacts to State infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems; and
- A discussion of future research needs regarding sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all State agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge, and storm wave data.

Until the final report from the National Academy of Sciences is released, interim guidance has been released by The Coastal and Ocean Resources Working Group for the Climate Action Team (CO-CAT) as well as the Department as a method to initiate action and discussion of potential risks to the State's infrastructure due to projected sea level rise. All projects that have filed a Notice of Preparation, and/or are

[1] The Sea Level Rise Assessment report is currently due to be completed in 2012 and will include information for Oregon and Washington as well as California.

programmed for construction funding from 2008 through 2013, or are routine maintenance projects as of the date of EO S-13-08 may, but are not required to, consider this interim guidance. The Notice of Preparation for the SR-91 CIP was filed in 2008. Therefore, the proposed project does not have to consider these planning guidelines.

Furthermore EO S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess the vulnerability of transportation systems to sea level that affect safety, maintenance, and operational improvements of the system, and economy of the State. The Department continues to work on assessing the transportation system vulnerability to climate change, including the effect of a rise in sea level.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able to review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment, which is due to be released in 2012.

4.4 Mitigation Measures for Significant Impacts Under CEQA

The measures incorporated in Alternatives 1 and 2 and their design variations to address the adverse impacts of those alternatives are described in detail in Chapter 3 and in Appendix E, Environmental Commitments Record, and are summarized in Tables S.3 and S.4 in the Executive Summary.

This page intentionally left blank

Chapter 5 Comments and Coordination

5.1 Introduction

Early and continuing coordination with the general public and appropriate public agencies involved in the project is an essential part of the environmental process to determine the scope of environmental documentation, the level of analysis, potential impacts and mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including monthly PDT meetings, interagency coordination meetings, resource agency meetings, and consultation with interested parties. This chapter summarizes the results of the Department's and RCTC's efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

5.2 Consultation and Coordination with Agencies

5.2.1 Consultation and Coordination with Cooperating and Participating Agencies

Section 6002 of SAFETEA-LU requires preparation of a coordination plan for the project. The *Final SAFETEA-LU 6002 Coordination Plan* for the project documents the coordination of public and agency participation and comments received during the environmental review process. It is the responsibility of the lead agencies to develop the coordination plan to facilitate and document the interaction between the lead agencies and participating and cooperating agencies and the public.

The Department sent letters inviting agencies to be Cooperating and/or Participating Agencies in the environmental process for the project in August 2008. Participating Agencies are federal, State, regional, or local agencies that may have an interest in the project. The following agencies agreed to become Participating Agencies for the project:

- United States Environmental Protection Agency (EPA) Region IX
- United States Fish and Wildlife Service (USFWS)
- United States Army Corps of Engineers (Corps)
- Southern California Association of Governments (SCAG)
- South Coast Air Quality Management District (SCAQMD)
- Transportation Corridor Agencies (TCA)

- Orange County Transportation Authority (OCTA)
- Riverside County Transportation Department
- City of Corona
- City of Riverside
- Riverside County Flood Control and Water Conservation District (RCFC&WCD)

Cooperating Agencies are federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative. Cooperating Agencies are also Participating Agencies. The Corps accepted the invitation to be a Cooperating Agency for the project.

The Department sent 12 additional letters inviting agencies to be Cooperating and/or Participating Agencies in the environmental process for the project on May 17, 2010.

In an added effort to increase participation, letters were sent to the following nine additional agencies on June 22, 2010, inviting them to become participating agencies:

- SCAQMD
- SCAG
- Corona-Norco Unified School District
- City of Yorba Linda
- City of Norco
- City of Anaheim
- Riverside County Transportation Department
- RCFC&WCD
- Orange County Flood Control District (OCFCD)

In response to this invitation, SCAG, SCAQMD, and the Riverside County Transportation Department agreed to become participating agencies in the environmental process for the project.

The following agencies received packages that included the *Draft SAFETEA-LU 6002 Coordination Plan*, draft purpose and need, and draft range of alternatives for their review and comment:

- EPA
- USFWS
- Corps

- SCAG
- SCAQMD
- TCA
- OCTA
- Riverside County Transportation Department
- City of Corona
- City of Riverside
- RCFC&WCD

The Department, as the Lead Agency, specifically requested the Participating and Cooperating Agencies to provide comments and input on the following:

- Project purpose and need
- Pertinent information about environmental and socioeconomic resources in the area, including identification of resources located in the project area and within the general vicinity of alternatives
- Proposed range of alternatives
- Proposed methodologies for analyzing project effects

The letters from those agencies are provided in Attachment 5.A, Letters from Cooperating and Participating Agencies, which follows the last page of text in this chapter. The issues and input in those letters are summarized in Table 5.1 by agency.

5.2.2 Consultation and Coordination with Public Agencies

This section describes consultation and coordination with public agencies, including some of the Cooperating and Participating Agencies described above. Table 5.2 summarizes the SR-91 CIP project meetings, discussion topics, and the participants at those meetings. Meetings held to discuss specific environmental resources are described below.

5.2.2.1 Biological Resources Meetings

The USFWS was consulted regarding plant and animal species, and threatened and endangered species. A list of species was supplied by the USFWS and is provided in Appendix I, USFWS Species List.

Table 5.1 Summary of Input from Cooperating and Participating Agencies

Agency	Summary of Input/Issues
United States Environmental Protection Agency (EPA)	• Purpose and need for the project • Independent utility of the project • Range of alternatives, including transit, TSM, TDM • Methodologies • MSATs • Waters of the United States • Measures to avoid and minimize impacts to water resources • Compensatory mitigation • GHG emissions and sustainable communities strategies • Section 6002 coordination for future projects (purpose and need, range of alternatives, coordination plan, methodologies, participating agency coordination meetings)
United State Army Corps of Engineers (Corps)	• Jurisdictional delineation of waters of the United States; refer to Attachment 5.A for correspondence from the Corps regarding the jurisdictional delineation • Describe range of alternatives • Impacts to waters of the United States • Permit application prior to the FEIS • Project purpose and need • Independent utility and logical termini • MIS process/other alternative analysis studies • Project description: drainage facilities for wildlife movement • Section 404(b)(1) practicable alternatives • Draft mitigation plan in the FEIS • Compensatory mitigation • Flood risks/changes in floodplains • Use of federally-owned land in the Prado Basin • Balance of project purpose and public interest
Southern California Association of Governments (SCAG)	• Looks forward to continued coordination with the Department on this project.
Orange County Transportation Authority (OCTA)	• Proposed changes to the Coordination Plan • Proposed changes to the project description • Proposed changes to the project purpose and need
Transportation Corridor Agencies (TCA)	• Interest related to the TCA's SR-241/SR-91 Express Lane direct connector project • Cumulative/related projects in Santa Ana Canyon • Coordination between the connector project and SR-91 CIP • Proposed changes to the project purpose and need • Proposed changes to the project description
Riverside County Flood Control and Water Conservation District (RCFC&WCD)	• Potential impacts to RCFC&WCD facilities • Responsible agency under CEQA for changes to RCFC&WCD facilities • List of RCFC&WCD facilities that may be affected by the project

Table 5.1 Summary of Input from Cooperating and Participating Agencies

Agency	Summary of Input/Issues
	• Compliance with regional land use planning programs including the Western Riverside County MSHCP
South Coast Air Quality Management District (SCAQMD)	• Concern regarding potentially significant air quality and health risks • Request to be on project mailing list
County of Riverside Transportation and Land Management Agency	• Agreed to be Participating Agency
City of Corona	• No comments on the Coordination Plan • Comments on the project purpose and need • No comments on the project description

Source: *SAFETEA-LU 6002 Coordination Plan State Route 91 Corridor Improvement Project* (2011).
CEQA = California Environmental Quality Act
CIP = Corridor Improvement Project
Corps = United States Army Corps of Engineers
Department = California Department of Transportation
EPA = United States Environmental Protection Agency
FEIS = Final Environmental Impact Statement
GHG = greenhouse gas
MIS = Major Investment Study
MSATs = Mobile Source Air Toxics
MSHCP = Multiple Species Habitat Conservation Plan
OCTA = Orange County Transportation Authority
RCFC&WCD = Riverside County Flood Control and Water Conservation District
SAFETEA-LU = Safe, Accountable, Flexible, Efficient Transportation Act: a Legacy for Users
SCAG = Southern California Association of Governments
SCAQMD = South Coast Air Quality Management District
SR-241 = State Route 241
SR-91 = State Route 91
TCA = Transportation Corridor Agencies
Transportation Demand Management (TDM)
Transportation Systems Management (TSM)

Table 5.2 SR-91 CIP Meeting Summaries

Meeting Date	Meeting	Description	Participants
06/19/07	Riverside County – Orange County CETAP Corridors Project teleconference	Teleconference meeting: discussion of the MIS, comments from agencies on the MIS, improvements to SR-91, and the future of Corridor B	15 participants: federal, State, and local Agencies, and project team members
03/25/08	SR-91 CIP SAC Meeting #1	Meeting comments and concerns included right-of-way acquisition, adding only one or two lanes to manage future traffic needs, planning of elevated lanes, coordination between Counties, level of service as a result of the project, regional projects and SR-91 CIP, reversible engineering options on SR-91, MIS information on website, high-occupancy/toll lanes, and connectors to SR-241 and SR-71	56 participants: elected officials' representatives; federal, State, and local agencies; resource agencies, and project team members
03/31/08	SR-91 CIP Coordination Meeting with The Irvine Company	Meeting discussion: project overview, process to access The Irvine Company property, and environmental surveys and documentation	10 participants: The Irvine Company and project team members
04/08/08	SR-91 CIP Coordination Meeting with State Parks	Meeting discussion: coordination with State Parks, technical studies and Right-of-Entry Permit, and identification of Section 6(f) resources	22 participants: State Parks personnel and project team members
04/14/08	SR-91 CIP Technical Report Kickoff Meeting with the Department District 8 Environmental	Meeting discussion: technical reports summary, project schedule, MIS study information	24 participants: Department personnel, project technical report authors, and project team members
05/28/08	SR-91 CIP SAC Meeting #2	Meeting discussion: public opinion survey, the project's environmental and scoping processes, and information on the future scoping meeting	42 participants: elected officials' representatives; federal, State, and local agencies; resource agencies; and project team members
08/12/08	Resource Agency Scoping Meeting	Meeting discussion: project overview, the proposed project, the Santa Ana River, Wardlow Wash, Section 404 and Section 7 Permits	26 participants: federal and State resource agencies, Department personnel, and project team members
08/27/08	SR-91 CIP SAC Meeting #3	Meeting discussion: public scoping meeting summary, traffic study update, SR-91/71 project update, information on the public outreach meeting	39 participants: elected officials' representatives; federal, State, and local agencies; resource agencies; and project team members
09/10/08	SR-91, SAR Reach 9, and SARI Project Coordination Meeting #1	Meeting discussion: The SAR Reach 9 Project and SARI Project overviews and updates, proposed project overview and update, the Eastbound Lane Addition Project, the Santa Ana River, and water quality and drainage design for the proposed project	27 participants: local agencies, Department personnel, and project team members
09/16/08	SR-91 CIP (PA&ED Phase) PDT Meeting #12	Meeting discussion: project update, and Green River Area slope stability issues	27 participants: local agencies, Department personnel, and project team members
09/25/08	SR-91 CIP Natural Resources Coordination Meeting	Meeting discussion: SR-91/71 Project overview, wildlife corridor issue summary, biological resources, environmental compliance with habitat plan and anticipated permits	18 participants: federal and State agencies, Department personnel, and project team members
11/05/08	SR-91 CIP (PA&ED Phase) SWDR Coordination Meeting with the Santa Ana RWQCB	Meeting discussion: SR-91 CIP overview, SWDR Design Criteria, report outline and schedule, Conceptual Hydrology Study Report outline, Drainage Concept Plan Report outline and schedule, Floodplain Evaluation and Water Quality Report status	22 Participants: Department personnel, and project team members

Table 5.2 SR-91 CIP Meeting Summaries

Meeting Date	Meeting	Description	Participants
01/13/09	SR-91 CIP, SAR Reach 9, and SARI Project Coordination Meeting #2	Meeting discussion: Overviews of the SAR Reach 9 and SARI Projects and updates, SR-91 CIP overview and update, SR-91 CIP and the Santa Ana River, Green River Road, and the water quality and drainage update	39 participants: federal and local agencies, Department personnel, and project team members
02/19/09	SR-91 CIP MAR Focus Meeting	Meeting discussion: the MAR and non-standard features to be approved by FHWA prior to Draft ED circulation	Information on the participants is not available
03/03/09	SR-91 CIP Public Information Meeting No. 1	16 meeting feedback forms were collected during meeting. Comments included: the meeting was informative; the display boards were helpful; most comments stated their questions were answered but some felt there was more information they needed to know about the project, and most had not looked at the SR-91 Project website	60 participants: elected officials' representatives, local agencies, local media, local business owners, members of the general public, and project team members
03/17/09	SR-91 CIP (PA&ED Phase) OCTA Meeting #1	Meeting discussion: project status, schedule and public outreach, geometrics and construction staging concepts, and open discussion	11 participants: OCTA personnel and project team members
03/24/09	SR-91 CIP, SAR Reach 9, and County Coordination Meeting #1	Meeting discussion: overviews of the SAR Reach 9 and SARI Projects and updates, SR-91 CIP overview and update, SR-91 CIP and the Santa Ana River, Green River Road, utilities relocations, SR-91 CIP water quality and drainage update and the SR-91/71 Interchange project	20 participants: Orange and Riverside Counties personnel and project team members
05/28/09	SR-91 CIP (PA&ED Phase) OCTA Meeting #2	Meeting discussion: project status, schedule and public outreach, geometrics and construction staging concepts, OCTA/RCTC Coordination/Cooperative Agreement, toll and revenue analysis, and cost estimate	10 participants: OCTA personnel and project team members
06/09/09	Formal Section 4(f) Consultation Meeting #1	Meeting discussion: initiation of formal Section 4(f) consultation with agencies	20 participants: State Parks, USFS, NPS personnel, local agencies, and project team members
06/18/09	Focused Section 4(f) Consultation Meeting with USFWS	Meeting discussion: initiation of formal Section 4(f) consultation with USFWS	6 participants: USFWS personnel and project team members
07/01/09	SR-91 CIP (PA&ED Phase) Norco Meeting #1	Meeting discussion: SR-91 CIP overview and update, Build Alternatives, PA&ED and design/build phases, construction staging, public outreach, project schedule, and open discussion	9 participants: City of Norco personnel and project team members
08/04/09	Section 4(f) Consultation Meeting with OC Parks	Meeting discussion: SR-91 CIP overview, Section 4(f) consultation requirements, and open discussion. Comments provided included: the Orange County Department of Public Works personnel are working with the City of Anaheim, The Irvine Company and the Department District 12 to develop the proposed Gypsum Canyon Trail; the SARI project will start construction in 2010 and is anticipated to be complete by mid-2013; a question on who will maintain the parking area on Green River Road for the Santa Ana	8 participants: OC Parks and Orange County Department of Public Works personnel and project team members

Table 5.2 SR-91 CIP Meeting Summaries

Meeting Date	Meeting	Description	Participants
		River Trail/Bike Lane. OC Parks personnel suggested that buses be used to transport pedestrians and bicyclists from the temporary parking lot for the Santa Ana River Trail/Bike Lane during trail closure for SR-91 CIP construction; that the team consider relocating the Sana Ana River Trail/Bike Lane to the north so that the trail would not be closed during construction, and that OC Parks does not support temporary closure of the Santa Ana River Trail/Bike Lane as part of the project	
09/22/09	TCWG	Meeting discussion: RTIP and RTP updates, Draft Conformity Analysis for the 2010 RTP Amendment #2 and 2011 RTIP Consistency Amendment #08-24, SB 375 update, EPA update, and the Air Districts' update	18 participants: federal, State, and local agencies; Department personnel; and project team members
11/05/09	Environmental Strategy Meeting	Meeting discussion: SR-91 CIP and SR-71/SR-91 project overviews, impacted State Park lands, discussion of mitigation costs to the agencies, update on the Golf Course Feasibility Study, OCTA NCCP/HCP and schedule, joint mitigation with partnering agencies, upcoming Section 7 consultation meeting, and a follow-up meeting	19 participants: County of Orange and OCTA personnel, a Green River Golf Club representative, and project team members
12/10/09	Natural Resources Coordination Meeting	Meeting discussion: SR-91 CIP and SR-71/SR-91 project overviews and impacts, discussion of mitigation requirements and opportunities, joint mitigation with partnering agencies	24 participants: State Parks, Corps, USFWS, CDFG, Orange County Public Works personnel, and project team members
12/21/09	Natural Resources Coordination Meeting	Meeting discussion: project overview, CDFG contacts for consultation, proposed mitigation opportunities and minimum mitigation, and future coordination of meetings	3 participants: CDFG and project team members
01/19/10	Resource Agency Mitigation Strategy Meeting	Meeting discussion: SR-91 CIP and SR-71/SR-91 overview of impacts and mitigation requirements, mitigation options and resource agencies' objectives for both projects	14 participants: Corps, USFWS, and CDFG personnel, and project team members
03/02/10	Biological Mitigation Coordination Meeting with the County of Orange	Meeting discussion: SR-91 CIP overview, biological mitigation needed, mitigation opportunities on Orange County lands and open discussion	11 participants: Orange County Flood Control and Public Works personnel, and project team members
04/19/10	Green River Road/SR-91/SR-71 Projects Meeting with the RCA	Meeting discussion: discussion of four projects in the vicinity of two wildlife crossings (PCL 1 and PCL 2) and the consideration of each project to modify (i.e., enhance) the wildlife crossings in the vicinity of Green River Road and SR-91 and strategies for the projects that affect PCL 1 and PCL 2	16 participants: CDFG, Corps, USFWS, and City of Corona personnel and project team members
05/24/10	Green River Road/SR-91/SR-71 Projects Meeting at RCA	Meeting discussion: independent consistency with the Western Riverside County MSHCP and wildlife crossings affected by the Green River Road, SR-71/SR-91 and the SR-91 CIP projects	15 participants: CDFG, USFWS, and City of Corona personnel and project team members
05/26/10	Field Meeting with State Parks and the SR-91/SR-71 Project Team	Meeting discussion: mitigation and restoration options	6 participants: State Parks personnel and project team members

Table 5.2 SR-91 CIP Meeting Summaries

Meeting Date	Meeting	Description	Participants
06/24/10	SR-91 CIP Coordination Meeting with the TCA and OCTA	Meeting discussion: SR-91/SR-241 toll connector, a third access auxiliary lane, TCA comments on the purpose and need and project description, and open discussion	14 participants: TCA and OCTA personnel and project team members
08/17/10	SR-91 CIP Agency Coordination Meeting	Meeting discussion: SR-91 Agency coordination efforts.	18 participants: representatives from corridor cities, Counties of Riverside and Orange, and project team members,
08/19/10	Wildlife Agencies and RCA Meeting	Meeting discussion: discussion on El Casco, Section 6 Grant Funds follow-up, Railroad Canyon/Franklin Street Interchange on I-15, a workshop, RMOC Steering Committee, CPUC briefing on a new project; RCTC to discuss I-215/Scott Road to Nuevo Road; SR-91 improvements and B Canyon mitigation options and the proposed criteria refinement	30 participants: USFWS and CDFG personnel, SCE and CPUC personnel and project team members
08/19/10	Green River Road/SR-91/SR-71 Projects Meeting at RCA	Meeting discussion: monthly wildlife agency and RCA meeting, discussion of incorporation of wildlife movement accommodations for the SR-91 and SR-71 projects, incorporation of an arch culvert near B Canyon, documentation of wildlife movement issues	9 participants: CDFG and USFWS personnel and project team members
08/26/10	Public Information Meeting No. 2	Meeting discussion: SR-91 CIP overview, alternatives, project schedule, and the environmental documentation process	280 participants: local agencies, elected officials' representatives, business owners, members of the general public, and project team members
07/21/11	SR-91 CIP Agency Coordination Wildlife Issues Meeting #3	This meeting was scheduled to discuss the schedule and approach for the formal Section 7 consultation and BO. Comments received from USFWS will be incorporated in the BA to reduce the consultation time period. It was also agreed that formal consultation could be initiated prior to the identification of the Preferred Alternative if the comprehensive project description covers both alternatives and clearly states the worst-case scenario.	8 participants: USFWS and project team members
08/11/11	SR-91 CIP Consultation with State Parks	RCTC and Department staff met with State Parks representatives to discuss the potential project effects at CHSP, the Section 4(f) and 6(f) processes, and consultation on Section 4(f) and 6(f). The discussion addressed needed revisions to include other preliminary alternatives, create a table of overall impacts at CHSP, and identify the planting palette and design changes at Coal Canyon because State Parks considers Coal Canyon to be a unique resource.	13 participants: Department, State Parks, and project team members
08/22/11	SR-91 CIP Consultation with Corps	RCTC and the Department met with Corps staff to discuss Corps' comments on the Draft EIR/EIS, including Purpose and Need, range of alternatives, and the LEDPA determination that will result from the Section 404(b)(1) Alternatives Analysis, and the proposed responses to those comments.	8 participants: Department, RCTC, Corps, and project team members

Table 5.2 SR-91 CIP Meeting Summaries

Meeting Date	Meeting	Description	Participants
10/05/11	SR-91 CIP Coordination with Corps	RCTC and their consultants met with Corps' staff via video conference to review jurisdictional delineation information.	4 participants: RCTC, Corps, and project team members
10/20/11	SR-91 CIP Coordination with State Parks	The Department, State Parks Headquarters, and CHSP staff met via telephone conference to discuss State Parks' comments on the draft L&WCF form for the possible conversion of Section 6(f) park land (RCTC and their consultants joined for the last part of the call).	15-20 participants: Department, RCTC, CHSP, State Parks Headquarters, and project team members
10/20/11	SR-91 Section 7 Consultation	The Department, USFWS, CHSP, and project team members met to review areas within CHSP that may provide opportunities for CAGN mitigation in the form of restoring CSS habitat. Following the field review, the Department and USFWS discussed proposed mitigation ratios that would be included in the Biological Opinion.	6 participants: Department, USFWS, CHSP, and project team members
11/01/11	SR-91 CIP Coordination with Corps	The Department, RCTC and their consultants met with Corps staff at the Prado Visitors Center to discuss the process and requirements of the Section 408 permit process.	15-20 participants: Department, RCTC, Corps, and project team members
11/03/11	SR-91 CIP Coordination with State Parks	The Department, State Parks Headquarters, and CHSP staff along with RCTC and their consultants met via telephone conference to continue discussion of the State Parks' comments on the draft L&WCF form for the possible conversion of Section 6(f) park land and to discuss follow-up actions with the NPS.	15-20 participants: Department, RCTC, CHSP, State Parks Headquarters, and project team members

ac = acres
BA = Biological Assessment
BO = Biological Opinion
CAGN = California gnatcatcher
CDFG = California Department of Fish and Game
CETAP = Community and Environmental Transportation Acceptability Process
CHSP = Chino Hills State Park
CIP = Corridor Improvement Project
Corps = United States Army Corps of Engineers
CPUC = California Public Utilities Commission
CSS = coastal sage scrub
Department = California Department of Transportation
EPA = United States Environmental Protection Agency
ESF = Environmental Screening Form
EIR = Environmental Impact Report
EIS = Environmental Impact Statement
FHWA = Federal Highway Administration
HCP = Habitat Conservation Plan
I-15 = Interstate 15
L&WCF = Land and Water Conservation Fund
LEDPA = Least Environmentally Damaging Practicable Alternative
MAR = Modified Access Report
MIS - Major Investment Study
MSHCP = Multiple Species Habitat Conservation Plan
NCCP = Natural Communities Conservation Plan
NPS = National Park Service
OC Parks = Orange County Parks
OCTA = Orange County Transportation Authority
PA&ED = Project Approval and Environmental Document
PCL = Proposed Constrained Linkage
PDT = Project Development Team
RCA = Regional Conservation Authority
RCTC = Riverside County Transportation Commission
RMOC = Reserve Management Oversight Committee
RTIP = Regional Transportation Improvement Program
RTP = Regional Transportation Plan
RWQCB = Regional Water Quality Control Board
SAC = Stakeholder Advisory Committee
SAR = Santa Ana River
SARI = Santa Ana River Interceptor
SCE = Southern California Edison
SR-241 = State Route 241
SR-71 = State Route 71
SR-91 = State Route 91
State Parks = State Parks Department
SWDR = Storm Water Data Report
TCA = Transportation Corridor Agencies
TCWG = Transportation Conformity Working Group
USFS = United States Forest Service
USFWS = United States Fish and Wildlife Service

The following meetings were held with the resource agencies noted in regard to biological resources in the project study area:

- **Resources Agency Scoping Meeting (August 12, 2008):** State Parks, USFWS, CDFG, Corps, and United States Forest Service (USFS) – CNF. The objective of this meeting was to coordinate with and obtain feedback from the resource agencies as part of the scoping process for the project.
- **Natural Resources Coordination Meeting (September 25, 2008):** State Parks, USFWS, CDFG, and the Corps. The objective of the meeting was to obtain feedback from the natural resource agencies (particularly State Parks) as part of the ongoing coordination efforts for the project.
- **Preliminary Section 7 Consultation Meeting (December 10, 2009):** State Parks, Corps, OCTA, CDFG, USFWS, and Orange County Public Works (OCPW). The objective of this meeting was to obtain input from the resource agencies on the preliminary mitigation for both the proposed project and the SR-71/SR-91 Interchange Improvement Project.
- **Natural Resources Coordination Meeting (December 21, 2009):** CDFG. The primary intent of this meeting was to meet with Ms. Leslie MacNair (CDFG) to provide background information on the project. In addition, Ms. MacNair was informed of the preliminary Section 7 Consultation process that had been initiated for the proposed project.
- **Resource Agency Mitigation Strategy Meeting (January 19, 2010):** Corps, USFWS, and CDFG. The intent of this meeting was to obtain input from the resource agencies on approaches for biological mitigation opportunities for the proposed project and the SR-71/SR-91 Interchange Improvement Project.
- **Biological Mitigation Coordination Meeting (March 2, 2010):** OCFCD and OCPW. The intent of this meeting was to discuss mitigation areas and acreages for the proposed project with the County of Orange.
- **Western Riverside County RCA Meeting (April 19, 2010):** RCA, CDFG, USFWS, Corps, and City of Corona. The purpose of the meeting was to discuss the process and strategy for moving forward with individual projects, including the proposed project, and their independent consistency with the Western Riverside County MSHCP, specifically the wildlife crossing consideration requirement of Section 7.5.2 of the Western Riverside County MSHCP.
- **Western Riverside County RCA Meeting (May 24, 2010):** RCA, CDFG, USFWS, and City of Corona. The purpose of this meeting was to discuss the process and strategy for moving forward with the individual projects, including

the proposed project, and their independent consistency with the Western Riverside County MSHCP. RCA asked for an update on the locations of the State right-of-way for SR-91. It was also discussed that there may only be TCEs near B Canyon instead of right-of-way acquisitions. The Department and RCTC provided detailed information on several concepts for modifying B Canyon to maximize the openness ratio. A total of six concepts for widening/opening the B Canyon crossings were reviewed in detail.

- **CHSP Field Meeting Regarding Mitigation Sites (May 26, 2010):** State Parks staff and consultant staff. A joint field meeting was held with the SR-71/SR-91 Interchange Improvement Project team to discuss mitigation opportunities with State Parks staff. The intent of the meeting included discussing the proposed project schedule and RCTC providing approximately $4.7 million in Transportation Enhancement funds. RCTC is willing to move forward with the B Canyon arch culvert concept that was previously shared with the group; there would need to be an administrative change to the Western Riverside County MSHCP to extend criteria cells and to identify B Canyon as a new linkage in place of Proposed Constrained Linkage 1. A follow-up meeting in the field near B Canyon was held on September 21, 2010.
- **Wildlife Agencies and Western Riverside RCA, and the Green River Road/ SR-91/SR-71 Projects and Western Riverside RCA Meeting (August 19, 2010):** RCA, CDFG, USFWS, and consultant staff. The intent of the meeting was to discuss SR-91 improvements and B Canyon mitigation options, the incorporation of wildlife movement accommodations for the SR-91 and SR-71 projects, possible funding and construction of an arch culvert near B Canyon, and wildlife movement issues in the environmental documents for the two projects.
- **Resource Agency Jurisdictional Resources Meeting (December 7, 2010):** Corps, CDFG, CHSP, the Department, RCTC, and consultant staff. The intent of the meeting was to discuss the design build process, environmental document, jurisdictional delineation, permit applications, and proposed mitigation.
- **Agency Coordination Meeting (July 21, 2011):** Participants at this meeting included representatives from USFWS, RCA-Dudek, the Department, RCTC, and consultant staff. The purpose of the meeting was to discuss the draft *Biological Assessment* and the formal Section 7 consultation for the SR-91 CIP, including the possibility of initiating formal Section 7 consultation prior to the identification of a Preferred Alternative. The USFWS indicated that it was fine if a comprehensive project description was used that covered the effects of both alternatives, resulting in the worst-case scenario for species take and habitat

impacts. It was discussed that the Department and RCTC will commit to providing compensatory mitigation for the worst-case scenario. It was also noted there is a risk that any changes to the project description following circulation of the Draft EIR/EIS could result in additional time to complete the Section 7 consultation.

- **Corps Meeting Regarding Section 404 Permit (August 22, 2011):** Participants at this meeting included representatives from the Department, Corps, RCTC, and the SR-91 CIP consultant team. The purpose of this meeting was to discuss the Corps' comments on the Draft EIR/EIS, specifically those related to impacts to aquatic resources and the Section 404 permitting process. The agencies agreed on how to include a Section 404(b)(1) alternatives analysis in the Final EIR/EIS if an individual Section 404 permit is required, and further agreed that no such analysis would be required if it could be demonstrated that impacts of the SR-91 CIP preferred alternative (Alternative 2f) were within the criteria for a Section 404 Nationwide Permit.
- **Field Meeting (October 20, 2011):** Participants at this meeting included representatives of the Department, USFWS, CHSP, and SR-91 CIP consultant team members to review areas within CHSP that may provide opportunities for CAGN mitigation in the form of restoring CSS habitat. Following the field review, the Department and USFWS discussed proposed mitigation ratios that would be included in the Biological Opinion.

5.2.2.2 Section 4(f) and Section 6(f) Consultations

Impacts to parks and parkland are discussed in detail in Section 3.1.3, Parks and Recreational Facilities. The Department and RCTC have engaged in regular consultation with the agencies with jurisdiction over the following Section 4(f) properties that may be temporarily or permanently used as a result of the Build Alternatives:

- **Santa Ana River Trail/Bike Lane:** Owned and operated by Orange County (OC) Parks (segment in Orange County) and the City of Corona (segment in the City)
- **Featherly Regional Park:** Owned and operated by OC Parks
- **Chino Hills State Park (CHSP):** Owned and operated by the State Parks Department (State Parks)
- **Griffin Park:** Owned and operated by the City of Corona

- **New Orange County Park (National Natural Landmark) (New OC Park [NNL]):** Owned and operated by OC Parks
- **El Cerrito Sports Park:** Owned and operated by the City of Corona

Informal consultation was initiated with State Parks regarding CHSP in 2008. In addition, the City of Corona, as an active member of the PDT, has been included in discussions of potential project impacts on Griffin Park, El Cerrito Sports Park, and the Santa Ana River Trail/Bike Lane. Consultations with the County of Orange were conducted in 2009. Consultation with OC Parks regarding the New OC Park (NNL) were conducted in 2012. The consultation process regarding project effects on Section 4(f) and 6(f) properties began in 2008 and was completed in May 2012.

The meetings and letters documenting the Section 4(f) consultation with the County of Orange regarding the potential effects of the SR-91 CIP Build Alternatives on the New OC Park (NNL), Santa Ana River Trail/Bike Lane and Featherly Regional Park, with State Parks regarding the potential effects of the SR-91 CIP Build Alternatives on CHSP, and with the City of Corona regarding the potential effects of the SR-91 CIP Build Alternatives on Griffin Park, El Cerrito Sports Park, and the Santa Ana River Trail/Bike Lane are summarized in Table 5.3. Copies of the consultation letters cited in Table 5.3 are provided in Appendix B, Resources Evaluated Relative to the Requirements of Section 4(f).

5.2.2.3 Additional Section 106 SHPO Consultation

The Department approved the *Historic Property Survey Report* (HPSR) for the SR-91 CIP on August 3, 2010, and received SHPO concurrence that none of the properties within the APE were eligible for listing on the National Register on September 22, 2010. Based on that HPSR, the Department proposed a finding of No Historic Properties Affected for the SR-91 CIP pursuant to Stipulation IX.A of the Section 106 Programmatic Agreement (PA).

On July 14, 2011, the Grand Boulevard Historic District in the City of Corona was listed on the National Register. That resource was previously evaluated in the HPSR and determined by the SHPO not to be eligible for the National Register. As a result of the listing of the Grand Boulevard Historic District on the National Register, a Supplemental HPSR was prepared by the Department to reassess the potential effects of the SR-91 CIP on that resource. The Supplemental HPSR (August 2011) was submitted to SHPO for a 30-day review beginning on September 8, 2011.

Table 5.3 Summary of Section 4(f) Consultation

Date of Consultation	Activity	Description of Activity
Summary of Consultation with the County of Orange Regarding the Santa Ana River Trail/Bike Lane (Segment in Orange County) and Featherly Regional Park		
May 27, 2009	Letter	Letter from the Department to Orange County Public Works regarding the "Formal Section 4(f) Consultation for the SR-91 Corridor Improvement Project"
June 9, 2009	Meeting	Consultation meeting with the County of Orange regarding the Santa Ana River Trail/Bike Lane and Featherly Regional Park
August 4, 2009	Meeting	Consultation meeting with Orange County Parks regarding the Santa Ana River Trail/Bike Lane and Featherly Regional Park
October 9, 2009	Letter	Letter from Orange County Parks to to LSA Associates, Inc. regarding the "4(f) and 6(f) Evaluation Considerations of Potential Impacts of Caltrans Widening State Route 91 on Featherly Regional Park and the Santa Ana River Trail/Bike Lane"
October 28, 2010	Letter	Letter from the Department to Orange County Parks regarding the "Temporary Occupancy at Featherly Regional Park and the Natural National Landmark"
November 24, 2010	Letter	Letter from the Department to Orange County Parks regarding the "Temporary Occupancy at the Santa Ana River Trail/Bike Lane"
March 22, 2012	Email	Email from Orange County Parks to the Department concurring with temporary occupancy determination at Featherly Regional Park.
March 27, 2012 and March 29, 2012	Emails	Email (March 27, 2012) from the Department to Orange County Parks requesting concurrence with the Department's temporary occupancy determination for the New OC Park (NNL) and email response (March 29, 2012) from Orange County Parks to the Department concurring with that determination.
April 17, 2012	Letter	Letter from the Department to the County of Orange regarding the "Section 4(f): Revised De Minimis Determination at the National Natural Landmark, formerly labeled Anaheim 3 area by the Irvine Company" and the County's concurrence (May 2, 2012) with that determination.
Summary of Consultation with State Parks Regarding CHSP		
April 8, 2008	Meeting	Coordination meeting with the State Parks to discuss the project technical studies, the need for Right-of-Entry Permits for field research, and identification of Section 6(f) resources at CHSP
August 12, 2008	Meeting	Resources Agency Scoping Meeting to coordinate with and obtain feedback from the resource agencies (including State Parks) as part of the scoping process for the project
September 25, 2008	Meeting	Natural Resources Coordination meeting to coordinate with and obtain feedback from the natural resources agencies (including State Parks)
May 27, 2009	Letters	Formal Section 4(f) consultation letters from the Department to State Parks (Ron Krueper, Jon Rowe, and Enrique Arroyo) regarding CHSP
May 27, 2009	Letters	Formal Section 4(f) consultation letters from the Department to the United States Department of the Interior, National Park Service (Naomi Torres and Jim Donovan) regarding CHSP
October 23, 2009	Letter	State Parks letter to the RCTC Toll Project Manager regarding the "Section 4(f) Consultation regarding the State Route 91 Riverside to Orange County Corridor Improvement Project"
October 28, 2010	Letter	Letter from the Department to State Parks regarding the "Temporary Occupancy at Chino Hills State Park"
November 18, 2010	Letter	Letter from the Department to State Parks regarding the "Chino Hills State Park Section 6(f) Consultation for the State Route 91 Corridor Improvement Project"
November 24, 2010	Letter	Letter from the Department to State Parks regarding the "Revised Preliminary De Minimis Determination at Chino Hills State Park"
May 4, 2011	Letter	Letter from the Department to State Parks regarding the "Preliminary 4(f) De Minimis Determination at Chino Hills State Park"
May 4, 2011	Letter	Letter from the Department to State Parks regarding the "6(f) Consultation - Chino Hills State Park"
July 11, 2011	Letter	State Parks letter to the Department commenting on the "Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) for the State Route 91 Corridor Improvement Project SCH# 200807 1075"
August 11, 2011	Meeting	Meeting between the Department and State Parks to discuss the potential project effects at CHSP, the Section 4(f) and 6(f) processes, and consultation on Sections 4(f) and 6(f)
October 20, 2011	Telephone conference	Telephone conference between the Department and CHSP to discuss State Parks' comments on the draft L&WCF Act form for the possible conversion of Section 6(f) parkland and to discuss follow-up actions with the NPS

Table 5.3 Summary of Section 4(f) Consultation

Date of Consultation	Activity	Description of Activity
November 3, 2011	Telephone conference	Telephone conference between the Department and State Parks to discuss State Park's comments on the possible CHSP 6(f) conversion (see October 20, 2011 teleconference above)
November 17, 2011	Letter	State Parks letter to the Department regarding the "State Route 91 Corridor Improvement Project, Draft Responses to Comments"
January 11, 2012	Letter	Letter from the Department to State Parks regarding the "Section 4(f): Revised Temporary Occupancy and De Minimis Determination at Chino Hills State Park "
January 26, 2012	Letter	Letter from the NPS to the Department regarding issues associated with L&WCF Act grants to State Parks for CHSP
February 2, 2012	Letter	Letter from State Parks to the Department regarding the "Section 4(f) De Minimis Determination at Chino Hills State Park for the SR-91 Corridor Improvement Project"
March 12, 2012	Meeting	In response to State Parks' concern about fires propagating over parkland from SR-91, representatives from the Department and State Parks met with representatives from the City of Corona Fire Department, City of Corona Department of Public Works, Orange County Fire Authority, and California Department of Forestry and Fire Protection. The prevailing opinion of the local fire experts was that a low, continuous concrete barrier along the shoulder of SR-91 would be effective in arresting freeway-to-wildland fire ignition and preventing the spread of fire from vehicles on SR-91 into adjacent vegetation. The local experts preferred a 3-foot-high barrier to a higher barrier because they would still need to get hoses, equipment, and staff over the barrier to respond to fires and other emergency response needs.
April 5, 2012	Letter	State Parks provided written concurrence that the project effects at CHSP related to the permanent aerial and subsurface easements would be *de minimis* impacts.
Summary of Consultation with the City of Corona Regarding Griffin Park and El Cerrito Sports Park		
May 27, 2009	Letter	Letters from the Department to the City of Corona (Robert Morin, Joanne Coletta, and Kip Field) regarding "Formal Section 4(f) Agency Consultation for the SR-91 Corridor Improvement Project"
June 9, 2009	Meeting	Consultation meeting with the City of Corona regarding Griffin Park
June 15, 2009	Letter	Letter from the City of Corona to the Department regarding the "Section 4(f) Consultation – Griffin Park"
March 22, 2011	Letter	Letter from the Department to the City of Corona regarding the "Temporary Occupancy at the El Cerrito Sports Park"
May 13, 2011	Email	Email from the City of Corona to the Department, concurring with the Department's determination that the TCEs at El Cerrito Sports Park satisfy the conditions set forth in 23 CFR 774.13(d) and that the requirements of Section 4(f) will not apply to the TCEs at this park
April 10, 2012	Letter	Letter from the Department to the City of Corona regarding the "Temporary Occupancy of the Santa Ana River Trail/Bike Lane" and the City's concurrence with the determination that Section 4(f) does not apply to the project effects on this resource.
Summary of Consultation with the State Historic Preservation Officer (SHPO) regarding the Grand Boulevard Historic District		
June 15, 2012	Letter	Letter from the Department to the SHPO re-initiating consultation regarding the Department making a de minimis finding regarding the use of the Grand Boulevard Historic District.
June 26, 2012	Letter	Letter from the SHPO concurring with the Department's de minimis for the Grand Boulevard Historic District.

Source: Riverside County Transportation Commission (2012).

CFR = Code of Federal Regulations
CHSP = Chino Hills State Park
Department = California Department of Transportation
L&WCF = Land and Water Conservation Fund
New OC Park (NNL) = New Orange County Park (National Natural Landmark)
NPS = National Park Service
RCTC = Riverside County Transportation Commission
SHPO = State Historic Preservation Officer
SR-91 = State Route 91
State Parks = California Department of Parks and Recreation
TCEs = temporary construction easements

The Department prepared a Finding of Effect (FOE) to assess the effects of the SR-91 CIP on the Grand Boulevard Historic District. The FOE presents the analysis and effects based on the application of the Criteria of Adverse Effects provided in 36 CFR 800.5 and it follows the guidelines for documentation in 36 CFR 800.11 in accordance with Stipulations X and XVI of the Section 106 PA. The Department, under its assumption of responsiblities pursuant to Section 6005 of SAFETEA-LU, and in accordance with the Pilot Program MOU (dated July 1, 2007), proposed a finding of No Adverse Effect Without Standard Conditions as appropropriate for the SR-91 CIP. The Department sent a letter to SHPO on September 8, 2001, requesting SHPO concurrence with the Finding of No Adverse Effect. The SHPO received the Finding of No Adverse Effect on September 9, 2011, as noted in the log in the Office of Historic Preservation (OHP) database (OHP Reference No. FHWA110909A). The 30-day SHPO review period for the Finding of No Adverse Effect ended on October 9, 2011. In accordance with the Section 106 PA, if SHPO does not respond within 30 days and FHWA and SHPO have not agreed to extend the 30-day review period specified in 36 CFR 800.5(c), FHWA and the Department may determine that SHPO concurred with the No Adverse Effect finding (Stipulation X.B(1)(b)). Because no comments were received from SHPO within or immediately after the 30-day comment period, the Department is proceeding forward with the undertaking without formal SHPO concurrence per Stipulation X.B(1)b of the Section 106 PA, executed January 1, 2004, because the mandatory SHPO 30-day review period under the PA was met.

The Department sent a letter to SHPO on June 15, 2012, reinitiating consultation with SHPO regarding the Finding of No Adverse Effect for the project effects on the Grand Boulevard Historic District. The intent of the June 15, 2012 letter was to notify the SHPO that the Department, as assigned by FHWA, intends to make a de minimis finding for Section 4(f) use of a historic property, based SHPO's concurrence with Finding of No Adverse effect for the project effects on the Historic District. The SHPO concurred with the Department's de minimis determination for the Grand Boulevard Historic District in a letter dated June 26, 2012. Copies of the Department's June 15, 2012, letter and the SHPO's June 26, 2012, letter are provided in Attachment 5.J.

5.2.3 Notice of Preparation

The NOP for the project under CEQA was distributed on July 11, 2008, to federal, Tribal, State, regional, county, and local agencies; elected officials; special districts;

groups; businesses, major property owners, and organizations; and property owners within 700 ft of the project segments of the SR-91 and I-15 corridors.

The SCH distributed the NOP to Reviewing Agencies on July 15, 2008. The NOP and SCH letter are provided, respectively, in Attachments 5.B, Notice of Preparation, and 5.C, State Clearinghouse Distribution of the Notice of Preparation to State Agencies, which follow the last page of text in this chapter.

Notice of Scoping/Initiation of Studies letters were sent on August 7, 2008, to elected and City officials, agencies, and other interested parties. These letters included a project location map and information on the proposed project.

Written comments on specific topics for consideration in the environmental studies for the project received in response to the NOP and the Notice of Scoping/Initiation of Studies letters are summarized below:

- **Project Alternatives:** Comments related to the individual alternatives, funding, the use of Measure A funds for Alternative 2, operations, public transit instead of the proposed project.
- **Right-of-Way Acquisition and Relocation:** Comments related to the effect of project acquisition and the removal of residences and businesses adjacent to the project segment of SR-91. Comments from the City of Corona regarding the importance of attempting to avoid and minimize right-of-way impacts within the City limits and requesting the identification of potential right-of-way impacts for each Build Alternative.
- **Traffic:** Comments regarding the expected traffic volumes for the proposed MCP project, how the proposed project would address traffic congestion in the area once the MCP begins to distribute numerous vehicles onto I-15 and how that might distribute the congestion onto SR-91, and the importance of optimizing SR-91 corridor traffic to accommodate future traffic demands.
- **Biological Resources:** Comments regarding the importance of maximizing Chino Hills and Santa Ana Mountains habitat protection for future generations, effects of additional incremental lighting at entrances and exits to the constrained wildlife corridors, and the need to protect existing wildlife habitat and listed species on or near the project site.
- **Land Use:** Comments regarding consistency of the project with General Plans and regional plans.

- **Air Quality:** Comments regarding air quality impacts during construction and operations, and compliance with AB 32.
- **Cumulative Impacts:** Suggest including other transportation projects in the analysis, including the MCP; cumulative analysis within the context of other CETAP projects.
- **Growth Inducement**
- **Floodplains and Drainage:** Consider additional flood control improvements in the Lower Santa Ana River, including bank protection on the south bank of the River at several locations between Prado Dam and the western part of the Green River Golf Club as part of the County of Orange and Corps projects. Comments regarding the importance of fully evaluating the potential impacts of the proposed project to master planned drainage facilities such as the La Sierra Master Drainage Plan (MDP) facilities, which would provide flood protection and adequate drainage outlets to relieve substantial flooding problems. Concerns regarding the alteration of existing drainage patterns, the potential diversion or concentration of storm water flows, and the potential for increased runoff and potential impacts that could result from that runoff.
- **Noise:** Comments regarding potential noise and vibration impacts at entrances to and exits from the constrained wildlife corridors.
- **Historical Resources:** Comments to protect historical resources.
- **Hazardous Wastes**
- **Construction Impacts:** Comments regarding potential impacts during construction, including air quality, visibility, noise, traffic, and hazardous wastes; and requests for advanced notice of construction activities.
- Mitigation for direct, indirect, and cumulative impacts
- General comments supporting the project

Copies of the responses to the NOP are provided in Attachment 5.D, Responses to the Notice of Preparation, which follows the last page of text in this chapter.

5.2.4 Notice of Intent

The NOI was prepared by the Department and was published on July 3, 2008, in the Federal Register, Volume 73, No. 129, under NEPA.

No written comment letters were received in response to the NOI. The NOI is provided in Attachment 5.E, Notice of Intent, which follows the last page of text in this chapter.

5.2.5 Scoping Meetings

The RCTC and the Department hosted one public scoping meeting for the proposed project at the City of Corona Multipurpose Room at 400 South Vicentia Avenue in Corona, California, on July 29, 2008. Project aerial maps and display boards that showed the Build Alternatives were provided. Environmental process display boards were also provided, as were tables for scoping meeting participants to use for writing and submitting comment cards. A court reporter was also present to document public verbal comments. The aerial maps and display boards were described by the RCTC, the Department, and consultant staff.

The scoping meeting sign-in sheets showed 14 agencies and elected officials in attendance, as well as 11 property owners. A total of 64 people attended the meeting.

A *Scoping Summary Report* (March 19, 2010) was prepared for the proposed project. The purpose of the scoping process under CEQA is to examine a proposed project early in the environmental analysis/review process in order to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid the potentially significant adverse environmental effects of those alternatives. The scoping process stresses early consultation with resource agencies, other State and local agencies, Tribal governments, and any federal agency whose approval or funding of the proposed project would be required for completion of the project, as well as interested members of the general public.

Under NEPA, the lead agency is required to conduct an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action (Section 1501.7, 40 CFR). The scoping process is used to identify the range of alternatives to be addressed in the environmental document.

The *Scoping Summary Report* for the proposed project documented the scoping process and documents the following:

- Distribution of the NOP and NOI
- Summary of the comments received in response to the NOP and NOI
- Initiation of Studies letters
- Cooperating and Participating Agency letters
- Scoping meeting

5.2.6 Public Information Meetings

Two public information meetings and a public hearing were held to update interested parties on the progress of the project. Both public information meetings were held at the Corona Public Library at 650 South Main Street, Corona, California 92882. The public hearing was held at the Corona Civic Center Gymnasium at 502 South Vicentia, Corona, California 92882.

5.2.6.1 March 3, 2009, Public Information Meeting

The March 3, 2009, meeting had 60 people in attendance. Advertisements for that meeting included:

- Postcard invitations mailed to 2,160 households on February 4, 2009.
- Newspaper advertisements in *The Orange County Register* (publication date February 21, 2009), *The Press Enterprise* (publication date February 21, 2009), *La Prensa* (publication date February 20, 2009), and *Inland Valley Daily Bulletin* (publication date February 21, 2009).
- SR-91 Project Website listed this meeting on January 29, 2009.
- Email notifications were sent to stakeholders on January 29, February 17, and February 25, 2009.
- Email notifications were sent to the "Corona Email List" group on January 29, February 17, and February 25, 2009.
- Public access television advertisements appeared on public access channels for the City of Corona on February 3, 2009, and the City of Norco on February 9, 2009.
- Corona City Council Meetings mentioned this meeting on February 4 and February 18, 2009.

5.2.6.2 August 26, 2010, Public Information Meeting

The August 26, 2010, meeting had approximately 280 people in attendance. Advertisements for this meeting included:

- Postcard invitations mailed to 2,457 households on August 6, 2010.
- A second mailing to the same 2,457 households on August 18, 2010, including the SR-91 Project Factsheet, Right-of-Way Frequently Asked Questions (FAQs), Tolling FAQs, and a meeting reminder in English and Spanish.
- Newspaper advertisements in *The Orange County Register* (publication date August 22, 2010), *The Press Enterprise* (publication date August 21, 2010), *La Prensa* (Spanish version of *The Press Enterprise*; publication date August 20,

2010), and *Inland Valley Daily Bulletin* (publication dates August 20, August 21, and August 23, 2010).

- Radio station advertisements were sent to KFRG 95.1 F.M. and KOLA 99.9 F.M. on August 18, 2010.
- SR-91 Project Website listed this meeting on August 5, 2010. A meeting banner was posted on the SR-91 Project Website on August 17, 2010.
- Email notifications were sent to stakeholders on August 2, August 18, and August 24, 2010.
- Email notifications were sent to the "Corona Email List" group on August 2, August 18, and August 24, 2010.
- Public access television advertisements appeared on public access channels for the Cities of Corona, Norco, Anaheim, and Yorba Linda on August 2, 2010. The City of Riverside public access television ran a 60-second commercial on August 10, 2010.
- SR-91 public information meeting flyers were provided at the following locations: Cities of Corona, Norco, and Riverside (Front Desks and Public Works counters) on August 10, 2010; Cities of Anaheim and Yorba Linda (Front Desks and Public Works counters) on August 11, 2010; and Corona Chamber of Commerce and Green River Golf Club (Front Desks) on August 17, 2010.
- Additional coverage included mention of this meeting at the City of Corona Council Meeting and City of Corona Redevelopment Agency on August 18, 2010; Agency Coordination Meeting on August 17, 2010; at the Corona Chamber of Commerce "Good Morning Corona" meeting on August 26, 2010; The Inland Gateway Association of Realtors (TIGAR) on August 26, 2010; press release by John Standiford, RCTC Deputy Director; and a tweet through the RCTC's Twitter account.

5.2.6.3 June 9, 2011, Public Hearing

Description of the Public Hearing

On June 9, 2011, RCTC and the Department held an open-house format public hearing from 3:30 p.m. to 7:30 p.m. at the Corona Civic Center Gymnasium in Corona, California. The purpose of the public hearing was to provide information to the public regarding the project alternatives and the Draft EIR/EIS and to solicit input from the attendees regarding the project alternatives and the analyses provided in the Draft EIR/EIS.

A Notice of Availability for the Draft EIR/EIS was published in the Federal Register on May 26, 2011. A copy of that notice is provided in Attachment 5.F, Notice of

Availability. That Notice indicated that the Draft EIR/EIS was available for public review between May 26, 2011, and July 11, 2011.

The newspaper notices announcing the public hearing date, location, purpose, and format, and the availability of the Draft EIR/EIS are provided in the *Record of Public Hearing* (2011). The newspaper notices published on May 20, 2011, indicated that the Draft EIR/EIS was available for public review from May 20 to July 5, 2011. The newspaper notices published on June 2 and 3, 2011, indicated that the public review period for the Draft EIR/EIS was extended to July 11, 2011. The newspaper notices are provided in Attachment 5.G, Newspaper Publications.

A total of 49 agency and consultant staff persons, including three Spanish translators, one American Sign Language interpreter, and two court reporters, were present at the meeting. Based on the number of individuals who signed in at the Sign-In and Information Station, a total of 260 people (excluding agency and consultant personnel) attended the public hearing. The sign-in-sheets and materials that were available to attendees at the public hearing are provided in the *Record of Public Hearing*.

The set-up of the public hearing included 17 individual stations (described below), 53 exhibit boards, 5 large maps, and 6 viewing display monitors. Information handouts were distributed at the Sign-In and Information, Noise, and GIS stations. Agency and consultant staff were available at each station to greet the attendees, describe the material at the station, answer attendees' questions, and direct attendees to other stations for other information relevant to their questions and/or comments. The meeting format allowed attendees to move from station to station at their own pace, and to review the available materials and discuss their questions/comments with the staff at each station.

The public hearing was scheduled to start at 3:30 p.m. However, attendees began arriving at 3:00 p.m. As a result, the Sign-In and Information Station began signing in attendees shortly after 3:00 p.m. and staff began assisting attendees at each station at that time. The meeting ended shortly after 7:30 p.m.

The exhibit boards and handouts available at each station were:

1. **Sign-in and Information Station:** Attendees were invited to provide their names and addresses on the sign-in sheet and were offered the following handouts:
   - English and Spanish SR-91 Fact Sheet

- English and Spanish Comment Card
- Public Hearing Station Site Plan

2. **Project Overview Video Presentation**
3. **Welcome Station:** 4 exhibit boards and 1 project map on display
4. **Environmental Station:** 4 exhibit boards on display
5. **Cumulative Impacts/Major Investment Study Station:** 2 exhibit boards on display
6. **Resources/Wildlife Station:** 4 exhibit boards on display
7. **Visual Station:** 7 exhibit boards on display
8. **Noise Station:** 2 exhibit boards on display and 1 handout describing the noise barrier survey process and the availability of the survey letters
9. **Construction Station:** 5 exhibit boards on display
10. **Traffic/Toll Station:** 5 exhibit boards on display
11. **Video Presentation on Alternatives 1 and 2**
12. **Right-of-Way/GIS Station:** 2 exhibit boards and 4 large-scale project plan boards on display, 4 video monitors for GIS applications, and 1 GIS information handout
13. **Geometric Station:** 18 exhibit boards showing cross sections for Alternatives 1 and 2 and the geometric comparisons of Alternatives 1 and 2 were on display
14. **Project Website Station:** Laptop connected to a 24-inch monitor was used to show the public how comments on the Draft EIR/EIS could be submitted through the SR-91 CIP project website, and where the electronic copies of the Draft EIR/EIS were available for download.
15. **Comment Card Station:** 3 tables with English and Spanish comment cards and 3 collection boxes for written comments provided by the meeting attendees
16. **Draft EIR/EIS Station:** Displayed copies of the Draft EIR/EIS and the project technical studies
17. **Court Reporter Station:** 2 court reporters were available to transcribe oral public comments

Comments Received at the June 9, 2011, Public Hearing

A total of 49 comment cards and 19 verbal comments transcribed by the court reporters were received. In addition, many attendees discussed their concerns with staff present at the individual topic stations. Based on those interactions, the majority of the comments raised were related to right-of-way acquisition and the removal of homes and businesses on the acquired parcels. Other topics of concern included the

location of noise walls, the phasing of the project, the proposed construction date of the project, and a preference for a certain alternative or design variation.

The written and verbal comments received at the June 9, 2011, public hearing are included and responded to in Appendix O, Responses to Comments.

5.2.7 Noise Barrier Survey Public Outreach Efforts

Permanent noise impacts were identified at 416 properties. In accordance with Department procedures, surveys of affected and adjacent property owners were conducted to determine if each noise barrier would be constructed as part of the project. Barriers proposed on private property require 100 percent of the affected property owners to vote in favor of the specific barrier. For noise barriers within the State-owned freeway right-of-way, a majority of the adjacent property owners must vote in favor of the specific barrier. Extensive survey efforts were conducted between May 2011 and January 2012. Those efforts included multiple mailings of survey packages specific to each noise barrier and the property owners at each wall, community meetings with property owners, and door-to-door personal visits. The survey process is described in greater detail, including the voting results for each barrier, in Section 3.15.3.2, Noise Barrier Survey Results.

5.3 Interagency Coordination Regarding Air Quality

5.3.1 Transportation Conformity Working Group

As discussed in Section 3.14, Air Quality, this project is considered a POAQC. Therefore, a qualitative project-level $PM_{2.5}$ and PM_{10} hot-spot analysis was conducted to assess whether the project would cause or contribute to any new localized $PM_{2.5}$ or PM_{10} violations, increase the frequency or severity of any existing violations, or delay timely attainment of the $PM_{2.5}$ and PM_{10} AAQS.

The related interagency consultation required for this project with SCAG's TCWG deemed the PM Hot-Spot Qualitative Analysis acceptable for NEPA circulation at their September 22, 2009, meeting. The TCWG determination that the qualitative analysis was acceptable is provided in Attachment 5.H, Transportation Conformity Working Group Determination for the Qualitative PM Hot-Spot Analysis, which follows the last page of text in this chapter. In December 2010, the $PM_{2.5}$ standard was revised. As a result, an updated Particulate Matter Hot-Spot Qualitative Analysis for the project was prepared and is included in Section 3.14. The updated analysis did not need to be submitted to the TCWG.

On April 12, 2012, the Department submitted a memo to the TCWG advising them that a preferred alternative had been identified for the SR-91 CIP. On April 24, 2012, the TCWG reviewed and concurred that the identified preferred alternative (Alternative 2f) meets PM conformity requirements.

5.3.2 Federal Highway Administration Air Quality Conformity Determination

Section 3.14.2.3, Regional Air Quality Conformity, provides the description of the SR-91 CIP in the 2012 RTP. A project-level *Air Quality Conformity Analysis* was prepared and concluded that the project's design concept and scope have not changed from what was analyzed in the 2012 RTP. The 2012 RTP was approved by SCAG in April 2012. FHWA approved the regional air quality conformity determination for the 2012 RTP on June 4, 2012. The individual projects contained in the RTP will be conforming projects and will have air quality impacts consistent with those identified in the SIP for achieving the NAAQS.

The SR-91 CIP Alternative 2 Initial Phase is also included in Amendment 24 to the 2011 FTIP and is described as follows: Project ID: RIV071250; Description: On SR-91/I-15: SR91 – Construct 1 mixed flow lane (SR-71 through I-15)/1 aux lane at various locations (SR-241 through Pierce)(OC PM 14.43-18.91), CD system (2/3/4 lanes from Main Street to I-15), 1 toll express lane (TEL) and convert HOV to TEL in each direction (OC to I-15); I-15 – construct TEL median direct connector NB I-15 to WB SR-91 and EB SR-91 to SB I-15, 1 TEL in each direction (SR-91 direct connector – Ontario Interchange)(I-15 PM 37.56-42.94). The project's open-to-the-public year of 2017 is consistent with (within the same regional emission period as) the construction completion date identified in the 2012 RTP and 2011 FTIP (Amendment 24). The FTIP gives priority to eligible TCMs identified in the SIP and provides sufficient funds to provide for their implementation. FHWA approved the air quality conformity determination for Amendment 24 to the 2011 FTIP on June 4, 2012.

As discussed in Section 3.14.2.4, in a letter dated June 5, 2012, the Department requested that FHWA issue a project-level air quality conformity determination for the SR-91 CIP, and on June 6, 2012, FHWA determined the SR-91 CIP, in Orange and Riverside Counties, conforms to the SIP in accordance with 40 CFR Part 93. A copy of the FHWA letter is provided in Attachment 5.I of Chapter 5, Comments and Coordination. A separate project-level air quality conformity determination will be necessary prior to approval of the ROD for the Ultimate Project.

5.4 Project Management Plan

As shown earlier in Table 1.1, the FHWA Major Project Deliverable approvals required for the project include approval of a *Final Project Management Plan*. RCTC is preparing the *Draft Project Management Plan* for the SR-91 CIP, which was submitted to FHWA for review on May 16, 2012. RCTC will prepare the *Final Project Management Plan*, in consultation with FHWA, after the ROD and the selection of the Preferred Alternative for implementation. The *Final Project Management Plan* is anticipated to be approved by FHWA in October 2012.

5.5 Native American Consultation and Coordination

On May 8, 2008, the NAHC was requested to review its SLFs for possible resources in the project APE. The NAHC replied on May 21, 2008, stating that the SLF indicated the presence of Native American cultural resources and recommended contacting nine Native American Tribes, groups, and individuals.

A letter was mailed to nine Native American Tribes, groups, and individuals on June 3, 2008. The letter discussed the project and requested information on Native American cultural resources. The letter also discussed four previously destroyed sites (three prehistoric, one historic) that were documented in the vicinity of the APE and the fact that the results of the sacred land files indicated that there are no sacred sites within the project APE. That letter was sent to:

- Augustine Band of Cahuilla Mission Indians: Mary Ann Green
- Juaneño Band of Cahuilla Mission Indians: Anita Espinoza
- Juaneño Band of Cahuilla Mission Indians: Joe Ocampo
- Juaneño Band of Cahuilla Mission Indians, Acjachemen Nation: David Belardes
- Juaneño Band of Cahuilla Mission Indians: Sonia Johnston
- Gabrieleno/Tongva San Gabriel Band of Mission Indians: Anthony Morales
- Pechanga Band of Mission Indians: Paul Macarro
- Soboba Band of Luiseño Indians: Erica Helms
- Ti'At Society: Cindi Alvitre

A letter response was received June 10, 2008, from Erica Helms requesting further consultation and cultural resources documentation. No other responses were received.

On June 30, 2008, telephone and email contact was attempted with all nine Native American Tribes, groups, and individuals. An email was received from Anna Hoover,

Cultural Resources Manager for the Pechanga Band of Mission Indians, stating that a response was pending. Sonia Johnston requested that the information be sent again by email. Anthony Morales requested monitoring by a Native American and an archaeologist during construction. Anita Espinoza also requested monitoring by a Native American and that the Tribe be notified of any cultural resources discoveries. Mary Ann Green's telephone was disconnected.

On July 14, 2008, a second attempt was made to contact individuals not reached by the first telephone call. Mary Ann Green's telephone was still disconnected. Voicemails were again left for Cindi Alvitre and David Belardes. Although contact with Sonia Johnston was successful during the first round of telephone calls, because no response had yet been received, a message was left to ensure that the Tribe had the opportunity for comment. There was no answer for Mr. Ocampo.

On August 8, 2008, Anna Hoover telephoned to request more information regarding the three prehistoric sites referenced in the consultation letter. This information was emailed to her on the same date. A letter was received from Ms. Hoover on August 20, 2008, requesting the opportunity to participate in the environmental review process, copies of archaeological reports and other documentation, government-to-government consultation, participation in all archaeological surveys and excavations through tribal monitoring, and participation in the decisions pertaining to the development of the project APE. Also, per the Tribe's request, a letter was issued by the Department that initiated government-to-government consultation with the Pechanga Tribe.

On July 16, 2010, Gary Jones, Archaeologist/District Native American Coordinator at the Department, emailed Anna Hoover at the Pechanga Tribe as a follow-up to the Department's proposal that was sent to Ms. Hoover to provide to her legal team for review. Gary Jones proposed that the HPSR and ASR be updated to include language about Native American monitoring in areas that the Pechanga Tribe considers sensitive. The Department provided Ms. Hoover with updated language and mapping to indicate and show areas that the Pechanga Tribe considers to be sensitive. The Department's proposal to the Pechanga Tribe indicated that the actual monitoring locations would be finalized during the PS&E phase of the project. The Department ensured Ms. Hoover that the monitoring requirements would be included in the Environmental Commitments Record (ECR). On July 23, 2010, Ms. Hoover provided comments on the HPSR and ASR to Gary Jones. The comments provided by the Pechanga Tribe on July 23, 2010, were incorporated into the Final HPSR and ASR.

Additional consultation was conducted with the two individuals who requested monitoring by a Native American and/or an archaeologist during construction. Anita Espinoza and Anthony Morales were contacted by telephone on May 8 and May 12, 2009, respectively. The calls were made in an attempt to obtain specific information about cultural resources in the APE that could be impacted and that would therefore merit monitoring. Ms. Espinoza modified her comments to say that she recommends monitoring if cultural resources are encountered during construction. She would also like to be notified of any discoveries. Mr. Morales modified his recommendation to request monitoring if there are any cultural resources discoveries. He would also like to be notified of any discoveries. He also stated that while he does not know of any specific cultural resources in the APE that could be impacted, he does consider the project area to be an "area of concern" due to its proximity to the Santa Ana River.

5.6 Comments on the Draft EIR/EIS

Copies of the Draft EIR/EIS were distributed to the State Clearinghouse, the Governor's Office of Planning and Research (15 copies), and other federal, State, and local agencies. Hard copies of the Draft EIR/EIS were also available for public review at the Department and RCTC offices, the Corona Public Library, and the City of Corona Public Works Department. The agency distribution list for the Draft EIR/EIS is provided in Chapter 7.

Comments received during the public circulation period included letters, e-mails, comments received through the RCTC project website, and comment cards from the public meeting. Copies of all the written comments received during the public review period and the verbal comments provided to the court reporters at the June 9, 2011, public hearing are included in Appendix O, Responses to Comments.

Table 5.4 lists the agencies, organizations, and persons who commented on the Draft EIR/EIS during and shortly after the end of the public comment period on July 11, 2011. Each comment letter received is listed by its unique letter number. The written comments and responses to those comments are provided in Appendix O. The comments on the Draft EIR/EIS covered a wide range of concerns. The following summarize the topical areas raised in comments and questions on the Draft EIR/EIS:

- **Project and Alternatives:** Range of alternatives, selection of the Preferred Alternative, purpose of and need for the project, and related projects.

Table 5.4 Summary of Comments Received On the Draft EIR/EIS During and Shortly After the End of the Public Circulation Period

Letter Number	Agency/Commenter Name	Date of Comment
	Federal Agencies	
F-1	United States Department of the Interior, Secretary, Office of Environmental Policy and Compliance	July 11, 2011
F-2	United States Fish and Wildlife Service and California Department of Fish and Game	July 11, 2011
F-3	United States Environmental Protection Agency	July 11, 2011
F-4	United States Army Corps of Engineers	July 21, 2011
	State Agencies	
S-1	Native American Heritage Commission	June 2, 2011
S-2	Public Utilities Commission	June 29, 2011
S-3	State of California Department of Parks and Recreation	July 11, 2011
S-4	Department of Toxic Substances Control	July 8, 2011
S-5	California Regional Water Quality Control Board	July 8, 2011
	Regional Agencies	
R-1	Riverside County Fire Department	June 28, 2011
R-2	Metropolitan Water District of Southern California	June 15, 2011
R-3	Orange County Public Works	June 21, 2011
R-4	Regional Conservation Authority	July 5, 2011
R-5	South Coast Air Quality Management District	July 15, 2011
	Local Agencies	
L-1	City of Corona Fire Department	July 5, 2011
L-2	City of Corona Public Works Department	July 5, 2011
	Organizations, Businesses, and Groups	
O-1	Countrywood Estates, Sandra Sierra	June 16, 2011
O-2	BMLA Landscape Architecture on behalf of Frontage Properties, LLC	July 5, 2011
O-3	Carlos Roque, City Best Insurance Services, Inc. for businesses located at 401 South Lincoln Avenue in Corona, CA	July 7, 2011
O-4	Southern California Edison Company	July 7, 2011
O-5	S&D Associates	July 8, 2011
O-6	Sierra Club, Puente-Chino Hills Task Force	July 8, 2011
O-7	Center for Biological Diversity	July 8, 2011
O-8	Shute, Mihaly and Weinberger on behalf of Hills For Everyone	July 8, 2011
O-9	Ayres Hotels	July 18, 2011
O-10	Wildlife Corridor Conservation Authority	July 20, 2011
	Members of the General Public	
P-1	Mr. C.A. Alba	May 20, 2011
P-2	Daniel Woods	May 30, 2011
P-3	Gary Bailey	June 5, 2011
P-4	Melanie Duran	June 5, 2011
P-5	Savannah Head	June 7, 2011
P-6	Mr. C.A. Alba	June 6, 2011
P-7	Khoa Tran	June 7, 2011
P-8	Gregory Moses	June 7, 2011
P-9	Gary Elster	June 10, 2011
P-10	H.G. Chaffin	June 10, 2011
P-11	Bill Baker	June 12, 2011
P-12	Gary Bailey	June 12, 2011
P-13	Mike Hafez	June 16, 2011
P-14	Jim Ogle	June 16, 2011
P-15	Mary Lou Shina	June 19, 2011
P-16	Victor & Karen Quintana	June 27, 2011
P-17	Carmen Padilla	July 1, 2011
P-18	Dr. Bruce V. Armstrong	June 29, 2011
P-19	John Thalasinos	July 7, 2011
P-20	Stuart Johnson	July 7, 2011
P-21	Brent Thalasinos	July 7, 2011

Table 5.4 Summary of Comments Received On the Draft EIR/EIS During and Shortly After the End of the Public Circulation Period

Letter Number	Agency/Commenter Name	Date of Comment
P-22	Sal Riela, Ralph Kulajian, and Vahe Jeknavorian	June 27, 2011
P-23	John Reist	July 7, 2011
P-24	James Flournoy	July 8, 2011
P-25	Christopher Perez	July 10, 2011
P-26	Ryan Smith	July 11, 2011
P-27	Robert Kofdarali	July 11, 2011
P-28	Mahmoud Sadeghi	July 11, 2011
P-29	Ned Ibrahim	July 11, 2011
P-30	H.G. Chaffin	July 7, 2011
P-31	Robert Brockie	July 11, 2011
P-32	Tina Martin	July 18, 2011
P-33	Ed Diaz	July 19, 2011
P-34	Carolyn Ruth for Public Storage	July 21, 2011
P-35	Constance Spenger	September 26, 2011
Comment Cards Received at the June 9, 2011 Public Hearing		
C-1	Anonymous	June 9, 2011
C-2	Bruce Armstrong	June 9, 2011
C-3	Dr. George Beloz	June 9, 2011
C-4	Jack Brown	June 9, 2011
C-5	Kevin Bulton	June 9, 2011
C-6	H.G. Chaffin	June 9, 2011
C-7	H.G. Chaffin	June 9, 2011
C-8	Yatish Chaudhri	June 9, 2011
C-9	Vicky Chhour	June 9, 2011
C-10	William H. Cortez	June 9, 2011
C-11	Sally Cota	June 9, 2011
C-12	Kevin Lee Cruz	June 9, 2011
C-13	Alma Cuevas	June 9, 2011
C-14	Can Thuy Dang	June 9, 2011
C-15	Richard Everhart	June 9, 2011
C-16	Ramie Fernandez	June 9, 2011
C-17	Jolene Fuentes	June 9, 2011
C-18	Boka Gan	June 9, 2011
C-19	Sonia & Jose Garcia	June 9, 2011
C-20	John W. Hathaway	June 9, 2011
C-21	Roy Hungerford	June 9, 2011
C-22	Eric Johnson	June 9, 2011
C-23	Ron Kammeyer	June 9, 2011
C-24	Robert Lind	June 9, 2011
C-25	Jesus Reyes Lopez	June 9, 2011
C-26	Tim Lynch	June 9, 2011
C-27	Mary Mendoza	June 9, 2011
C-28	Paul & Cheryl Ramirez	June 9, 2011
C-29	Jesus Reyes	June 9, 2011
C-30	Ruben Reyna	June 9, 2011
C-31	Martin & Vicky Rivera	June 9, 2011
C-32	John Rojo	June 9, 2011
C-33	Rita Sandor	June 9, 2011
C-34	Claire Schlotterbeck	June 9, 2011
C-35	Beatriz A. Segura	June 9, 2011
C-36	Himanshu Shah	June 9, 2011
C-37	Shadi Shanak	June 9, 2011
C-38	Angela Scherer	June 9, 2011
C-39	Greg Tesdahl	June 9, 2011
C-40	Charlie Webb	June 9, 2011
C-41	Don Wilkie	June 9, 2011

Table 5.4 Summary of Comments Received On the Draft EIR/EIS During and Shortly After the End of the Public Circulation Period

Letter Number	Agency/Commenter Name	Date of Comment
C-42	Richard Winn	June 9, 2011
C-43	Check into Cash	June 9, 2011
C-44	Dvorak and Payne, Jim Ogle	June 9, 2011
C-45	El Taco Lucas	June 9, 2011
C-46	Pro-Dent Lab	June 9, 2011
C-47	Gala Nails	June 9, 2011
C-48	Joy Massage	June 9, 2011
C-49	Lincoln Smoke Shop	June 9, 2011
Transcript No. 1 from the June 9, 2011 Public Hearing		
T1-1	Sally Cota	June 9, 2011
T1-2	Victor Quintana	June 9, 2011
T1-3	Mala Shah	June 9, 2011
T1-4	Richard Everhart	June 9, 2011
T1-5	Jim Lane	June 9, 2011
T1-6	Greg Tesdahl	June 9, 2011
T1-7	Gloria Salgado	June 9, 2011
T1-8	Jesus & Esperanza Reyes	June 9, 2011
T1-9	Angela Scherer	June 9, 2011
Transcript No. 2 from the June 9, 2011 Public Hearing		
T2-1	Martin & Vicki Rivera	June 9, 2011
T2-2	Cheryl Ramirez	June 9, 2011
T2-3	Brenda Urrutia	June 9, 2011
T2-4	Truyen Nguyen – Gala Nails	June 9, 2011
T2-5	Canthauy Tanteh	June 9, 2011
T2-6	Judy Haraka	June 9, 2011
T2-7	Don Bowker	June 9, 2011
T2-8	Yatish Chaudhri	June 9, 2011
T2-9	Greg Tesdahl	June 9, 2011
T2-10	Charlie Webb	June 9, 2011

- **Community Impacts:** Impacts on existing residential and nonresidential uses, property acquisition (full and partial acquisitions), removal of existing homes and businesses, loss of parking, other impacts to businesses, impacts to and relocation of billboards, property access during construction, right-of-way acquisition process, economic impacts of property acquisition, and TCEs.
- **Noise:** Short- and long-term noise impacts, need for noise barriers, noise barrier survey process, and noise barriers included in the project.
- **Biological and Water Resources:** Impacts on natural communities and habitats, plant and animal species, and threatened and endangered species; mitigation for impacts on biological resources; compliance with the Western Riverside County MSHCP; impacts to wildlife crossings, impacts to waters of the United States, and short- and long-term impacts to water quality.
- **Air Quality:** Local air quality impacts, short- and long-term air quality and health impacts, and mobile source air toxics.

- **Chino Hills State Park:** Temporary and permanent use of land in CHSP, impacts to resources in CHSP, impacts on CHSP under Sections 4(f) and 6(f), and impacts associated with fire risk.
- **Aesthetics:** Impacts of structures, widened freeway, retaining walls, and noise barriers, and mitigation for those impacts; need for landscaping and aesthetic treatments, and changes in visibility of uses along SR-91.
- **Utilities and Emergency Services:** Impacts on utility facilities and mitigation for those effects, effects on emergency services providers, and effects on local storm drains.
- **Other:** Growth-inducing impacts, recirculation of the environmental document, cumulative projects and impacts, need for consultation with Native Americans, impacts associated with hazardous wastes and contaminated sites, graffiti, when project will be selected/constructed, traffic forecasts and demand, climate change and global warming, and improvements to local streets.

5.7 Attachments to Chapter 5

The following attachments are provided after the last page of text in this section:

- Attachment 5.A: Letters from Cooperating and Participating Agencies
- Attachment 5.B: Notice of Preparation
- Attachment 5.C: State Clearinghouse Distribution of the Notice of Preparation to State Agencies
- Attachment 5.D: Responses to the Notice of Preparation
- Attachment 5.E: Notice of Intent
- Attachment 5.F: Notice of Availability
- Attachment 5.G: Newspaper Publications
- Attachment 5.H: Transportation Conformity Working Group Determination for the Qualitative PM Hot-Spot Analysis
- Attachment 5.I: FHWA Project-Level Air Quality Conformity Determination
- Attachment 5.J: SHPO Correspondence for Section 4(f) for the Grand Boulevard Historic District

This page intentionally left blank

Attachment 5.A:
Letters from Cooperating and Participating Agencies

- United States Environmental Protection Agency (June 18, 2010) ..... 8 pages
- United States Army Corps of Engineers (July 7, 2010) ..... 6 pages
- United States Army Corps of Engineers (November 22, 2011) ..... 3 pages
- Southern California Association of Governments (June 28, 2010) ..... 1 page
- Orange County Transportation Authority (July 1, 2010) ..... 2 pages
- Transportation Corridor Agencies (June 17, 2010) ..... 5 pages
- Riverside County Flood Control and Water Conservation District (July 12, 2010) ..... 4 pages
- South Coast Air Quality Management District (July 15, 2010) ..... 2 pages
- County of Riverside Transportation and Land Management Agency (July 21, 2010) ..... 1 page
- City of Corona (June 8, 2010) ..... 2 pages

This page intentionally left blank

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

JUN 18 2010

David Bricker, Deputy District Director
California Department of Transportation
Environmental Planning
464 West 4th Street
San Bernardino, CA 92401-1400

Subject: Comments on Purpose and Need, Range of Alternatives, Methodologies, and Coordination Plan for State Route (SR) 91 Corridor Improvement Project

Dear Mr. Bricker:

This letter responds to your May 17, 2010 request for comments on the Purpose and Need, Range of Alternatives, Methodologies, and Coordination Plan for the State Route (SR) 91 Improvement Project in Riverside County and Orange County, California (Project). The request is in accordance with Section 6002 of Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

The California Department of Transportation (Caltrans) will be the Lead Agency under the National Environmental Policy Act (NEPA) and will prepare the Environmental Impact Statement (EIS) for the Project. The State of California has assumed responsibilities under NEPA for this project pursuant to the *Memorandum of Understanding Between the Federal Highway Administration (FHWA) and Caltrans Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program.*

EPA is a Participating Agency (as defined in SAFETEA-LU) for this project and appreciates the opportunity to provide early feedback during the project's development. EPA's comments follow below.

Purpose and Need

Independent Utility

The proposed Project is one of several recommendations resulting from the Major Investment Study (MIS) for Riverside and Orange Counties. EPA was actively involved in the MIS and provided comments throughout its development. At the end of the process, EPA continued to have concerns of the transition from the MIS to NEPA since several strategic options were eliminated without documentation and alternatives were eliminated without full consideration of environmental impacts. Further, it's unclear if these several recommendations are separate projects with independent utility or if the projects are dependent on one another to

meet the identified regional transportation needs. Also, as identified in the provided materials, there are multiple projects proposed within and in proximity to the SR 91 and Interstate15 corridors, which may potentially raise concerns with project segmentation under NEPA.

The policies and procedures of FHWA's NEPA implementing rule at 23 CFR 771.111(f) state that, in order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each EIS shall:

1) Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
2) Have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
3) Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

EPA recommends that the DEIS clearly demonstrate the independent utility of the Project in light of other identified MIS proposals and proposed transportation improvements in the project area. If the Project need cannot be met without future planned improvements, then the scope of the Project should be expanded to include the additional improvements, since these would be considered connected and similar actions (40 CFR 1508.25). EPA believes this is the most effective way to address indirect and cumulative environmental impacts, and also ensures that a broader scope is applied in the identification and evaluation of project alternatives that may be less environmentally damaging.

Comparison of Build Alternatives

The draft Purpose and Need Statement includes several sections and supporting tables that prematurely compare the No-build and Build Alternatives (e.g., see Sections entitled Future Traffic Projections, 2035 Future Traffic Volumes, and Travel Time). The pros and cons of the alternatives and their effects to level of service (LOS) or travel time are more appropriately suited for the alternatives analysis phase. The needs justification discussion should characterize the extent of the existing and future problems, and not how LOS and travel time will improve if the project was constructed. EPA recommends eliminating discussion of the Build Alternatives (i.e., solutions) and analysis specific to project Build Alternatives from the Purpose and Need Statement.

Consistency with RCTC Measure A 10-Year Delivery Plan and the State Route 91 Implementation Plan

At the end of the first objective discussing consistency with RCTC Measure A 10-Year Delivery Plan and the State Route 91 Implementation Plan (page 15), please add "where feasible and in compliance with Federal and State regulations".

Range of Alternatives

Transit and Transportation System Management/Transportation Demand Management Alternatives and Options

The proposed Project should not preclude *also* enhancing transit access, or implementing a comprehensive Transportation System Management and Transportation Demand (TSM/TDM) plan, as a part of other build alternatives to further maximize the highway system's operational efficiency. We encourage Caltrans to explore the feasibility of implementing such alternatives simultaneously in the interest of minimizing environmental impacts and accommodating future travel demands expected.

In exploring the option to enhance transit access, the DEIS should identify activities that can be undertaken by Caltrans and/or other responsible agencies to enhance transit ridership that will effectively increase overall mobility within and through the corridor. Again, we strongly encourage Caltrans to consider concurrently implementing measures that provide incentives for increased transit ridership as a means of decreasing single occupancy vehicle travel.

Methodologies

The request for comments indicated that Caltrans will use the methodologies set forth in the Standard Environmental Reference (SER) and stated, that unless Caltrans receives comments back on these methodologies, it is assumed there is no opposition to their use. Other than this general statement that the project will follow the SER which is likely the assumption for any Caltrans-lead NEPA project, no specific information was provided on the level of analysis that is proposed to assess project impacts to specific resources (e.g., no analysis, qualitative analysis, quantitative analysis, etc.). EPA recommends that Caltrans provide a project-specific list of methodologies/models that are proposed for use and further identify the level of analyses that are proposed. If Caltrans decides to provide additional information to Participating Agencies on the level/type of analyses proposed to assess project impacts, EPA is available to provide feedback.

Mobile Source Air Toxics

Many studies have measured elevated concentrations of pollutants emitted directly by motor vehicles near large roadways. These elevated concentrations generally occur within approximately 200 meters of the road, although the distance may vary depending on traffic and environmental conditions. Pollutants measured with elevated concentrations include benzene, polycyclic aromatic hydrocarbons, carbon monoxide, nitrogen dioxide, black carbon, and coarse, fine, and ultrafine particles. For a thorough review of near-roadway monitoring studies, see Section 3.1.3 of EPA's "Regulatory Impact Analysis: Control of Hazardous Air Pollutants from Mobile Sources" (February 2007, http://www.epa.gov/otaq/regs/toxics/fr-ria-sections.htm).

A large number of recent studies have examined the association between living near major roads and different adverse health endpoints. Several well-conducted epidemiologic studies have shown associations with cardiovascular effects, premature adult mortality, and adverse birth outcomes, including low birth weight and size. Traffic-related pollutants have been repeatedly associated with increased prevalence of asthma-related respiratory symptoms in

children. Also, based on toxicological and occupational epidemiologic literature, several of the mobile source air toxics (MSAT), including benzene, 1,3-butadiene, and diesel exhaust, are classified as known and likely human carcinogens. Thus, cancer risk, including childhood leukemia, is a potential concern in near roadway environments. For additional information on MSATs, please see EPA's MSAT website http://www.epa.gov/otaq/toxics.htm.

Given the significant concerns about adverse health effects from mobile source pollutants, the freeway's current high traffic volume (more than 280,000 vehicles per day) and the proposal's intention to further increase capacity, and the close proximity of residences and sensitive receptors along several stretches of the freeway (with some communities directly adjacent to the freeway), EPA recommends a comprehensive quantitative analysis of MSAT impacts. This analysis can be used to inform decision-making between project alternatives and to inform avoidance, minimization, and mitigation options. A quantitative analysis with dispersion modeling and risk contours would help to identify problematic hotspots.

For most transportation projects, EPA generally recommends that the following levels of analysis be considered (in order of increasing complexity):

1. Qualitative discussion,
2. Quantify emissions,
3. Toxicity-weight emissions,
4. Dispersion modeling, and
5. Risk assessment.

These analyses are further described in the March 2007 report entitled "Analyzing, Documenting, and Communicating the Impacts of Mobile Source Air Toxic Emissions in the NEPA Process" conducted for the American Association of State Highway and Transportation Officials (AASHTO) Standing Committee on the Environment and funded by the Transportation Research Board (http://www.trb.org/NotesDocs/25-25(18)_FR.pdf). Procedures for toxicity-weighting, which EPA has found to be especially useful for the targeting of mitigation, are described in EPA's Air Toxics Risk Assessment Reference Library (Volume 3, Appendix B, beginning on page B-4, http://epa.gov/ttn/fera/data/risk/vol_3/Appendix_B_April_2006.pdf).

These recommendations, and the recommendations included in the report for AASHTO referenced above, differ substantially from the September 30, 2009 FHWA Interim Guidance Update on Mobile Source Air Toxic Analysis in NEPA Documents. The analysis of potential MSAT impacts is especially important in California, where the awareness of air toxics impacts, the knowledge of background conditions, and the familiarity with tools to assess potential impacts are very high. EPA suggests that Caltrans District 8 follow, as applicable to this project, a similar strategy to assess MSATs currently in development for the Interstate 710 Project. Caltrans District 7 is heading in the right direction in developing the appropriate models and level of stakeholder involvement to assess MSATs.

Waters of the United States

Given the project's proximity to the Santa Ana River and crossings of multiple tributaries, this Project will involve the discharge of dredged or fill material into jurisdictional

wetlands and waterways and require authorization by the U.S. Army Corps of Engineers (Corps) under Clean Water Act (CWA) Section 404. The Federal Guidelines at 40 CFR Part 230 promulgated under CWA Section 404 (b)(1) provide substantive environmental criteria that must be met to permit such discharges into waters of the U.S. These criteria require a permitted discharge to: (1) be the least environmentally damaging practicable alternative (LEDPA); (2) avoid causing or contributing to a violation of a State water quality standard; (3) avoid jeopardizing a federally listed species or adversely modifying designated critical habitat for a federally listed species; (4) avoid causing or contributing to significant degradation of the waters of the U.S.; and (5) mitigate for unavoidable impacts to waters. A fully integrated DEIS that adequately addresses these criteria would facilitate the CWA Section 404 permit review process. EPA recommends including a discussion on the requirements of LEDPA selection and describing how the alternative analysis will comply with the 404(b)(1) Guidelines. If the project has greater than five acres of permanent impacts to waters of the U.S., the project would trigger interagency coordination under the April 2006 *National Environmental Policy Act and Clean Water Action Section 404 Integration Process for Federal Aid Surface Transportation Projects in California Memorandum of Understanding* (NEPA/404 MOU).

Waters Assessment

The waters assessment should be of an appropriate scope and detail to identify sensitive areas or aquatic systems with functions highly susceptible to change. EPA also recommends the following in the DEIS for the assessment of existing conditions and environmental consequences of each proposed alternative:

- Include the classification of waters and the geographic extent of waters and any adjacent riparian areas.
- Characterize the functional condition of waters and any adjacent riparian areas.
- Include wildlife species affected that could reasonably be expected to use waters or associated riparian habitat and sensitive plant taxa that are associated with waters or associated riparian habitat.
- Analyze the potential changes in hydrologic regime and sediment transport from pre-project conditions.
- Analyze the potential water quality impact and potential effects to designated uses.
- Address techniques proposed for minimizing surface water contamination due to increased runoff from additional impervious surfaces.

On-Site Alternatives and Minimization

To demonstrate compliance with CWA Guidelines, the DEIS should identify measures and modifications to avoid and minimize impacts to water resources. Temporary and permanent impacts to waters of the U.S. for each alternative studied should be quantified; for example, acres of waters impacted, etc. For each alternative, the DEIS should report these numbers in table form for each impacted water and wetland feature.

As the project crosses multiple tributaries, the project provides an opportunity to modify existing undersized crossings to improve hydrological flows at stream crossings throughout the project area and/or improve wildlife access currently impaired by the freeway. The DEIS should

include on-site alternatives that replace undersized culvert(s) with either a larger culvert or a spanned crossing to actually improve the functional condition of the affected streams and provide more effective wildlife access under the roadway. Caltrans and the California Department of Fish and Game (DFG) recently released a February 2010 report entitled "California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California"[1] which is a collaborative state effort to identify key wildlife and habitat corridors throughout California. EPA recommends that Caltrans overlay these maps on the proposed alignment (and alternatives) to help aid in the identification of wildlife corridors and areas where culverts may need to be improved for wildlife movement.

Compensatory Mitigation

On April 10, 2008, EPA and the Corps issued revised regulations, "Compensatory Mitigation for Losses of Aquatic Resources; Final Rule" (Mitigation Rule) (40 CFR 230), governing compensatory mitigation for authorized impacts to wetlands, streams, and other waters of the U.S. under Section 404 of the Clean Water Act. These regulations are designed to improve the effectiveness of compensatory mitigation to replace lost aquatic resource functions and area and include a mitigation hierarchy with an inherent preference for mitigation banks and in-lieu fee programs before the use of an on-site mitigation site.

Recommendations:

- Include discussion in the DEIS to reflect current regulations. The link to the final Mitigation Rule, which went into effect on June 9, 2008, can be found at http://www.epa.gov/EPA-WATER/2008/April/Day-10/w6918a.pdf. Ensure that all mitigation proposed for waters of the U.S. is in compliance with the Mitigation Rule.
- Discuss mitigation for temporary and unavoidable indirect impacts. Temporary impact mitigation should consider additional compensatory mitigation for temporal loss of functions as well as establishing numeric criteria and monitoring of the temporary impact site to ensure that aquatic functions are fully restored. Indirect impact mitigation should consider opportunities to reduce any potential effects from shading and to compensate for possible wetland habitat fragmentation.

Greenhouse Gas Emissions and Sustainable Communities Strategies

The State of California has increased its focus on potential climate change and impacts of increasing greenhouse gas emissions. Specifically, the Global Warming Solutions Act of 2006 and Executive Order S-3-05 recognize the impact that climate change can have within California and provide direction for future reductions of greenhouse gases. The Natural Resources Agency recently adopted Amendments to the California Environmental Quality Act (CEQA) Guidelines for greenhouse gas emissions on December 30, 2009, which became effective on March 18, 2010[2]. Senate Bill 375 (SB 375) is aimed at curbing sprawl and reducing vehicle miles traveled in an effort to cut greenhouse gas emissions. SB 375 requires Metropolitan Planning

[1] Information on the California Essential Habitat Connectivity Project is available at: http://www.dot.ca.gov/hq/env/bio/project_materials.htm .

[2] Amendments to the CEQA Guidelines for greenhouse gas emissions are available on-line at: http://ceres.ca.gov/ceqa/guidelines/.

Organizations (MPOs) to develop a "sustainable communities strategy" (SCS), which demonstrates how the region will meet greenhouse gas emissions reduction targets set by CARB.

The State of California is also a 2009 recipient of EPA's Smart Growth Implementation Assistance (SGIA). The State of California requested assistance in developing a local government sustainable community framework to provide guidance to local jurisdictions in determining which combination of greenhouse gas emission reduction strategies, smart growth practices, and sustainability policies are best for their communities. At the Federal level under the Partnership for Sustainable Communities, EPA, the U.S. Department of Housing and Urban Development, and the U.S. Department of Transportation are working together to help improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide. The U.S. Department of Housing and Urban Development and the U.S. Department of Transportation will assist EPA in implementing the SGIA for the State of California.

EPA recommends that, as practicable, the DEIS identify the cumulative contributions to greenhouse gas emissions that will result from implementation of the project. In addition, we recommend that the DEIS discuss the potential impacts of climate change on the project and describe how the project meets the intent of statewide and national sustainability initiatives and goals to develop sustainable communities. Finally, the DEIS should identify if there are specific mitigation measures needed to 1) protect the project from the effects of climate change, 2) reduce the project's adverse air quality effects, and/or 3) promote pollution prevention and environmental stewardship.

Section 6002 Coordination for Future Projects

Purpose and Need and Range of Alternatives

Section 6002 SAFETEA-LU requires that the lead agency provide an opportunity for involvement by Participating Agencies in defining the Purpose and Need and in determining the Range of Alternatives for a project as early as practicable during the environmental review process. For this project, EPA received a concurrent request to comment on Purpose and Need, Range of Alternatives, Methodologies, and the Coordination Plan. The intent of Section 6002 SAFETEA-LU is to involve Participating Agencies early during the development of Purpose and Need in order to inform the scope and development of Project Alternatives. For future projects, EPA recommends that Caltrans request Participating Agency feedback on the Purpose and Need before extensive effort is expended on developing a Range of Alternatives for comment so that agency input can help shape the development of alternatives.

Coordination Plan

EPA recommends soliciting Participating Agency feedback on the project's coordination plan *prior to* requesting comments on specific SAFETEA-LU project milestones, so that the Participating Agencies have an opportunity to provide comments on any identified comment timelines and level of involvement by the Participating Agencies.

Methodologies

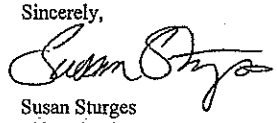
For future projects, EPA recommends that Caltrans provide a project-specific list of methodologies/models that are proposed for use and further identify the level of analyses that are proposed. The list should be supplemented with any relevant information inherent to the methodology, model, and resource so that Participating Agencies clearly understand how impacts will be assessed for each potentially significant impact and to what degree.

Participating Agency Coordination Meetings

EPA recommends that future participating agency coordination meetings for this project allow opportunities for Participating Agencies to participate in meetings via conference call if they are not able to attend in person (due to either travel restrictions or significant travel distance). Unfortunately, EPA was not able to participate in project meetings since the previous meeting venues were not set up for conference calls.

Thank you for requesting our comments. We look forward to continued participation in this project as a Participating Agency through the Section 6002 SAFETEA-LU process and will provide comments on the DEIS when it is available for review. If you have any questions, please contact me at 415-947-4188 or Sturges.Susan@epa.gov.

Sincerely,



Susan Sturges
Life Scientist
Environmental Review Office (CED-2)

CC: Shawn Oriaz, Caltrans District 8
Stephanie Hall, U.S. Army Corps of Engineers

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O. Box 532711
Los Angeles, CA 90017-3401

July 7, 2010

REPLY TO
ATTENTION OF:
Regulatory Division

David Bricker
Deputy District Director
C/O: Shawn Oriaz
Caltrans District 8
464 West 4th Street
San Bernardino, California 92401-1400

Dear Mr. Bricker:

This is in reply to your letter dated May 17, 2010 concerning the Purpose and Need, Project Description/Range of Alternatives, and Coordination Plan prepared for the State Route 91 (SR-91) Corridor Improvement Project located in Orange and Riverside Counties, California. You have requested our comments as part of the environmental review process pursuant to the National Environmental Policy Act (NEPA) and section 404 of the Clean Water Act (CWA). On September 5, 2008, the Corps accepted Caltrans' invitation to become a cooperating agency in accordance with 40 C.F.R. 1501.6 and Section 6002 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). Only after independent review of the final environmental document to ensure that the project satisfies NEPA and other Corps requirements, can the Corps adopt the final environmental document.

In order to effectively participate as a cooperating agency, we request that Caltrans provide a delineation of waters of the U.S. in the study area, as well as more fully describe the Range of Alternatives and project impacts once they are available for our review. When the administrative Draft and Final Environmental Impact Statements are available, we anticipate reviewing and commenting pursuant to 40 C.F.R. Parts 1500-1508, the CWA section 404(b)(1) Guidelines at 40 C.F.R. Part 230, and 33 U.S.C. 408, if applicable.

During the pre-application phase, in order for the Corps to assess whether an Individual Permit or Nationwide permit verifications may be applicable, the Corps requires the jurisdictional delineation and identification of impacts to waters of the US. If an Individual Permit is required, Caltrans should submit the permit application prior to the Final EIS.

Upon review of the Purpose and Need and Project Description/Range of Alternatives, our comments and concerns with the project, are provided as follows:

Purpose and Need: Background Section

The Prado Flood Control Basin (Basin) is not presently included in Table 1.1. The Basin is a not part ofthe Santa Ana Mainstem Project. Impacts to the Basin must be considered.

Table 1.1 describes projects which are currently being planned such as the SR-91/SR-71 Interchange Improvement Project. The environmental document should clearly describe how these projects are or are not related to the SR-91 Corridor Improvement Project. The independent utility and logical termini of the project should be clearly described and justified.

In the Commuter Rail and Transit Services Section on page 10, other corridor studies are described. If these corridors are reasonable alternatives for addressing the purpose and need, these projects should be evaluated under one environmental document. Please clarify how the Major Investment Study process and other alternative analysis studies were conducted in accordance with NEPA. NEPA provides the opportunity for scoping to appropriately identify the purpose and need, range of alternatives, and to solicit and engage the public participation.

Purpose and Need: Purpose of the Proposed Project Section

A concise purpose statement should be developed with the objectives, if necessary. Identification of purpose of the project to provide improvements on SR-91 and I-15 (objectives 1 and 3) limits the reasonable range of alternatives. The third objective, "Provide maximum benefits to the traveling public within the project limits as soon as funding is available" is too vague and does not provide a basis for determining whether an alternative satisfies the purpose of the project. The availability of the funding should not be a factor for determining the adequacy of an objective. The purpose and need should be broad enough to allow for consideration of a range of reasonable and practicable alternatives that are commensurate with the level of environmental impacts, but specific enough that the range of alternatives can be appropriately focused. The needs of the project should take scoping comments into account and be presented in terms of quantified deficiencies (i.e., existing deficiencies, future without-project deficiencies, or both) as compared to some relevant local, regional, state, or national standard or goal. The purpose and need should be sufficiently clear and detailed for the Corps to formulate the basic and overall project purpose pursuant to the CWA section 404(b)(1) Guidelines, and so that it can be used with confidence in the development of the range of alternatives.

The objectives and need matrix at the end of the document includes an additional

objective not articulated in the body of the document (i.e. "Accommodate the STAA National Network for trucks").

Purpose and Need: Need for the Proposed Project Section

In the Exisitng Facilities and Capacity Section on page 16, please describe the constraints with the State Route 60 and State Route 74. Would improvements along these corridors address the regional traffic demands?

The Capacity, Transportation Demand, and Safety Section describe the level of service, volume to capacity ratios and average daily traffic on the SR-91. Please clarify what is the deficiency and why it is important. Please provide a comparison to acceptable standards or other freeways in the region. There is a missing connection between the need statement and the objective to "reduce diversion of regional traffic from the freeways into the surrounding communities." Please articulate why this is an objective of the project. Please provide justification to why diversion is a problem. Data is also provided on the build alternatives in this section. The Purpose and Need should focus on identifying the underlying problems and the reasons a project is considered and should not be written in a way that includes the potential solution itself.

Project Description

Drainage features that provide for wildlife movement should be considered for widening or modification to provide for enhanced connectivity functions. Please coordinate with California Department of Fish and Game and the U.S. Fish and Wildlife Service to provide additional recommendations regarding connectivity of wildlife habitat and movement.

Appropriate screening criteria should be discussed in the Alternatives Considered and Eliminated From Further Discussion Section in order to appropriately eliminate any alternative from further consideration. Alternatives should be developed in coordination with the Corps.

The Section 404(b)(1) Guidelines (Guidelines) at 40 C.F.R. 230.10(a)(1), practicable alternatives include, but are not limited to: (i) Activities which do not involve a discharge of dredged or fill material into waters of the US or ocean waters and (ii) Discharges of dredged or fill material at other locations in waters of the US or ocean waters. The analysis of a "no fill (i.e, no 404 permit required)" it) is required and provides the baseline in which to evaluate impacts to aquatic resources for purposes of documenting compliance with the Guidelines. Please provide a complete description and analysis of a "no fill" alternative. Offsite alternatives within and outside of the study corridor should be considered. Compliance with the Guidelines is required for all standard individual permits.

The Guidelines and Section 404 Clean Water Act also requires the analysis of alternatives that have less adverse impact on the aquatic ecosystem including avoidance of special aquatic sites. Please consider span culverts, bottomless culverts, bridges with minimal piers, and other types of drainage features that avoid and/or minimize impacts to aquatic resources. Avoidance and minimization is required for standard individual permits and general permits.

General Comments

The draft environmental document section should describe all waters of the U.S. found within the study area. The jurisdictional delineation should be disclosed in the EIS. This provides the baseline conditions in which to evaluate impacts to aquatic resources (waters of the US). The aquatic resources functions and services should also be described. The EIS should also identify and discuss the cause and effect relationships between the project activity and the functions and services of the aquatic resources. Effects should be predicted in terms of magnitude, duration, and timing of the impact in relation to the resources. A quantitative and qualitative impacts analysis from past, present, and future projects should also be provided. Supporting data and analysis should be summarized or appropriately referenced.

A draft mitigation plan and location of mitigation should be disclosed in the Final EIS and be submitted as part of the permit application. A final mitigation plan is required if an Individual Permit is required. Any proposed mitigation should be in compliance with the 33 C.F.R. Part 332 and 40 C.F.R. Part 230Please be aware of the compensatory mitigation requirements such as the use of the watershed approach for identifying mitigation projects, and the required conservation easements and financial assurances for Permittee-responsible mitigation, among other requirements.

The Corps' responsibilities to maintain the function of Civil Works project (Corps' Projects) features, which includes the Prado Flood Control Basin and many other channels and dams, are of paramount importance. To that end, the Corps is required to review requests to alter, occupy or use federal flood risk management works in accordance with the terms of 33 U.S.C. § 408. The Corps must determine that granting permission to alter, occupy or use will not be injurious to the public interest and will not impair the usefulness of such work. This determination, which may only be made by the Chief of Engineers or his delegee, requires detailed evaluation, as described in Corps guidance attached to this letter. Please be advised that impacts to our flood risk management works could result in substantial delay to the project or a denial from the Corps. Corps approval under Section 408 is required for modifications to all existing Corps projects, regardless of whether they are currently operated by the Corps or by a non-Federal sponsor such as a city, county, or flood control district.

In order to ensure that the District Commander will be prepared to issue a timely recommendation to the Chief of Engineers or his delegee regarding the preferred alternative identified by CalTrans in the EIS, Corps staff need to be involved in the review, screening, and analysis of alternatives that would propose modifications to any Corps project. Because the Corps has jurisdiction by law over approval of any proposed changes to Corps Projects, it is imperative that your agency coordinate with our staff that has special expertise regarding the potential impacts on flood risk management systems of our Corps Projects. Please submit any requests for Section 408 review with supporting documentation to our District Commander at the address above.

Requests to occupy or use Federal land controlled by the Corps in the Prado Basin will also require Corps review and approval. Real estate interests or permissions are subject to the Corps' review and determination pertaining to requests to alter, occupy or use a Corps Project under 33 U.S.C. § 408. Please note, however, that if, as expected, the required Section 408 or real estate review and analysis exceeds our normal and ordinary capabilities under our appropriations, we may require additional funds to handle necessary actions under the environmental review process. Please coordinate with Phillip Serpa, the Project Manager for Section 408 and real property issues, at 213-452-3402 or Phillip.J.Serpa@usace.army.mil. Please submit any requests for Section 408 review with the required supporting documentation to our District Commander at the address above.

In our DA permit evaluation process, we must balance the project purpose against the public interest. The public benefits and detriments of all factors relevant to this transportation project will be carefully reviewed and considered. Relevant factors may include, but are not limited to, conservation, economics, aesthetics, wetlands, cultural values, fish and wildlife values, water quality, and any other factors judged to be important to the needs and welfare of the people. The following general criteria will be considered by the Corps in evaluating the SR-91 Corridor Improvement Project application:

- The relevant extent of public and private needs;
- Where unresolved conflicts of resource use exist, the practicability of using reasonable alternative locations and methods to accomplish project purposes; and
- The extent and permanence of the beneficial and/or detrimental effects the proposed project may have on the public and private uses to which the area is suited.

No DA permit can be granted if the project is found to be contrary to the public interest. We anticipate working with Caltrans and others in the documentation of our public interest review.

We appreciate your coordination efforts and the opportunity to submit comments on the Purpose and Need and Project Description/Range of Alternatives. Our agency looks forward to continuing an open dialogue with your respective offices to ensure this environmental review process remains comprehensive, technically sufficient, and transparent for the purposes of public disclosure and informed agency decision-making. If you have any questions, please contact Veronica Chan at 213-452-3292 or via e-mail at Veronica.C.Chan@usace.army.mil. Please refer to this letter and SPL-2008-00798-VCC in your reply.

Sincerely,

Stephanie J. Hall
Senior Project Manager
Regulatory Division

DEPARTMENT OF THE ARMY
P.O. Box 532711
Los Angeles, CA 90017-3401

November 22, 2011

REPLY TO
ATTENTION OF
Regulatory Division

Michael Blomquist
Riverside County Transportation Commission
4080 Lemon Street
3rd Floor
Riverside, California 92502

SUBJECT: Approved Jurisdictional Determination regarding presence/absence of geographic jurisdiction

Dear Mr. Blomquist:

Reference is made to your request (File No. SPL-2008-00798-VCC) dated November 15, 2010, for an approved Department of the Army jurisdictional determination (JD) for the State Route 91 Corridor Improvement Project (CIP) (-117.745607, 33.870879), located within the Cities of Anaheim and Corona, in Orange and Riverside Counties, California.

As you may know, the Corps' evaluation process for determining whether or not a Department of the Army permit is needed involves two tests. If both tests are met, then a permit is required. The first test determines whether or not the proposed project is located in a water of the United States (i.e., it is within the Corps' geographic jurisdiction). The second test determines whether or not the proposed project is a regulated activity under Section 10 of the River and Harbor Act or Section 404 of the Clean Water Act. As part of the evaluation process, pertaining to the first test only, we have made the jurisdictional determination below.

Based on available information, we have determined there are no waters of the United States on the project site in 31 locations depicted on the enclosed drawings and Approved JD form. The basis for our determination can be found in the enclosed Approved JD form.

The aquatic resources identified as "ditch" on the JD form are non-tidal drainages excavated on dry land that were built in the uplands and were not intended to and do not replace waters of the U.S. nor do they convey flows between waters of the U.S. As such, these aquatic resources are not currently regulated by the Corps of Engineers. This disclaimer of jurisdiction is only for Section 404 of the Clean Water Act. Other Federal, State, and local laws may apply to your activities. In particular, you may need authorization from the California

State Water Resources Control Board, California Department of Fish and Game, and/or the U.S. Fish and Wildlife Service.

This letter contains an approved jurisdictional determination for the State Route 91 CIP site. If you object to this decision, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet (Appendix A) and Request for Appeal (RFA) form. If you request to appeal this decision you must submit a completed RFA form to the Corps South Pacific Division Office at the following address:

Tom Cavanaugh
Administrative Appeal Review Officer,
U.S. Army Corps of Engineers
South Pacific Division, CESPD-PDS-O, 2042B
1455 Market Street, San Francisco, California 94103-1399

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 C.F.R. Part 331.5, and that it has been received by the Division Office within 60 days of the date on the NAP. Should you decide to submit an RFA form, it must be received at the above address by **January 22, 2012**. It is not necessary to submit an RFA form to the Division office if you do not object to the decision in this letter.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. If you wish to submit new information regarding the approved jurisdictional determination for this site, please submit this information to Veronica Chan at the letterhead address by **January 22, 2012**. The Corps will consider any new information so submitted and respond within 60 days by either revising the prior determination, if appropriate, or reissuing the prior determination. A revised or reissued jurisdictional determination can be appealed as described above.

This determination has been conducted to identify the extent of the Corps' Clean Water Act jurisdiction on the particular project site in 31 locations identified in your request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service, prior to starting work.

If you have any questions, please contact Veronica Chan at 213-452-3292 or via e-mail at Veronica.C.Chan@usace.army.mil.

Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Mark D. Cohen
Deputy Chief, Regulatory Division

Enclosures

Note: The attachments provided with this letter are on file at RCTC and the Department.

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

June 28, 2010

David Bricker
Deputy District Director, Environmental Planning
Department of Transportation
District 8
464 West 4th Street
San Bernardino, CA 92401

RE: State Route 91 Corridor Improvement Project

Dear Mr. Bricker,

SCAG accepts the invitation to be a participating agency in accordance with Section 6002 of SAFETEA-LU. Please direct all communications regarding this effort to:

Philip Law
Corridors Program Manager
818 W. 7th St, 12th Floor
Los Angeles, CA 90017
213-236-1841
law@scag.ca.gov

SCAG is already a participant on the SR-91 Corridor Improvement Project Stakeholder Advisory Committee. We look forward to continued coordination with Caltrans on this endeavor as it relates to our regional planning efforts, including the Regional Transportation Plan.

Sincerely,

Rich Macias,
Director, Transportation Planning

RM:pl

July 1, 2010

Mr. David Bricker, Deputy District Director
Environmental Planning
Department of Transportation
District 8
464 West 4th Street
San Bernardino, CA 92401-1400

Subject: State Route 91 Corridor Improvement Project

Dear Mr. Bricker:

The Orange County Transportation Authority (OCTA) has reviewed the Purpose and Need, Project Description/Range of Alternatives, and Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), Section 6002 Coordination Plan for the above referenced project. The following comments are provided for your consideration:

Coordination Plan

- Page 1, Section 1.1: it is recommended to modify OCTA's responsibilities to "....development of the project as it affects the proposed improvements within Orange County and the operations of the 91 Express Lanes."
- Discussion of the transfer of the 91 Express Lanes franchise agreement within Riverside County should be included where it is appropriate.

Project Description

- Page 7, Need for Phasing Plans:, it is recommended that a discussion regarding OCTA's Renewed Measure M funded portion in Orange County be included.
- Page 22, Utilities: it is recommend that the draft utilities plans be provided to the 91 Express Lanes group for their review/input. The 91 Express Lanes group may also have plans to replace signage within the next five years, this should be coordinated to avoid throwaways. Staff also recommends that OCTA be included as an affected agency if there potential impacts to the 91 Express Lanes facility.
- With regard to Table 2.11, please coordinate with the 91 Express Lanes group to determine if OCTA has any utilities that might be affected by the proposed project.

BOARD OF DIRECTORS
Jerry Amante
Chairman
Patricia Bates
Vice Chairman
Art Brown
Director
Peter Buffa
Director
Bill Campbell
Director
Carolyn V. Cavecche
Director
William J. Dalton
Director
Richard Dixon
Director
Paul G. Glaab
Director
Don Hansen
Director
Allan Mansoor
Director
John Moorlach
Director
Shawn Nelson
Director
Janet Nguyen
Director
Curt Pringle
Director
Miguel Pulido
Director
Gregory T. Winterbottom
Director
Cindy Quon
Governor's
Ex-Officio Member

CHIEF EXECUTIVE OFFICE
Will Kempton
Chief Executive Officer

- Page 37, Temporary Project Features: it is recommended that a discussion of any activity that will affect the 91 Express Lanes and the anticipated duration. OCTA needs to be notified of any temporary closures affecting the 91 Express Lanes operations.
- Page 85, Table 2.22: it is recommended that the language under 3.2 be modified to "...OCTA is collaborating with the TCA to propose a direct connector between SR-241 and the 91 Express Lanes." "...SR-91 Express Lanes..." should be referred to as "...91 Express Lanes..." These changes should be made globally.
- Page 97, SR-241/SR-91 Direct Connectors: Is there a need to modify the 2018 construction date, per the updated SR-91 Implementation Plan?

Purpose and Need

- Page 9, Table 1.1: it is recommended that "...SR-91 tolled express lanes" be modified to "91 Express Lanes." Changes should be made globally. Also, the completion time frame is not consistent with Page 97 of the Project Description document.
- Page 9, Table 1.1: please consider adding the SR-91 between SR-55 to SR-241 project to this list as the construction activities may overlap (completion by Dec 2014).
- Please verify the completion timeframe of the projects in Table 1.1.

If you have any questions or comments, please contact Dan Phu by phone at (714) 560-5907 or by email at dphu@octa.net.

Sincerely,

Charles Larwood
Manager, Transportation Planning

c: Dan Phu, OCTA
Tom Bogard, OCTA
Pradeep Gunaratne, OCTA
Kirk Avila, OCTA
Khalid Bazmi, RCTC
Michael Blomquist, RCTC

San Joaquin Hills Transportation Corridor Agency
Chairwoman: Linda Lindholm

Transportation Corridor Agencies

Foothill/Eastern Transportation Corridor Agency
Chairman: Peter Herzog

June 17, 2010

David Bricker
Deputy District Director
Environmental Planning
Department of Transportation, District 8
464 West 4th Street
San Bernardino, CA 92401-1400

Subject: State Route 91 Corridor Improvement Project
Foothill/Eastern Transportation Corridor Agency Review of the Purpose and Need, Project Description/Range of Alternatives, and SAFETEA-LU Section 6002 Coordination Plan

Reference: Your letter dated May 17, 2010

Dear Mr. Bricker:

Thank you for the opportunity to comment, as a participating agency, on the SR 91 Corridor Improvement Project (91 Project) administrative draft materials (Purpose and Need, Alternatives and SAFETEA-LU Section 6002 Coordination Plan) of the Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The Foothill/Eastern Transportation Corridor Agency (TCA) is a joint powers authority formed to manage financing, constructing and operating the Foothill/Eastern Transportation Corridors (SR 241, 133 and 261).

Our interest in the 91 Project relates to our role as the implementing agency for the N241/E91 Express Lane direct connector (Connector). The Connector is part of the SR 241 project, and has been planned since 1981 as a component of the SR 241. The Connector as previously approved was to be a two direction connector from the SR 241 to the eastbound SR 91 HOV/Express lanes and from the westbound SR 91 HOV/Express lanes to the SR 241. The Connector was cleared under NEPA in 1994 as a later phase of the SR 241. The Connector is on all the relevant plans, including the County of Orange MPAH, and the Southern California Association of Governments 2008 Adopted Regional Transportation Plan. Further details on the Connector are provided in the attached project sheet taken from our FY 2011 Capital Improvement Plan.

As we believe you are aware, TCA and Orange County Transportation Authority (OCTA) have initiated the process to implement the Connector, and anticipate that it will be open in 2015, in conjunction with the opening of the 91 Project. Due to the close relationship and overlapping physical area of the Connector and the 91 Project, as well as several other projects in the portion of the 91 corridor between the 241/91 interchange and SR 71, we understand that the

Thomas E. Margro, Chief Executive Officer

125 Pacifica, Suite 100, Irvine, CA 92618-3304 • P.O. Box 53770, Irvine, CA 92619-3770 • (949) 754-3400 Fax (949) 754-3467
www.thetoll roads.com

Members: Aliso Viejo • Anaheim • Costa Mesa • County of Orange • Dana Point • Irvine • Laguna Hills • Laguna Niguel • Laguna Woods • Lake Forest Mission Viejo • Newport Beach • Orange • Rancho Santa Margarita • Santa Ana • San Clemente • San Juan Capistrano • Tustin • Yorba Linda

91 Project alternatives in this area would address a number of ongoing and future public improvements.

We are providing the comments and questions below in writing to meet the deadline specified in the referenced letter, but we believe it would be productive to discuss these comments in person. We will be contacting you to set up a meeting to discuss our comments.

General Comments and Questions

1. The Connector project should be considered part of the "baseline" in the EIR/EIS. In accordance with CEQA Guidelines § 15126.6 (e)(3)(C), the Connector is a project that "would reasonably be expected to occur in the foreseeable future if the [91] project were not approved, based on current plans and consistent with available infrastructure and community services." The Connector is a committed project in TCA's Capital Improvement Program as well as all other relevant transportation plans.

2. It has been our understanding since 1994, as evidenced in various adopted plans and environmental documents, that the Connector would utilize SR 91 existing right-of-way. Please confirm that the Connector can be implemented as planned without any additional right-of-way.

3. How are the related projects in the Santa Ana Canyon being addressed in the 91 Project EIR/EIS and how are the impacts of those projects being addressed in the cumulative impacts analysis?

4. The physical proximity, timing and operational overlap of the 91 Project and the Connector warrant further discussions between our agencies to meet CEQA and NEPA mandates to minimize duplicative analysis.

5. Purpose and Need, page 9 – please revise completion date for the Connector from "Post 2020" to be 2015. It is in the best interest of the traveling public to have a minimum construction impact and as such, concurrent construction with the 91 Project is anticipated.

6. Project Description, page 79, under project costs, first line of the paragraph: the cost between $1.303 billion and $1.384 billion is for the Alternative 2 "Ultimate" project, not "Initial and Ultimate" projects.

7. Project Description, page 85, under Table 2.22, 3.2: SR-241 to SR-91 Direct Connector: The first column notes that OCTA will construct SR-241 to SR-91 Direct Connector. This has not yet been decided at this time. Furthermore, the acceleration of the Connector project to coincide with the opening of the 91 Project may change the findings of the Value Analysis Study.

8. Project Description, page 97, under SR-241/SR-91 Direct Connectors, "The project is anticipated to be completed in "2018" after construction of the SR-91 CIP project." This 2018 date conflicts with the statement on page 9 of the Purpose and Need stating "Post 2020 as the completion date. Nevertheless, we request that you please revise the completion date to be 2015.

Please feel free to contact this office should you have any questions regarding the above. My contact information is (949) 754-3488 or dlowe@thetollroads.com.

Sincerely,

David W. Lowe, P.E.
Director, Design & Construction

DWL:dwl

cc:
Enclosure(s)

241/91 Connector
F/E Near-Term Project No. 6

Description The project consists of providing a single or dual lane (in each direction) directional connector between the median of the 91 Express Lanes to and from the east and the median of 241 to the south. A conceptual study under the direction of the Orange County Transportation Authority (OCTA) with participation by F/ETCA has been completed. The study identified three potential connector configurations that are recommended for further study in a PSR/PR (Project Study Report/Project Report). This would include environmental studies for the roadway and the bridge connector ramp as the next phase of the project. One configuration of this connector (providing one HOV lane in each direction) was included in the Ultimate Corridor environmental document, EIR/EIS No. 2-1, for the Eastern Transportation Corridor.

Purpose and Need The 241/91 connector between the two toll facilities is an integral component of the Eastern Corridor Ultimate Project as well as OCTA's SR 91 Implementation Plan. Traffic on 91 east of 241 greatly exceeds the capacity of the existing roadway during extended peak hours and many improvements have been proposed to alleviate this congestion. Extension of the 91 express lanes further into Riverside County is needed to accommodate this transition..

Project Status Staff is prepared to proceed with the required engineering and environmental documents to advance the project. The Riverside County Transportation Commission is also developing plans for the extension of the 91 Express Lanes from the Riverside/Orange County Line east to Interstate 15. Preliminary traffic and revenue studies show the project to be revenue positive to both OCTA and TCA.

Environmental An HOV connector ramp between 241 and 91 was included as a project component in the Eastern Corridor environmental document, EIS No. 2-1. An Addendum to that document would be the minimum environmental document required to construct the HOV connector.

Construction Impacts The project would cause significant impacts to traffic during the estimated two to three year construction period. The eastbound lanes of 91 (including toll lanes) require complete relocation and reconstruction for a minimum length of approximately one mile to provide sufficient room in the 91 median for the connector ramp. Similar constraints easterly of the 241/91 connector would require creative solutions in order to allow transition through the confluence. Both 241 and 91 traffic would experience significant impacts during construction.

Costs/Budget The FY11 proposed budget includes development of a Project Study Report/Project Report and an environmental addendum for the project. The FY12 & later cost estimates assumes a two-lane in each direction connector and the extension of 91 Express Lanes to 71. Participation levels and roles and responsibilities as well as roles of each agency for the remainder of the project are yet to be determined.

Activity	FY09 & Prior	FY10 Actual Plus Projected	Proposed FY11	FY12 & Later	Total
Engineering Oversight	$ 31,000	$ -	$ 100,000	$ -	$ 131,000
TCA Technical Memorandum	282,000	-	-	-	282,000
OCTA Study	334,000	-	-	-	334,000
PSR/PR		-	900,000	-	900,000
Design/Environmental		-	1,000,000	67,000,000	68,000,000
Right-of-Way		-	-	2,000,000	2,000,000
Construction		-	-	351,000,000	351,000,000
Const. Engineering Mgmt.		-	-	21,000,000	21,000,000
Contingency & Miscellaneous		-	-	-	-
Total	$ 647,000	$ -	$ 2,000,000	$ 441,000,000	$ 443,647,000

Schedule The investment-grade traffic and revenue study is underway and should be complete by June 2010. Staff proposes in FY11 to proceed with a PSR/PR and necessary environmental documentation for the three remaining alternatives. As agreed with OCTA, TCA will be taking the lead in these efforts. After selection of a locally preferred alternative, a contract will be brought before the Board with a goal of having this connector opened to traffic at the same time as the extension of the 91 Express Lanes into Riverside County, currently planned for late 2015.

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.rcflood.org

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

July 12, 2010

Mr. David Bricker
Deputy District Director
California Department of Transportation,
Environmental Planning
464 West 4th Street
San Bernardino, CA 92401

Dear Mr. Bricker:

Re: Invitation To Become
A Participating Agency
State Route 91 Corridor
Improvement Project

Thank you for your letter dated June 22, 2010 inviting our District to become a Participating Agency (pursuant to the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU)) on the State Route 91 Corridor Project (Project). The Riverside County Flood Control and Water Conservation District (District) is a special district created by the State legislature (Chapter 48; California Water Code Appendix). The District's mission is to protect people, property and watersheds from damage or destruction from flood and storm waters and to conserve, reclaim and save such waters for beneficial use. To this end, the District plans, designs, constructs, owns, operates and maintains significant flood control and drainage infrastructure with the Project area. In addition, the District plays a major role in the implementation of the region's NPDES Municipal Stormwater (MS4) Permits.

The Project will likely impact various District facilities/rights of way and incrementally increase stormwater water runoff within the Project area. Typically, the District's role with respect to this type of project is that of a Responsible Agency pursuant to the California Environmental Quality Act (CEQA). It is anticipated that the District will be required to approve one or more aspects of the Project in accordance with CEQA. District staff previously responded to Caltrans' Notice of Preparation (see attached letter dated August 18, 2008).

Major District facilities that appear to be potentially impacted by the Project include:

1. North Norco Channel
2. South Norco Channel
3. Temescal Channel
4. Arlington Channel
5. Oak Street Channel
6. La Sierra Channel
7. El Cerrito Channel

Other District drainage facilities are located within or near the proposed project area and may also be impacted. Caltrans' environmental compliance document(s) should address Project impacts to all District facilities and facilitate the District's required compliance with CEQA. Any work involving District right-of-way, easements or facilities will require an encroachment permit from the District. The construction of facilities within Caltrans' right-of-way that may impact District storm drains should also be coordinated with District staff. To obtain further information on encroachment permits or existing facilities, please contact the District's Encroachment Permit Section at 951.955.1266.

As I am sure you are aware, there are a number of important differences between CEQA and the National Environmental Policy Act (NEPA). In our experience working with federal agencies on various NEPA documents, it has come to our attention that the importance of conforming with certain regional land use planning programs - for example, the Western Riverside Multi-Species Conservation Habitat Plan (MSHCP) - is sometimes overlooked. Please be aware that the District, like the cities of Corona and Riverside, is a MSHCP permittee and that, in addition to CEQA, it must also comply with the provisions of the MSHCP when approving discretionary projects or permits. Caltrans' environmental compliance document(s) for the Project should include a MSHCP consistency assessment for those portions of the Project that are located within Riverside County including all necessary supporting documents, analysis and necessary mitigation in accordance with MSHCP requirements. The consistency assessment should address, at a minimum, Sections 3.2.1, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.3 and Appendix C of the MSHCP.

Again, thank you for your letter. Please contact me at 951.955.8411 if I can be of further assistance.

Very truly yours,

Mark H. Wills

MARK H. WILLS
Chief of Regulatory Division

Attachment

ec: Ed Lotz

MHW:cw
P8/132279

EK445

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.floodcontrol.co.riverside.ca.us

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

August 18, 2008

Mr. Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Dear Mr. Williams:

Re: Notice of Preparation of a Draft Environmental Impact Report for the State Route 91 Corridor Improvement Project

This letter is written in response to the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project. The proposed project consists of increasing capacity on an existing 12-mile stretch on the State Route 91 from the State Route 241 in the City of Anaheim in Orange County, through the City of Corona, to Pierce Street in the City of Riverside in Riverside County. The proposed project also includes improvements on Interstate 15 in Riverside County between the Cajalco Road Interchange in unincorporated Riverside County and the Hidden Valley Parkway Interchange in the City of Corona.

The Riverside County Flood Control and Water Conservation District has the following comments/concerns that should be addressed in the DEIR:

1. The proposed project area is located within the District's Norco, Home Gardens, and La Sierra Master Drainage Plan (MDP) boundaries. When fully implemented, these MDP facilities will provide flood protection to relieve those areas within the plan of the most serious flooding problems and will provide adequate drainage outlets. The DEIR should fully evaluate potential impacts to master planned facilities. The District's MDP facility maps can be viewed online under Programs and Services at www.rcflood.org. To obtain further information on the MDP and the proposed facilities, please contact Dale Anderson of the District's Planning Section at 951.955.1345.

2. Several existing District facilities are located within the proposed project area and may be impacted. The DEIR should fully evaluate potential impacts to the District's existing facilities. Any work that involves District right-of-way, easements or facilities will require an encroachment permit from the District. Any construction of facilities within road right-of-way that may impact District storm drains should also be coordinated with us. To obtain further information on encroachment permits or existing facilities, contact Ed Lotz of the District's Encroachment Permit Section at 951.955.1266.

3. The District is a signatory to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). For purposes of procuring an encroachment permit from the District, the permit applicant will need to demonstrate that the portion of the project located within District right-of-way or easement is consistent with the MSHCP. The DEIR should include an MSHCP consistency assessment with all of its supporting documents and provide mitigation, if needed, in accordance with all applicable MSHCP requirements. The assessment should address, at a minimum, Sections 3.2, 3.2.1, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.3 and Appendix C of the MSHCP. In addition, some of the existing District facilities located within the project area are currently designated as Public/Quasi Public (P/QP) lands in the MSHCP. Any impacts to P/QP lands should be addressed in the DEIR.

4. The proposed project has the potential to alter existing drainage patterns. The potential diversion or concentration of storm water flows and any related impacts should be fully addressed in the DEIR. The proposed project also has the potential to increase storm water runoff and erosion within the proposed project area. The DEIR should also address the potential for increased runoff and any impacts that may result.

5. Portions of the proposed project may be located within the 100-year Zone A floodplain limits as delineated on the Federal Flood Insurance Rate Maps, issued in conjunction with the National Flood Insurance Program. If the proposed project will impact watercourses that may have floodplain associated with them, the DEIR should address potential direct and indirect floodplain impacts.

6. Construction projects that result in the disturbance of 1 or more acre of land (or less than 1 acre if part of an overall plan of common development) may require coverage under the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (Construction Activity General Permit). Copies of the Construction Activity General Permit and Fact Sheet may be obtained from the SWRCB website (www.swrcb.ca.gov).

Thank you for the opportunity to comment on the Notice of Preparation. Please forward any subsequent environmental documents regarding the project to my attention at this office. Any further questions concerning this letter may be referred to Mai Son at 951.955.5418 or me at 951.955.1233.

Very truly yours,

Teresa Tung

TERESA TUNG
Senior Civil Engineer

c: TLMA
Attn: David Mares
Ed Lotz
Dale Anderson

MTS:mcv
P8\120661

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-mailed: July 15, 2010

July 15, 2010

Mr. David Bricker
Deputy District Director
Environmental Planning
Department of Transportation-District 8
464 West 4th Street
San Bernardino, CA 92401

Mr. Bricker,

The South Coast Air Quality Management District (AQMD) staff appreciates the California Department of Transportation's (Caltrans) invitation to become a participating agency under Section 6002 of the SAFETEA-LU for the proposed State Route 91 (SR-91) Corridor Improvement Project. The AQMD staff has reviewed the draft project description, purpose and need statements and based on the information in these draft documents the AQMD staff is concerned about potentially significant air quality and health risk impacts from the proposed project. Therefore, AQMD staff accepts Caltrans invitation to become a participating agency for the SR-91 Corridor Improvement Project.

AQMD staff requests that Caltrans place the AQMD on all future mailing lists for the proposed project. Also, AQMD staff requests that Caltrans provide AQMD with all future environmental documents prepared for the proposed project including technical data used to quantify any potential air quality and health risk impacts from the project. AQMD staff is available to work with the lead agency to address any issues and questions that may arise during the environmental review process. Please contact

Dan Garcia, Air Quality Specialist CEQA Section, at (909) 396-3304, if you have any questions regarding the enclosed comments.

Please address all correspondence to:

Mr. Ian MacMillan
Program Supervisor, CEQA Inter - Governmental Review
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM:DG

SBC100624-03
Control Number

COUNTY OF RIVERSIDE

TRANSPORTATION AND LAND MANAGEMENT AGENCY

Transportation Department

Juan C. Perez, P.E., T.E.
Director of Transportation

July 21, 2010

Mr. David Bricker
Department of Transportation
District 8
464 West 4th Street
San Bernardino, CA 92401

Subject: Invitation to Become a Participating Agency on the State Route 91 Corridor Improvement Project

Dear Mr. Bricker:

Thank you for the invitation to become a participating agency on the State Route 91 Corridor Improvement Project (SR-91 CIP) and the opportunity to review the purpose and need and project description.

The Riverside County Transportation Department requests to be included as a participating agency on the SR-91 CIP.

Please contact me at (951) 955-2091 if you have any questions.

Sincerely,

Farah Khorashadi

Farah Khorashadi
Engineering Division Manager

FK:rg

cc: Juan Perez, Director of Transportation
Patricia Romo, Deputy Director of Transportation

OFFICE OF: PUBLIC WORKS DEPARTMENT

(951) 739-4823
(951) 279-3627 (FAX)
KipF@ci.corona.ca.us

400 SOUTH VICENTIA AVENUE, P.O. BOX 940, CORONA, CALIFORNIA 92879-0940
CITY HALL - ON LINE ALL THE TIME (http://www.discovercorona.com)

June 8, 2010

David Bricker, Deputy District Director
Caltrans District 8
Environmental Planning
464 W. Fourth Street
San Bernardino, CA 92401

SUBJECT: State Route 91 Corridor Improvement Project review of Purpose and Need, Project Description and SAFETA-LU Section 6022 Coordination Plan.

Dear Mr. Bricker:

The City of Corona Public Works Department has received and reviewed the SR-91 Corridor Improvement Project documents and has the following comments:

SAFTEA-LU 6002 Coordination Plan:

1. The City of Corona Public Works Department does not have any comments on this document.

Purpose and Need:

1. In the Introduction section on page 1, there is no reference to the existing HOV lanes on SR-91.
2. The population data noted on page 14 is not consistent with the population data shown in Table 1.4 on page 24.
3. In the last paragraph of page 15, the reference to Table 1.3 should be to Table 1.4.
4. On page 28, there is reference data for *Alternative 2 – Initial Project*; however, there is no definition or description of *Alternative 2 – Initial Project* included anywhere in the document.
5. On Table 1.12 located on page 38, there is Peak-Hour LOS data for the *2035 No Build Alternative* with Toll/HOV data for northbound and southbound I-15; however, this data is based on the I-15 CIP project that may or may not be in place for this alternative, which could be misleading information and should be clarified.

Project Description:

1. The City of Corona Public Works Department does not have any comments on this document.

Please call Robert Morin at (951) 736-2446 if you have any questions or would like to discuss these comments in more detail.

Sincerely,

Kip D. Field P.E.
Public Works Director

C: Robert Morin, Principal Civil Engineer

This page intentionally left blank

Attachment 5.B:
Notice of Preparation (July 16, 2008)

This page intentionally left blank

POSTED

JUL 16 2008

TOM DALY, CLERK-RECORDER

By _____ DEPUTY

SCH No. _____

NOTICE OF PREPARATION

To: Public Agencies/General Public

From: California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Subject: **Notice of Preparation of a Draft Environmental Impact Report**

The California Department of Transportation (Caltrans) will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice.

Please send your response to Russell Williams at the address shown above. We will need the name for contact person in your agency.

Project Title: State Route 91 Corridor Improvement Project

Date: 7/11/08

Signature: Ernest A. Figueroa
Title: Deputy District Director
Environmental Planning

Attachment: Project Information

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

POSTED

JUL 16 2008

TOM DALY, CLERK-RECORDER

By _____ DEPUTY

Caltrans will prepare an EIR on a proposal to increase capacity within the project segments of State Route 91 (SR-91) (between the State Route 241 Interchange and Pierce Street) and Interstate 15 (between Cajalco Road and Hidden Valley Parkway). The proposed improvements are considered necessary to facilitate movement of people and goods between the Counties of Orange and Riverside by improving travel conditions for work, recreation school, commerce, as well as all other trip purposes. Alternatives under consideration include: (1) High Occupancy Vehicle (HOV) Lanes; (2) High Occupancy Toll (HOT) Lanes; and (3) taking no action.

A scoping meeting for all interested parties/agencies and the general public is scheduled for Tuesday, July 29, 2008 from 5:00 p.m. to 8:00 p.m. in an open house format at the City of Corona City Hall, Multi-purpose Room, 400 S. Vicentia Avenue, Corona, California.

A more detailed project description, location, and the potential environmental effects are contained in the attached materials. The following environmental topics will be discussed in detail in the forthcoming EIR:

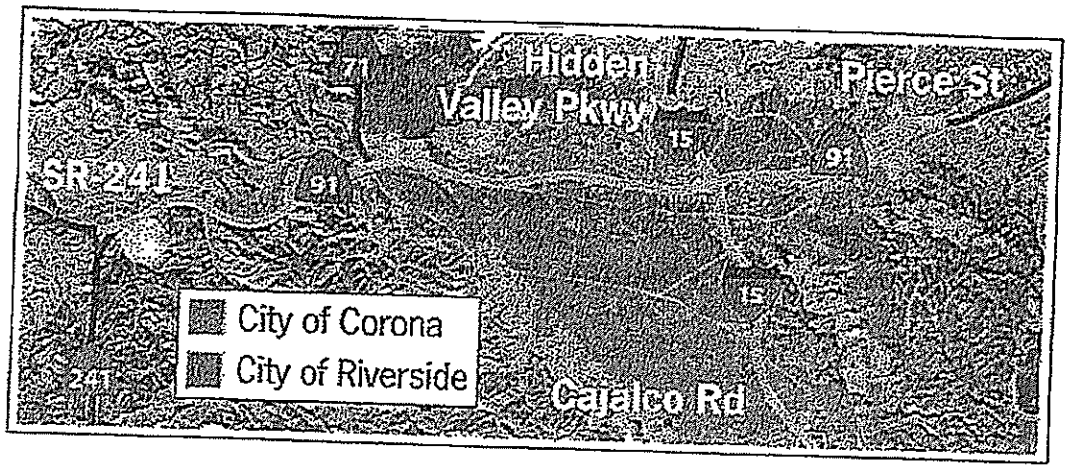
- Aesthetics
- Agriculture Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazards & Hazardous Materials
- Hydrology/Water Quality
- Mandatory Findings of Significance
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing/Relocations
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems
- Cumulative Impacts

For additional information regarding this project, please contact Mr. Russell Williams, California Department of Transportation, District 8, Division of Environmental Planning, SR-91 Corridor Improvement Project, 464 West 4th Street, 11th Floor, San Bernardino, CA 92401, via telephone at (909) 383-1554, or via email at D8_SR_91_Corridor_Improvement@dot.ca.gov.

STATE ROUTE 91 CORRIDOR IMPROVEMENT PROJECT
ENVIRONMENTAL INFORMATION

What is the SR-91 Corridor Improvement Project?

The project segment of SR-91 is one of the most congested routes in Southern California with a current average daily traffic (ADT) of 280,000 vehicles, which is expected to increase 50-70% by the year 2030. The State Route 91 (SR-91) Corridor Improvement Project focuses on increasing capacity on an existing 12-mile stretch (shown below in yellow) on the SR-91 from the SR-241 in the City of Anaheim in Orange County, through the City of Corona, to Pierce Street in the City of Riverside in Riverside County. The project also includes improvements on Interstate 15 (I-15) in Riverside County between the Cajalco Road Interchange in unincorporated Riverside County and the Hidden Valley Parkway Interchange in the City of Corona.

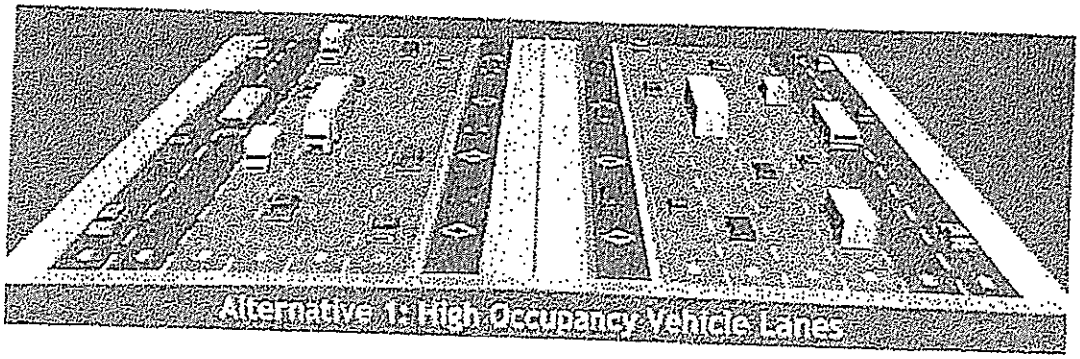


What are the current project alternatives under consideration?

The project will include studying two build alternatives on the SR-91 from the SR-241 to Pierce Street in the City of Riverside, which is approximately 12 miles long. Both alternatives include widening the existing structures, and the realignment and reconstruction of the existing exits and entrance ramps within the project limits. The project will also consider direct connectors linking the I-15 to the SR-91 existing HOV lanes and/or proposed toll lanes, which will potentially extend these lanes approximately five miles along the I-15 to Cajalco Road. A No Action alternative will also be evaluated.

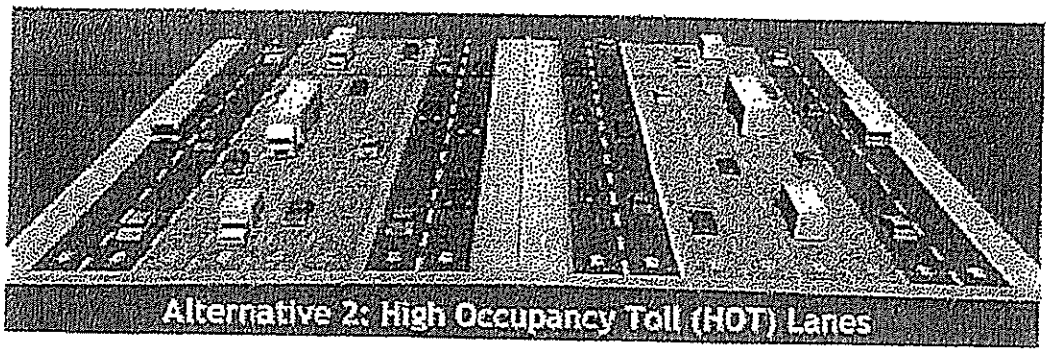
Alternative 1: High Occupancy Vehicle (HOV) Lanes

Alternative 1 would include the addition of one general purpose lane in each direction from SR-241 in Orange County to Pierce Street in the City of Riverside and an auxiliary lane, as needed, and maintain the existing HOV lanes, as well as realigning and reconstructing existing interchange exit and entrance ramps within the project limits. This alternative would also upgrade standards. The existing HOV lane, as shown below, would be maintained.



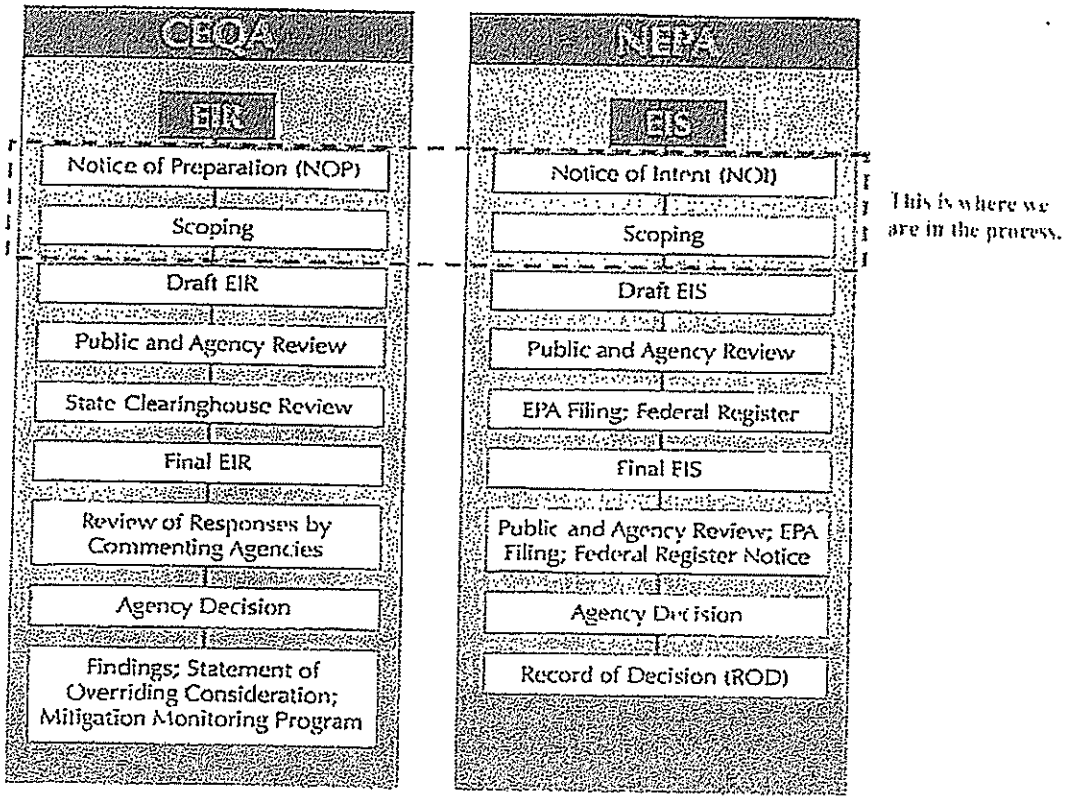
Alternative 2: High-Occupancy Toll (HOT) Lanes

Alternative 2 is a constrained alternative, which would add one general-purpose lane and two HOT lanes in each direction on SR-91 from SR-241 in Orange County to Pierce Street in the City of Riverside and includes widening of existing structures, as well as realigning and reconstructing existing interchange exit and entrance ramps and an auxiliary lane, as needed within the project limits. The highway will also be upgraded to current standards. This alternative will also provide direct connectors to link the new toll lanes with I-15.



What is the environmental process?

The California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) require agencies to prepare environmental impact assessments for proposed projects with significant environmental effects and to circulate these documents to other agencies and the public for comment before making decisions. It has been determined that a joint CEQA/NEPA document comprising an Environmental Impact Report (EIR) and an Environmental Impact Statement (EIS) will be prepared for the project. The steps for the CEQA/NEPA process are shown in the flow charts below:



Will any permits be required for the project?

While the specific federal and State permits and approvals for the project have not yet been identified for the two build alternatives, it is anticipated that a Section 404 permit (issued by the U.S. Army Corps of Engineers), a Streambed Alteration Agreement (a Section 1602 Agreement, issued by the California Department of Fish and Game), and possibly a Section 7 permit (issued by the U.S. Fish and Wildlife Service) may be required for the project.

How can I get involved in the environmental process?

There are a number of ways to get involved with the environmental process. Here are the opportunities for public involvement:

- Review and respond to the Notice of Preparation (NOP) by August 11, 2008
- Attend the Scoping Meeting scheduled for July 29, 2008, 5:00 p.m. to 8:00 p.m. (open house format) at the City of Corona City Hall, Multi-purpose Room, 400 S. Vicentia Avenue, Corona, California
- Review the EIR/EIS when it is released for public review (tentatively scheduled for Nov. 2009)
- Attend public hearing(s)/meeting(s) on the EIR/EIS
- Review responses to comments on Final EIR/EIS
- Attend hearing on the Final EIR/EIS and the selection of the Preferred Alternative

Who can I contact to get more information about the EIR/EIS or the project?

Mr. Russell Williams
California Department of Transportation, District 8
Division of Environmental Planning
SR-91 Corridor Improvement Project
464 West 4th Street, 11th Floor
San Bernardino, CA 92401
email: D8_SR_91_Corridor_Improvement@dot.ca.gov.

In addition, information about the EIR/EIS is also available at the SR-91 website at the following url: http://www.sr91project.info/environmental/general_info.php

Future public information meetings will be held to update interested parties on the progress of the project. The first one is anticipated to occur in the fall of 2008.

In addition, information about the SR-91 Corridor Improvement Project is also available at the Project website at the following url: http://www.sr91project.info/

This page intentionally left blank

Attachment 5.C:
State Clearinghouse Distribution of the Notice of Preparation to State Agencies

This page intentionally left blank

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

July 15, 2008

To: Reviewing Agencies

Re: State Route 91 Corridor Improvement Project
SCH# 2008071075

Attached for your review and comment is the Notice of Preparation (NOP) for the State Route 91 Corridor Improvement Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Russell Williams
California Department of Transportation, District 8
464 W. 4th Street, 7th Floor
San Bernardino, CA 92401

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH#	2008071075
Project Title	State Route 91 Corridor Improvement Project
Lead Agency	Caltrans #8

Type NOP Notice of Preparation

Description The project is proposed within the project segments of the SR-91 (between the State Route 241 [SR 241] interchange and Pierce Street) and the I-5 (between Cajalco Road and Hidden Valley Parkway). The proposed EIR/EIS will evaluate the following alternatives:

Alternative 1: High Occupancy Vehicle (HOV) Lanes: Alternative 1 would include the addition of one general-purpose lane in each direction from SR-241 in Orange County to Pierce Street in the City of Riverside (approximately 12 miles) and an auxiliary lane, as needed, and maintain the existing HOV lanes, as well as realigning and reconstructing existing interchange exit and entrance ramps within the project limits. This alternative would also upgrade standards.

Alternative 2: High Occupancy Toll (HOT) Lanes: Alternative 2 is a constrained alternative, which would add one general-purpose lane and two HOT lanes in each direction on SR-91 from SR-241 in Orange County to Pierce Street in the City of Riverside (approximately 12 miles) and includes widening of existing structures, as well as realigning and reconstructing existing interchange exit and entrance ramps and an auxiliary lane, as needed within the project limits. The highway will also be upgraded to current standrads. This alternative will also provide direct connectors to link in the new toll lanes with I-15.

Lead Agency Contact

Name	Russell Williams		
Agency	California Department of Transportation, District 8		
Phone	909-383-1554	*Fax*	
email			
Address	464 W. 4th Street, 7th Floor		
City	San Bernardino	*State* CA	*Zip* 92401

Project Location

County	Riverside, Orange		
City	Anaheim, Corona, Riverside		
Region			
Cross Streets	SR-91 segment (SR-241 to Pierce St) I-15 (Hidden Valley Pkwy to Cajalco Rd)		
Lat / Long	33° 52' 55" N / 117° 32' 50" W		
Parcel No.	Multiple		
Township	*Range*	*Section*	*Base*

Proximity to:

Highways	SR-241, SR-71, I-15
Airports	
Railways	BNSF
Waterways	Santa Ana River
Schools	Multiple
Land Use	The project is a proposed widening of State Route 91 (SR-91) with connectors to Interstate 15 (I-15). Multiple land use designations occur in the study area.

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Cumulative Effects; Landuse; Growth Inducing; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife

Note: Blanks in data fields result from insufficient information provided by lead agency.

Reviewing Agencies	Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 5; Native American Heritage Commission; Department of Fish and Game, Region 6; California Highway Patrol; Air Resources Board, Transportation Projects; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 8

Date Received 07/15/2008 *Start of Review* 07/15/2008 *End of Review* 08/13/2008

Note: Blanks in data fields result from insufficient information provided by lead agency.

County: Riverside / Orange SCH# 2008041018

Resources Agency

- [x] Resources Agency — Nadell Gayou
- [ ] Dept. of Boating & Waterways — David Johnson
- [ ] California Coastal Commission — Elizabeth A. Fuchs
- [ ] Colorado River Board — Gerald R. Zimmerman
- [ ] Dept. of Conservation — Sharon Howell
- [ ] California Energy Commission — Paul Richins
- [ ] Cal Fire — Allen Robertson
- [x] Office of Historic Preservation — Wayne Donaldson
- [x] Dept of Parks & Recreation — Environmental Stewardship Section
- [ ] Central Valley Flood Protection Board — Mark Herald
- [ ] S.F. Bay Conservation & Dev't. Comm. — Steve McAdam
- [x] Dept. of Water Resources — Resources Agency — Nadell Gayou
- [ ] _____ Conservancy

Fish and Game

- [ ] Depart. of Fish & Game — Scott Flint — Environmental Services Division
- [ ] Fish & Game Region 1 — Donald Koch
- [ ] Fish & Game Region 1E — Laurie Harnsberger
- [ ] Fish & Game Region 2 — Jeff Drongesen
- [ ] Fish & Game Region 3 — Robert Floerke
- [ ] Fish & Game Region 4 — Julie Vance
- [x] Fish & Game Region 5 — Don Chadwick — Habitat Conservation Program
- [x] Fish & Game Region 6 — Gabrina Gatchel — Habitat Conservation Program
- [ ] Fish & Game Region 6 I/M — Gabrina Gatchel — Inyo/Mono, Habitat Conservation Program
- [ ] Dept. of Fish & Game M — George Isaac — Marine Region

Other Departments

- [ ] Food & Agriculture — Steve Shaffer — Dept. of Food and Agriculture
- [ ] Depart. of General Services — Public School Construction
- [ ] Dept. of General Services — Robert Sleppy — Environmental Services Section
- [ ] Dept. of Health Services — Veronica Malloy — Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] Delta Protection Commission — Debby Eddy
- [ ] Office of Emergency Services — Dennis Castrillo
- [ ] Governor's Office of Planning & Research — State Clearinghouse
- [x] Native American Heritage Comm. — Debbie Treadway
- [ ] Public Utilities Commission — Ken Lewis
- [ ] Santa Monica Bay Restoration — Guangyu Wang
- [ ] State Lands Commission — Jean Sarino
- [ ] Tahoe Regional Planning Agency (TRPA) — Cherry Jacques

Business, Trans & Housing

- [ ] Caltrans - Division of Aeronautics — Sandy Hesnard
- [ ] Caltrans - Planning — Terri Pencovic
- [x] California Highway Patrol — Shirley Kelly — Office of Special Projects
- [ ] Housing & Community Development — Lisa Nichols — Housing Policy Division

Dept. of Transportation

- [ ] Caltrans, District 1 — Rex Jackman
- [ ] Caltrans, District 2 — Marcelino Gonzalez
- [ ] Caltrans, District 3 — Jeff Pulverman
- [ ] Caltrans, District 4 — Tim Sable
- [ ] Caltrans, District 5 — David Murray
- [ ] Caltrans, District 6 — Moses Stiles
- [ ] Caltrans, District 7 — Vin Kumar
- [ ] Caltrans, District 8 — Dan Kopulsky
- [ ] Caltrans, District 9 — Gayle Rosander
- [ ] Caltrans, District 10 — Tom Dumas
- [ ] Caltrans, District 11 — Jacob Armstrong
- [ ] Caltrans, District 12 — Bob Joseph

Cal EPA

Air Resources Board

- [ ] Airport Projects — Jim Lerner
- [x] Transportation Projects — Ravi Ramalingam
- [ ] Industrial Projects — Mike Tollstrup
- [ ] California Integrated Waste Management Board — Sue O'Leary
- [ ] State Water Resources Control Board — Regional Programs Unit — Division of Financial Assistance
- [ ] State Water Resources Control Board — Student Intern, 401 Water Quality Certification Unit — Division of Water Quality
- [ ] State Water Resouces Control Board — Steven Herrera — Division of Water Rights
- [x] Dept. of Toxic Substances Control — CEQA Tracking Center
- [ ] Department of Pesticide Regulation

Regional Water Quality Control Board (RWQCB)

- [ ] RWQCB 1 — Cathleen Hudson — North Coast Region (1)
- [ ] RWQCB 2 — Environmental Document Coordinator — San Francisco Bay Region (2)
- [ ] RWQCB 3 — Central Coast Region (3)
- [ ] RWQCB 4 — Teresa Rodgers — Los Angeles Region (4)
- [ ] RWQCB 5S — Central Valley Region (5)
  - [ ] RWQCB 5F — Central Valley Region (5) — Fresno Branch Office
  - [ ] RWQCB 5R — Central Valley Region (5) — Redding Branch Office
- [ ] RWQCB 6 — Lahontan Region (6)
  - [ ] RWQCB 6V — Lahontan Region (6) — Victorville Branch Office
- [ ] RWQCB 7 — Colorado River Basin Region (7)
- [x] RWQCB 8 — Santa Ana Region (8)
- [ ] RWQCB 9 — San Diego Region (9)

- [ ] Other _____

Last Updated on 02/21/08

Attachment 5.D:
Responses to the Notice of Preparation

- United States Department of the Interior, Fish and Wildlife Service (August 20, 2008).....4 pages
- Native American Heritage Commission (August 4, 2008).....5 pages
- California Department of Toxic Substances Control (August 8, 2008) .....4 pages
- California Public Utilities Commission (August 8, 2008) ..... 1 page
- California Department of Fish and Game (August 12, 2008) .....8 pages
- South Coast Air Quality Management District (July 31, 2008) .....2 pages
- Southern California Association of Governments (SCAG) (August 6, 2008) .....4 pages
- Southern California Regional Rail Authority (August 11, 2008).....2 pages
- Transportation Corridor Agencies (July 24, 2008)..... 1 page
- Riverside County Flood Control and Water Conservation District (August 18, 2008).....2 pages
- Orange County Public Works (August 21, 2008) .....2 pages
- City of Corona Public Works (August 11, 2008).....2 pages
- San Gorgonio Chapter of the Sierra Club (August 8, 2008) .....16 pages

This page intentionally left blank

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road, Suite 101
Carlsbad, California 92011

In Reply Refer To:
FWS-WRIV-08B0733-08TA0858

AUG 20 2008

Mr. Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, California, 92401

Subject: Notice of Preparation (NOP) to Prepare a Draft Environmental Impact Report (DEIR) for the State Route 91 (SR-91) Corridor Improvement Project (CIP), Riverside and Orange Counties, California

Dear Mr. Williams:

We have reviewed the above referenced NOP, which was received on July 21, 2008. We offer the following comments pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), and in keeping with our agency's mission to work "with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people."

The project as proposed would increase capacity on SR-91 between the State Route 241 (SR-241) Interchange to the west in Orange County and Pierce Street to the east in Riverside County. In addition, the project study area includes Interstate 15 between Cajalco Road to the south and Hidden Valley Parkway to the north. Alternatives under consideration include (1) the addition of one general purpose lane in each direction from SR-241 to Pierce Street and an auxiliary lane, as needed, with maintenance of the existing High Occupancy Vehicle (HOV) Lanes; (2) the addition of one general-purpose lane and two High Occupancy Toll (HOT) Lanes in each direction on SR-91 from SR-241 to Pierce Street, including direct connectors to I-15; and (3) taking no action.

To facilitate the evaluation of the proposed project from the standpoint of fish and wildlife protection, we recommend that the DEIR include the following information:

I. General

1. A description of the proposed project and the environment in the vicinity of the project, from both local and regional perspectives, including all practicable alternatives that have been considered to avoid and/or reduce project impacts to federally listed and other

TAKE PRIDE IN AMERICA

sensitive species and vegetation types (e.g., coastal sage scrub, riparian). Include specific acreages and descriptions of the types of wetlands, sage scrub, riparian, and other sensitive habitats that may be affected by the project alternatives as well as aerial photographs, mapping, and tables to summarize such information. Include detailed information on the number and distribution of all Federal candidate, proposed, and listed species, and their critical habitats; State-listed species; and locally sensitive species on or near the project site that may be affected by the proposed project or project alternatives. Ensure that project information is collected on a sufficiently wide region such that the DEIR addresses the entire project footprint, including borrow and fill sites, staging areas, fuel modification and maintenance zones, and potentially extensive manipulation of adjacent habitat areas, such as major grading activities, blasting, and/or relocation of stretches of the Santa Ana River, as well as areas that may be restored to offset these impacts.

2. An analysis of cumulative effects from proposed developments in the surrounding area.

II. Orange County

3. We are concerned about the effects of the proposed project on the Coal Canyon Wildlife Corridor (Missing Linkage SC 43 from Missing Linkages: Restoring Connectivity to the California Landscape Conference. 2000. http://www.calwild.org/resources/pubs/linkages/index.htm). We request that the DEIR include a detailed analysis of impacts of the proposed project on the movement of wildlife and measures proposed to avoid, minimize, and offset impacts to wildlife movement.

4. The renewed Measure M (M2) is a recently approved measure that will fund a variety of transportation projects in Orange County. M2 includes an innovative mitigation plan intended to streamline review and approval of M2 freeway projects by providing up-front, comprehensive habitat and resource protection. The release of funds for the mitigation plan is subject to completion of a master agreement further detailing how the mitigation plan will be implemented. The SR-91 CIP is anticipated to be one of the projects covered under the M2 mitigation plan. We are active participants in the development of the master agreement. We encourage Caltrans and the Orange County Transporation Authority to continue working with the resource agencies to finalize the agreement prior to completion of the EIR so that the up-front habitat and resource protection that will take place in association with M2 can be accurately described in the EIR.

III. Riverside County

5. A small portion of the proposed project site occurs within the boundary of the *Habitat Conservation Plan for the Stephens' Kangaroo Rat Western Riverside County*, March 1996 (HCP). Compliance with the regional incidental take permit associated with this HCP will be required prior to any ground-disturbing activities. Information concerning

mitigation requirements of this HCP and compliance with the incidental take permit should be disclosed in the DEIR.

6. On June 22, 2004, we issued a section 10(a)(1)(B) permit for the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The MSHCP establishes a multiple species conservation program to minimize and mitigate habitat loss and the incidental take of covered species in association with activities covered under the permit. We recommend that the DEIR provide a thorough review of how the proposed project will reach consistency with the MSHCP. We request that this review include, but not be limited to, the following MSHCP objectives, permit conditions, policies, procedures and guidelines:
   a. Species-specific objectives for MSHCP Covered Species that will likely be affected by the project (MSHCP volume II)
   b. Impacts to MSHCP Public/Quasi-Public (PQP) Lands, Existing Core A (MSHCP 3.2.3 page 3-31)
      i. See MSHCP Permit Condition 17. Permit and map available online: http://www.fws.gov/carlsbad/WRV_MSHCP_BO.htm
   c. Impacts within MSHCP Criteria Cells 1612, 1616, 1702 and 1704 (MSHCP Table 3-17 pages 3-458 and 3-460)
   d. Guidelines for the Siting and Design of Roads (MSHCP 7.5.1 page 7-80)
   e. General Construction Guidelines (MSHCP 7.5.3 page 7-87)
   f. Guidelines for the Construction of Wildlife Crossings (MSHCP 7.5.2 page 7-81)
      i. Proposed constrained linkage 1 (PCL 1)(MSHCP 3.2.3 page 3-74)
         1. "...as SR-91 intersects the Linkage [PCL1] at its northern terminus, an adequate wildlife underpass or overpass may need to be implemented to insure movement of species in this area and to reduce the chance of mortality from vehicle collision."
      ii. Proposed constrained linkage 2 (PCL 2)(MSHCP 3.2.3 page 3-75)
         1. "...as SR-91 intersects the Linkage [PCL2] at its northern terminus, an adequate wildlife underpass or overpass may need to be implemented to insure movement of species in this area and to reduce the chance of mortality from vehicle collision."
         2. For PCL 1 and 2 see also Missing Linkages: Restoring Connectivity to the California Landscape Conference. 2000. Missing Linkage SC 44 http://www.calwild.org/resources/pubs/linkages/index.htm
      iii. Proposed constrained linkage 4 (MSHCP 3.2.3 page 3-76)
   g. Best Management Practices (MSHCP Appendix C)
   h. Fuels Management (MSHCP 6.4 page 6-72)
   i. Guidelines Pertaining to the Urban/Wildlands Interface (MSHCP 6.1.4 page 6-42)
   j. Protection of Narrow Endemic Plant Species Policy (MSHCP 6.1.3 page 6-28)
      i. Narrow Endemic Species within Survey Area 7

      1. San Diego ambrosia (*Ambrosia pumila*)
      2. Brand's phacelia (*Phacelia stellaris*)
      3. San Miguel savory (*Satureja chandleri*)
   k. Additional Survey Needs and Procedures Policy (MSHCP 6.3.2 page 6-65)
      i. Burrowing Owl (*Athene cunicularia hypugaea*) Survey Area
   l. Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools Policy (MSHCP 6.1.2 page 6-20)
      i. riparian, riverine, vernal pool, and fairy shrimp habitat
      ii. Riparian/Riverine and Vernal Pool Species
         1. vernal pool fairy shrimp (*Branchinecta lynchi*)
         2. Riverside fairy shrimp (*Streptocephalus woottoni*)
         3. Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
         4. Southwestern willow flycatcher (*Empidonax traillii extimus*)
         5. least Bell's vireo (*Vireo bellii pusillus*)

We appreciate the opportunity to comment on the referenced NOP and to participate in the transportation planning process. If you have any questions regarding this letter, please contact Sally Brown of this office at (760) 431-9440, extension 278.

Sincerely,

Jonathan Snyder

for Karen A. Goebel
Assistant Field Supervisor

cc:
Stephanie Hall, Corps of Engineers, Los Angeles, CA
Adam Fischer, California Regional Water Quality Control Board, Santa Ana Region, CA
Scott Dawson, California Department of Fish and Game, Chino Hills, CA
Sylvia Vega, California Department of Transportation, District 12, Irvine, CA

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
www.nahc.ca.gov
ds_nahc@pacbell.net

August 4,2008

Mr. Russell Williams
California Department of Transportation – District 8
464 W. 4th Street, 7th Floor
San Bernardino, CA 92401

Re: SCH# 2008071075; CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for the State Route 91 Conidor Improvement Project, ; Pierce Street in Riverside County to the S.R 241 Toll Road Interchange in Orange County, California

Dear Mr. Williams:

Thank you for the opportunity to comment on the above-referenced document. The Native American Heritage Commission is the state agency designated for the protection of California's Native American cultural resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR per the California Code of Regulations § 15064.5(b)(c) (CEQA Guidelines). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE),' and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

√ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the 'Information Center' nearest you is available from the State Office of Historic Preservation in Sacramento (916/653-7278). The record search will determine:

- If a part or the entire (APE) has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

√ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

√ Contact the Native American Heritage Commission (NAHC) for:

- A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity who may have information on cultural resources in or near the APE. Please provide us site identification as follows: USGS 7.5-minute quadrangle citation with name, township, range and section. This will assist us with the SLF.
- Also, we recommend that you contact the Native American contacts on the attached list to get their input on the effect of potential project (e.g. APE) impact. In many cases a culturally-affiliated Native American tribe or person will be the only source of information about the existence of a cultural resource.

√ Lack of surface evidence of archeological resources does not preclude their subsurface existence.

- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f)of the California Code of Regulations (CEQA Guidelines). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, is recommended should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

0√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigations plans.

- CEQA Guidelines §15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the Initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American groups, identified by the NAHB, to ensure the appropriate and dignified treatment of Native American human remains and any associated grave goods.
- Health and Safety Code §7050.5, Public Resources Code §5097.98 and CEQA Guidelines §15064.5(d) mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in CEQA Guidelines §15370 when significant cultural resources are discovered during the course of project planning or execution.

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Cc: State Clearinghouse

Native American Contacts
Riverside & Orange Counties
August 4, 2008

756 3507

Cahuilla Band of Indians
Anthony Madrigal, Jr., Chairperson
P.O. Box 391760 Cahuilla
Anza , CA 92539
tribalcouncil@cahuilla.net
(951) 763-2631

(951) 763-2632 Fax

Pechanga Band of Mission Indians
Paul Macarro, Cultural Resource Center
P.O. Box 1477 Luiseno
Temecula , CA 92593
(951) 308-9295 Ext 8106
(951) 676-2768
(951) 506-9491 Fax

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Soboba Band of Mission Indians
Robert Salgado, Chairperson
P.O. Box 487 Luiseno
San Jacinto , CA 92581
dhill@soboba-nsn.gov
(951) 654-2765
(951) 654-4198 - Fax

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
31742 Via Belardes Juaneno
San Juan Capistrano , CA 92675
DavidBelardes@hotmail.com
(949) 493-0959
(949) 493-1601 Fax

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

Santa Rosa Band of Mission Indians
John Marcus, Chairman
P.O. Box 609 Cahuilla
Hemet , CA 92546
srtribaloffice@aol.com
(951) 658-5311
(951) 658-6733 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose SCH#2008071075; CEQA Notice of Preparation; draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project; Riverside and Orange Counties, California.

Native American Contacts
Riverside & Orange Counties
August 4, 2008

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribe.net
(213) 489-5001 - Office
(909) 262-9351 - cell
(213) 489-5002 Fax

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog. Manager
13000 Field Road Cahuilla
Cabazon , CA 92230 Serrano
(951) 755-5025
(951)201-1866 - cell
(951) 922-0105 Fax

Juaneno Band of Mission Indians
Alfred Cruz, Culural Resources Coordinator
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
alfredgcruz@sbcglobal.net
714-998-0721
alfredgcruz@sbcglobal.net

Juaneno Band of Mission Indians
Adolph "Bud" Sepulveda, Chairperson
P.O. Box 25828 Juaneno
Santa Ana , CA 92799
bssepul@yahoo.net
714-838-3270
714-914-1812 - CELL
bsepul@yahoo.net

Cupa Cultural Center (Pala Band)
Shasta Gaughen, Assistant Director
35008 Pala-Temecula Rd.PMB Box 445 Luiseno
Pala , CA 92059
cupa@palatribe.com
(760) 742-1590
(760) 742-4543 - FAX

Soboba Band of Luiseno Indians
Erica Helms, Cultural Resources Manager
P.O. Box 487 Luiseno
San Jacinto , CA 92581
dhill@soboba-nsn.gov
(951) 654-2765
FAX: (951) 654-4198

Sonia Johnston, Tribal Vice Chairperson
Juaneño Band of Mission Indians
P.O. Box 25628 Juaneno
Santa Ana , CA 92799
sonia.johnston@sbcglobal.net
(714) 323-8312

Juaneno Band of Mission Indians
Anita Espinoza
1740 Concerto Drive Juaneno
Anaheim , CA 92807
(714) 779-8832

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose SCH#2008071075; CEQA Notice of Preparation; draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project; Riverside and Orange Counties, California.

Native American Contacts
Riverside & Orange Counties
August 4, 2008

Juaneno Band of Mission Indians
Joe Ocampo, Chairperson
1108 E. 4th Street Juaneno
Santa Ana , CA 92701
(714) 547-9676
(714) 623-0709-cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the propose SCH#2008071075; CEQA Notice of Preparation; draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project; Riverside and Orange Counties, California.

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

August 8, 2008

Mr. Russell Williams
California Department of Transportation, District 8
464 West 4th Street, 7th Floor
San Bernardino, California 92401

NOTICE OF PREPARATION (NOP) FOR STATE ROUTE 91 CORRIDOR IMPROVEMENT PROJECT (SCH# 2008071075)

Dear Mr. Williams:

The Department of Toxic Substances Control (DTSC) has received your submitted document for the above-mentioned project. As stated in your document: "The project is proposed within the project segments of the SR-91 (between the State Route 241 [SR 241] Interchange and Pierce Street) and the I-5 (between Cajalco Road and Hidden Valley Parkway). The proposed EIR/EIS will evaluate the following alternatives:

Alternative 1: High Occupancy Vehicle (HOV) Lanes: Alternative 1 would include the addition of one general purpose lane in each direction from SR-241 in Orange County to piece Street in the City of Riverside (approximately 12 miles) and an auxiliary lane, as needed, and maintain the existing HOV lanes, as well as realigning and reconstructing existing interchange exit and entrance ramps within the project limits. This alternative would also upgrade standards.

Alternative 2: High Occupancy Toll (HOT) Lanes: Alternative 2 is a constrained alternative, which would add one general-purpose lane and two HOT lanes in each direction on SR-91 from SR-91 from SR-241 in Orange County to Pierce Street in the City of Riverside (approximately 12 miles) and includes widening of existing structures, as well as realigning reconstructing existing interchange exit and entrance ramps and an auxiliary lane, as needed within the project limits. The highway will also be upgraded to current standards. This alternative will also provide direct connectors to link in the new toll lanes with I-15".

Based on the review of the submitted document DTSC has comments as follows:

1) The EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances.

2) The EIR should evaluate whether conditions at the site may pose a threat to human health or the environment. Following are the databases of some of the regulatory agencies:

- National Priorities List (NPL): A list maintained by the United States Environmental Protection Agency (U.S.EPA).
- Envirostor (formerly CalSites): A Database primarily used by the California Department of Toxic Substances Control, accessible through DTSC's website (see below).
- Resource Conservation and Recovery Information System (RCRIS): A database of RCRA facilities that is maintained by U.S. EPA.
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS): A database of CERCLA sites that is maintained by U.S.EPA.
- Solid Waste Information System (SWIS): A database provided by the California Integrated Waste Management Board which consists of both open as well as closed and inactive solid waste disposal facilities and transfer stations.
- Leaking Underground Storage Tanks (LUST) / Spills, Leaks, Investigations and Cleanups (SLIC): A list that is maintained by Regional Water Quality Control Boards.
- Local Counties and Cities maintain lists for hazardous substances cleanup sites and leaking underground storage tanks.
- The United States Army Corps of Engineers, 911 Wilshire Boulevard, Los Angeles, California, 90017, (213) 452-3908, maintains a list of Formerly Used Defense Sites (FUDS).

3) The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. If hazardous materials or wastes were stored at the site, an environmental assessment should be conducted to determine if a release has occurred. If so, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated.

It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threat exists, the final remedy should be implemented in compliance with state laws, regulations and policies.

4) Proper investigation, sampling and remedial actions overseen by the appropriate agency, if necessary, should be conducted at the site prior to the new development or any construction.

5) If any property adjacent to the project site is contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall within the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is within a "Border Zone Property."

6) The project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project proposes to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination.

7) Human health and the environment of sensitive receptors should be protected during the construction or demolition activities. A study of the site overseen by the appropriate government agency might have to be conducted to determine if there are, have been, or will be, any releases of hazardous materials that may pose a risk to human health or the environment.

8) Certain hazardous waste treatment processes may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA.

9) If the site was used for agricultural purposes or if weed abatement may have occurred, onsite soils may contain pesticide and agricultural chemical residue. If the project area was used for poultry, dairy and/or cattle industry operations, the soil may contain related dairy, animal, or hazardous waste. If so, activities at the site may have contributed to soil and groundwater contamination. Proper investigation and remedial actions, if necessary, should be conducted at the site prior to construction of the project.

10) If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exists, the EIR should identify how any required investigation and/or remediation will be conducted, and the appropriate government agency to provide regulatory oversight.

11) In future CEQA documents please provide the contact person's title and e-mail address.

If you have any questions regarding this letter, please contact me at (714) 484-5472 or at "ashami @ DTSC.ca.gov".

Sincerely,

Al Shami
Project Manager
Brownfields and Environmental Restoration Program -Cypress

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

CEQA #2244

STATE OF CALIFORNIA
ARNOLD SCHWARZENEGGER, *Governor*

PUBLIC UTILITIES COMMISSION
320 WEST 4TH STREET, SUITE 500
LOS ANGELES, CA 90013

August 8, 2008

California Department of Transportation, District 8
Attention: Mr. Russell Williams
Environmental Planning
464 W. 4th St. 7th Floor
San Bernardino, CA 92401

Dear Mr. Williams:

Re: SCH# 2008071075; State Route 91 Corridor Improvement Project

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings (crossings) in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power on the design, alteration, and closure of crossings.

Modifications to crossings including widening of an existing grade separation, are within the scope of Commission General Order (GO) 88-B: "Rules for Altering Public Highway-Rail Crossings." A request for authorization must be submitted to the Commission through the Rail Crossings Engineering Section (RCES) if the project proposes to widen the interstate over the tracks. It must be noted that GO 88-B authority is granted at staff level, with a short processing period of two to six weeks. One of the primary prerequisites for a GO 88-B application is concurrence of all parties (railroad, local agency and Commission) to the proposed changes.

Caltrans should arrange a meeting with RCES staff to discuss relevant safety issues and requirements of a GO88-B request for authority to modify the existing overpasses of "SR 91/5 OH" (CPUC crossing number 001BK-505.52-A, U.S. DOT number 748148B), "SR 91/5 OH" (CPUC crossing number 001BK-505.63-A, U.S. DOT number 748150C) and "MAGNOLIA (SR 91) OH" (CPUC crossing number 001BK-505.71-A, U.S. DOT number 748152A) identified within the proposed Interstate 10 corridor improvement project.

If you have any questions, please contact Bill Lay, Utilities Engineer at 213-576-1399, bll@cpuc.ca.gov, or me at rxm@cpuc.ca.gov, 213-576-7078.

Sincerely,

Rosa Muñoz, PE
Utilities Engineer
Rail Crossings Engineering Section
Consumer Protection & Safety Division

C: John Shurson, BNSF

State of California – The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
South Coast Region
4949 Viewridge Avenue
San Diego, CA 92123
(858) 467-4201

August 12, 2008

Mr. Russell Williams
California Department of Transportation, District 8
464 W. 4th Street, 7th Floor
San Bernardino, CA 92401
Phone (909) 383-1554
Fax (909) 383-6494

Subject: Notice of Preparation of a Draft Environmental Impact Report for the State Route (SR) 91 Corridor Improvement Project SCH # 2008071075, Orange, Riverside and San Bernardino Counties

Dear Mr. Williams:

The Department of Fish and Game (Department) has reviewed the above-referenced Notice of Preparation (NOP), for a Draft Environmental Impact Report (DEIR) relative to impacts to biological resources. The project is proposed within the SR-91 corridor, between SR-241 and Pierce Street, and Interstate 15 (I-15), between Cajalco Road and Hidden Valley Parkway. The DEIR would evaluate two alternatives. Alternative one would add one general purpose lane, one auxiliary lane, and maintain the existing High Occupancy Vehicle (HOV) lane in each direction on SR-91 from the SR-241 to Pierce Street, a distance of approximately 12 miles within Orange and Riverside counties, as well as realigning and reconstructing existing interchange exit and entrance ramps. Alternative 2 would evaluate adding one general-purpose lane and two High Occupancy Toll (HOT) lanes in each direction on SR-91 from the SR-241 to Pierce Street and includes widening of existing structures, as well as realigning and reconstructing existing interchange exit and entrance ramps and an auxiliary lane. This alternative will also provide direct connectors to link the proposed toll lanes with the I-15.

The Department is a Trustee Agency and a Responsible Agency pursuant to California Environmental Quality Act (CEQA) Guidelines, Sections 15386 and 15381, respectively. The Department is responsible for the conservation, protection, and management of the state's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA), California Fish and Game Code 2050 et seq., and California Fish and Game Code 1600 et seq. regarding impacts to stream and lakes. The Department also administers the Natural Community Conservation Planning (NCCP) program.

Orange County Project Issues

State listed species under CESA

The proposed project would occur in the vicinity of historical nesting locations of federal and state listed endangered least-Bell's vireo (*Vireo bellii pusillus*), and habitat for the federal and state endangered southwestern willow flycatcher (*Empidonax traillii extimus*). Destruction of habitat occupied by these species would result in de facto take under CESA: Construction related activities and/or displacement would be the proximal cause of death, injury, pursuit, and/or capture.

The Department will need to be consulted with regarding Incidental take authority under CESA, and the project evaluated prior to actions that could result in take of any plant or animal species listed under CESA, including, but not limited to, the least-Bell's vireo and southwestern willow flycatcher. The Department recommends that the project applicant fund focused surveys for both of these species, and consult regarding an Incidental Take Permit (ITP) under Section 2081 of the Fish and Game Code before proceeding with implementation of the project as currently described. In order to obtain an ITP, the applicant will need to: 1) provide an analysis of the impact of the proposed taking; 2) provide an analysis of whether issuance of an ITP would jeopardize the continued existence of the covered species; 3) propose measures that minimize and fully mitigate the impacts of the proposed taking; 4) provide a proposed plan to monitor compliance with the minimization and mitigation measures; and 5) provide a description of the funding source and level of funding available for implementation of the minimization and mitigation measures. The Department can provide a complete list of required ITP application components upon request.

Wildlife Corridor

Two important large mammal wildlife corridors occur in the project area, Coal Canyon and Gypsum Canyon. Coal Canyon is an important regional wildlife corridor that connects the Cleveland National Forest-Orange County NCCP areas with Chino Hills-Puente Hills habitat areas. Gypsum Canyon functions as a supplemental wildlife corridor. Impacts of the SR-91 Corridor project have the potential to significantly impact the function of the wildlife corridors and avoidance, minimization, and mitigation measures would need to be developed to mitigate the direct, indirect, and cumulative impacts, including the project's incremental increases in noise, light, and lack of vegetative cover resulting at entrances and exits to the constrained wildlife corridors.

In addition, impacts to wildlife movement should be evaluated in the project area for other functional groups of species like medium and small sized mammals, upland reptiles, riparian reptiles, and amphibians by comparison to baseline conditions. Mitigation measures identified should include provisions for maintenance, monitoring, education, and public outreach.

General Comments

To enable Department staff to adequately review and comment on the proposed project we recommend the following information, where applicable, be included in the Draft Environmental Impact Report:

1. A complete, recent assessment of flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats (Attachment 1).

   a. A thorough recent assessment of rare plants and rare natural communities, following the Department's Guidelines for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 2).

   b. A complete, recent assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Recent, focused, species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and U.S. Fish and Wildlife Service.

   c. Rare, threatened, and endangered species to be addressed should include all those

which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, Section 15380).

d. The Department's Biogeographic Data Branch in Sacramento should be contacted at (916) 322-2493 to obtain current information on any previously reported sensitive species and habitats, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code (website: http://www.dfg.ca.gov/biogeodata/. Also, any Significant Ecological Areas (SEAs) or Environmentally Sensitive Habitats (ESHs) or any areas that are considered sensitive by the local jurisdiction that are located in or adjacent to the project area must be addressed.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. This discussion should focus on maximizing avoidance, and minimizing impacts.

a. CEQA Guidelines, Section 15125(a), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.

b. Project impacts should also be analyzed relative to their effects on off-site habitats and populations. Specifically, this should include nearby public lands, open space, adjacent natural habitats, and riparian ecosystems

c. A cumulative effects analysis should be developed as described under CEQA Guidelines, Section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.

d. Impacts to migratory wildlife affected by the project should be fully evaluated including proposals to remove/disturb native and ornamental landscaping and other nesting habitat for native birds. Impact evaluation may also include such elements as migratory butterfly roost sites and neo-tropical bird and waterfowl stop-over and staging sites. All migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take of birds and their active nests, including raptors and other migratory nongame birds as listed under the MBTA.

e. Impacts to all habitats from City or County required Fuel Modification Zones (FMZ). Areas slated as mitigation for loss of habitat shall not occur within the FMZ.

f. Proposed project activities (including disturbances to vegetation) should take place outside of the breeding bird season (February 1- September 1) to avoid take (including disturbances which would cause abandonment of active nests containing eggs and/or young). If project activities cannot avoid the breeding bird season, nest surveys should be conducted and active nests should be avoided and provided with a minimum buffer as determined by a biological monitor (the Department recommends a minimum 500-foot buffer for all active raptor nests).

3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources including wetlands/riparian habitats, alluvial scrub, coastal sage scrub, etc. should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.

a. Mitigation measures for project impacts to sensitive plants, animals, and habitats should emphasize evaluation and selection of alternatives which avoid or otherwise minimize project impacts. Compensation for unavoidable impacts through acquisition and protection of high quality habitat elsewhere should be addressed with off-site mitigation locations clearly identified.

b. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts (Attachment 2).

c. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for impacts to rare, threatened, or endangered species. Department studies have shown that these efforts are experimental in nature and largely unsuccessful.

4. The Department opposes the elimination of watercourses (including concrete channels) and/or the canalization of natural and manmade drainages or conversion to subsurface drains. All wetlands and watercourses, whether intermittent, ephemeral, or perennial, must be retained and provided with substantial setbacks which preserve the riparian and aquatic habitat values and maintain their value to on-site and off-site wildlife populations. The Department recommends a minimum natural buffer of 100 feet from the outside edge of the riparian zone on each side of a drainage.

a. The Department requires a Streambed Alteration Agreement (SAA), pursuant to Section 1600 et seq. of the Fish and Game Code, with the applicant prior to any direct or indirect impact to a lake or stream bed, bank or channel or associated riparian resources. The Department's issuance of a SAA may be a project that is subject to CEQA. To facilitate our issuance of the Agreement when CEQA applies, the Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) document for the project. To minimize additional requirements by the Department under CEQA the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the Agreement. Early consultation is recommended, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources.

Thank you for this opportunity to provide comment. Please contact Mr. Matt Chirdon, Environmental Scientist, at (760) 757-3734 if you should have any questions and for further coordination on the proposed project.

Sincerely,

Edmund J. Pert
Regional Manager
South Coast Region

cc: Ms. Helen Birss, Los Alamitos
Ms. Terri Dickerson, Laguna Niguel
Mr. Matt Chirdon, Oceanside
Mr. Scott Dawson, Ontario
HCP-Chron, Department of Fish and Game
State Clearinghouse, Sacramento

Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California
THE RESOURCES AGENCY
Department of Fish and Game
December 9, 1983
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine **when** a botanical survey is needed, **who** should be considered qualified to conduct such surveys, **how** field surveys should be conducted, and **what** information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the names and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

3. Botanical consultants should possess the following qualifications:

a. Experience conducting floristic field surveys;
b. Knowledge of plant taxonomy and plant community ecology;
c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
e. Experience with analyzing impacts of development on native plant species and communities.

4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:

a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project

area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.

c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.

e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and EIS's, and should contain the following information:

a. Project description, including a detailed map of the project location and study area.
b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
c. Detailed description of survey methodology.
d. Dates of field surveys and total person-hours spent on field surveys.
e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
h. Recommended measures to avoid impacts.
i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
l. Name of field investigator(s).
m. References cited, persons contacted, herbaria visited, and the location of voucher specimens.

Sensitivity of Top Priority Rare Natural Communities in Southern California

Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

S1.# Fewer than 6 known locations and/or on fewer than 2,000 acres of habitat remaining.

S2.# Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining.

S3.# Occurs in 21-100-known locations and/or 10,000-50,000 acres of habitat remaining.

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

S1.1 = very threatened
S2.2 = threatened
S3.3 = no current threats known

Sensitivity Rankings (February 1992)

Rank	Community Name
S1.1	Mojave Riparian Forest
	Sonoran Cottonwood Willow Riparian
	Mesquite Bosque
	Elephant Tree Woodland
	Crucifixion Thorn Woodland
	Allthorn Woodland
	Arizonan Woodland
	Southern California Walnut Forest
	Mainland Cherry Forest
	Southern Bishop Pine Forest
	Torrey Pine Forest
	Desert Mountain White Fir Forest
	Southern Dune Scrub
	Southern Coastal Bluff Scrub
	Maritime Succulent Scrub
	Riversidean Alluvial Fan Sage Scrub
	Southern Maritime Chaparral
	Valley Needlegrass Grassland
	Great Basin Grassland
	Mojave Desert Grassland
	Pebble Plains
	Southern Sedge Bog
	Cismontane Alkali Marsh

S1.2	Southern Foredunes
	Mono Pumice Flat
	Southern Interior Basalt Flow Vernal Pool
S2.1	Venturan Coastal Sage Scrub
	Diegan Coastal Sage Scrub
	Riversidean Upland Coastal Sage Scrub
	Riversidean Desert Sage Scrub
	Sagebrush Steppe
	Desert Sink Scrub
	Mafic Southern Mixed Chaparral
	San Diego Mesa Hardpan Vernal Pool
	San Diego Mesa Claypan Vernal Pool
	Alkali Meadow
	Southern Coastal Salt Marsh
	Coastal Brackish Marsh
	Transmontane Alkali Marsh
	Coastal and Valley Freshwater Marsh
	Southern Arroyo Willow Riparian Forest
	Southern Willow Scrub
	Modoc-Great Basin Cottonwood Willow Riparian
	Modoc-Great Basin Riparian Scrub
	Mojave Desert Wash Scrub
	Engelmann Oak Woodland
	Open Engelmann Oak Woodland
	Closed Engelmann Oak Woodland
	Island Oak Woodland
	California Walnut Woodland
	Island Ironwood Forest
	Island Cherry Forest
	Southern Interior Cypress Forest
	Bigcone Spruce-Canyon Oak Forest
S2.2	Active Coastal Dunes
	Active Desert Dunes
	Stabilized and Partially Stabilized Desert Dunes
	Stabilized and Partially Stabilized Desert Sandfield
	Mojave Mixed Steppe
	Transmontane Freshwater Marsh
	Coulter Pine Forest
	Southern California Fellfield
	White Mountains Fellfield
S2.3	Bristlecone Pine Forest
	Limber Pine Forest

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

July 31, 2008

Mr. Russell Williams
California Department of Transporation, District 8
Division of Environmental Planning
SR-91 Corridor Improvement Project
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Dear Mr. Williams:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the State Route 91 Corridor Improvement Project

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis
The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

It is recommended that lead agencies for projects generating or attracting vehicular trips, especially heavy-duty diesel-fueled vehicles, perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures
In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources
SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Gordon Mize, Ph.D., Air Quality Specialist, CEQA Section, at (909) 396-3302 if you have any questions regarding this letter.

Sincerely,

Steve Smith

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rule Development and Area Sources

SS:GM:AK
SBC080722-13AK
Control Number

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435
t (213) 236-1800
f (213) 236-1825
www.scag.ca.gov

August 6, 2008

Russell Williams
California Department of Transportation, District 8
Division of Environmental Planning
SR-91 Corridor Improvement Project
464 West 4th Street, 11th Floor
San Bernardino, CA 92401
(909) 383-1554, D8_SR_91_Corridor_Improvement@dot.ca.gov

RE: **SCAG Comments on the Notice of Preparation for a Draft Environmental Impact Report for the SR-91 Corridor Improvement Project - SCAG No. I20080387**

Dear Mr. Williams,

Thank you for submitting the Notice of Preparation for a Draft Environmental Impact Report for the SR-91 Corridor Improvement Project - SCAG No. I20080387, to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12372 (replacing A-95 Review). Additionally, pursuant to Public Resources Code Section 21083(d) SCAG reviews Environmental Impacts Reports of projects of regional significance for consistency with regional plans per the California Environmental Quality Act Guidelines, Sections 15125(d) and 15206(a)(1). SCAG is also the designated Regional Transportation Planning Agency and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080 and 65082.

SCAG staff has reviewed the aforementioned NOP and has determined that the proposed project is regionally significant per the California Environmental Quality Act (CEQA) Guidelines (Section 15125(d) and 15206). The project proposes to increase capacity within the project segments of State Route 91 (SR-91) and Interstate 15. CEQA requires that EIRs discuss any inconsistencies between the proposed project and applicable general plans and regional plans (Section 15125 [d]). If there are inconsistencies, an explanation and rationalization for such inconsistencies should be provided. We recommend the DEIR to specifically cite all SCAG policies and address the manner in which the project is consistent, not-consistent, or not applicable to these policies and provide supportive analysis as to why it is consistent, not-consistent, or not applicable.

Policies of SCAG's Regional Comprehensive Plan and Guide (RCPG), Regional Transportation Plan (RTP), and Compass Growth Vision (CGV) that may be applicable to your project are outlined in the attachment. The RCPG, RTP and CGV can be found on the SCAG web site at: http://scag.ca.gov/igr. For ease of review, we would encourage you to use a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or non-applicability of the policy and supportive analysis in a table format (example attached).

The attached detailed comments are meant to provide guidance for considering the proposed project within the context of our regional goals and policies. Please provide a minimum of 45 days for SCAG to review the DEIR and associated plans when these documents are available. If you have any questions regarding the attached comments, please contact Christine Fernandez at (213) 236-1923. Thank you.

Sincerely,

Jacob Lieb, Program Manager
Environmental Planning Division

Adopted City of Anaheim Forecasts[1]

	2010	2015	2020	2025	2030	2035
Population	365,985	387,414	401,750	414,763	425,781	438,645
Households	103,148	108,129	112,865	117,683	120,158	123,629
Employment	204,708	211,526	215,859	220,219	222,401	224,138

Adopted City of Corona Forecasts[1]

	2010	2015	2020	2025	2030	2035
Population	150,177	154,631	157,556	161,749	165,260	167,901
Households	45,222	46,304	46,773	47,575	48,434	49,456
Employment	70,054	77,460	84,006	90,657	97,751	105,046

1. The 2008 RTP growth forecast at the regional, county and subregional level was adopted by the Regional Council in May 2008. City totals are the sum of small area data and should be used for advisory purposes only.

3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

3.05 Encourage patterns of urban development and land use which reduce costs on infrastructure construction and make better use of existing facilities.

3.09 Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.

3.10 Support local jurisdictions' actions to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL QUALITY OF LIFE

The Growth Management goals to attain mobility and clean air goals and to develop urban forms that enhance quality of life, that accommodate a diversity of life styles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities, enhance the regional strategic goal of maintaining the regional quality of life. The evaluation of the proposed project in relation to the following policies would be intended to provide direction for plan implementation, and does not allude to regional mandates.

9.04 Maintain open space for adequate protection to lives and properties against natural and manmade hazards.
9.08 Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.

REGIONAL TRANSPORTATION PLAN

The 2004 Regional Transportation Plan (RTP) also has goals and policies that are pertinent to this proposed project. This RTP links the goal of sustaining mobility with the goals of fostering economic development, enhancing the environment, reducing energy consumption, promoting transportation-friendly development patterns, and encouraging fair and equitable access to residents affected by socio-economic, geographic and commercial limitations. The RTP continues to support all applicable federal and state laws in implementing the proposed project. Among the relevant goals and policies of the RTP are the following:

Regional Transportation Plan Goals:
RTP G1 Maximize mobility and accessibility for all people and goods in the region.
RTP G2 Ensure travel safety and reliability for all people and goods in the region.
RTP G3 Preserve and ensure a sustainable regional transportation system.
RTP G4 Maximize the productivity of our transportation system.
RTP G5 Protect the environment, improve air quality and promote energy efficiency.
RTP G6 Encourage land use and growth patterns that complement our transportation investments.
RTP G7 Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

GROWTH VISIONING

The fundamental goal of the Compass Growth Visioning effort is to make the SCAG region a better place to live, work and play for all residents regardless of race, ethnicity or income class. Thus, decisions regarding growth, transportation, land use, and economic development should be made to promote and sustain for future generations the region's mobility, livability and prosperity. The following "Regional Growth Principles" are proposed to provide a framework for local and regional decision making that improves the quality of life for all SCAG residents. Each principle is followed by a specific set of strategies intended to achieve this goal. Please demonstrate how the proposed project does or does not support these principles. More information and maps can be found at http://www.compassblueprint.org/2percent/areas.

Principle 1: Improve mobility for all residents.
GV P1.1 Encourage transportation investments and land use decisions that are mutually supportive.
GV P1.3 Encourage transit-oriented development.
GV P1.4 Promote a variety of travel choices

Principle 2: Foster livability in all communities.
GV P2.1 Promote infill development and redevelopment to revitalize existing communities.
GV P2.2 Promote developments, which provide a mix of uses.
GV P2.3 Promote "people scaled," walkable communities.

Principle 3: Enable prosperity for all people.
GV P3.4 Support local and state fiscal policies that encourage balanced growth

Principle 4: Promote sustainability for future generations.
GV P4.1 Preserve rural, agricultural, recreational, and environmentally sensitive areas.
GV P4.2 Focus development in urban centers and existing cities.
GV P4.3 Develop strategies to accommodate growth that uses resources efficiently, eliminate pollution

SUGGESTED SIDE BY SIDE FORMAT - COMPARISON TABLE OF SCAG POLICIES

For ease of review, we would encourage the use of a side-by-side comparison of all SCAG policies with a discussion of the consistency, non-consistency or not applicable of the policy and supportive analysis in a table format. All policies and goals must be evaluated as to impacts. Suggested format is as follows:

The complete table can be found at: ***http://www.scag.ca.gov/igr/doc/IGR_PoliciesFillinTable.doc***

SCAG RCPG (RTP and/or CGV) Policies Growth Management Chapter		
Policy Number	Policy Text	Statement of Consistency, Non-Consistency, or Not Applicable
3.01	The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies shall be used by SCAG in all phases of implementation and review.	Consistent: Statement as to why Not-Consistent: Statement as to why Not Applicable: Statement as to why
3.02	In areas with large seasonal population fluctuations, such as resort areas, forecast permanent populations. However, appropriate infrastructure systems should be sized to serve high-season population totals.	Consistent: Statement as to why Not-Consistent: Statement as to why Not Applicable: Statement as to why
3.03	The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.	Consistent: Statement as to why Not-Consistent: Statement as to why Not Applicable: Statement as to why
Etc.	Etc.	Etc.

METROLINK

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

August 11, 2008

Mr. Russell Williams
Caltrans District 8 Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

RE: Notice of Availability of the Draft EIR for the State Route 91 Corridor Improvement Project

Dear Mr. Williams:

The Southern California Regional Rail Authority (SCRRA) received a copy of the Notice of Preparation for the proposed SR 91 Corridor Improvement project. Thank you for providing this copy and the opportunity to comment on this document. As background information, SCRRA is a five-county Joint Powers Authority (JPA) that operates the regional commuter rail system known as Metrolink. Additionally, SCRRA provides rail engineering, construction, operations and maintenance services to its five JPA member agencies. The JPA consists of the Los Angeles County Metropolitan Transportation Authority (MTA), San Bernardino Associated Governments (SANBAG), the Orange County Transportation Authority (OCTA), the Riverside County Transportation Commission (RCTC) and the Ventura County Transportation Commission (VCTC).

Within the project boundaries, between the SR 241 and Pierce Street, SR 91 parallels the railroad right-of-way which is owned by the Burlington Northern Santa Fe Railway (BNSF), and is known as the San Bernardino subdivision. Through a contract with BNSF, Metrolink operates two commuter rail routes over the San Bernardino subdivision, which includes 25 weekday trains, 6 trains on Saturdays, and 4 Sunday trains. Service expansion plans identified in the SCRRA Strategic Assessment forecast an increase in Metrolink service to 44 weekday trains by 2015 in the project area.

The following are comments and recommendations being conveyed by SCRRA after reviewing the NOP:

1. The freeway project crosses over the rail right-of-way in three key places: just west of I-15, just west of Serfas Club Drive and just west of Green River. Construction of the project should protect and preserve the current BNSF right-of-way and accommodate future rail improvements and rail expansion projects.

2. Metrolink service in the project area offers Southland commuters a viable option to driving in the 91 corridor. Service reliability and schedule adherence are important to attracting and keeping Metrolink customers. The SCRRA requests coordination with

700 S. Flower Street 26th Floor Los Angeles CA 90017 Tel (213) 452.0200 Fax (213) 452.0461
www.metrolinktrains.com

Caltrans during the project planning and construction phases to minimize service disruptions and provide timely communication to Metrolink passengers on upcoming construction impacts.

3. The provision of Metrolink service and adequate parking at stations can serve as viable mitigation measures both for project construction and HOT lane operations. The DEIR should evaluate the promotion and funding of additional service and parking capacity of Metrolink as mitigation measures.

Once again, thank you for requesting SCRRA's input during this stage of this environmental process. As the project moves forward, we request and expect to receive timely notice, in accordance with Public Resources Code Section 21092.5 and State CEQA Guideline Section 15088, of subsequent environmental documents relating to this project, and the time and place of any scheduled public meetings or public hearings by the agency decision makers at least 10 days prior to such a meeting. If you have any questions regarding these comments please contact Elizabeth Mahoney, Government and Regulatory Affairs Manager at 213 452-0259 or mahoneye@scrra.net.

Sincerely,

David Solow
Chief Executive Officer

c. Abbe McClenahan, OCTA
Wendy Garcia, OCTA
Sheldon Peterson, RCTC
Rosa Munoz, CPUC
Walt Smith, BNSF

San Joaquin Hills
Corridor Agency

Chairman:
Joel Lautenschlager

TRANSPORTATION CORRIDOR AGENCIES

Foothill/Eastern
Corridor Agency

Chairman:
Jerry Amante

July 24, 2008

Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Subject: NOP of a Draft Environmental Impact Report
Project Title: State Route 91 Corridor Improvement Project

Dear Mr. Williams:

The Transportation Corridor Agencies (TCA) wishes to thank you for the opportunity to review and comment on the above-mentioned notification. The TCA has no comments at this time; however, we would request a copy of the Draft EIR/EIS and all Technical Reports.

Should you have any questions or concerns regarding this information, please feel free to contact me at (949) 754-3475.

Sincerely,

Valarie McFall
Deputy Director
Environmental Planning

Thomas E. Margro, Chief Executive Officer
125 PACIFICA, SUITE 100, IRVINE CA 92618-3304 • P.O. BOX 53770, IRVINE CA 92619-3770 • 949/754-3400 • FAX 949/754-3467
www.thetollroads.com

WARREN D. WILLIAMS
General Manager-Chief Engineer

1995 MARKET STREET
RIVERSIDE, CA 92501
951.955.1200
FAX 951.788.9965
www.floodcontrol.co.riverside.ca.us

RIVERSIDE COUNTY FLOOD CONTROL
AND WATER CONSERVATION DISTRICT

August 18, 2008

Mr. Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Dear Mr. Williams:

Re: Notice of Preparation of a Draft Environmental Impact Report for the State Route 91 Corridor Improvement Project

This letter is written in response to the Notice of Preparation of a Draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project. The proposed project consists of increasing capacity on an existing 12-mile stretch on the State Route 91 from the State Route 241 in the City of Anaheim in Orange County, through the City of Corona, to Pierce Street in the City of Riverside in Riverside County. The proposed project also includes improvements on Interstate 15 in Riverside County between the Cajalco Road Interchange in unincorporated Riverside County and the Hidden Valley Parkway Interchange in the City of Corona.

The Riverside County Flood Control and Water Conservation District has the following comments/concerns that should be addressed in the DEIR:

1. The proposed project area is located within the District's Norco, Home Gardens, and La Sierra Master Drainage Plan (MDP) boundaries. When fully implemented, these MDP facilities will provide flood protection to relieve those areas within the plan of the most serious flooding problems and will provide adequate drainage outlets. The DEIR should fully evaluate potential impacts to master planned facilities. The District's MDP facility maps can be viewed online under Programs and Services at www.rcflood.org. To obtain further information on the MDP and the proposed facilities, please contact Dale Anderson of the District's Planning Section at 951.955.1345.

2. Several existing District facilities are located within the proposed project area and may be impacted. The DEIR should fully evaluate potential impacts to the District's existing facilities. Any work that involves District right-of-way, easements or facilities will require an encroachment permit from the District. Any construction of facilities within road right-of-way that may impact District storm drains should also be coordinated with us. To obtain further information on encroachment permits or existing facilities, contact Ed Lotz of the District's Encroachment Permit Section at 951.955.1266.

3. The District is a signatory to the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). For purposes of procuring an encroachment permit from the District, the permit applicant will need to demonstrate that the portion of the project located within District right-of-way or easement is consistent with the MSHCP. The DEIR should include an MSHCP consistency assessment with all of its supporting documents and provide mitigation, if needed, in accordance with all applicable MSHCP requirements. The assessment should address, at a minimum, Sections 3.2, 3.2.1, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.5.3 and Appendix C of the MSHCP. In addition, some of the existing District facilities located within the project area are currently designated as Public/Quasi Public (P/QP) lands in the MSHCP. Any impacts to P/QP lands should be addressed in the DEIR.

4. The proposed project has the potential to alter existing drainage patterns. The potential diversion or concentration of storm water flows and any related impacts should be fully addressed in the DEIR. The proposed project also has the potential to increase storm water runoff and erosion within the proposed project area. The DEIR should also address the potential for increased runoff and any impacts that may result.

5. Portions of the proposed project may be located within the 100-year Zone A floodplain limits as delineated on the Federal Flood Insurance Rate Maps, issued in conjunction with the National Flood Insurance Program. If the proposed project will impact watercourses that may have floodplain associated with them, the DEIR should address potential direct and indirect floodplain impacts.

6. Construction projects that result in the disturbance of 1 or more acre of land (or less than 1 acre if part of an overall plan of common development) may require coverage under the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (Construction Activity General Permit). Copies of the Construction Activity General Permit and Fact Sheet may be obtained from the SWRCB website (www.swrcb.ca.gov).

Thank you for the opportunity to comment on the Notice of Preparation. Please forward any subsequent environmental documents regarding the project to my attention at this office. Any further questions concerning this letter may be referred to Mai Son at 951.955.5418 or me at 951.955.1233.

Very truly yours,

TERESA TUNG
Senior Civil Engineer

c: TLMA
Attn: David Mares
Ed Lotz
Dale Anderson

MTS:mcv
P8\120661

ORANGE COUNTY
OC Public Works
Our Community. Our Commitment.

Bryan Speegle, Director
300 N. Flower Street
Santa Ana, CA
P.O. Box 4048
Santa Ana, CA 92702-4048
Telephone: (714) 834-2300
Fax: (714) 834-5188

August 21, 2008

Mr. Russell Williams
California Department of Transportation, District 8
Division of Environmental Planning
SR-91 Corridor Improvement Project
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Subject: Notice of Preparation for the SR-91 Corridor Improvement Project

Dear Mr. Williams:

Thank you for the opportunity to comment on the above referenced document. The Orange County Flood Control District (OCFCD) has reviewed the Notice of Preparation and recommends that Caltrans consider the following planned flood control improvements in the EIR/EIS:

1. Lower Santa Ana River Mainstem Project and SARI Line Relocation:

OCFCD and the Riverside County Flood Control and Water Conservation District (RCFC&WCD), in partnership with the Army Corps of Engineers (Corps), are currently working on major flood control improvements that will provide greater than 100-year level protection from flooding due to the Santa Ana River. As part of the Lower Santa Ana River (LSAR) improvements, the Corps is proposing to construct bank protection on the south bank of the Santa Ana River at several locations between Prado Dam and the western portion of the Green River Golf Course. Also known as the Reach 9 Phase II project, the improvements will be designed to protect the SR-91 freeway and the mobile home/housing tract adjacent to the freeway from anticipated increased flood control releases from Prado Dam.

Additionally, OCFCD, in partnership with the Orange County Sanitation District (OCSD) and the Santa Ana Watershed Project Authority (SAWPA), is proposing to relocate the segment of the existing Santa Ana Regional Interceptor (SARI) Line between the Orange County boundary and the SAVI Ranch Development near Weir Canyon Road. The SARI Line is a sanitary sewer trunk line that conveys raw sewage and brine from the Inland Empire to the OCSD treatment plant in the City of Fountain Valley. This project would relocate the SARI Line from the riverbed to a new alignment just north

of and adjacent to SR-91 to protect the pipeline from the anticipated increased flood control releases from the Prado Dam.

Portions of these two projects are proposed to be located within existing Caltrans right-of-way within Orange County. To allow the construction of these improvements, OCFCD is proposing that Caltrans relinquish excess rights-of-way to OCFCD. The Project Study Report/Project Report (PSR/PR) for the right-of-way relinquishment is currently being reviewed by Caltrans District 12.

2. Auxiliary Dike:

The Corps is also proposing to construct the proposed Auxiliary Dike within the Prado basin. The dike begins at the Prado Dam spillway and follows an alignment roughly parallel to SR-91 up to Auto Center Drive. This dike is designed as an extension of the Prado Dam embankment and will provide flood protection to the SR-91 freeway. The toe of the dike would be located just north of SR-91 right-of-way. The project is currently in design by the Corps, with OCFCD serving as the local sponsor as part of the overall Santa Ana River Mainstem Project.

3. Green River Golf Club:

OCFCD purchased the Green River Golf Club (GRGC) as part of the Santa Ana River Mainstem Flood Control Project and intends to continue operating the golf course. Since the GRGC is adjacent to the SR-91 freeway, the SR-91 Corridor Improvement Project may potentially impact the property and/or its golf business operations.

OCFCD requests that Caltrans coordinate with OCFCD and the Army Corps of Engineers when proceeding with the proposed SR-91 Corridor Improvement Project. Please contact Lance Natsuhara, Manager, Santa Ana River Section, at (714) 834-5398 if you have any questions or concerns.

Sincerely,

Nadeem Majaj, P.E.
Assistant Chief Engineer

Cc: Kevin Onuma, County of Orange/OC Public Works
Lance Natsuhara, County of Orange/OC Public Works
Mehdi Sobhani, County of Orange/OC Public Works

OFFICE OF: PUBLIC WORKS

(951) 736-2266
(951) 279-3627 (FAX)

400 SOUTH VICENTIA AVENUE, P.O. BOX 940, CORONA, CALIFORNIA 92878-0940
CORONA CITY HALL - ONLINE, ALL THE TIME (http://ci.corona.ca.us)

August 11, 2008

Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th floor
San Bernardino, CA 92041

SUBJECT: Notice of Preparation of a Draft Environmental Impact Report for State Route 91 Corridor Improvement Project.

Dear Mr. Williams:

The City of Corona has received the notification of preparation of the draft Environmental Impact Report (DEIR) for the State Route 91 Corridor Improvement Project that was sent by Ernest Figueroa on July 11, 2008.

We appreciate the opportunity to provide our views on the scope and content of the environmental information for this report as it relates to the City of Corona's statutory responsibilities in connection with the proposed project.

The following is a list of key concerns related to the project that we would like to have reviewed and considered for inclusion in the DEIR:

- Local Traffic Impacts at interchanges and connecting roadways must be clearly identified and mitigated through capacity improvements.
- Freeway access must be maintained to current levels at a minimum.
- Intermediate access to the proposed toll facility within Corona should be considered fully.
- Construction impacts such as visibility, noise, traffic handling and advance notice must be addressed as they relate to local businesses and citizens of the community.
    - Potential bypass and/or cut-through traffic impacts to local streets within Corona during project construction should be avoided (i.e., ensure the provision of adequate traffic capacity and handling during the construction period).

- Potential right-of-way impacts need to be clearly defined for each alternative considered.
    - Efforts to avoid and minimize right of way impacts must be made and documented thoroughly when unavoidable.
    - Potential impacts to the character and connectivity of the communities within Corona should be avoided and minimized.
- The aesthetics of the project must maintain the integrity of the City and its communities and should provide continuity in theme and practice throughout the corridor.
    - Landscaping and artwork for the project should be consistent with the landscape architecture master plan for the I-215/SR-91 corridor which was completed by Caltrans District 8 on September 5, 2006.

We understand that the DEIR will most likely be a very extensive and thoroughly inclusive document for this project and would like to convey that the above list is simply a list of key impacts and concerns that could impact the City of Corona. However, this list is by no means an all inclusive list of impacts to the City of Corona.

We look forward to continued involvement and discussions during the preparation of the DEIR and, as always, we are available to provide any additional information that you may need for this project.

Sincerely,

Ameed Qattan, P.E.
Public Works Director

Cc: Bradly L. Robbins, City Manager

C:\Documents and Settings\tarar\My Documents\Letters\2008, 8-11, NOP draft EIR for SR-91 Corridor Improvement.doc

SIERRA CLUB
FOUNDED 1892

SAN GORGONIO CHAPTER

4079 Mission Inn Avenue
Riverside, CA 92501
(951) 684-6203 Fax (951) 684-6172
Membership/Outings (951) 686-6112

Regional Groups Serving Riverside and San Bernardino Counties:
Big Bear, Los Serranos, Mojave, Moreno Valley, Mountains, Tahquitz.

August 8, 2008

Russell Williams
California Department of Transportation
District 8, Environmental Planning
464 West 4th Street, 11th Floor
San Bernardino, CA 92401

Dear Mr. Williams:

Re: Notice of Preparation (NOP) for SR-91 Corridor Improvement Project

The Sierra Club appreciates the opportunity to comment on this NOP. We are quite concerned that public transit continues to be almost non-existent between Riverside County and Orange County. What is the plan for public transit between the two counties? How will existing right-of-ways be used to accommodate public transit in the future? Will the land used for SR-91 improvement constrict future public transit options? How will the two road alternatives move us closer to AB32 requirements vs. having public transit or building the first phase of a comprehensive public transit project?

The Draft EIR/EIS needs to have an alternative that shows public transit connecting the two counties and the plan for its ultimate completion. The Sierra Club believes that the Draft EIR/EIS will be inadequate unless this alternative is completely analyzed. You also need another alternative that uses lane reversal during rush hours. Another alternative should be building additional lanes above existing ones, as they do in other parts of the world, even in earthquake-prone areas.

How much traffic is expected from the proposed Mid-County Parkway (MCP)? The flyover between I-15 and SR-91 is already jammed. How will this plan solve this problem when the MCP is daily dumping onto I-15 tens of thousands of cars needing to continue west on SR-91?

The I-15 improvements beginning at Cajalco Road show how this portion of the project and its connection to SR-91 are really part of a larger project. The MCP and SR-91 Corridor Improvement Project need a full environmental analysis of these two projects combined; otherwise, you are segmenting.

Will this project create pressure to extend the 241 Toll Road? How will Orange County connect to this project? How would Orange County connect to the public transit alternative?

How much more pollution will this project add for those who live or work within 1,500 feet of the improved roadway? (See attachments p 3-9)

Page 1 of 16

Where will you install monitors to measure baseline PM 2.5? None of the existing monitoring sites of the Air Resources Board (http://www.arb.ca.gov/qaweb/siteinfo.php) in Riverside County are within 100 meters of the proposed improvements or even SR-91 or I-15. These monitors need to be placed downwind within 100 meters of both the SR-91 and I-15 within the project's vicinity. (See attachments p 10-14)

The Sierra Club expects the draft document to analyze the cumulative growth-inducing impacts of this project within the context of other CETAP projects.

What are the biological resources that this project will impact, either directly or indirectly? Will there be any impacts from additional noise, run-off, air pollution, lights (moving or stationary), and/or vibration? What will be the impacts on the Santa Ana Sucker, Least Bell's Vireo, gnatcatchers, and/or the Southwestern Willow Flycatcher? How far from the roadway's right-of-way will you analyze for impacts to biological resources?

The Sierra Club wishes to be notified at the address below of all future meetings and documents related to the SR-91 Corridor Improvement Project.
Sincerely,

George Hague

George Hague
Conservation Chair
Moreno Valley Group of the Sierra Club
26711 Ironwood Avenue
Moreno Valley, California 92555-1906
Phone: 951-924-0816
Fax: 951-924-4185

Center for Community Action and Environmental Justice
Centro de Acción Comunitaria y Justicia
Mailing Address: PO Box 33124, Riverside, CA 92519 Office Location: 7701 Mission Blvd. Riverside, CA 92509
Phone: 951-360-8451 Fax: 951-360-5950 http://www.ccaej.org

Please read concerning the health impacts to children

Testimony by Penny J. Newman
Executive Director,
Center for Community Action and Environmental Justice

October 10, 2007

Field Briefing the Senate Environment and Public Works Committee on Air Pollution Challenges for California's Inland Empire

Chairwoman Boxer, Honorable Members of the committee, I thank you for the opportunity to address this committee on this important issues.

My name is Penny Newman, Executive Director for the Center for Community Action and Environmental Justice. CCAEJ is one of the oldest and most accomplished environmental justice organizations in the nation having begun our work in 1978 as a small neighborhood group fighting for the cleanup of California's top priority Superfund site, the Stringfellow Acid Pits. We will be celebrating our 30 years of working with communities of the Inland Valleys to improve the health, quality of life, and well-being of all our families.

Southern California is facing a critical health crisis. One that we can't inoculate against, change our habits like stop smoking, or exercise more to improve. The health threat comes from the vary activity that we depend upon to keep us alive—breathing.

- Southern California air quality remains the worst in the nation, posing a major health concern for almost 17 million residents in the region.
- The state Air Resource Board estimates that air pollution (PM 2.5) in the South Coast Air Basin is responsible annually for up to 5,400 premature deaths, 2,400 hospitalizations, and 980,000 lost work days.
- 140,000 Children in Southern California have asthma and respiratory problems largely due to air pollution.
- Over 70% of the airborne cancer risk in Southern California is directly attributed to diesel fueled engines in the basin.

Prompted by these startling statistics, Southern California Association of Governments (SCAG) and South Coast Air Quality Management District (SCAQMD) have called upon Governor Arnold Schwarzenegger and President George Bush to issue a State of Emergency for the area.

For the communities of the Inland Valleys these statistics have special significance. Geologic and meteorologic factors make our area the center of the accumulation of this pollution. As coastal winds blow pollution from the Los Angeles and Orange county areas it is trapped by our surrounding mountains where it sits and bakes creating a toxic brew of pollution. As a result San Bernardino has the highest levels of ozone pollution in the nation. Riverside County holds the record for having the highest levels of Particulate matter pollution known as PM_{10} (Particulate Matter 10 microns or less). While the health risk on a region wide basis is unacceptable, the most severe impacts are concentrated in those communities closest to the sources.

It is in this setting that the decisions to make the movement of goods with its reliance on heavily polluting ships, trucks, and trains, the economic engine for southern California has been made. The rapid growth and convenient location to freeways, airports or rail lines make the Inland Valleys of Riverside and San Bernardino Counties prime locations for industrial facilities, warehouses and distribution centers-- without regard to the incompatibility with existing communities. Also ignored is the health threat posed to local residents. Planning strategies and the drive for economic growth have led local agencies to disregard existing problems such as air pollution, traffic congestion, water contamination or consideration of the rural nature or life styles of existing neighborhoods affected by their decisions. The outcome of poor public policies and lack of appropriate planning has created a situation where homes are next to polluting industries; where diesel trucks crowd residential streets threatening the safety of our children; where neighbors can't use their backyards because of overwhelming noise or odors. This concentration of truck and rail activity has also resulted in the area being designated as a diesel "hot spot" by the South Coast Air Quality Management District (SCAQMD) with a cancer risk of over 1500 in a million. The result is an overall deterioration of the air, water, and quality of life— dramatically affecting the health and lives of local residents.

While we often look at the impacts on a regional basis, health researchers have demonstrated that a higher health risk is experienced the closer one gets to the diesel source. The concentration of diesel dependant facilities in communities already at risk disregards this fact. Economic development strategies and local land use decisions influence the levels of pollution to which specific communities are exposed, too often resulting in disproportionate levels of risk for low-income neighborhoods and Communities of Color. Increases in community exposure can lead to increased rates of disease and negative impacts on public health. More than 45 studies conducted by various investigators between 1967 and 1993 examined the role of race and income level in exposure to environmental hazards, and found disparate impacts in the great majority of cases studied (87 percent and 74 percent, respectively).

One such heavily impacted community is the unincorporated community of Mira Loma in Riverside County.

Mira Loma has the highest levels of particulate pollution in the nation.[1]

Mira Loma has the 4th worst particulate pollution in the world only after Jakarta, Indonesia; Calcutta, India; and Bangkok, Thailand[2]

In recent years, environmental health researchers have firmly established the linkage between air pollution exposure and a range of negative health outcomes, including slowed lung growth rates in children (Gauderman et al Cohort C, Cohort D papers), exacerbation of existing respiratory disease (McConnell et al EHP bronchitis/asthmatic paper), increased absences from school due to respiratory illness (Gilliland et al CHS absences paper), and increased mortality. Both gaseous and particulate pollutants have been implicated in health investigations, with increasing attention being focused recently on the toxicity of particulate pollution, both for the physical size and chemical nature of the particles inhaled each day. The California Air Resources Board estimates that more than 2400 people die prematurely due directly to air pollution from the movement of products and goods.

The impact of air pollution on children's respiratory health, in particular asthma, is a significant problem in Southern California. A recent survey in California found that nearly 700,000 children ages 6-17 suffer from asthma symptoms; one in five African-American children in California has been diagnosed with asthma. (CHIS) That same survey finds that in Southern California, the highest asthma symptom prevalence in children ages 0-17 is found in San Bernardino County (13.9%), (CHIS). Air pollution is a significant problem for the target communities of the Inland Valley.

The findings from the USC Children's Health Study demonstrating the affects of air pollution upon lung function are particularly frightening for our area. The Study found *that Mira Loma children had the weakest lung function and slowest lung growth of all children studied in southern California.*

Another analysis that drew upon data from the same USC Children's Health Study, ranked children living in Mira Loma as the most likely to develop asthma, other respiratory diseases *and* have stunted lung growth. The study found that children living within 500 meters of a freeway (approximately a third of a mile) have substantial deficits in lung function by the time they reach age 18. Of all children studied

[1] South Coast Air Quality Management District, "Multiple Air Toxics Exposure Study in the South Coast Air Basin" (MATES II Study), March 2000.

[2] World Health Organization, as cited by California Public Interest Research Group, CalPIRG, Citizens' Agenda, Vo. 13, No. 3; pg 4, Fall 1997. (The industrialization of China has now created many communities with high levels of PM pollution. While our levels have not gone down, levels in a number of communities in China have risen.

throughout southern California, children in Mira Loma and Riverside had the poorest lung function, and as a result the greatest risk for developing respiratory and cardiovascular diseases later in life.

But disease risk caused by particulate matter pollution is not limited to children. A recent study by the University of Washington found that women over the age of 50 living in highly polluted areas around the United States (including Mira Loma and Riverside) have more than double the chance of developing heart disease and dying from it, compared with women living in cleaner air regions. Again, the study found a strong correlation between particulate pollution and heart disease.

While the science in clear; the documentation of pollution levels is substantial; and suggested solutions have been proposed—local officials continue to place industrial warehouses, truck terminals and railyards next to the homes, schools and parks of these communities ignoring the severe health impacts those decisions inflict upon the families in the area. Inland Valley officials are looking to the Goods Movement as the economic hope for the future. As a result, rail yards, intermodal facilities and trucks have multiplied bringing the pollution closer to existing homes and schools. Adding insult to injury, BNSF Rail road has put forward an offer to buy the neighborhood's only park, so that the facility can expand.

Suggested actions that would lessen the impact are routinely ignored. For example, it has been recognized that by providing a buffer zone of 1,000-1,500 feet between a diesel source (road, warehouse, railyard) and homes, schools, and parks, we reduce the health risk where people live. Yet, there are currently proposals being approved that place these polluting facilities directly next to the fence lines of homes. While SCAG has acknowledged the severity of the health crisis in its call for a State of Emergency, it is considering an Inland Port facility in Mira Loma.

The Union Pacific rail road auto distribution facility in Mira Loma, is located next to Jurupa Valley High School. Separating the railyard from the athletic field of the school is the street the hundreds of trucks use to pick up their load each day. This close proximity to the diesel spewing trucks creates a high health risk for the students. A simple action of closing this southern gate and using the northern gate would reduce significantly the pollution these students are exposed to. Yet, Union Pacific has refused to implement this small mitigation, because it would be inconvenient to its tenants It is puzzling to me why a corporation would not take easy measures that they know would reduce its impact upon the health of the children of our community.

The anticipated three-to five fold increase in the movement of goods through southern California will compound further adverse health outcomes. Solutions being offered by officials at the ports pose greater increase in the deadly diesel pollution for Inland Valley communities. One solution offered to address port pollution is to utilize rail instead of trucks with the assumption that trucks pollute more than locomotives per

number of containers hauled. Again what is overlooked is that containers would be transported on an expanded rail system while more containers would be still be hauled by an expanded trucking system, the widened freeways. The goal is to maximize both rail and truck transportation modes in order to handle the anticipated expansion of the freight hauling industry.

For the Inland Valleys the promotion of an expanded rail system is particularly troublesome since it depends on the development of an "Inland Port." Since there isn't room at the ports to sort and distribute the containers of goods, the goods would be directly moved from the ships to the rail cars and hauled to the Inland Port. Here the goods would be sorted and thousands of trucks would converge to pick up loads for distribution. One of the leading locations under consideration is at the Space Center in Mira Loma.

To expand an industry that is currently killing people without addressing the current health crisis is criminal. The message to residents is clear— the health and well being of our families does not count; our neighborhoods are expendable.

Many promises are being made to address pollution associated with the expansion of Goods Movement, but there is little reason to believe any of it. Responsibility for action is passed from one jurisdiction to another. Local government points to the state for responsibility; the state points to federal government, and in turn they point back to local government and sanctity of local land use decisions. With all the finger pointing NO ONE is doing anything to address this critical situation. U.S. Environmental Protection Agency is nowhere in the discussions. The National Environmental Justice Advisory Committee was recently asked to prepare recommendations regarding how to address the health crisis surrounding the Goods Movement. Not one community person from southern California has been appointed to this study committee, even though I personally have volunteered and traveled to Washington DC for the first face-to-face meeting at my own expense. It is difficult to understand how comprehensive recommendations can arise from the committee if the major geographic area hit hardest by this industry has no voice. Clearly the recommendations will have little credibility if those most directly and most significantly impacted are silenced from the discussions.

Since the trucking, railroad and shipping industries are primarily regulated by federal rules, the federal government holds special importance and must step in to address this growing problem. Instead we are engaged in a hectic discussion on how to increase the movement of goods by 3-5 fold. Our communities will not survive that onslaught.

While ignorance regarding the health implications of exposure to diesel exhaust could be claimed many years ago, the emerging scientific information brought forth by the South Coast AQMD, researchers at USC and UCLA and the hundreds of other

scientific studies generated on diesel, clearly show the horrific health impacts from constant, high levels of diesel exhaust. And yet, the federal government is absent and state agencies appear impotent. Local government seems hypnotized by the promise of jobs and economic growth and ignores the deadly consequences. In many cases local government directly benefits financially from the destruction of our targeted communities. Just as federal intervention was necessary to correct the violations of civil rights occurring in the 1960's, intervention is warranted to correct the immoral land use decisions being made in southern California. If our communities are to survive, such intervention is demanded.

Let's be very clear—the continuing practice of placing these polluting facilities in low-income communities of color is institutional racism in its most obvious form. On behalf of the target communities, struggling families and sick children of our area, we appeal to you, Senator Boxer to begin the process of correcting this deadly injustice.

Thank you.

ATTAINMENT DEMONSTRATION DOES NOT PROVIDE FOR ATTAINMENT IN COMMUNITIES ADJACENT TO HEAVILY TRAVELED FREEWAYS.

The attainment demonstration in the adopted AQMP does not estimate the emissions reductions that will be needed to attain either the annual or the 24-hour NAAQS for PM2.5 in the near-highway environment where primary particles emitted from motor vehicles and re-entrained dust cause or contribute to concentrations well-above those used to determine the design value for the region and the regional attainment demonstration. Emissions from heavily traveled freeways have been shown to add from 1 to 14 µg/m3 of elemental carbon, a major component PM2.5, to concentrations measured at regional monitors more than 300 to 500 meters distant from major highways. In the South Coast Air Basin, commenters estimate that approximately 1.5 million people live within this near-highway environment where elevated concentrations of PM2.5 are expected.

A. Reliable Scientific Evidence Shows Elevated PM2.5 in the Near-Highway Environment.

The evidence that highway emissions have a significant impact on air quality in the near-highway environment is not new. MATES-II first identified the importance of highway emissions in 2000. [Attached as Exhibit A]. Although MATES-II was focused on the significance of diesel particulate as the largest source of cancer risk in the air basin, it also provided important findings that demonstrated that higher levels of diesel pollution occur near highways. The Report found the greatest exposure to diesel PM at locations where "the dominance of mobile sources is even greater than at other sites." It also found that "model results, which are more complete in describing risk levels...than is possible with the monitored data, show that the higher risk levels occur... near freeways." "Results show that the higher pollutant concentrations generally occur near their emission sources." These findings provided evidence that neighborhoods near highways would experience higher concentrations than the regional averages. Based on these observations, MATES-II concluded that "[f]or mobile source compounds such as benzene, 1-3 butadiene, and particulates associated with diesel fuels, higher concentration levels are seen along freeways and freeway junctions." This work identified the near-highway environment as a high risk environment where elevated levels of PM would be expected because of emissions from diesel vehicles.

This triggered further research in the region. A team from USC conducted seminal studies to measure the concentrations of highway pollutants as a function of distance from the I-710 and I-405 freeways. [Attached as Exhibit B] Both studies included measurements of concentrations of CO and black carbon (BC) at increasing distances from the freeway. CO and BC were intentionally selected because their ambient concentrations are strongly related to vehicle emissions. Black carbon, also measured as elemental carbon (EC) in the monitoring reported in MATES-II and MATES-III [Attached as Exhibit C], is a species of PM2.5 that was used in the MATES-II study as a measure of diesel PM in the Air Basin. The MATES-III study reported more recent investigations showing that elemental carbon is an inadequate measure of diesel PM, and that other methods show that total diesel PM is at least 72% greater than elemental carbon. MATES-III, p. 2-9. The AQMP relies on the MATES-III data to identify elemental carbon as one of the six major species of PM2.5 in the South Coast air shed that contribute significantly to PM2.5 nonattainment.

The freeway studies show the dramatic increase in BC/EC in the near-highway environment. The studies measured concentrations at five distances downwind from the freeway and upwind from the freeways. By comparing the upwind measurements which provide a good estimate of regional carbon loadings in the Air Basin with the downwind measurements, these studies provide a good estimate of the increase in concentrations of primary carbon particles emitted from highways in the vicinity of major highways compared to regional concentrations measured in the urban air shed.

The BC measurements from each of the freeway studies are summarized separately below along with measured upper and lower limits, and the observed difference between the comparable upwind and downwind BC concentrations:

Measured Average (and Upper and Lower Limit) BC Concentrations at Increasing Distances from the 405 Freeway

Downwind Distance (m)	BC (µg/m3)	BC (µg/m3) Downwind-Upwind Average Concentration
30	5.4 (3.4-10.0)	4.75
60	3.2 (3.0-3.5)	2.55
90	2.5 (2.4-2.6)	1.85
150	1.6 (1.1-2.0)	0.95
300	1.3 (1.1-1.5)	0.65

11

Measured Average (and Upper and Lower Limit) BC Concentrations at Increasing Distances from the 710 Freeway

Downwind Distance (m)	BC (µg/m3)	BC (µg/m3) Downwind-Upwind Average Concentration
200 m (upwind)		4.6 (3.1-5.9)
17 m	21.7 (20.3-24.8)	17.1
20	19.4 (16.5-21.6)	14.8
30	17.1 (12.6-19.3)	12.5
90	7.8 (4.5-9.3)	3.2
150	6.5 (3.9-9.2)	1.9
300	5.5 (3.5-7.7)	0.9

Notice the large increase in the near-highway concentrations of BC downwind of the I-710 compared to the I-405. The Interstate 710 study was conducted in part because the freeway has a much higher percentage of heavy-duty diesel truck travel than the Interstate 405 freeway. Average traffic flow during sampling periods was 12,180 vehicles per hour with more than 25 percent of vehicles being heavy-duty diesel trucks. This is perhaps the highest density of diesel truck traffic anywhere in the U.S. Measurements were taken at 17, 20, 30, 90, 150 and 300 meters downwind and 200 meters upwind from the center of the freeway. As with the 405 freeway study, relative concentrations of CO and BC downwind from the freeway were found to be many micrograms per cubic meter greater than upwind concentrations and tracked each other well as one moves away from the freeway.

These studies show that in the impact zone downwind of a heavily traveled freeway in the Air Basin with average truck traffic (I-405), emissions of BC from the freeway will add 4.75 µg/m3 to PM2.5 at 30 meters from the freeway dropping off to 0.65 µg/m3 greater than the regional concentration at 300 meters, and that a freeway with heavy truck traffic will add 12.5 µg/m3 at 30 meters dropping off a 1.9 µg/m3 increase above the regional levels at 300 meters.

The incremental effect of highway emissions downwind from the I-710 have been confirmed in recent weeks by data released as part of the deployment of Mobile Monitoring Platform Results in the I-710 corridor. See Mobile Monitoring Platform Update and Results reported by CARB, April17, 2008, at the HCMS Community Meeting, Wilmington Senior Center. [Attached as Exhibit D]. These results include BC concentrations within the so-called buffer zone 500 feet from the freeway compared with results measured beyond the 500 feet buffer. Concentrations measured in West Long Beach residential area on the morning of July 17, 2007, show nearly a four-fold greater BC level within 500 feet from the 710 freeway compared to the same neighborhood outside the 500 feet zone (18 vs 5 µg/m3). This difference of 13 µg/m3 is highly consistent with the upwind/downwind results reported in the original 710 study.

These results were supported by measurements made in other regions. A study in Seattle, WA (Curtis, Gilroy, and Harper, 2004) measured the relationship between BC levels at an urban near-roadway monitoring site, and a heavily traveled freeway. [Attached as Exhibit E] This study

12

4

showed that there were frequently peak evening rush hour BC levels of 5 µg/m3 or above near I-5. The BC data was obtained from the Olive Street monitoring site located at the EPA-designated microscale within the I-5 traffic corridor. The traffic volumes and BC readings correlate well, supporting the hypothesis that traffic is a major contributor to PM2.5 at the site, given that BC originates from motor vehicle exhausts as ultrafine or fine particles. The Olive Street air monitoring site is about 20 meters west of the southbound lane of I-5 in the CBD. This area of I-5 contains express lanes along with several high use overpasses which all contribute to the area traffic. Daily volumes along this section of I-5 average 284,700 vehicles per day (in 2003). Light-duty traffic has peak weekday flows above 10,000 vehicles per hour, with diesel traffic of about 1,000 vehicles per hour (10%). BC tends to peak during weekdays with high traffic volumes, and is sharply lower on weekends. This reduction parallels the significantly lower weekend diesel traffic volumes. Peak BC measurements occur during the afternoon rush hour (4-6 pm). Correlations between light-duty vehicle volumes and BC peaks (readings above 5 µg/m3) are better than those between diesel truck volumes and BC peaks. This may occur because light-duty volumes overwhelm diesel truck volumes during this peak period (93 percent of the traffic volume is from light-duty vehicles).

The Seattle study also measured BC at a Beacon Hill site about 600 meters from a major freeway, which is used as the urban background for Seattle. Hourly BC readings during the study period stayed within the range of 0 to 2 µg/m3, with readings mostly below 1.0 µg/m3. Comparing these sites demonstrates results similar to the data obtained from the I-405 study with BC concentrations in the near-highway environment being about 4 µg/m3 greater than the urban regional concentration.

The East Bay (California) Children's Respiratory Health study (Kim et al., 2004), conducted with support from Cal EPA's Office of Environmental Health Hazard Assessment, obtained measurements of PM2.5 concentrations at monitors located in the schoolyards of 10 middle schools in communities across the East Bay. [Attached as Exhibit F] This study reported the distance of each monitor from major freeways, the traffic density on the nearest freeway, and whether the school was located downwind of the traffic source. The PM2.5 measured at the school closest to (60 meters), and downwind from a major freeway, was 15 µg/m3 which was 3 µg/m3 greater than the 12 µg/m3 PM2.5 concentrations reported at the regional air district network monitor located about 1 mile from major traffic sources.

The recently released West Oakland Health Risk Assessment conducted by the ARB provides similar results from a modeling study that shows highly elevated concentrations of diesel PM in a neighborhood downwind of the Port of Oakland and surrounded by heavily traveled major freeways. [Attached as Exhibit G—but appendicies A through E not attached and available at http://www.arb.ca.gov/ch/communities/ra/westoakland/westoakland.htm]. The risk assessment showed that despite the significant contribution of emissions from ocean going vessels, local watercraft, railyard and port activities, the emissions from non-port related on-road truck operations accounted for 80% of the diesel PM in West Oakland.

These and other studies provide credible evidence that PM2.5 concentrations in the near-highway environment are expected to range from 3 µg/m3 to as much as 13 µg/m3 greater than

13

5

concentrations measured at regional monitors located outside the high impact zone of heavily traveled freeways.

Data from these highway studies were expressly relied upon by US EPA to decide that it must establish a transportation conformity program to review the localized impacts of PM2.5 emissions from highways. See Transportation "hot spot" rule, 71 Fed.Reg. 12468, 12494 (March 10, 2006). EPA concluded that the evidence of localized impacts from highways was sufficiently compelling to require that "it is essential that a quantitative PM2.5 or PM10 hot-spot analysis be performed for all projects of air quality concern." *Id.* If the evidence of localized impacts was sufficient to justify a national regulatory program to protect against NAAQS violations caused by new highways, it is also compelling enough to require a quantitative analysis to ensure that the SIP will protect against existing localized NAAQS violations caused by highway emissions.

B. Exposed Population in Near-Highway Environment is Significant.

To determine the public health significance of human exposures to the elevated concentrations occurring in the near-highway environment, Environmental Defense Fund performed an exposure analysis that plotted all limited access highway links in the South Coast air Basin with annual average daily traffic (AADT) greater than 125,000, and then used available 2000 census data to estimate the population within 300 meters of these highway links.[3] The 125,000 AADT threshold was selected based upon EPA's determination that this is an appropriate traffic threshold for identifying highway "projects of air quality concern" as a trigger for performing a transportation "hot spot" analysis for PM2.5. See 71 Fed. Reg. 12,468. The 300 meter impact zone is based on the evidence discussed above showing that the elevated BC and PM2.5 concentrations associated with highway emissions is significant at 300 meters from highways. This analysis shows that approximately 1.5 million citizens within the SCAB reside within the 300 meter high impact zone adjacent to major freeways.

C. Attainment Demonstration Fails to Protect Against Elevated PM2.5 in the Near-Highway Environment.

The PM2.5 concentrations expected in the near-highway environment are not reflected in the adopted attainment demonstration because neither the monitored concentrations of PM2.5 used to select the design value for the attainment demonstration, nor the modeling analysis used to demonstrate future attainment account for the increased PM2.5 concentrations in the near-roadside environment.

1. Monitors Not Located to Measure PM2.5 In Near-Highway Environment.

The monitors selected to determine the design value for the South Coast air basin are not located in the near-highway environment.

[3] The methodology used and software applied to perform this analysis is explained in Exhibit H hereto.

14

6

The highest annual and 24-hour design values among the network sites are recorded at Rubidoux in Riverside County. For this reason, the measurements at this site play an important role in the development of the attainment demonstration. But this site is not located in a near-highway environment. The Site Survey Report for the monitor describes the location as residential, with residential traffic of only 10,000 vehicles per day within 25 meters. Based on this description of the site, it is apparent that the design value does not reflect the incremental impact of primary aerosols emitted from a nearby heavily traveled highway.

Another site with a high design value is Fontana/Arrow Highway. The Site Report for this location describes the monitor as being 85 meters from an arterial roadway carrying 28500 vehicles per day. This is not a major highway.

The Wilmington site is in the neighborhood west of the I-710, but it too is more than 300 meters from the freeway and not located in the high impact area where vehicle emissions would be expected to contribute to higher PM2.5 concentrations.

These site locations are not in close proximity to major freeways, and do not detect the incremental impact of highway emissions. A control strategy that is adequate to reduce the concentrations at these sites to attain the NAAQS cannot be shown to reduce the higher concentrations in the near-highway environment to the level of the NAAQS.

2. Large-Scale Regional Modeling Does Not Predict Impact of Reductions in Highway Emissions.

The modeling analysis performed for the attainment demonstration uses the CAMx model, which is the same model applied to demonstrate ozone attainment. This is a regional airshed model that aggregates emissions and estimates ambient concentrations for a grid that is made up of cells 5 km on a side. AQMP, Appendix V, p. 2-15. But for the purpose of comparing modeling results with monitoring station measurements, the results are averaged over nine grid squares. "The CAMx modeling results are presented based on a nearest nine-grid-cell average basis. Performance evaluations at each station are based on this average concentration." *Id.*, p.2-24.

This approach may be suitable for the purpose of estimating concentrations of secondary species that are formed after primary pollutants are cooked in the chemical soup of the Air Basin, but this large scale averaging provides no useful information regarding the dispersion of primary pollutants emitted from large sources such as highways.

Unlike secondary particulate species which become particles downwind from their point of emission as gases, the elemental carbon and aerosol VOCs emitted from tailpipes, road dust, tire and brake pad particles are emitted directly from highways to the atmosphere, and are most highly concentrated at the source. The regional grid modeling analysis performed by CAMx aggregates these emissions and averages them over large regions, rather than recognizing them as being most highly concentrated at the point of origin. EPA explained in its guidance regarding PM attainment demonstrations that "[d]ispersion models are better able to capture the influence of primary PM sources where large concentration gradients may exist. Grid models spread out the PM emissions to

15

7

the size of the grid (typically 4 or 12 km). This makes it difficult to judge the benefits of control strategies that may affect primary PM sources." 72 Fed. Reg. 20607-08. The large-scale regional modeling analysis performed for the SCAB cannot, and does not, predict concentrations of the primary species in the near-highway environment. Given the limitations of this large scale tool for predicting the impact of primary PM emissions from sources on local ambient concentrations, the attainment demonstration in the adopted AQMP cannot be approved as adequate to demonstrate attainment in the near-highway environment.

3. Small Scale Modeling Tools Are Available.

EPA's modeling guidance identifies the problem we identify here, and suggests suitable models for assessing the expected ambient impacts of primary PM emissions on locations that are not represented by the monitoring network. The modeling guidance warns specifically of the possibility that high concentration locations affected by emissions of primary PM will be missed:

> Focusing the modeled attainment test only at monitoring sites could result in control targets which are too low if the monitoring network is limited or poorly designed. We recommend a test which includes a review of the strategy's impact at locations without monitors. This exercise provides a supplemental test to determine whether there is a need for further action despite passing the modeled attainment test at all monitoring sites.

"Guidance on the Use of Models and Other Analyses for Demonstrating Attainment of Air Quality Goals for Ozone, PM2.5, and Regional Haze," p.19 [Attached as Exhibit I]. In the situation where highways are the most significant source of primary carbonaceous PM2.5, and a monitoring network that does not include any monitors located within the high concentration zone representing the exposure of populations adjacent to highways, an additional investigation is clearly required.

Two recent studies demonstrate the modeling tools available for estimating the near-highway impacts of primary PM emitted from highways. The West Oakland health risk assessment uses a fine scale (250M x 250M) dispersion model nested with a larger scale model to identify the impacts of highway emissions on the adjacent community. The dispersion modeling analysis performed by E.H. Pechan and Associates to assess likely neighborhood scale impacts from the Intercounty Connector highway project in suburban Maryland also demonstrates the availability of CalQH3R for this application. Both modeling studies estimated near-highway impacts greater than 4 µg/m3. [Attached as Exhibit I(a)].

page 16 of 16

Attachment 5.E:
Notice of Intent (July 3, 2008)

This page intentionally left blank

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

[Docket No. FHWA–2008–0088]

Agency Information Collection Activities: Notice of Request for Extension of Currently Approved Information Collection

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice and request for comments.

SUMMARY: The FHWA has forwarded the information collection request described in this notice to the Office of Management and Budget (OMB) to renew an information collection. We published a **Federal Register** Notice with a 60-day public comment period on this information collection on March 28, 2008. We are required to publish this notice in the **Federal Register** by the Paperwork Reduction Act of 1995.

DATES: Please submit comments by August 4, 2008.

ADDRESSES: You may send comments within 30 days to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, Attention DOT Desk Officer. You are asked to comment on any aspect of this information collection, including: (1) Whether the proposed collection is necessary for the FHWA's performance; (2) the accuracy of the estimated burden; (3) ways for the FHWA to enhance the quality, usefulness, and clarity of the collected information; and (4) ways that the burden could be minimized, including the use of electronic technology, without reducing the quality of the collected information. All comments should include the Docket number FHWA–2008–0088.

FOR FURTHER INFORMATION CONTACT: Mr. Kreig Larson, 202–366–2056, Office of Project Development and Environmental Review, Office of Planning and Environment, Federal Highway Administration, Department of Transportation, 1200 New Jersey Avenue, SE., Washington, DC 20590. Office hours are from 8 a.m. to 4:30 p.m., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Title: Environmental Streamlining: Measuring the Performance of Stakeholders in the Transportation Project Development Process, Third Survey.

OMB Control Number: 2125–0591.

Background: The U.S. Department of Transportation (DOT), FHWA, has contracted with the Gallup Organization to conduct a survey of professionals associated with transportation and resource agencies in order to gather their views about the workings of the environmental review process for transportation projects and how the process can become more efficient. The purpose of the survey is to: (1) Collect the responses of agency professionals to questions about their involvement in conducting the decision-making processes mandated by the National Environmental Policy Act (NEPA) and other resource protection laws in order to develop benchmark performance measures; and (2) identify where the performance of the process might be improved by the application of techniques for streamlining. This is a survey conducted of only local, state, and federal officials who work with the NEPA process.

Respondents: Approximately 2,000 professionals/officials from transportation and natural resource agencies.

Frequency: This is the third time in seven years that this survey will be conducted.

Estimated Average Burden per Response: Annual Burden Hours: The FHWA estimates that each respondent will complete the survey in approximately 15 minutes. Respondents will have the option of answering the survey's questions either over the telephone or online.

Estimated Total Annual Burden Hours: With a potential total of 2,000 survey respondents, an estimated 500 hours is the total burden.

Electronic Access: For access to the docket to read background documents or comments received, go to *http://www.regulations.gov.* Follow the online instructions for accessing the dockets.

Authority: The Paperwork Reduction Act of 1995; 44 U.S.C. Chapter 35, as amended; and 49 CFR 1.48.

Issued on: June 30, 2008.

James R. Kabel,

Chief, Management Programs and Analysis Division.

[FR Doc. E8–15146 Filed 7–2–08; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Riverside and Orange Counties, CA

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

SUMMARY: The FHWA, on behalf of the California Department of Transportation (Caltrans), is issuing this notice to advise the public that an Environmental Impact Statement (EIS) will be prepared for the proposed State Route 91 (SR–91) Corridor Improvement Project, in the Counties of Orange and Riverside, California.

FOR FURTHER INFORMATION CONTACT: Russell Williams, Office Chief, California Department of Transportation, Division of Environmental Planning, 464 West 4th Street, 11th Floor, San Bernardino, CA 92401; or call (909) 383–1554.

SUPPLEMENTARY INFORMATION: Effective July 1, 2007, the Federal Highway Administration (FHWA) assigned, and Caltrans assumed environmental responsibilities for this project pursuant to 23 U.S.C. 327. Caltrans will prepare an EIS on a proposal to increase capacity within the project segments of the SR–91 (between the State Route 241 and Pierce Street) and the Interstate 15 (between Cajalco Road and Hidden Valley Parkway), in the Counties of Orange and Riverside, California.

The proposed improvements is considered necessary to facilitate movement of people and goods between the Counties of Orange and Riverside, by improving travel conditions for work, recreation, school, commerce, as well as all other trip purposes. Alternatives under consideration include (1) Taking no action; (2) High Occupancy Vehicle (HOV) Lanes; (3) High Occupancy Toll (HOT) Lanes.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. In addition, interested Tribal governments will be involved as determined by the Native American Heritage Commission consultation. Public information meetings will be held to discuss the alternatives and the potential impacts of the proposed action. Public notice will be given of the time and place of the public meetings as well as the public hearings. The draft EIS will be available for public and agency review and comment prior to the first public meeting.

To ensure that the full range of issues related to this proposed action is addressed and that all significant concerns are identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to

Caltrans' contact at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: June 26, 2008.

Nancy Bobb,

Director, State Programs, Federal Highway Administration, Sacramento, California.

[FR Doc. E8–15111 Filed 7–2–08; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

Reports, Forms and Record Keeping Requirements; Agency Information Collection Activity Under OMB Review

AGENCY: National Highway Traffic Safety Administration, DOT.

ACTION: Notice.

SUMMARY: In compliance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*), this notice announces that the Information Collection Request (ICR) abstracted below has been forwarded to the Office of Management and Budget (OMB) for review and comment. The ICR describes the nature of the information collections and their expected burden. The **Federal Register** Notice with a 60-day comment period was published on December 28, 2007 [72 FR 73972].

DATES: Comments must be submitted on or before August 4, 2008.

FOR FURTHER INFORMATION CONTACT: David Sparks, National Highway Traffic Safety Administration, Office of Odometer Fraud Investigation (NVS–230), 202–366–4761. 1200 New Jersey Avenue, SE., Room W55–318, Washington, DC 20590.

SUPPLEMENTARY INFORMATION: National Highway Traffic Safety Administration

Title: 49 CFR part 580 Odometer Disclosure Statement.

OMB Number: 2127–0047.

Type of Request: Extension of a currently approved collection.

Abstract: The Federal Odometer Law, 49 U.S.C. Chapter 327, and implementing regulations, 49 CFR part 580 require each transferor of a motor vehicle to provide the transferee with a written disclosure of the vehicle's mileage. This disclosure is to be made on the vehicle's title, or in the case of a vehicle that has never been titled, on a separate form. If the title is lost or is held by a lien holder, and where permitted by state law, the disclosure can be made on a state-issued, secure power of attorney.

NHTSA received comments from: South Dakota Department of Revenue & Regulation, Texas Department of Transportation Vehicle Titles and Registration, Virginia Department of Motor Vehicles, and Wisconsin Department of Transportation. Each commenter cites a need for the ability to disclose odometer information electronically in a paperless environment. Texas and Virginia specifically reference a petition filed with NHTSA by the Virginia Department of Motor Vehicles seeking approval of alternate odometer disclosure requirements, to wit, electronic odometer statements. NHTSA has preliminarily granted Virginia's proposed alternate disclosure requirements and is seeking public comments concerning Virginia's proposal via the **Federal Register** through July 24, 2008. NHTSA's initial determination concerning Virginia's petition was published in the **Federal Register** on June 24, 2008 (73 FR 35617–23).

Additionally, Wisconsin suggests eliminating the ten-year exemption for odometer disclosure statements and conversely Virginia supports the ten-year exemption. NHTSA is reviewing the ten-year exemption and may seek comments in a future **Federal Register** notice.

This ICR notice concerns only the information collection requirements under current law, and does not relate to the issues raised by those commenting.

Affected Public: Households, Business, other for-profit, and not-for-profit institutions, Federal Government, and State, Local, or Tribal Government.

Estimated Total Annual Burden: 2,034,910.

ADDRESSES: Send comments, within 30 days, to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725–17th Street, NW., Washington, DC 20503, Attention NHTSA Desk Officer.

Comments are invited on: Whether the proposed collection of information is necessary for the proper performance of the functions of the Department, including whether the information will have practical utility; the accuracy of the Department's estimate of the burden of the proposed information collection; ways to enhance the quality, utility and clarity of the information to be collected; and ways to minimize the burden of the collection of information on respondents, including the use of automated collection techniques or other forms of information technology. A Comment to OMB is most effective if OMB receives it within 30 days of publication.

Issued in Washington, DC, on June 27, 2008.

David W. Sparks,

Director, Office of Odometer Fraud Investigation.

[FR Doc. E8–15057 Filed 7–2–08; 8:45 am]

BILLING CODE 4910–59–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA–2008–0048; Notice 2]

Hyundai Motor Company, Grant of Petition for Decision of Inconsequential Noncompliance

Hyundai Motor Company (Hyundai), has determined that certain vehicles that it manufactured during the period beginning July 14, 2006 through November 23, 2007, did not fully comply with paragraph S9.5 of 49 CFR 571.225 (Federal Motor Vehicle Safety Standard (FMVSS) No. 225 Child Restraint Anchorage Systems). On November 28, 2007 Hyundai filed an appropriate report pursuant to 49 CFR Part 573, Defect and Noncompliance Responsibility and Reports.

Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR Part 556, Hyundai has petitioned for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety. Notice of receipt of the petition was published, with a 30-day public comment period, on March 25, 2008 in the **Federal Register** (73 FR 15835). No comments were received. To view the petition and all supporting documents log onto the Federal Docket Management System (FDMS) Web site at: *http://www.regulations.gov/.* Then follow the online search instructions to locate docket number "NHTSA–2008–0048."

For further information on this decision, contact Mr. Ed Chan, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202) 493–0335, facsimile (202) 366–3081.

Affected are approximately 115,000 model years 2007 and 2008 Hyundai Elantra passenger cars produced beginning July 14, 2006 through November 23, 2007.

Attachment 5.F:
Notice of Availability (May 26, 2011)

This page intentionally left blank

park-and-ride facilities, maintenance and storage facility, and other ancillary facilities to support the transit system on the Island of Oahu, Hawaii. The FAA was a Cooperating Agency on the project due to its special expertise on aviation matters and jurisdiction by law for projects on airport property at HNL. The FAA assisted FTA in the preparation of the Final EIS. A refined rail alignment at HNL was evaluated in the Final EIS and was determined to be consistent with FAA requirements. The FAA ROD only addresses the 3-mile portion of the transit rail project that is located on HNL property and subject to FAA approval. The FTA issued its ROD for the entire 20-mile project in January 2011.

The Project would provide a high-capacity rapid transit service in the highly congested east-west transportation corridor between Kapolei and Ala Moana Center. The Project is intended to provide faster, more reliable public transportation services than what can be achieved with buses operating in congested mixed traffic. The project will provide a multi-modal transportation connection at HNL and also improve transportation links within the travel corridor.

The ROD discusses alternatives considered by FAA in reaching its decision, summarizes the analysis used to evaluate the alternatives, and briefly summarizes the potential environmental consequences evaluated in the Final EIS. The ROD also identifies the FAA's environmentally preferred alternative.

Copies of the ROD are available for public examination during business hours at the following locations:

1. Federal Aviation Administration, Honolulu Airports District Office, 300 Ala Moana Boulevard, Room 7–128, Honolulu, HI 96813.

2. Federal Aviation Administration, Airports Division, Room 3012, 15000 Aviation Boulevard, Hawthorne, CA 90261.

3. Federal Aviation Administration, Office of the Associate Administrator for Airports, Planning and Environmental Division, Room 615, 800 Independence Avenue SW., Washington DC 20591.

4. State of Hawaii, Department of Transportation, Airports Division, 400 Rodgers Boulevard, Suite 700, Honolulu, HI 96819.

FOR FURTHER INFORMATION CONTACT: Mr. Gordon Wong, Environmental Specialist, Federal Aviation Administration, Honolulu Airports District Office, 300 Ala Moana Boulevard, Honolulu, HI 96813. Telephone: (808) 541–1232.

Issued in Hawthorne, California, on May 12, 2011.

Debbie Roth,

Acting Manager, Airports Division, Western-Pacific Region, AWP–600.

[FR Doc. 2011–12983 Filed 5–25–11; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Notice of Availability of the Draft Environmental Impact Statement: Riverside and Orange Counties, CA

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Availability of the Draft Environmental Impact Statement.

SUMMARY: The Federal Highway Administration (FHWA), on behalf of the California Department of Transportation (Caltrans), announces the availability of the Draft Environmental Impact Statement for a proposed highway project in Riverside and Orange Counties, California.

DATES: The comment period for the State Route 91 Corridor Improvement Project Draft Environmental Impact Statement will end 45 days after publication of this Notice of Availability. A public meeting for the Draft Environmental Impact Statement will be held on June 9, 2011 at the Corona Civic Center Gymnasium, 502 S. Vicentia, Corona, California 92882, between 3:30 p.m. and 7:30 p.m.

ADDRESSES: The Draft Environmental Impact Statement is available for review at the Riverside County Transportation Commission, 4080 Lemon Street, 3rd Floor, Riverside, CA 92501, the Corona Public Library, 650 S. Main Street, Corona, CA 92882, the City of Corona Public Works Department, 400 S. Vicentia Ave., 2nd Floor, Suite 210, Corona, CA 92882, and California Department of Transportation (Caltrans), District 8, 464 W. Fourth Street, San Bernardino, CA 92401. The Draft Environmental Impact Statement is also available at *http://www.sr91project.info/index.php.*

FOR FURTHER INFORMATION CONTACT: Aaron Burton, Senior Environmental Planner, California Department of Transportation (Caltrans), District 8, 464 West Fourth Street, Sixth Floor, San Bernardino, California 92401.

SUPPLEMENTARY INFORMATION:

Effective July 1, 2007, the Federal Highway Administration (FHWA) assigned, and the California Department of Transportation (Caltrans) assumed, environmental responsibilities for this project pursuant to 23 U.S.C. 327. Caltrans as the delegated National Environmental Policy Act (NEPA) agency has prepared a Draft Environmental Impact Statement on a proposal for a highway improvement project in Riverside County, California. The State Route 91 Corridor Improvement Project proposes to increase capacity on the State Route 91 and Interstate 15 in Riverside and Orange Counties. The State Route 91 Corridor Improvement Project proposes to widen existing SR–91 from the State Route 91/State Route 241 interchange in the Cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County. The proposed project also includes improvements to Interstate 15 in Riverside County between the Interstate 15/Cajalco Road interchange in the City of Corona and the Interstate 15/Hidden Valley Parkway interchange in the Cities of Corona and Norco. The project limits on Interstate 15 begin at Cajalco Road, approximately 5 miles south of SR–91 and extend north on Interstate 15 to Hidden Valley Parkway, approximately 1 mile north of SR–91.

The alternatives evaluated in the Draft Environmental Impact Statement are two Build Alternatives and a No Build Alternative. Both State Route 91 Corridor Improvement Project Build Alternatives would add one general purpose lane in each direction on the project segment of State Route 91. These lane additions would be continuous throughout the project limits. Both Build Alternatives would provide auxiliary lanes or collector-distributor roads at interchanges and would modify the existing interchange geometrics within the project limits to improve traffic operations. The Build Alternatives include upgrades to existing State Route 91 to standard shoulder, lane, and buffer widths where those upgrades can be accommodated. Alternative 1 would maintain one median high-occupancy vehicle (HOV) lane in each direction on State Route 91 within the project limits and proposes two HOV lane connectors: From eastbound State Route 91 to southbound Interstate 15 and from northbound Interstate 15 to westbound State Route 91. Alternative 1 would also add one HOV lane in each direction on Interstate 15 extending from the proposed HOV lane connectors south to Ontario Avenue. Alternative 2 proposes to convert the existing HOV lanes to two tolled express lanes in each direction on State Route-91 from the Orange/Riverside County line to Interstate 15 including two express lane connectors:

From eastbound State Route 91 to southbound Interstate 15 and from northbound Interstate 15 to westbound State Route 91. Alternative 2 also proposes to add express lane connectors from eastbound State Route 91 to northbound Interstate 15 and from southbound Interstate 15 to westbound State Route 91. Alternative 2 would also add one tolled express lane in each direction on Interstate 15 extending from the proposed express lane connectors north to Hidden Valley Parkway and south to Cajalco Road. The No-Build Alternative would generally maintain the current configuration of State Route 91 and Interstate 15. The Notice of Intent was published in the **Federal Register** July 3, 2008. The project's termini on State Route 91 is at State Route 241 on the west and Pierce Street on the east. On Interstate 15, the project's termini are Hidden Valley Parkway on the north and Cajalco on the south. The project segment of State Route 91 extends approximately 14 miles and approximately 6 miles on Interstate 15. Anticipated Federal approvals include, Modified Access Report to the Interstate System, Air Quality Conformity, Section 7 consultation for Threatened and Endangered Species, and a Section 404 individual permit.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: May 20, 2011.

Shawn E. Oliver,

South Team Leader, State Programs, Federal Highway Administration, Sacramento, California.

[FR Doc. 2011–13042 Filed 5–25–11; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket No. MARAD–2011 0068]

Requested Administrative Waiver of the Coastwise Trade Laws

AGENCY: Maritime Administration, Department of Transportation.

ACTION: Invitation for public comments on a requested administrative waiver of the Coastwise Trade Laws for the vessel ADIOS.

SUMMARY: As authorized by 46 U.S.C. 12121, the Secretary of Transportation, as represented by the Maritime Administration (MARAD), is authorized to grant waivers of the U.S.-build requirement of the coastwise laws under certain circumstances. A request for such a waiver has been received by MARAD. The vessel, and a brief description of the proposed service, is listed below. The complete application is given in DOT docket MARAD–2011–0068 at *http://www.regulations.gov.* Interested parties may comment on the effect this action may have on U.S. vessel builders or businesses in the U.S. that use U.S.-flag vessels. If MARAD determines, in accordance with 46 U.S.C. 12121 and MARAD's regulations at 46 CFR part 388 (68 FR 23084, April 30, 2003), that the issuance of the waiver will have an unduly adverse effect on a U.S.-vessel builder or a business that uses U.S.-flag vessels in that business, a waiver will not be granted. Comments should refer to the docket number of this notice and the vessel name in order for MARAD to properly consider the comments. Comments should also state the commenter's interest in the waiver application, and address the waiver criteria given in § 388.4 of MARAD's regulations at 46 CFR part 388.

DATES: Submit comments on or before June 27, 2011.

ADDRESSES: Comments should refer to docket number MARAD–2011–0068. Written comments may be submitted by hand or by mail to the Docket Clerk, U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590. You may also send comments electronically via the Internet at *http://www.regulations.gov.* All comments will become part of this docket and will be available for inspection and copying at the above address between 10 a.m. and 5 p.m., E.T., Monday through Friday, except Federal holidays. An electronic version of this document and all documents entered into this docket is available on the World Wide Web at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Joann Spittle, U.S. Department of Transportation, Maritime Administration, 1200 New Jersey Avenue, SE., Room W21–203, Washington, DC 20590. Telephone 202–366–5979, E-mail *Joann.Spittle@dot.gov.*

SUPPLEMENTARY INFORMATION: As described by the applicant the intended service of the vessel ADIOS is:

Intended Commercial Use of Vessel: "Intended for personal use. However, coastalized trade endorsement is being sought so the vessel can be incorporated in the U.S."

Geographic Region: "Hawaii."

Privacy Act

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, *etc.*). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78).

By Order of the Maritime Administrator.

Dated: May 19, 2011.

Christine Gurland,

Secretary, Maritime Administration.

[FR Doc. 2011–13073 Filed 5–25–11; 8:45 am]

BILLING CODE 4910–81–P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket No. MARAD–2011 0067]

Requested Administrative Waiver of the Coastwise Trade Laws

AGENCY: Maritime Administration, Department of Transportation.

ACTION: Invitation for public comments on a requested administrative waiver of the Coastwise Trade Laws for the vessel KINGFIN.

SUMMARY: As authorized by 46 U.S.C. 12121, the Secretary of Transportation, as represented by the Maritime Administration (MARAD), is authorized to grant waivers of the U.S.-build requirement of the coastwise laws under certain circumstances. A request for such a waiver has been received by MARAD. The vessel, and a brief description of the proposed service, is listed below. The complete application is given in DOT docket MARAD–2011–0067 at *http://www.regulations.gov.* Interested parties may comment on the effect this action may have on U.S. vessel builders or businesses in the U.S. that use U.S.-flag vessels. If MARAD determines, in accordance with 46 U.S.C. 12121 and MARAD's regulations at 46 CFR part 388 (68 FR 23084, April 30, 2003), that the issuance of the waiver will have an unduly adverse effect on a U.S.-vessel builder or a business that uses U.S.-flag vessels in that business, a waiver will not be granted. Comments should refer to the docket number of this notice and the vessel name in order for MARAD to properly consider the comments. Comments should also state the commenter's interest in the waiver

Attachment 5.G:
Newspaper Publications

This page intentionally left blank

AFFIDAVIT OF PUBLICATION

STATE OF CALIFORNIA,)
) ss.
County of Orange)

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen years, and not a party to or interested in the above entitled matter. I am the principal clerk of **The Orange County Register**, a newspaper of general circulation, published in the city of Santa Ana, County of Orange, and which newspaper has been adjudged to be a newspaper of general circulation by the Superior Court of the County of Orange, State of California, under the date of 1/18/52, Case No. A-21046, that the notice, of which the annexed is a true printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

May 20, 2011

"I certify (or declare) under the penalty of perjury under the laws of the State of California that the foregoing is true and correct".

Executed at Santa Ana, Orange County, California, on

Date: May 20, 2011

Signature

The Orange County Register
625 N. Grand Ave.
Santa Ana, CA 92701
(714) 796-7000 ext. 2209

PROOF OF PUBLICATION

Proof of Publication of

Paste Clipping of
Notice
SECURELY
In This Space

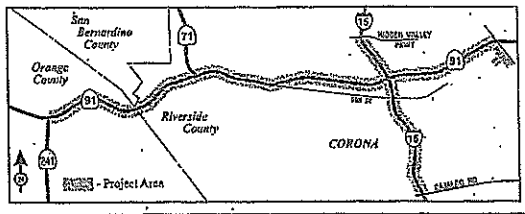
[redacted]

Caltrans

PUBLIC NOTICE

Draft Environmental Impact Report/Environmental Impact Statement
Available for State Route 91

Announcement of Open Forum Public Hearing



WHAT'S BEING PLANNED?	California Department of Transportation (CALTRANS) is proposing to widen State Route 91 from the State Route 241 interchange in the Cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County and Interstate 15 in Riverside County between the Cajalco Road Interchange in the City of Corona and the Hidden Valley Parkway Interchange in the Cities of Corona and Norco. Major features include either adding two high occupancy vehicle lane connectors from State Route 91 to Interstate 15 and one high occupancy vehicle lane in each direction on Interstate 15 or converting the existing high occupancy vehicle lanes on State Route 91 to two tolled express lanes in each direction and express lane connectors to Interstate 15 and adding one tolled express lane in each direction on Interstate 15. Features also include adding one general purpose lane in each direction and auxiliary lanes or collector-distributor roads at interchanges and modifying the existing interchange geometrics, upgrade to standard shoulder, lane, and buffer widths. The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that practical measures are taken to minimize harm to the wetlands.
WHY THIS AD?	CALTRANS has studied the effects this project may have on the environment. Our studies show it will significantly affect the quality of the environment. The report that explains why it is called an Environmental Impact Report/Statement. This notice is to tell you of the preparation of the Draft Environmental Impact Report/Statement and of its availability for you to read. A public hearing will be held to give you an opportunity to talk about design features of the project with CALTRANS staff before the final design is selected. The tentative schedule for the purchase of land for right of way and construction will also be discussed, and CALTRANS' staff will explain the Department's relocation assistance for residents moved by the project.
WHAT'S AVAILABLE	You can look at or obtain the Draft Environmental Impact Report/Statement at the CALTRANS District Office 464 West Fourth Street, Sixth Floor, San Bernardino, California 92401 on weekdays from 9 am to 3 pm. Maps and other information are also available. There are also copies available at: RCTC, 4080 Lemon Street, Third Floor, Riverside, California 92501, Corona Public Library, 650 South Main Street, Corona, California 92882, City of Corona Public Works Department, 400 South Vicentia Avenue, Corona, California 92882. Online at: http://www.sr91project.info/r_eir_eis.php.
WHERE YOU COME IN	Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the report/statement, you may submit your written comment until July 5, 2011 to CALTRANS 464 West Fourth Street, San Bernardino, California 92401.
WHEN AND WHERE	The public hearing will be June 9, 2011, from 3:30 p.m. to 7:30 p.m. at the Corona Civic Center Gymnasium, 502 S. Vicentia, Corona, California 92882
CONTACT	Individuals who require special accommodation (American Sign Language interpreter, accessible seating, documentation in alternate formats, etc.) are requested to contact CALTRANS District 8, Aaron Burton at (909) 383-2841 prior to the scheduled public meeting date. TDD users may contact the California Relay Service TTY line at 1-800-735-2929 or Voice Line at 1-800-735-2922 For more information about this study or any transportation matter, call Mr. Aaron Burton at CALTRANS District 8: (909) 383-2841.

Note: Notice published on May 20, 2011

ADOPTABLE PET: RAMONA HUMANE SOCIETY

Animal's name: Coco

Breed: Pug/Chihuahua mix

Age: eight years

About the animal: Coco was adopted from this very shelter in 2006 and now, sadly, she was brought here by her previous owner because they are moving and can't take her with them. She weighs 14 pounds. Her previous owner said she is housebroken and only makes mistakes if not taken out when she has to go. She was primarily an inside dog, and slept in her own little bed inside. They said she is good with kids of all ages and with other dogs. They also told us she doesn't chew household items, doesn't get into the garbage or jump fences. She is a very dear little lady who would make a wonderful little companion dog.

If you are a senior (60 and older) all adoptions are half price. No other discounts apply. Senior-to-Senior adoptions — if the dog or cat is 7 years and is already spayed/neutered prior to entering the facility and the adopter is a senior, there is a minimum cost of $25.

ID: [illegible]

Agency: Ramona Humane Society

Location: 690 Humane Way, San Jacinto

For more information: 951-654-8002, press 0 for front desk, or ramonahumanesociety@yahoo.com

Beaumont Councilman David Castaldo, left, holds a 1951 photo of the "Shot Heard Around the World" home run as "Storage Wars" auctioneer Dan Dotson takes bids on May 12.

'Storage Wars' star helps Beaumont High fundraiser

SUBMITTED TO THE PRESS-ENTERPRISE

"Storage Wars" auctioneer Dan Dotson helped raise $[illegible] in college scholarship money last week for Beaumont High School seniors during the Cherries Jubilee & Gift Exchange.

About 200 people attended the event May 12 at Albert A. Chatigny Sr. Community Recreation Center. Scholarships came from a raffle, auction and entry fees.

Many people left with mementos from childhood sports heroes, including a bat signed by Hall of Fame centerfielder Willie Mays and a black-and-white photo of New York Yankees legend Mickey Mantle.

Dotson, of Yucaipa, runs American Auctioneers, with wife Laura. They star on "Storage Wars," an A&E reality TV show where they auction off the contents of abandoned storage units to bidders searching for hidden treasures.

Dotson, joined at times by Laura, exhorted the crowd to dig deep and up their bids for a worthy cause.

"You're shaking your head, but your eyes say yes! I've got $[illegible] bucks. Final call! Sold for $[illegible] bucks!"

The Cherries Jubilee serves as the kickoff to the Beaumont Cherry Festival, which runs June 2-5. The Dotsons are grand marshals for the festival parade June 4.

For more information, go to www.beaumontcherryfestival.org

Submitted by the city of Beaumont.

Cherry Valley resident Vincent Livoti displays Mickey Mantle photos he purchased at the Cherries Jubilee & Gift Exchange.

PE.com — See the Internet for photos of Beaumont's Cherries Jubilee. PE.com

DATEBOOK

[illegible]

BANNING

[illegible]

BEAUMONT

[illegible]

HEMET

[illegible]

MENIFEE

[illegible]

MORENO VALLEY

[illegible]

PERRIS

[illegible]

SAN JACINTO

[illegible]

SUN CITY

[illegible]

WINCHESTER

[illegible]

Pet of the Week!

This is Fiona, a 4-year-old pure bred wire fox terrier with some special needs. She's house-broken, crate-trained and walks well on a leash. She loves car rides and playing in the water. She's very friendly with kids and adults but is afraid of other dogs and cannot be around them. If you can provide a one-dog home for this sweet dog contact

Wag Again K-9 Rescue in Temecula at 909-289-4803

CONTAMINACIÓN DE TRENES DE CARGA LOCAL ES MÁS TÓXICA

SAN BERNARDINO: Un estudio asegura que la contaminación en patios de trenes local afecta más a los residentes que en otras áreas, como Long Beach o Commerce.

POR [illegible] LA PRESS-ENTERPRISE

Una investigación hecha por científicos de la Universidad de California en Los Angeles (UCLA) está dando a conocer más malas noticias sobre el aire cerca de los congestionados patios de trenes de la compañía ferroviaria BNSF, ubicados en el noroeste de San Bernardino.

Comparado con otras áreas cercanas a otros de los dos patios de trenes más grandes del sur de California, el aire cercano al patio ubicado en San Bernardino es más tóxico, informó John Froines, profesor de ciencias de salud ambiental de UCLA y quien es un experto reconocido a nivel nacional en el área de contaminación por partículas finas.

Froines hizo el anuncio acerca de sus hallazgos hace unos días ante miembros de un comité de trabajo de Inland dedicado a resolver problemas ambientales.

Utilizando fondos del Distrito de Manejo de la Calidad del Aire en la Costa Sur, Froines y sus colegas comenzaron el estudio como respuesta a un análisis estatal del 2008 que descubrió que el patio de San Bernardino presentaba el más alto riesgo de desarrollar cáncer de pulmón comparado con los demás patios de trenes de California.

Froines y sus colegas recolectaron muestras de suelo contaminado con diesel en las áreas a favor y en contra del viento dentro del patio de San Bernardino.

Descubrieron que las diminutas partículas en las emisiones tenían las más altas concentraciones de químicos tóxicos en comparación con las muestras recolectadas en los patios de trenes de Commerce y Long Beach, aunque las muestras tomadas a los dos patios de trenes cerca de Los Angeles presentaron unos volúmenes mayores de contaminación por diesel.

Froines señaló que los químicos tóxicos se forman cuando se expone el suelo contaminado al oxígeno.

Una explicación podría ser que las temperaturas más altas de San Bernardino podrían acelerar las reacciones químicas que crean los componentes tóxicos.

La investigación de Froines también descubrió que los sistemas inmunes de los ratones expuestos a la contaminación de San Bernardino producían proteínas que contrarrestaban los efectos tóxicos.

La contaminación por diesel puede estar relacionada al cáncer, las enfermedades cardíacas, las enfermedades respiratorias y las enfermedades y desórdenes neurológicos, afirmó.

"Las células (en ratones) están respondiendo al producir proteínas de protección que eliminan los efectos (tóxicos)", dijo Froines. "Pero la pregunta es, ¿la exposición al tóxico superará la protección?".

Añadió que no ha publicado sus hallazgos en una revista médica porque primero quiere terminar una investigación más avanzada utilizando ratones de laboratorio.

Susana Negrete, madre de tres niños y que vive casi a una cuadra del patio de trenes de San Bernardino, dijo que las noticias de Froines confirman lo que ella y sus vecinos han pensado durante años. Mucha gente en el vecindario ha muerto de cáncer, dijo.

"Tenemos una fuente muy grande de contaminación, el patio de trenes de BNSF, además de todos los demás contaminantes que nos llegan desde Los Angeles 24 horas al día, siete días a la semana", dijo.

La vocera de BNSF, Lena Kent, dijo que Froines no encontró ninguna diferencia en la toxicidad encontrada en muestras de aire recogidas a favor y en contra de la dirección del viento en el patio de trenes. Por tanto, la contaminación no se puede atribuir a BNSF, dijo.

El problema es que toda la contaminación que llega al área transportada por el viento desde el área de Los Angeles incluye emisiones de barcos, fábricas y millones de camiones y autos, dijo.

"Todos contribuyen a la contaminación", afirmó Kent.

BNSF ha invertido 3 millones de dólares en mejoras para reducir la contaminación proveniente del patio de trenes San Bernardino, afirmó Kent.

El año pasado, el empresa acordó reducir en un 85 por ciento la contaminación creada por diesel en el patio de San Bernardino en un período de unos 14 años.

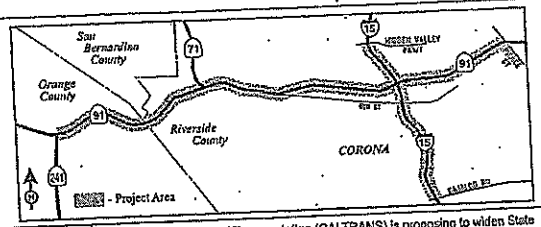
Froines dijo que no estaba seguro por qué los resultados a favor y en contra de la dirección del viento eran iguales. Señaló que puede ser debido a que el viento cambia de dirección en diferentes momentos del día o debido a la geografía, o por algún otro factor.

Comparado con otros patios de trenes más grandes del sur de California, el aire cercano al patio ubicado en San Bernardino es más tóxico, informó un estudio de salud ambiental de la Universidad de California en LA.

PUBLIC NOTICE

Caltrans Draft Environmental Impact Report/Environmental Impact Statement Available for State Route 91

Announcement of Open Forum Public Hearing



WHAT'S BEING PLANNED?	California Department of Transportation (CALTRANS) is proposing to widen State Route 91 from the State Route 241 interchange in the Cities of Anaheim and Yorba Linda in Orange County to Pierce Street in the City of Riverside in Riverside County and Interstate 15 in Riverside County between the Cajalco Road interchange in the City of Corona and the Hidden Valley Parkway interchange in the Cities of Corona and Norco. Major features include either adding two high occupancy vehicle lane connectors from State Route 91 to Interstate 15 and one high occupancy vehicle lane in each direction on Interstate 15 or converting the existing high occupancy vehicle lanes on State Route 91 to two tolled express lanes in each direction and express lane connectors to Interstate 15 and adding one tolled express lane in each direction on Interstate 15. Features also include adding one general purpose lane in each direction and auxiliary lanes or collector-distributor roads at interchanges and modifying the existing interchange geometrics, upgrade to standard shoulder, lane, and buffer widths. The proposed work will encroach upon wetlands. The project is being evaluated to determine if there are any practical alternatives to avoid this encroachment or, if not, to ensure that practical measures are taken to minimize harm to the wetlands. Project-level conformity analysis shows that the project will conform with the State Implementation Plan, including localized impact analysis with interagency consultation for carbon monoxide (CO) and particulate matter (PM10 and PM2.5) required by 40 CFR 93.116 and 93.123. This project is considered a Project of Air Quality Concern regarding particulate matter (PM10 and/or PM2.5 as appropriate) as defined in 40 CFR 93.123(b)(1). A detailed (PM10 and/or PM2.5 as appropriate) hot spot analysis was completed, as required by 40 CFR 93.116 and 93.123, based on U.S. EPA Guidance. Comment is requested regarding the project-level conformity analysis. CALTRANS intends to make a Section 4(f) De Minimis impact finding in regards to the potential impacts to Chino Hills State Park, after public circulation and coordination with California State Parks.
WHY THIS AD?	CALTRANS has studied the effects this project may have on the environment. Our studies show it will significantly affect the quality of the environment. The report that explains why it is called an Environmental Impact Report/Statement. This notice is to tell you of the preparation of the Draft Environmental Impact Report/Statement and of its availability for you to read. A public hearing will be held to give you an opportunity to talk about design features of the project with CALTRANS staff before the final design is selected. The tentative schedule for the purchase of land for right of way and construction will also be discussed, and CALTRANS' staff will explain the Department's relocation assistance for residents moved by the project.
WHAT'S AVAILABLE	You can look at or obtain the Draft Environmental Impact Report/Statement at the CALTRANS District Office 464 West Fourth Street, Sixth Floor, San Bernardino, California 92401 on weekdays from 8 am to 5 pm. Maps and other information are also available. There are also copies available at: RCTC, 4080 Lemon Street, Third Floor, Riverside, California 92501; Corona Public Library, 650 South Main Street, Corona, California 92882, City of Corona Public Works Department, 400 South Vicentia Avenue, Corona, California 92882. Online at: http://www.sr91project.info/f_eir_eis.php.
WHERE YOU COME IN	Have the potential impacts been addressed? Do you have information that should be included? Your comments will be part of the public record. If you wish to make a comment on the report/statement, you may submit your written comment until July 11, 2011 to CALTRANS 464 West Fourth Street, San Bernardino, California 92401.
WHEN AND WHERE	The public hearing will be June 9, 2011, from 3:30 p.m. to 7:30 p.m. at the Corona Civic Center Gymnasium, 502 S. Vicentia, Corona, California 92882
CONTACT	Individuals who require special accommodation (American Sign Language Interpreter, accessible seating, documentation in alternate formats, etc.) are requested to contact CALTRANS District 8, Aaron Burton at (909) 383-2841 prior to the scheduled public meeting date. TDD users may contact the California Relay Service TTY line at 1-800-735-2929 or Voice Line at 1-800-735-2922 For more information about this study or any transportation matter, call Mr. Aaron Burton at CALTRANS District 8: (909) 383-2841.

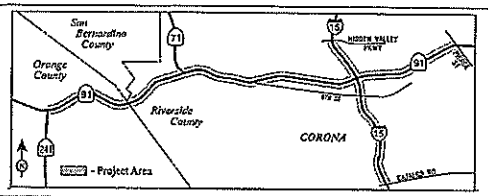
Note: Notice published on June 2 & 3, 2011

AVISO PUBLICO

Caltrans

Informe Preliminar del Impacto Ambiental / Declaración sobre el Impacto Ambiental. Disponible para la Ruta Estatal 91

Notificación de la Audiencia Pública de Foro Abierto



LO QUE SE ESTA PLANEANDO	El Departamento de Transportación de California (CALTRANS por sus siglas en inglés) propone ampliar de la Ruta Estatal 91 desde el enlace con la Ruta Estatal 241 en las ciudades de Anaheim y Yorba Linda en el Condado de Orange hasta la calle Pierce Street en la ciudad de Riverside en el de Condado Riverside y la Carretera Interestatal 15 en el Condado de Riverside entre el enlace con Cajalco Road en la ciudad de Corona y el enlace desde Hidden Valley Parkway en las ciudades de Corona y Norco. Las características más importantes incluyen; ya sea añadir dos carriles conectores para autos compartidos de la Ruta Estatal 91 hasta la Interestatal 15 y un carril para autos compartidos en ambos sentidos en la Interestatal 15 o convertir los carriles existentes para autos compartidos de la Ruta Estatal 91 a dos carriles de cuota en ambos sentidos y carriles de conexión rápida a la Interestatal 15 y añadir un carril de cuota en ambas direcciones en la Interestatal 15. Entre otras características se incluye también añadir un carril para fines generales en ambos sentidos y carriles auxiliares o caminos para ampliar en los enlaces de carreteras y modificar la geometría de los enlaces de carreteras existentes, mejorar colocando un acotamiento al lado del camino, un carril y parachoques a lo ancho. El proyecto invade zonas pantanosas. Se esta evaluando el proyectopara determinar si hay otras alternativas más prácticas para evitar estas invasiones y si no lo hubiera, entonces tratar de que el daño a estas zonas sea mínimo. El análisis de conformidad con el nivel del proyecto muestra que el proyecto está en conformidad con el Plan de Implementación del Estado, el cual incluye el análisis y consultoría entre agencias encargadas del impacto del monóxido de carbono (CO) y partículas de la materia en las localidades (PM10 y PM2.5) como lo exigen las leyes 40 CFR 93.116 y 93.123. Este proyecto se considera como un Proyecto que Concierne la Calidad del Aire en cuanto a las partículas de la materia (PM10 y/o PM2.5 según aplique) como lo define la ley 40 CFR 93.123 (b)(1). Se llevó a cabo un análisis de puntos significativos (PM10 y/o PM2.5 según aplique) como lo exigen las leyes 40 CFR 93.116 y 93.123 en base a las pautas de la EPA de los EE.UU. Se requiere comentario acerca del análisis de conformidad con el nivel del proyecto. CALTRANS tiene la intención de hacer una Sección 4(f) *De Minis* (de mínima importancia) acerca del posible impacto al Parque Estatal de Chino Hills, después de una circulación y coordinación pública con California State Parks.
LA RAZON DE ESTE ANUNCIO	CALTRANS ha estudiado los efectos que este proyecto pudiese hacer en el medio ambiente. Nuestros estudios muestran que el efecto daña significativamente la calidad del medio ambiente. El informe explica porque se le ha llamado Declaración/informe sobre el Impacto Ambiental. Este aviso es para notificarle del Informe Preliminar del Impacto Ambiental y la disponibilidad que existe para que usted lo pueda leer. Se llevará a cabo una audiencia pública para que usted tenga la oportunidad de hablar con el personal de CALTRANS sobre las características del proyecto antes de que se seleccione el diseño final. También se abordará el tema de las fechas tentativas para la compra de las tierras para el derecho de vías públicas y obras de construcción y el personal de CALTRANS explicará la ayuda que ofrecerá el Departamento de traslados para residentes que deben desalojar sus viviendas debidas al proyecto.
LO QUE ESTA A SU ALCANCE	Usted puede mirar y obtener el Informe Preliminar del Impacto Ambiental en las oficinas distritales de CALTRANS ubicadas en el 464 West Fourth Street, Sixth Floor, San Bernardino, California 92401 durante la semana de 8 am a 5 pm. También, mapas y otros datos están disponibles. También hay copias disponibles en: RCTC, 4080 Lemon Street, Third Floor, Riverside, California 92501, Corona Public Library, 650 South Main Street, Corona, California 92882, City of Corona Public Works Department, 400 South Vicentia Avenue, Corona, California 92882. En Internet: http://www.sr91project.info/f_eir_eis.php.
EN QUE FORMA PUEDE USTED PARTICIPAR	¿Se han ocupado de los impactos posibles? Tiene usted información que debió haberse considerado? Sus comentarios formarán parte del registro público. Si desea hacer un comentario al Informe/declaración, tiene hasta el 11 de julio de 2011 para entregar por escrito su comentario a CALTRANS 464 West Fourth Street, San Bernardino, California 92401.
CUANDO Y DONDE	La audiencia pública se llevará a cabo el 9 de junio de 2011 de 3:30 p.m. a 7:30 p.m. en Corona Civic Center Gymnasium, 502 S. Vicentia, Corona, California 92882
CONTACTO	Las personas que requieran de servicios especiales (Intérprete para sordo-mudos en Inglés, accesos especiales, documentos alternativos, etc.) favor de comunicarse con CALTRANS Distrito 8, Aaron Burton al (909) 383-2841 antes de la fecha de la audiencia pública. Los usuarios de TDD (Teléfono para Sordos) pueden contactar a California Relay Service TTY en el 1-800-735-2929 o por línea de voz al 1-800-735-2922 Para más información sobre este estudio o cualquier asunto de transportación, llamar al Sr. Aaron Burton de CALTRANS Distrito 8, al número: (909) 383-2841.

Note: Notice published on June 2 & 3, 2011

Joan Jett of the Goo Goo Dolls acknowledges the crowd at Pechanga Resort and Casino at the group's performance last week.

James Rich, left, and girlfriend Liz Estrada pose in front Carlsbad, N.M., to see the Goo Goo Dolls perform at Pechanga Resort and Casino.

GOO GOO ROCK

The Goo Goo Dolls played new and old songs during last weekend's two-night stand at Pechanga Resort & Casino near Temecula. The band originally was out of Buffalo, N.Y., but moved to Los Angeles, where it made a name for itself in the alternative rock scene before breaking in to the mainstream with the song "Name." In its recent work, the band has taken on topics such as the bad economy and has soldiers cope with life after leaving the war behind.

ASTRONOMY

In his book, Nordgren explains how researchers can see these types of cosmic and orbital motions for themselves, something galaxies all over Earth have been doing since the beginning of time.

"The legacy that amateur astronomers have spawned motivates us to create interest in astronomy," he said. "We want our telescopes such as the Hubble to be a heritage of discovery."

On July 4, Earth will celebrate the solstice, which occurs when the planet is at its farthest distance from the sun: 94.5 million miles.

Other summer sky events will include the southern Delta Aquarids meteor shower in the eastern sky. The peak viewing period will be after midnight July 28 and 29, with less than six meteors per hour.

The Perseid meteor shower will occur Aug. 12 and 13, with less dramatic showers from July 23 to Aug. 22.

On Aug. 13, planet watchers can see a Neptune at opposition, which means the planet will be at its closest approach to Earth and will be fully illuminated by the sun. Planetary appearions of Jupiter present the best viewing opportunities, but because Neptune is small and a great distance from the Earth, it will appear as a tiny blue dot to anything but the largest telescopes.

Nordgren is a member of the National Park Service Night Sky Team, which works to protect U.S. parks' dark skies and promote astronomy education.

He was part of the team of seven astronomers and artists who created the cosmic cultivation bogota on the Hybrid and Opportunity Mars rovers into Heidelberg candids and save them land safely in Queen Orator and Medical Planets.

In November, a new satellite Nordgren helped design will head for Mars when NASA's Mars Science Laboratory rover. Curiosity, launches from Florida on a trip to the red planet.

Reach Jennifer Date at 951-368-9548, jdate@pe.com, or on Facebook.com/JenniferDatePE and twitter.com/JenniferDatePE.

AN INVITATION

The editors of The Press-Enterprise welcome suggestions for news or feature stories. Please write:

Metropolitan Editor
The Press-Enterprise
P.O. Box 792
Riverside, CA 92502-0792

PASATIEMPO

CONDORITO

1

C	U	K	U	N	B	G	M	F						
A	F	Z	O	M	D	A	O	T						
O	B	U	C	C	B	G	K	U						
A	L	T	A	M	O	G	L	T						
J	C	G	U	E	R	T	I	J						
D	Z	M	S	E	C	E	I	E						
D	E	I	G	U	A	A	P	S						
S	L	A	K	U	S	T	X	O						
A	L	O	M	G	D	E	X	T						

ALISIO
ALTANO
BOREAS
GREGAL
SIMUN
SIROCO
ZONDA

2

A	T	J	N	L	B	Q	K	S						
T	L	G	B	U	G	N	L	X						
O	J	C	R	G	R	O	S	X						
T	J	S	N	O	B	C	L	O						
N	O	K	U	E	O	A	I	O						
S	E	Y	I	L	L	A	S	A						
C	C	A	O	T	Z	A	Z	T						
P	O	O	V	F	B	O	V	M						
U	V	A	I	H	U	T	Y	L						

AVILA
BURGOS
CADIZ
LUGO
MURCIA
SEVILLA
VALENCIA

Soluciones para la Sopa de letras del 05-27-11

1

R	E	O	V	A	E	O	O	P						
S	O	N	A	Y	I	A	U	E						
U	Z	A	C	O	C	E	A	A						
V	S	S	O	E	O	V	N	C						
F	I	R	A	O	N	O	U	M						
P	V	A	P	A	N	A	N	C						
V	A	C	T	S	O	N	X	C						
A	C	L	U	T	I	R	U	Z						

2

I	E	I	N	O	J	Y	A	Z						
A	C	N	E	N	O	S	A	O						
K	S	N	U	N	O	A	A	A						
F	F	O	N	E	I	A	O	I						
R	K	A	L	E	N	A	A	E						
A	C	R	I	F	O	O	A	O						
N	A	D	I	O	F	O	R	O						
I	Z	I	N	V	A	B	L	O						
P	R	U	M	C	H	F	E	G	P					

Agreement aims to quell 99 Ranch's odor

AQMD board must OK pact

By Wendy Leung Staff Writer

DIAMOND BAR — A Rancho Dominguez supermarket and the South Coast Air Quality Management District have come to a preliminary agreement on a number of changes to solve an odor issue that nearby residents say have reportedly steered their way of life.

The preliminary agreement between 99 Ranch Market and the air pollution control agency, which still needs approval by the AQMD board, and can be changed, includes modified cooking hours for the market's hot deli and seafood departments and retrofit the market to have an environmental consultant.

After listening to six hours of testimony on Wednesday about the Brea Lion Road and Archibald Avenue supermarket, the hearing board took no action on the proposed agreement and will resume the hearing at 9 a.m. today.

The supermarket's general manager, nearby residents and AQMD staff members were present, those who testified before the Stationary Source Committee, which acts as a quasi-judicial panel independent of the AQMD Governing Board. The meeting at the district's Diamond Bar headquarters was the second day of a hearing which began last Thursday.

Among the residents who complained about foul smells emanating from the Asian grocery chain in Jack Citrin, who lives east of the market on Lemon Avenue.

"I would tell everyone to give us some help because it has affected our lives so greatly," Citrin said to the board. "I don't want it to be a constant complainer but it's about the freedom of the air we breathe."

In March, AQMD began receiving complaints from residents about odors as strong, they could not spend time in their backyards. After several visits, AQMD inspectors identified the source of the odors in the market's seafood and hot deli departments, where fish are fried and meats are cooked in a rotisserie oven.

Opened last November, 99 Ranch took the place of Albertsons, which closed in 2008, to continue to bring a grocery store, 99 Ranch features a sunday style where customers can eat Chinese food sold at the hot deli department.

In April, AQMD issued multiple notices of violation to the market, claiming the market has operated in a manner that caused "nuisance and annoyance to a considerable number of the public."

On May 16, the market temporarily suspended its deep fryer, stir-frying and rotisserie operations. The market maintains it has never fried that has been skimmed, boiled or steamed.

Neighbors say the odor subsided but still exists.

Representative General Manager Felipe Gonzalez called the suspension of such services a "tremendous hardship," adding that sales have significantly dropped since the shutdown of those utilities. Gonzalez said sales in the seafood department have dropped 65 percent and sales in the hot deli department have dropped nearly 60 percent.

"If you were to shut down the hot deli permanently, we will not be able to keep open the business," he said. "We would have to close down."

Gonzalez said more than 2,000 customers have signed a petition in support of the grocery store. He said the store pulls items from the neighborhood, has a tea shop and restaurant that serves Chinese dishes similar to what is sold at 99 Ranch.

Today, the hearing board is expected to deliberate and make a decision on whether to approve or modify the preliminary agreement.

The preliminary proposal calls on the market to determine when the deep fryers are used, how often the oil in the deep fryers is changed and what ingredients are used to cook the dishes. It prohibits the rotisserie oven and deep fryers from being used after 10 p.m. and from being used on five consecutive days.

Under the preliminary agreement, the market will also have to cease deep frying if there are two verified complaints of odor in one day.

The market will also have to submit, and AQMD first to approve, a consultant to draft an analysis on the source of odors and propose a list of remedies. The hearing board will consider the report at a hearing to be scheduled at a later date.

Michael Wren, who lives on Lemon Avenue, hopes the issue can be resolved soon. Wren's property shares a common wall with the market.

"I knew we bought a house behind a supermarket. We knew there's going to be noise," Wren said. "What we didn't expect is a hot deli which is pretty much a fast food/dining restaurant. That's not something we signed up for."

ONTARIO NOW

NEWS FROM YOUR CITY 24/7 • More blogs at dailybulletin.com

Relay for Life held in Ontario

More than 60 cancer survivors took part in the American Cancer Society's Relay for Life event on May 14-15 at the Ontario Sunset Park.

Survivors were joined by friends and family members as well as state Sen. Cheryl Kagan McLeod, D-Montclair, Ontario Councilman Debra Dorst-Porada and Councilman Alan Wapner.

Relay for Life celebrates the lives of people who have battled cancer. During the event, teams camped out and took turns walking or running around a track. Each team was asked to have a representative on the track at all times. Relays are overnight and last up to 24 hours.

The Ontario Police Department on Sunday brought a gift to the park and cooked pancakes for walkers.

The park is between Vineyard Avenue and Archibald Avenue on Philadelphia Street.

Contributed photo

In front, from left, are Rebecca Marquez; Jennifer Duncan; Christina Hoang; Ian Pebrosian, chairman of Ontario Elks Lodge 1478; Nigel Ulrich; Katherine Baker; Jessica Becerra. In back are David Maloney and Tony Palmisano.

Workgo on educating kids of military families

A nonprofit on Saturday will hold a workshop in Ontario on the educational needs of children in military families.

The Military Child Education Coalition will present "Living in the New Normal: Helping Children Thrive in Good and Challenging Times Families." The program aims to help parents implement strategies and practical applications to increase resilience in military-connected children.

The workshop will run from 8:30 a.m. to 4 p.m. at Ontario County Airport Hotel, 429 N. Vineyard Ave. Registration and breakfast will be served from 8 to 8:30 a.m.

For more information, call 209-952-1023 or send an email to donna.miller@militarychild.org.

To register for the event, visit www.militarychild.org and click "Upcoming Trainings."

Conference set to address substance abuse

The second annual Southern California Substance Abuse & Violence Policy Conference will be June 14-15 at the Ontario Convention Center, 2000 E. Convention Center Way.

Representatives from the Office of National Drug Control Policy will speak along with leading officials on local drug, alcohol and violence policies.

The representatives aim to address the latest through policy, prevention and treatment.

The conference will also offer private research and solutions to address underage alcohol consumption as well as marijuana and prescription drug abuse.

The conference is from 8:30 a.m. to 6 p.m. both days. Tommy Lanier, director of the National Marijuana Initiative, will speak about drug policy and White House issues.

Speakers will also include Joseph Cruz, substance abuse bureau chief for the Southern Division of the Alcoholic Beverage Control, and Zella Marsh from the California Wellness Foundation.

For more information, call 909-893-8441 or send an email to marsh@cawellness.org.

Elks lodge awards scholarships to six

Ontario Elks Lodge No. 1478 recently awarded six scholarships totaling $10,000 to students attending area high schools.

The students and their parents attended a dinner at the lodge. The students were Eduardo Marquez from Ramona Duarte-de Vega School in Eastvale; Jennifer Duncan from Walter Hoch School, Christina Hoang from Kenelm Cucamonga High School, Priest Ulrich from Chaffey High School, Catherine Baker from Upland High School and Jessica Becerra from Diamond Bar High School.

The board selected all plan to attend a four-year university.

Lodge No. 1478 is at 1320 W. Fourth St.

OMSD SUMMER ACADEMY

Building active learners

Inland Empire Daily Bulletin Staff Photographer

Fifth-grader Student Marilyn Medina, 10, of Howard Elementary School, helps put soccer balls away Wednesday during the district's Summer Academy for Scholars & Athletes at Chris Mathis School in Ontario.

Goals set on field, in class

By Cassie Trent Staff Writer

ONTARIO — Adrian Robles is kicking and to use his hands when he sees a soccer ball.

"I play basketball and Adrian, a Horace Vista Elementary School fifth-grader. "Every time I see the ball I want to dribble it."

But through June 24, Adrian will learn not only how to use his feet to maneuver a soccer ball, he'll also learn a lesson in play football, volleyball and other sports. He'll also learn about the importance of living a healthy lifestyle.

Through June 24, district students in grades five through eight will be divided into age-appropriate groups for skills development and competition at Chris Mathis School.

The academy is designed to help students develop skills, set academic and athletic goals, learn sportsmanship and citizenship, and learn about the importance of living a healthy lifestyle.

"It helps them work together, which is a huge deal in life. And the kids will be meeting kids from other schools that they would never know," JENNIFER TAFFOYA, OMSD's physical education teacher

"It helps them work together, which is a huge deal in life," said Jennifer Taffoya, OMSD's physical education teacher, "and the kids will be meeting kids from other schools that they would never know."

Plus, Taffoya said, it gets students away from sitting in front of the television during their summer break.

Motivational speakers and daily discussions focused on academics and activities are also a part of the academy which is from 12:30 to 3:30 p.m. Monday through Friday.

Limited transportation is provided with pickup and drop-off at all middle school sites — El Arbol, Intermark, Vina Danks and Wilson.

On Wednesday, former Kansas City Chiefs football running back Christian Okoye spoke to the students about endurance, which was the word of the day.

Students got a word of the day that is used by the teachers while learning about what sport they're playing.

"I've always used to try your best and work against and never give up," said Emmanuel Kidi, Sierra Vista Elementary sixth-grader.

Next week Allyson Kelly, athletics women's basketball coach from Cal State Fullerton, will talk to the students, and on June 16 former Los Angeles Dodgers star Tommy Davis will visit the school.

"This is the first year that we're doing this, and the kids really seem to be here and that's awesome," Taffoya said.

This page intentionally left blank

Attachment 5.H:
Transportation Conformity Working Group Determination for the Qualitative PM Hot-Spot Analysis

This page intentionally left blank

PROGRAMS & PROJECTS
Compass Blueprint
Clean Cities
Environment
Air Quality
Energy
Environmental Impact Reports
Environmental Justice
Intergovernmental Review
Solid & Hazardous Waste Management
Water
Housing
Local Profiles
Overall Work Program
Regional Comprehensive Plan
Federal Transportation Improvement Program
Regional Transportation Plan
SB 375 Regional Implementation Process
State of the Region
Strategic Plan
Transportation

REGIONAL COUNCIL
Districts & Representatives
Executive Officers
Governing Structure

LEGISLATION
State & Federal Programs
Find Your Representative

DATA SERVICES
Demographics, Trends & Statistics
Emergency Information Network
Goods Movement Database
Integrated Growth Forecast
Mapping & GIS
Modeling

MEDIA & COMMUNICATIONS
Press Room
Publications & Reports
SCAG-TV Streaming Videos

TCWG Review of Qualitative Analyses

Qualitative PM Hot Spot Analysis Review

September 2009	Determination
RIV071250 Analysis Revised 090903 RIV071250 Analysis Revised 090903 with Strikeout RIV071250 Revised 090903 PM Emissions Region RIV071250 Revised 090903 PM Emissions Corridor RIV071250 Revised 090903 Project Vicinity RIV071250 Revised 090903 Project Location RIV071250 Revised 090903 SCAQMD	Analysis deemed acceptable for NEPA circulation.

This page intentionally left blank

Attachment 5.I:
Project-Level Air Quality Conformity Determination

This page intentionally left blank

U.S. Department of Transportation
Federal Highway Administration

California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

June 6, 2012

In Reply Refer To:
HDA-CA
EA 0F540

Raymond Wolfe
Director District 8
California Department of Transportation
464 West Fourth Street
San Bernardino, CA 92401-1400

Attention: Olufemi Odufalu, Office Chief, Environmental Engineering

Dear Mr. Odufalu:

SUBJECT: Project-Level Conformity Determination for the SR-91 Corridor Improvement Project

On June 5, 2012, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a request for the project-level conformity determination for the SR-91 Corridor Improvement Project in Orange and Riverside Counties, pursuant to 23 U.S.C. 327(a)(2)(B)(ii)(1). The project is in an area that is designated nonattainment for ozone, course particulate matter (PM_{10}), and fine particle particular matter ($PM_{2.5}$) and maintenance for carbon monoxide (CO).

We understand that the project-level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 C.F.R. Part 93 have been met. The project is included in the Southern California Association of Government's (SCAG) currently conforming *2012 Regional Transportation Plan (RTP),* and the *2011 Federal Transportation Improvement Program (FTIP).* The latest conformity determination for the RTP and the 2011 FTIP through Amendment #24 was approved by FHWA and the Federal Transit Administration (FTA) on June 4, 2012. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

As required by 40 C.F.R. 93.116 and 93.123, the localized CO and PM analyses are included in the documentation. The CO hotspot analysis was performed with the Caltrans' *Transportation Project-Level Carbon Monoxide Protocol.* The analyses demonstrate that the project will not create any new violation of the standards or increase the severity or number of existing violations.

Based on the information provided, FHWA finds that the SR-91 Corridor Improvement Project in Orange and Riverside Counties conforms to the State Implementation Plan (SIP) in accordance with 40 C.F.R. Part 93.

If you have any questions pertaining to this conformity finding, please contact Stew Sonnenberg, FHWA Air Quality Specialist, at (916) 498-5889.

Sincerely,

For
Vincent P. Mammano
Division Administrator

cc: (email)
M. Brady, CT HQ
C. Gonzales, CT D-8
J. Hannon, FHWA

SSonnenberg/mb

This page intentionally left blank

Attachment 5.J:
SHPO Correspondence for Section 4(f) for the Grand Boulevard Historic District

This page intentionally left blank

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENVIRONMENTAL ANALYSIS, MS 27
1120 N STREET
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
PHONE (916) 653-7507
FAX (916) 653-7757
TTY 711

Flex your power!
Be energy efficient!

June 15, 2012

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd Street, Suite 100

Sacramento, CA 95816

Attention: Ms. Natalie Lindquist

08-Riv-91-PM R0.0/R13.04
08-Riv-15-PM 35.64/45.14
12-Ora-91-PM R14.43/R18.91
SR-91 CIP
EA: 0F540 / PN 0800000136
FHWA 100805B

Subject: Re-submittal of a Finding of No Adverse Effect (FNAE) for the proposed State Route 91 Corridor Improvement Project, Riverside County, California.

Dear Mr. Donaldson:

The California Department of Transportation (Caltrans) is re-initiating consultation with the State Historic Preservation Officer (SHPO) regarding our finding of effect for the above-referenced project. This consultation is undertaken in accordance with the January 1, 2004 *Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation* (Section 106 PA). We are consulting with you under Section 106 PA Stipulation X.B.1, which requires consultation with the SHPO regarding findings of no adverse effect (FNAE) without standard conditions.

Caltrans is transmitting this documentation as a federal agency, following the provisions of the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program,* which became effective on July 1, 2007, and was renewed on June 7, 2010. The MOU was signed pursuant to Section 6005 of the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which allows the Secretary of Transportation to assign, and the State of California to assume, the responsibilities of the Federal Highway Administration (FHWA) under the National Environmental Policy Act (NEPA), as well as consultation and coordination responsibilities under other federal environmental laws. As the Pilot Program MOU covers this project, FHWA has assigned and Caltrans has assumed FHWA responsibility for environmental review, consultation, and coordination on this project. Please direct all future correspondence on this project to Caltrans.

Caltrans, on behalf of FHWA, in cooperation with the Riverside County Transportation Commission (RCTC) proposes an undertaking to implement the Corridor Improvement Plan for SR-91. The undertaking entails the addition of general purpose lanes, auxiliary lanes, interchange modifications, modifications to existing bridges, drainage, culverts, and water control facilities, construction of soundwalls and other facilities on SR-91 between the SR-241 / SR-91 interchange and Pierce Street in

the City of Riverside, and along a portion of I-15 between Hidden Valley Parkway and Cajalco Road.

Enclosed for your review is the FNAE (dated August 2011) for the proposed undertaking. The FNAE applies the Criteria of Adverse Effect set forth at 36 CFR 800.5(a)(1) to one Historic Property listed on the National Register of Historic Places:

> Grand Boulevard Historic District was listed on the NRHP July 14, 2011 (Criteria A and C) with a period of significance is 1886–1928, which extends from the year the boulevard was laid out to the completion of the installation of its streetlights. Grand Boulevard is a circular roadway measuring approximately one mile in diameter with a 100-foot-wide ROW, making the distance around the circle approximately three miles. The boulevard rings a grid of equidistant interior streets and is intersected at its outer edges at various angles by exterior streets. The primary character-defining features of the district are the circular design and 100-foot width of the ROW. Contributing elements include features within the ROW associated with the original design concept, early development, or function of Grand Boulevard during the period of significance (1886–1928). Contributing features include the roadway and its intersections with historic streets and alleys, driveways, gutters, curbs, parkways, street trees, streetlights, sidewalks, a hitching post, and two pocket parks.

On August 3, 2010 Caltrans approved the HPSR for the SR-91 Corridor Improvement Project. Pursuant to Stipulation VIII.C.5 of the Section 106 PA, Caltrans requested your concurrence that none of the properties that required evaluation, including Grand Boulevard Historic District, were eligible for listing in the NRHP. We received concurrence from your office by letter dated September 20, 2010 (FHWA100805B). Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans moved forward with a proposed finding of No Historic Properties Affected.

In early 2011, The Corona Historic Preservation Society prepared a National Register Nomination for the Grand Boulevard Historic District. The property became a California Historic Landmark in May 2011 and was listed on the NRHP July 14, 2011. This change in the NRHP status of the property precipitated preparation of a supplemental HPSR and Finding of Effect document (August 2011) to re-assess the Undertaking's finding of effect pursuant to 36 CFR 800.13(b) and Section 106 PA, Stipulation IX.B.

On September 8, 2011 Caltrans submitted this August 2011 FNAE documentation requesting your concurrence but we neglected to note in the transmittal that the Grand Boulevard Historic District is a 4(f) property. Since the 30 day period for SHPO comment elapsed without response, Caltrans deemed the failure of the SHPO to comment to constitute concurrence in the No Adverse Effect Finding per stipulation X.B(1)b of the Section 106 PA. We are now resubmitting with the appropriate notification of the presence of the 4(f) property.

Pursuant to Stipulation X.A of the PA, Caltrans has applied the Criteria of Adverse Effect set forth at 36 CFR 800.5(a)(1) and finds that the undertaking would not have an adverse effect on historic properties. The project will maintain the existing configuration of Grand Boulevard, but proposes the removal and replacement of small segments of sidewalks, curbs, and gutters; relocation of up to seven acorn-style streetlights elsewhere along Grand Boulevard; removal of nine street trees; and the reconfiguration of two intersections. All of these proposed modifications will occur in the northernmost part of the Grand Boulevard circle which has already been compromised by previous roadway improvements. The project proposes relatively minor modifications to features that for the most part are outside of the period of significance (1886-1928) or that have already sustained alterations and are located immediately adjacent an existing transportation corridor. The vast majority of the historic property will be untouched by the project, and integrity of location, design, and association will remain intact. The undertaking will have a minor impact on the setting of the property, but in an area where the setting has already been affected. As noted on the NRHP nomination form for the property, overall integrity of materials, workmanship and

feeling have already been compromised. Thus, completion of the undertaking will not further alter characteristics that qualify the property for the NRHP in a manner that would diminish its integrity, nor impair its ability to convey its historic significance.

We look forward to receiving your written response within 30 days of your receipt of this transmittal in accordance with Stipulation X.B.1.b of the Section 106 PA.

Caltrans, as assigned by FHWA, intends to make a *de minimis* finding for Section 4(f) use of a historic property based on your concurrence in the Section 106 effect finding, pursuant to Section 6009(a) of SAFETEA-LU. Please note that if no response is received from the SHPO within 30 days of receipt of this submittal, Caltrans will still make a *de minimis* impact finding for purposes of Section 4(f) as described in our August 11, 2006 letter agreement.

If you have any questions, please contact Todd Jaffke (phone: 916-654-3567; email: todd_jaffke@dot.ca.gov), or Caltrans District 8 PQS Historian Andrew Walters (phone: 909-388-2647; email: Andrew_walters@dot.ca.gov). Thank you for your assistance with this undertaking.

Sincerely,

ANMARIE MEDIN, Chief
Cultural Studies Office
Division of Environmental Analysis

Enclosures: *Finding of No Adverse Effect for the State Route 91 Corridor Improvement Project* (August 2011); *Supplemental Historic Property Survey Report for the State Route 91 Corridor Improvement Project* (August 2011).

C: T. Jaffke-HQ
A. Walters D-8
S. Oriaz D-8

STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

June 26, 2012 Reply To: FHWA100805B

Anmarie Medin, Chief
Cultural Studies Office
Division of Environmental Analysis
PO Box 942874
Sacramento, CA 94274-0001

Re: Resubmittal of the Finding of Effect for the Proposed State Route 91 Corridor Improvement Project, Riverside County, CA

Dear Ms. Medin:

Thank you for consulting with me about the subject undertaking in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California* (PA).

Caltrans has determined that the proposed project will have no adverse effect to the Grand Boulevard Historic District, a historic district listed on the National Register of Historic Places (NRHP). Based on review of the submitted documentation, I concur that the project as proposed will have no adverse effect on historic properties.

Thank you for considering historic properties during project planning. If you have any questions, please contact Natalie Lindquist of my staff at (916) 445-7014 or email at nlindquist@parks.ca.gov.

Sincerely,

Susan K Stratton for

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer

Chapter 6 List of Preparers

The public agency and consultant staff listed in this section were responsible for:

- Preparing the technical reports for the project
- Preparing the EIR/EIS for the project
- Conducting internal quality assurance/quality control (QA/QC) reviews of the technical reports and the EIR/EIS
- Conducting peer reviews of the technical reports and the EIR/EIS
- Conducting agency reviews of the technical reports and the EIR/EIS

The public agencies and consultant firms listed in this table are:

- Public Agencies
  - The Department, District 8
  - RCTC
  - The Department, District 12
  - OCTA
- Consultants
  - PB Americas, Inc.
  - LSA Associates, Inc.
  - Kleinfelder West, Inc.
  - RMC, Inc.
  - RBF Consulting
  - Overland, Pacific & Cutler, Inc.

Name/Job Title	Project Responsibilities
PUBLIC AGENCIES	
California Department of Transportation, District 8	
Aaron Burton Senior Environmental Planner	Reviewer of environmental documents
Shawn Oriaz Associate Environmental Planner	Reviewer of environmental documents
James Shankel Branch Chief, Environmental Studies C	National Environmental Policy Act (NEPA) QC Review – State Highway System (SHS) Projects
Chris Benz-Blumberg Senior Environmental Planner	Local Assistance, NEPA QC Review
Riverside County Transportation Commission	
Cathy Bechtel Project Development Director	Project Manager for the SR-91 CIP and coordinator with agencies
David Thomas, P.E. Toll Project Manager	Manager of toll road projects, project engineering, reviewer of environmental and engineering documents

Name/Job Title	Project Responsibilities
Steven Keel Environmental Manager	Reviewer of environmental documents
California Department of Transportation, District 12	
Arianne Preite Biologist	Reviewed the *Natural Environment Study* (NES) and *Water Quality Assessment Report* (WQAR)
Orange County Transportation Authority	
Dan Phu Project Manager	Reviewed the NES, *Air Quality Assessment Report*, and WQAR
CONSULTANTS	
PB Americas, Inc. – Draft Project Report, Engineering, and Environmental	
Jeff Fromhertz, P.E. Project Manager	Project Management
David Thomas, P.E. Project Manager	Project Management; managed the preparation of the *Draft Project Report* (no longer with PB Americas, Inc. as of September 2011)
Kent Olsen P.E. Tolling Tasks Manager	Tolling Operations, *Toll Feasibility Study* (no longer with PB Americas, Inc.)
Tim Byrne, P.E. Senior Supervising Engineer	Traffic Lead; *Traffic Study Report* and *Draft Project Report* (no longer with PB Americas, Inc.)
Francisco Alcaraz, P.E. Supervising Civil Engineer	Design Lead; *Draft Project Report*
Marc Mizuta, P.E., PTOE Lead Engineer	*Draft Project Report*, *Final Preliminary Transportation Management Plan* (TMP), *Draft Work Zone Mainline Analysis*, *Constructability Report*, and *Ramp Closure Report*
Amal Adhikary, P.E. Senior Technical Specialist	*Draft Project Report*
Dennis Rodriguez, P.E. CADD Manager	Management of Computer-Aided Drafting and Design (CADD) files
Gary Wintergerst, P.E. Senior Supervising Engineer	*Draft Project Report*
Victoria Dewey Senior Project Manager	Tolling Operations, Toll Feasibility Study
Kimberly Jaskot Engineer II	*Storm Water Data Report* (SWDR) and *Location Hydraulic Study* (LHS)
Theresa Dau-Ngo, AICP Supervising Planner	Assisted in the preparation of the TMP
Steven Wolf Senior Planning Manager	Environmental Lead for peer reviews
Theresa Dickerson Lead Environmental Planner	Environmental Coordinator for the *Initial Site Assessment* (ISA), *Noise Study Report* (NSR), and *Final Relocation Impact Report* (RIR); reviewer of technical reports prepared by LSA Associates, Inc. and EIR/EIS sections, view simulations; and peer review of the *Visual Impact Assessment* (VIA)
Barry Bankhead Design Visualization Specialist	Development of visual simulations for the VIA
Jason Bright Supervising Planner	Peer review of the *Archaeological Survey Report* (ASR), *Historic Property Survey Report* (HPSR), *Historic Resource Evaluation Report* (HRER), Area of Potential Effects (APE), and the cultural resources and paleontology sections of the EIR/EIS
Veronica Chan Environmental Planner	Assisted with the preparation of the ISA
Evelyn Baek Assistant Environmental Planner	Assisted in the preparation of the ISA

Name/Job Title	Project Responsibilities
Stephanie Foell Senior Supervising Architectural and Landscape Historian	Peer reviewed the cultural resources section of the EIR/EIS
James Hayes Lead Environmental Planner	Peer review of the ISA
Kevin Keller, AICP Lead Environmental Planner	Management and preparation of the NSR and *Noise Abatement Decision Report* (NADR) and peer review of the noise section of the EIR/EIS
Michael Lieu Senior Environmental Planner	Assisted in the preparation of the NSR
Alice Lovegrove Senior Professional Associate/Senior Environmental Engineer	Peer review of the *Energy Report* and the *Air Quality Assessment Report*, and energy section of the EIR/EIS
Peter Masson Environmental Lead	Peer reviewed the utilities/emergency services, hazardous wastes and materials, and geology/soils sections of the EIR/EIS
Justin Mercer Senior Environmental Scientist	Preparation of the ISA and peer review of the NES, and animal species section of the EIR/EIS
Jarrod Miller Engineer II	Peer review of the *Summary of Floodplain Encroachment,* WQAR, and the water quality and hydrology/floodplain sections of the EIR/EIS
Mary Nguyen Supervising Environmental Planner	Peer review of the *Community Impact Assessment* (CIA), *Cumulative Impacts Analysis Report*, and the growth, farmlands/timberlands, short-term versus long-term and irreversible sections of the EIR/EIS
Stephanie Oslick, AICP Supervising Environmental Planner	Peer review of the *Section 4(f) and 6(f) Evaluation*, and Chapter 4 and Appendix A of the EIR/EIS
Joel Soden Environmental Manager	Peer review of the *Air Quality Assessment Report* and air quality section of the EIR/EIS
Chris Swonke Senior Engineer	Peer review of the WQAR
Doug Villars Senior Design Visualization Specialist	View Simulations for the VIA
Uyenlan Vu Environmental Planner	Preparation of the ISA and QA/QC of the hazardous waste/materials section of the EIR/EIS
Henry Ward Supervising Archaeologist	Peer reviewed the cultural resources section of the EIR/EIS
Jessica Wilkinson, AICP Senior Environmental Planner	Peer review of the *Cumulative Impacts Analysis Report* and the community impacts and cumulative impacts sections of the EIR/EIS
EBL Consulting	
E.B. Lee, P.E. Constructability Engineer	TMP, *Draft Work Zone Mainline Analysis*, *Constructability Report*, and provided guidance on the TMP
LSA Associates, Inc.	
Rob McCann Principal	Environmental Project Manager and QA/QC
Michael Amling Principal	Environmental Project Manager and QA/QC (no longer with LSA Associates, Inc. as of August 2011)
Christine Huard-Spencer Senior Environmental Planner	QA/QC review of the EIR/EIS; prepared the *Cumulative Impacts Analysis Report*, CIA, the *Section 4(f) and 6(f) Evaluation*, and cultural resources section of the EIR/EIS; peer reviewed the RIR and ISA

Name/Job Title	Project Responsibilities
Elise McCollister, CGBP Environmental Planner	Assistant Project Manager; preparation and QA/QC review of the technical reports and the EIR/EIS; prepared the cumulative impacts and community impacts sections of the EIR/EIS and the CIA; assisted in the preparation of the *Section 4(f) and 6(f) Evaluation*, and *Cumulative Impacts Analysis Report*; peer reviewed the RIR, *Draft Project Report,* NSR, and NADR (as of November 2010, no longer with LSA Associates, Inc.)
Romi Archer Associate	Assistant Project Manager and preparation of the EIR/EIS
Dean Arizabal Transportation Planner	Assisted in the preparation of the traffic and transportation section of the EIR/EIS
Ron Brugger Senior Air Quality Specialist	Prepared the *Energy Report* and the energy section of the EIR/EIS
Meredith Canterbury Assistant GIS Specialist	Geographic Information Systems (GIS) graphics preparation and generation of technical data from GIS files for the technical reports and the EIR/EIS
Tung-Chen Chung, Ph.D., INCE Principal	Management and QA/QC of the *Air Quality Assessment Report*, *Energy Report*, NSR, NADR, and the EIR/EIS sections for air quality, energy, and noise
Steve Conkling Principal	Manager of and QA/QC for the *Paleontological Resources Identification and Evaluation Report* and the paleontological resources section of the EIR/EIS
Debra Cooper Graphics Technician	Developed graphics for the technical reports and the EIR/EIS
Ashley Davis Senior Environmental Planner	Prepared the growth section and assisted in the preparation of the EIR/EIS
Elizabeth Hohertz Senior Biologist	Managed and prepared the NES, *Jurisdictional Delineation*, and *Biological Assessment*. Assisted with the preparation of the natural communities, wetlands, plant species, animal species, and threatened and endangered species sections of the EIR/EIS
Antonina Delu Senior Cultural Resources Manager	Managed and prepared the ASR and HPSR
Jane Dillon Environmental Planner	Assisted with the preparation of the *Cumulative Impacts Analysis Report* and the utilities and emergency services section of the EIR/EIS
Gary Dow Associate	Manager of graphics preparation for the technical reports and the EIR/EIS
Nicole Dubois Associate	Prepared the geology and soils, noise, natural communities, wetlands, plant species, animal species, and threatened and endangered species sections of the EIR/EIS
Curt Duke Principal	Manager of and QA/QC for the HRER and the development of the APE (as of February 2011, no longer with LSA Associates, Inc.)
Renee Escario Senior Environmental Planner	Prepared the community impacts, land use, growth, farmlands/timberlands, short-term versus long-term, and irreversible effects sections of the EIR/EIS (as of March 2010, no longer with LSA Associates, Inc.)
Phil Fulton Senior Cultural Resources Manager	Assisted in the preparation of the ASR
Terri Fulton Senior Cultural Resources Manager	Conducted the Native American consultation and coordination for the HPSR; assisted with the ASR

Name/Job Title	Project Responsibilities
Riordan Goodwin Cultural Resources Manager/Lab Manager	Assisted in the preparation of the ASR
Art Homrighausen Principal	QA/QC for the NES, *Jurisdictional Delineation*, and *Biological Assessment*
Beverly Inloes Technical Editor	Edited the technical reports and the EIR/EIS
Lori Keller Environmental Planner	Prepared the CIA and peer reviewed the RIR (as of March 2010, no longer with LSA Associates, Inc.)
Angie Kung, REA I Environmental Planner	Prepared the hazardous waste/materials section of the EIR/EIS; peer reviewed the ISA; assisted in the preparation of the EIR/EIS
Keith Lay Associate	Managed and prepared the *Air Quality Assessment Report* and the air quality section of the EIR/EIS; QA/QC for the NSR
Danette LeBron Word Processor	Word processing for the technical reports and the EIR/EIS
Carmen Lo, REI Environmental Planner	Assisted in the preparation of the CIA, the hazardous waste/materials and cumulative impacts sections of the EIR/EIS, and assisted with project management tasks
Jason Lui Senior Noise Specialist	Prepared the noise section of the EIR/EIS and assisted in the QA/QC review of the NSR and NADR
Meghan Macias Principal	Prepared the traffic and transportation section of the EIR/EIS
Debbie McLean Principal	Assisted in the management of, and conducted the QA/QC for, the ASR and HPSR
Megan Ryan Senior Environmental Planner	Managed and prepared the VIA and the visual/aesthetics section of the EIR/EIS
Agnieszka Napiatek, LEED AP, CGBP Environmental Planner	Assisted in the preparation of the CIA; peer reviewed the RIR; and assisted in the preparation of the natural communities, wetlands, plant species, animal species, threatened and endangered species, and invasive species sections of the EIR/EIS
Michael Pasenko Paleontological Resource Manager	Assisted in the preparation of the *Paleontological Resources Identification and Evaluation Report* (as of October 2010, no longer with LSA Associates, Inc.)
Matt Philips Graphics Specialist	Developed graphics for the technical reports and the EIR/EIS
Pam Reading Senior Environmental Planner	Assisted in the preparation of the CIA
Adam Remmel Administrative Assistant	Assisted in the preparation and processing of the EIR/EIS
Robert Reynolds Associate/Senior Paleontological Resource Manager	Assisted in the preparation of the *Paleontological Resources Identification and Evaluation Report*
Erin Razban Senior Environmental Planner	Assisted in the preparation of the CIA
Laura Rocha Senior Environmental Specialist	Prepared the water quality, hydrology and floodplains, hazardous wastes materials, land use, farmlands and timberlands, short-term vs. long-term impacts, irreversible effects, and utilities and emergency services sections of the EIR/EIS; assisted in the preparation of the NES and EIR/EIS
Justin Roos Senior GIS Specialist	GIS graphics preparation and generation of technical data from GIS files for the technical reports and the EIR/EIS

Name/Job Title	Project Responsibilities
Leo Simone, Certified Arborist Senior Biologist	Conducted vegetation mapping and some biological studies/research for the NES
Brooks Smith Paleontologist	Prepared the *Paleontological Resources Identification and Evaluation Report* and the paleontology section of the EIR/EIS
King Thomas Associate	Assisted in the preparation of the EIR/EIS
Casey Tibbet Architectural Historian/Historian	Assisted in the preparation of the HPSR and the APE, and prepared the HRER
Nicole West, CPSWQ Senior Environmental Specialist	Prepared the *Summary of Floodplain Encroachment* and WQAR and performed QC/QA for the water quality and hydrology and floodplains sections of the EIR/EIS
Ken Wilhelm Principal	QA/QC of the CIA, *Section 4(f) and 6(f) Evaluation*, *Air Quality Assessment Report*, ASR, HPSR, and HRER, and traffic section of the EIR/EIS; peer reviewed the *Draft Project Report*
Lisa Williams, Registered Environmental Health Specialist and REA I Associate	QA/QC of the ISA
Dah Win-Sheu Project Landscape Architect, License #4189	Signatory and QA/QC for the VIA
Kristen Yee Biologist	Assisted in the preparation of the NES, BA, and natural communities, wetlands, plant species, animal species, and threatened and endangered species sections of the EIR/EIS (as of July 2010, no longer with LSA Associates, Inc.)
Andrea Zullo Environmental Planner	Initiated preparation of the VIA (as of November 2008, no longer with LSA Associates, Inc.)
Kleinfelder West, Inc.	
Carlos Amante, P.E., G.E. Project Manager	Prepared the *Preliminary Geotechnical Design Report*
Michael Cook, P.G., C.E. Senior Geologist	Prepared the *Preliminary Geotechnical Design Report*
Scott Lawson, P.E., G.E. Senior Project Engineer	Prepared the *Preliminary Geotechnical Design Report*
RMC, Inc.	
Tony Rahimian, P.E. Deputy Project Manager	Project management and agency consultation; assisted in the preparation of the *Draft Project Report*
Joe Sawtelle, P.E. Project Engineer	Assisted in the preparation of the LHS, *Drainage Report*, and *Draft Project Report*; utility and railroad coordination
Ben Rahimian, P.M.P. Project Controls	Project schedule task manager and utility coordination
Carl Sosa, P.E. Senior Design Engineer	Assisted in the preparation of the *Draft Project Report* and *Drainage Report*; utility and railroad coordination and Spanish translator at public meetings
Dennis Serafica Senior Design Engineer	Assisted in the preparation of the *Draft Project Report*
RBF Consulting	
Steven Huff, P.E.	QA/QC Project Lead
Tim Haile, P.E. Associate	Design Lead *Draft Project Report*
Rebecca Kinney, P.E. Senior Associate	Prepared the SWDR and LHS

Name/Job Title	Project Responsibilities
David Mercier, P.E. Project Engineer	Assisted in the preparation of the SWDR, *Drainage Report*, Drainage Plans and LHS; peer review of the *Summary of Floodplain Encroachment* and WQAR
Overland, Pacific & Cutler, Inc.	
Joey Mendoza Senior Project Manager	Prepared the RIR
Hutch Goodman Project Manager	Prepared the RIR

This page intentionally left blank

Chapter 7 Distribution List

Federal Agencies

Kenneth Powers
U.S. Dept of Energy
1000 Independence Ave., SW Mail
Code EH-22, Rm. 3G092
Washington, DC 20585-1290

Anna Schmidt
U.S. Fish & Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92009

Francisco Arcaute
U.S. Environmental Protection Agency
600 Wilshire Blvd., #1460
Los Angeles, CA 90017

Kathleen Bartholomew
U.S. Dept. of Interior
MS-2340 1849 C St., NW
Washington, DC 20240

Katie Parks
U.S. Army Corps of Engineers
915 Wilshire Blvd., Suite 1101
Los Angeles, CA 90017

Keith Fletcher
District Ranger
U.S. Forest Service (Cleveland)
1147 East Sixth Street
Corona, CA 92879

Doreen Stadtlander
U.S. Fish & Wildlife Service
6010 Hidden Valley Rd.
Carlsbad, CA 92009

Mike Pool
U.S. Bureau of Land Management
2800 Cottage Way, #1623
Sacramento, CA 95825

Paul Underwood
U.S. Army Corps of Engineers
915 Wilshire Blvd., Suite 1101
Los Angeles, CA 90017

Ren Lohoefener
U.S. Fish & Wildlife Service
2800 Cottage Way, #2606
Sacramento, CA 95825

Patricia Sanderson Port
U.S. Dept. of Interior
1111 Jackson St., Suite 520
Oakland, CA 94607

Sally Brown
Caltrans Liaison
U.S. Fish & Wildlife Service
6010 Hidden Valley Dr., Ste. 101
Carlsbad, CA 92011

Sandra Dedeaux
U.S. Geological Survey
525 S. Wilson Avenue
Pasadena, CA 91106

Ken Calvert
Congressman, 44th District
3400 Central Ave., #200
Riverside, CA 92506

Sherry Dufalt
U.S. Geological Survey
Placer Hall, 6000 J St.
Sacramento, CA 95819-6129

Carvel Bass
United States Army Corps of Engineers
Regulatory Division, S. Coast Branch
915 Wilshire Blvd.
Los Angeles, CA 90017

Steve Borchard
U.S. Bureau of Land Management
22835 Calle San Juan de los Lagos
Moreno Valley, CA 92553

Susan Sturges
USEPA, Region 9
75 Hawthorne St. (CED-2)
San Francisco, CA 94105

Veronica Chan
Army Corp of Engineers
915 Wilshire Blvd., Suite 1101
Los Angeles, CA 90017

Barbara Boxer
U.S. Senate
312 N. Spring Street, #1748
Los Angeles, CA 90012

John Campbell
Congressman
610 Newport Center Dr., Suite 300
Newport Beach, CA 92660

Tay Dam
FHWA 888 S. Figueroa, Suite 1850
Los Angeles, CA 90017

Dianne Feinstein
U.S. Senate
11111 Santa Monica Blvd., #915
Los Angeles, CA 90025

Gary Miller
U.S. House of Representatives
District 42
1800 E. Lambert Rd., #150
Brea, CA 92821

Steve John
U.S. Environmental Protection Agency
600 Wilshire Blvd., Suite 1460
Los Angeles, CA 90017

Jeff Miller
California State Assemblyman
71st District
20532 El Toro Road, Suite 203
Mission Viejo, CA 92692

Peter Kiriakos
Sierra Club
29421 Sun Harbor Court
Lake Elsinore, CA 92530

Kenneth Morris
U.S. Army Corps of Engineers
915 Wilshire Blvd.
15th Floor PP MD
Los Angeles, CA 90017

Matthew Lakin
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

Larry Myers
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

Greg Martin
Sierra Club – Santa Ana Mountains
Task Force
99 Rue Monet
Foothill Ranch, CA 92610

Sam Oh
California State Assembly, District 71
20532 El Toro Road, #203
Mission Viejo, CA 92692

Jay Matchett
Sierra Club – Santa Ana Mountains Task
Force
14801 Newport Avenue, Apt. E
Tustin, CA 92780

Darin Schemmet
Assemblyman, 64th District
1223 University Ave., Unit 230
Riverside, CA 92507

Jonathan Snyder
U.S. Fish & Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92009

Whitney Secor
Assemblyman Todd Spitzer, 71st District
1940 N Tustin Street, Suite 102
Orange, CA 92865

Jolyn Murphy
Office of Congressman Ken Calvert
3400 Central Ave., Suite 200
Riverside, CA 92506

Jackie Gonzalez
U.S. House of Representatives, District 44
Office of Congressman Ken Calvert
3400 Central Avenue, Suite 200
Riverside, CA 92506

State Agencies

Ali Taha
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

California Air Resources Board
1001 "I" Street
P.O. Box 2815
Sacramento, CA 95812

California State Lands Commission
100 Howe Avenue, Suite 100
Sacramento, CA 95825

Anna Milloy
Staff Environmental Scientist
California Department of Fish & Game
3602 Inland Empire Blvd, Suite C220
Ontario, CA 91764

California Department of Transportation
1120 N Street
4th Floor, MS-27
Sacramento, CA 95814

California State Water Resources Control
Board
1001 I Street
Sacramento, CA 95814

Barry Wallerstein
California Air Resources Board
South Coast AQMD
21865Copley Drive
Diamond Bar, CA 91765-4182

Basem Muallem
Caltrans District 8
464 W. Fourth St.
6th Floor, MS 1228
San Bernardino, CA 92401-1400

Jason Goldman
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Ferdinand Agbayani
Caltrans District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612

Jeff Miller
California State Assemblyman, 71st District
20532 El Toro Road, Suite 103
Mission Viejo, CA 92692

Joe Lechuga
California State Parks
1879 Jackson St
Riverside, CA 92504

Jon Bumps
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Leslie MacNair
Department of Fish & Game, Inland Deserts Region
3200 Inland Empire Blvd., Suite C-220
Ontario, CA 91764

Denise Tyrrell
California Public Utilities Commission
320 W. 4th Street, #500
Los Angeles, CA 90013

California Governor's Office of Emergency Services
3650 Schriever Ave.
Mather, CA 95655-4203

California Highway Patrol
601 N 7th Street
Sacramento, CA 95811

Mario Amancio
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Mark Smythe
CA Regional Water Quality Control Brd.
Santa Ana Region
3737 Main St., Suite 500
Riverside, CA 92501-3348

Matt Chirdon
California Department of Fish & Game
South Coast Region 5
4949 Viewridge Avenue
San Diego, CA 92133

Cal Recycle
Attn: Monica Rodriguez
1001 I Street
MS 9th Floor, Off 3013
Sacramento, CA 95812-4025

Philip Law
Southern California Association of Governments
818 W. 7th St., 12th Floor
Los Angeles, CA 90017

Robert So
Caltrans
464 West 4th Street, 12 Floor
San Bernardino, CA 92401

Naeem Siddiqui
California Department of Fish and Game
4665 Lampson Ave., #C
Los Alamitos, CA 90720

Director
California Department of Conservation
801 "K" Street
Sacramento, CA 95814

Enrique Arroyo
Associate Park & Recreation Specialist
California State Parks
17801 Lake Perris Drive
Perris, CA 92571

Ron Dang
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Ron Krueper
California State Parks - Inland Empire District
17801 Lake Perris Drive
Perris, CA 92571

Shawn Oriaz
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Shelli Lombardo
Caltrans District 8
464 West 4th Street, 12th Floor
San Bernardino, CA 92401

Tracy Levelle
Caltrans, District 12
3337 Michelson Drive Ste. CN-380
Irvine, CA 92612

William Johnson
Native American Heritage Commission
915 Capitol Mall, Rm. 288
Sacramento, CA 95814

California Highway Patrol
847 E. Brier Drive
San Bernardino, CA 92408

Annette Hebert
California Air Resources Board
9480 Telstar, #4
El Monte, CA 91731

Irene Coyazo
Caltrans, District 8
464 W. 4th Street, MS #1257
San Bernardino, CA 92401-1400

Glenn Barley
California Department of Forestry & Fire Prevention
2524 Mulberry St.
Riverside, CA 92501

David Bricker
Caltrans, District 8
464 W. 4th Street
San Bernardino, CA 92401

Tracy Escobedo
Caltrans, District 8
464 W. 4th Street
San Bernardino, CA 92401

Glenn Robertson
California Regional Water Quality Control Board
3737 Main St. #500
Riverside, CA 92501

Raymond Wolfe
Caltrans, District 8
464 W. 4th Street
San Bernardino, CA 92401

Caltrans, District 8
464 W. 4th Street, 11th Floor
San Bernardino, CA 92401

John Boccio
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Joseph Tavaglione
California Transportation Commission
3405 Arlington Avenue
Riverside, CA 92506

California Highway Patrol
8118 Lincoln Avenue
Riverside, CA 92504

Cindy McKim
Caltrans
1120 N Street
Sacramento, CA 95814

Maifiny Vang
California Department of Water Resources
1416 9th Street
Sacramento, CA 95814

Allen R.Robertson
California Department of Forestry & Fire Prevention
1416 9th Street
Sacramento, CA 95814

Lulu Ramos
California Department of Conservation
801 "K" Street
Sacramento, CA 95814

Milford Donaldson, FAIA
California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Ravi Ramalingam
California Air Resources Board
1001 "I" Street, 7th Floor
Sacramento, CA 95814

Terry Roberts
California Office of Planning and Research
1400 Tenth Street, Room 212
Sacramento, CA 95814

Gary Flamm
California Energy Commission
1516 Ninth St., MS-29
Sacramento, CA 95214

Bimla Rhinehart
California Transportation Commission
1120 N Street, Room 2221 (MS-52)
Sacramento, CA 95814

Holly B. Cronin
California Department of Water Resources
3310 El Camino Ave., LL-90
Sacramento, CA 95821

Lisa Babcock
California Water Resources Control Board
1001 I Street, Room 1629
Sacramento, CA 95814

Susan Stratton
California Office of Historic Preservation
1416 9th Street, Room 1442-7
Sacramento, CA 95814

Leo Chen
Caltrans District 12
3331 Michelson Dr., Suite 380
Irvine, CA 92612

Jim Porter
California State Lands Commission
100 Howe Ave., #100 South
Sacramento, CA 95825

Tim Turner
California Department of Water Resources
1234 E. Shaw Ave.
Fresno, CA 93710

Johannes Escudero
Office of Assemblymember Jeff Miller
Capitol Room 4144
Sacramento, CA 94249

Gary Slater
Caltrans District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612

Bill Emmerson
California State Senate, District 37
5225 Canyon Crest Dr., #360
Riverside, CA 92501

Rose Melgoza
Caltrans District 8
464 W 4th St., MS 1257
San Bernardino, CA 92401-1400

James Fago
Carrera Boats
1631 Pomona Road
Corona, CA 92880

Jim Fago
1651 Pomona Road
Corona, CA 92880

Dick Zimbae
Santa Ana Regional Water Quality Control Board
3737 Main Street, #500
Riverside, CA 92501

Jim Michaels
California Dept. of Parks & Recreation
1416 Ninth Street
Sacramento, CA 95814

Gloria Silva
U.S. Forest Service
10845 Rancho Bernardo, Suite 200
San Diego, CA 92127-2107

Naresh Amatya
Southern California Association of Governments
818 W 7th Street, 12th Floor
Los Angeles, CA 90017-3435

Richard Angulo
California Indian Council Foundation
1222 Potter Avenue
Thousand Oaks, CA 91360-6419

Stefanie Benvenuto
California State Assembly, District 71
20532 El Toro Road, #203
Mission Viejo, CA 92692

Bob Bunyan
California Chapter
24008 Skyline
Mission Viejo, CA 92692

Gina Grace-Gonzalez
California State Senate, District 37
5225 Canyon Crest Dr., #360
Riverside, CA 92507

Curt Hagman
California State Assembly, District 60
13920 City Center Dr., #260
Chino Hills, CA 91709

Ken Kietzer
California State Parks
17801 Lake Perris Drive
Perris, CA 92571

Gary Neely
California State Assembly, District 60
13920 City Center Drive, #260
Chino Hills, CA 91709

Brian Nestande
California State Assembly, District 64
1223 University Avenue, #230
Riverside, CA 92507

Todd Spitzer
California's 71st Assembly District
20532 El Toro Road, Suite 203
Mission Viejo, CA 92692

Dennis Wade
California Air Resources Board
1001 "I" Street, 7th Floor
Sacramento, CA 95814

Barry Wallerstein
California Air Resources Board
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4182

Chino Hills State Park
4717 Sapphire Road
Chino Hills, CA 91709

Kevin Jeffries
Assemblyman Kevin Jeffries Office
41391 Kalma Street, Suite 220
Murrieta, CA 92562

John Laird
Secretary for Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

Regional/County/Local Agencies

Alison Army
Orange County Transportation Authority
550 S. Main Street
Orange, CA 92863-1584

Berwin Hanna
City of Norco
2870 Clark Avenue
Norco, CA 92860

Charles Antos
County of Orange
300 N Flower Street
Santa Ana, CA 92703

City of Anaheim
Fire Dept.
200 S. Anaheim Blvd.
Anaheim, CA 92805

John Welter
City of Anaheim
Police Dept.
425 S. Harbor Blvd.
Anaheim, CA 92805

City of Corona
Fire Dept.
400 S. Vicentia Ave.
Corona, CA 92882-2187

City of Corona
Police Dept.
849 W. Sixth St.
Corona, CA 92882

Jason Scott
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Betty Sherin
Corona Chamber of Commerce
904 E. 6th St.
Corona, CA 92879

Bob Buster
4080 Lemon St., 5th Floor
Riverside, CA 92502

Pam Cunningham
Corona Chamber of Commerce
904 E 6th Street
Corona, CA 92879

City of Brea
Police Dept.
1 Civic Center Circle
Brea, CA 92821

Dale Anderson
Riverside County Flood Control District
1995 Market Street
Riverside, CA 92501

Dan Phu
Orange County Transportation Authority
600 S. Main Street
Orange, CA 92868

Darrell Talbert
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

City of Norco
Fire Dept.
2870 Clark Ave.
Norco, CA 92860

Bobby Spiegel
Corona Chamber of Commerce
904 E. 6th St.
Corona, CA 92879

Cathy Nowak
County of Orange
Harbors, Beaches & Parks
300 N Flower Street, Room 406
Santa Ana, CA 92703

Eugene Montanez
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Farah Khorashadi
Engineering Division Manager
County of Riverside Transportation & Land Management Agency
4080 Lemon Street, 8th Floor
Riverside, CA 92501

Fernando Chavarria
Orange County Transportation Authority
600 S. Main Street
Orange, CA 92868

George Johnson
Riverside County Transportation
4080 Lemon St. - 8th Flr
Riverside, CA 92501

David Lowe
Transportation Corridor Agencies
125 Pacifica, Suite 120
Irvine, CA 92618

Denea Breitenbucher
Corona Chamber of Commerce
904 E. 6th St.
Corona, CA 92879

Jeff Allred
City of Norco
1281 Fifth Street
Norco, CA 92860

Jim Adams
LA/OC Building & Construction Council
1626 Beverly Blvd.
Los Angeles, CA 90026

Doug Park
City of Anaheim
City Hall East
200 South Anaheim Boulevard
Anaheim, CA 92805

Juan Perez
Riverside County Transportation
4080 Lemon St.
Riverside, CA 92501

Karen Spiegel
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Kip Field
City of Corona
Public Works Dept.
400 S. Vicentia Ave.
Corona, CA 92882-2187

Jeff Greene
California State Assembly, District 66
Assemblyman Kevin Jeffries Office
41391 Kalmia Street, Suite 220
Murrieta, CA 92562

Lance Natsuhara
Orange County Flood Control District
300 N. Flower Street, 7th Floor
P.O. Box 4048
Santa Ana, CA 92702-4048

Mark Wills
Chief of Regulatory Division
Riverside County Flood Control & Water Conservation District
1995 Market Street
Riverside, CA 92501

City of Norco
Police Dept.
2870 Clark Ave.
Norco, CA 92860

City of Riverside
Police Dept.
4102 Orange St.
Riverside, CA 92501

John Tavaglione
County of Riverside - Second District
4080 Lemon Street - 5th Floor
Riverside, CA 92501

Patricia Romo
Riverside County Department of Transportation
4080 Lemon Street 8th Floor
Riverside, CA 92501

Pradeep Gunaratne
Orange County Transportation Authority
600 S. Main Street
Orange, CA 92868

Rich Macias
Manager, Aviation & Env. Planning, SCAG
818 West Seventh St., 12th Floor
Los Angeles, CA 90017-3435

Richard Haley
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Riverside County Fire Dept.
Headquarters – David Flake Administrative Center
210 West San Jacinto Ave.
Perris, CA 92570

Riverside County Sheriff's Dept.
4080 Lemon St.
Riverside, CA 92501

Dennis Ralls
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Doug Park
City of Anaheim
200 S. Anaheim Blvd, MS 276
Anaheim, CA 92805

Steve Nolan
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Tami Warren
Orange County Transportation Authority
600 S. Main Street
Orange, CA 92868

Tim Neely
County of Orange Environmental Planning Services Division
300 N. Flower Street
Santa Ana, CA 92703

Tom Boyd
Public Works Dept.
City of Riverside
3900 Main St.
Riverside, CA 92522

Tom Wheeler
Transportation Corridor Agencies
125 Pacifica, Suite 100
Irvine, CA 92618

Tommy Vaughan
Norco Chamber of Commerce
2816 Hamner Ave
Norco, CA 92860

Joanne Coletta
City of Corona, Public Works Department
400 S. Vicentia Ave.
Corona, CA 92882

Orange County Fire Authority
One Fire Authority Rd.
Irvine, CA 92602

Orange County Sheriff's Dept.
550 N. Flower St.
Santa Ana, CA 92703

Maria Perez
City of Corona, Public Works Department, Land Development
400 S. Vicentia Ave.
Corona, CA 92882

Alfonso Medina
Bureau of Environmental Health
5050 Commerce Drive
Baldwin Park, CA 91706

Art Bennett
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Chris Kelly
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Steve Nix
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Steve Smith
Chino Hills Police & Sheriff Department
14077 Peyton Drive
Chino Hills, CA 91709

Karen Campbell
City of Chino Engineering
13220 Central Ave.
Chino, CA 91710

San Bernardino County Fire Dept.
157 West 5th St., 2nd Floor
San Bernardino, CA 92415-0451

Stan Skipworth
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Patti Arlt
Metropolitan Water District of Southern California
700 N. Alameda Street
Los Angeles, CA 90012

Prado Regional Park
16700 S. Euclid Ave.
Chino, CA 91708

Michael Fleager
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

W.C. "Bill" Kruger
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Gwenn Norton-Perry
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Kirk Summers
Chino Valley Independent Fire District
14011 City Center Drive
Chino Hills, CA 91709

Glenn Duncan
City of Chino
13220 Central Avenue
Chino, CA 91710

Yolanda Macalalad
Special Projects, Senior Civil Engineer, City of Corona Public Works Department
400 S. Vicentia Ave.
Corona, CA 92882

Terri Manuel
City of Corona, Economic Development Department
400 S. Vicentia Ave.
Corona, CA 92882

Jeremy Madison Harris
Southwest California Legislative Council
4720 E. Second Street, #7
Long Beach, CA 90803

City of Riverside
Fire Dept.
3085 Lawrence Street
Riverside, CA 92501

Ed Graham
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Bill Lenew
San Bernardino County Sheriff's Department
14077 Peyton Drive
Chino Hills, CA 91709

Peter Rogers
City of Chino Hills
14000 City Center Drive
Chino Hills, CA 91709

Chino Hills State Park
4717 Sapphire Road
Chino Hills, CA 91709

Tom Haughey
City of Chino
13220 Central Avenue
Chino, CA 91710

Earl Elrod
City of Chino
13220 Central Avenue
Chino, CA 91710

Eunice Ulloa
City of Chino
13220 Central Avenue
Chino, CA 91710

Dennis Yates
City of Chino
13220 Central Avenue
Chino, CA 91710

Ike C. Bootsma
City of Eastvale
6080 Hamner Ave., Suite 103
Eastvale, CA 91752

Jeff DeGrandpre
City of Eastvale
6080 Hamner Ave., Suite 100
Eastvale, CA 91752

Kelly Howell
City of Eastvale
6080 Hamner Ave., Suite 100
Eastvale, CA 91752

Adam Rush
City of Eastvale
6080 Hamner Ave., Suite 103
Eastvale, CA 91752

Robert Van Nort
City of Eastvale
6080 Hamner Ave., Suite 100
Eastvale, CA 91752

Ric Welch
City of Eastvale
6080 Hamner Ave., Suite 100
Eastvale, CA 91752

Jennifer Ares
Inland Empire Resource Conservation District
25864-K Business Center Drive
Redlands, CA 92374

Garry Cohoe
San Bernardino Associated Governments
1170 W. Third Street, 2nd Floor
San Bernardino, CA 92410

Greg Devereaux
San Bernardino County
385 N. Arrowhead Ave.
San Bernardino, CA 92415

David Wert
San Bernardino County
385 N. Arrowhead Avenue
San Bernardino, CA 92415

Barbara Bouska
City of Riverside
3900 Main Street, 3rd Floor
Riverside, CA 92500

George Johnson
Riverside County Transportation and Land Planning Agency
4080 Lemon Street
Riverside, CA 92502

Ray Smith
Riverside County
4080 Lemon Street, 4th Floor
Riverside, CA 92501

Scott Staley
Riverside County
3525 14th Street
Riverside, CA 92501

Mark Adelson
Santa Ana Regional Water Quality Control Board – Region P
3737 Main Street, #500
Riverside, CA 92501

Michael Adackpara
Santa Ana Regional Water Quality Control Board
3737 Main Street, #500
Riverside, CA 92501-3348

Ron Goldman
Riverside County
4080 Lemon Street. 9th Floor
Riverside, CA 92502

Marlin Feenstra
Riverside County Transportation Commission
4080 Lemon Street
Riverside, CA 92502-2208

Mark Wills
Riverside County Flood Control & Water Conservation District
1995 Market Street
Riverside, CA 92501

Alex Pohlman
Santa Ana Watershed Project Authority
11605 Sterling Avenue
Riverside, CA 92503

John Rowe
Chino Hills State Park
1879 Jackson Street
Riverside, CA 92504

Brenda Salas
Riverside County Economic Development Agency
1325 Spruce St., #400
Riverside, CA 92507

Paul Frandsen
Riverside County Regional Park & Open Space District
4600 Crestmore Road
Riverside, CA 92509

Maureen Gayk
Riverside County Regional Park & Open Space District
4600 Crestmore Road
Riverside, CA 92509

Lori Stone
March Joint Powers Authority
23555 Meyer Drive
Riverside, CA 92518

Scott Barber
City of Riverside
3900 Main Street
Riverside, CA 92522

Siobhan Foster
City of Riverside
3900 Main Street
Riverside, CA 92522

Bradley J.Hudson
City of Riverside
3900 Main Street
Riverside, CA 92522

Diane Jenkins
City of Riverside
3900 Main Street, 3rd Floor
Riverside, CA 92522

John R.Hawkins
Riverside County Fire Department
210 W. San Jacinto Avenue
Perris, CA 92570

Steve Libring
City of Riverside
3900 Main Street
Riverside, CA 92522

Moises Lopez
City of Riverside
3900 Main Street, 3rd Floor
Riverside, CA 92522

Mike Endres
Transportation Corridor Agencies
125 Pacifica, #100
Irvine, CA 92618

Paul Brenner
Transportation Corridor Agencies
125 Pacifica, #100
Irvine, CA 92618

Todd Ament
Anaheim Chamber of Commerce
201 E. Center Street
Anaheim, CA 92805

Setu Upadhya
Orange County Planning and Development Services
300 N. Flower Street
Santa Ana, CA 92703

Rudy Emami
City of Anaheim
200 S. Anaheim Blvd., #276
Anaheim, CA 92805

Mark Vukojevic, P.E.
City of Anaheim
200 S. Anaheim Blvd., #276
Anaheim, CA 92805

Harvey C. Sullivan
City of Norco
2870 Clark Avenue
Norco, CA 92860

Lori J.Askew
City of Norco
2870 Clark Avenue
Norco, CA 92860

Kevin Bash
City of Norco
2870 Clark Avenue
Norco, CA 92860

Dominic Milano
City of Norco
2870 Clark Avenue
Norco, CA 92860

Karen Alexander
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Beth Groves
City of Norco
2870 Clark Avenue
Norco, CA 92860

Richard Madory
Corona Police Department
849 W. Sixth Street
Corona, CA 92882

Nabil Kassih
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Robert Morin
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Corona Municipal Airport
1900 Aviation Drive
Corona, CA 92882

Brad Robbins
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Jason Scott
City of Corona
400 South Vicentia Avenue
Corona, CA 92882

Corona Fire Station, #5
1200 Canyon Crest
Corona, CA 92882

David Waltemeyer
Corona Fire Department
400 S. Vicentia Avenue
Corona, CA 92882

Greg Newton
City of Norco
2870 Clark Avenue
Norco, CA 92860

Bill Luna
Riverside County
4080 Lemon Street, 4th Floor
Riverside, CA 92501

Orange County Flood Control District
300 N Flower St 6Th Floor
Santa Ana, CA 92703

Charles Ahlers
Anaheim/Orange County Visitors & Convention Bureau
800 W. Katella Avenue
Anaheim, CA 92802

Marion Ashley
Riverside County Board of Supervisors, District 5
4080 Lemon Street, 5th Floor
Riverside, CA 92501

Kathy Azevedo
City of Norco
3627 Temescal Avenue
Norco, CA 92860

Patricia C. Bates
Orange County Board of Supervisors
333 S. Santa Ana Boulevard
Santa Ana, CA 92701

John Benoit
Riverside County Board of Supervisors, District 4
4080 Lemon Street, 5th Floor
Riverside, CA 92501

Paul Biane
San Bernardino County Board of Supervisors, District 2
385 N. Arrowhead Ave., 5th Floor
San Bernardino, CA 92415

Bill Campbell
Orange County Board of Supervisors
10 Civic Center Plaza
Santa Ana, CA 92701

Benjie Cho
Riverside County Transportation
4080 Lemon Street, 8th Floor
Riverside, CA 92801

Wendel Clark
Greater Riverside Chamber of Commerce
6865 Airport Drive
Riverside, CA 92504

Anne Dutrey
City of Chino Hills
2001 Grand Avenue
Chino, CA 91709

Eliza Ichevarria
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92502-2208

Frank Hall
City of Norco
2870 Clark Avenue
Norco, CA 92860

Shelli Lamb
Riverside-Corona Resource Conservation District
4500 Glenwood Drive
Riverside, CA 92501

Natalie Meeks
City of Anaheim
200 S. Anaheim Boulevard, #276
Anaheim, CA 92805

Yvette Martinez
City of Chino Hills
2001 Grand Avenue
Chino, CA 91709

Anne Mayer
Riverside County Transportation Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92502-2208

Janet Nguyen
Orange County Board of Supervisors
333 S. Santa Ana Boulevard
Santa Ana, CA 92701

John M.W. Moorlach
Orange County Board of Supervisors
333 S. Santa Ana Boulevard
Santa Ana, CA 92701

Mary Muldrow
Riverside County EDA – WDC
1151 Spruce Street
Riverside, CA 92507

Steven Pasto
Riverside County Farm Bureau
21160 Box Springs Road, Suite 102
Moreno Valley, CA 92557

Shawn Nelson
Orange County Board of Supervisors
333 S. Santa Ana Boulevard
Santa Ana, CA 92701

Greg Newton
City of Norco
2870 Clark Avenue
Norco, CA 92860

Dipak Roy
Orange County Transportation Authority
P.O. Box 14184
Orange, CA 92863

Kevin Onuma
Orange County Flood Control District
P.O. Box 4048
Santa Ana, CA 92702

Gary Ovitt
San Bernardino County Board of Supervisors,
District 4
385 N. Arrowhead Avenue, 5th Floor
San Bernardino, CA 92415

Mark Stowell
City of Yorba Linda
P.O. Box 87014
Yorba Linda, CA 92885

Karen Patel
City of Eastvale
6080 Hamker Avenue, Suite 103
Corona, CA 91752

William Perez
Council
1074 La Cadena Drive, #8
Riverside, CA 92507

Mark Vukojevic, PE
City of Anaheim
200 S. Anaheim Boulevard, #276
Anaheim, CA 92805

Patricia Romo
Riverside County Department of
Transportation
4080 Lemon Street, 8th Floor
Riverside, CA 92501

Cindy Roth
Greater Riverside Chambers of Commerce
3985 University Avenue
Riverside, CA 92501

Bill Thompson
City of Norco
1281 Fifth Street
Norco, CA 92860

John Standiford
Riverside County Transportation
Commission
4080 Lemon Street, 3rd Floor
Riverside, CA 92502-2208

Jeff Stone
Riverside County Board of Supervisors,
District 3
4080 Lemon Street, 5th Floor
Riverside, CA 92501

Jim Swanek
County of Orange Planning Dept.
P.O. Box 885
Silverado, CA 92676

Marcia Brown, City Clerk
City of Yorba Linda
4845 Casa Loma Avenue,
P.O. Box 87014
Yorba Linda, CA 92885

Linda N. Andal
City Clerk
City of Anaheim
200 S. Anaheim Blvd., #217
Anaheim, CA 92805

Brenda Jacobs
Norco City Clerk
2870 Clark Avenue
Norco, CA 92860

Office of the City Clerk
City of Corona
400 S. Vicentia Avenue
Corona, CA 92882

Mr. Tom Daly
Orange County Clerk-Recorder
Hall of Administration
333 W. Santa Ana Blvd.
Santa Ana, CA 92701

Mr. Larry W. Ward, County Clerk
County Administrative Center
4080 Lemon St, 1st Floor
P.O. Box 12004
Riverside, CA 92502-2204

Harry Huggins , Asset Manager
Orange County Parks District
13042 Old Myford Rd.
Irvine, CA 92602

Richard Adler, Real Estate Manager
Orange County Parks District
13042 Old Myford Rd.
Irvine, CA 92602

Jeff Dickman
Orange County Public Works
Orange County Flood, SARP
300 North Flower Street
Santa Ana, CA 92703-5000

Gabriel Garcia
Director, Parks & Community Services
City of Corona
400 S Vicentia Avenue
Corona, CA 92882

Special Districts/Utilities

Martha Davis
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708-9174

Superintendent
Corona-Norco Unified School District
2820 Clark Ave.
Norco, CA 92860

Claire Lauterbach
Wildlife Corridor Conservation Authority
5750 Ramirez Canyon Road
Malibu, CA 90265

Rebecca De Leon
Metropolitan Water District of Southern California
700 N. Alameda Street, US3-230
Los Angeles, CA 90012

John Shamma
Metropolitan Water District of Southern California
700 N. Alameda Street
Los Angeles, CA 90012

Ken Hawkins
Butterfield Ranch Elementary School
6350 Mystic Canyon Drive
Chino Hills, CA 91709

Lupe Valdez
Union Pacific Railroad
13181 Crossroads Pkwy., #500
City of Industry, CA 91746

Kate Burrows
California Native Plant Society
2126 S. Concord Ave.
Ontario, CA 91761

Louis Davis
Southern California Edison
1351 E. Francis Street
Ontario, CA 91761

Oscar Abarca
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Ernest Lopez
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Steve Smith
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Paul Granillo
Inland Empire Economic Partnership
210 North E Street
San Bernardino, CA 91402

Carl Mendez
Inland Empire Economic Partnership
210 North E Street
San Bernardino, CA 91402

Time Warner Cable
182 E. Alder Street
Brea, CA 92821-6570

Kent Bechler
Corona Norco Unified School District
2820 Clark Avenue
Norco, CA 9288092860

Julie Reyes
Waste Management
800 S. Temescal Street
Corona, CA 92879

Carol Ackerman
Prado View Elementary School
2800 Ridgeline Dr.
Corona, CA 92882

Joseph Almasy
Orange Grove High School
300 Buena Vista Avenue
Corona, CA 92882

Felicia Cruz-Delgado
Chavez Elementary School
150 Paseo Grande
Corona, CA 92882

Beth Feaster
Coronita Elementary School
1757 Via del Rio
Corona, CA 92882

Julie Fredericksen
Corona Public Library
650 S. Main Street
Corona, CA 92882

Jason Scott
Franklin Elementary School
2650 Oak Avenue
Corona, CA 92882

Bob Taylor
Corona High School
1150 W. 10th Street
Corona, CA 92882

Judy Tamasi
Wildlife Corridor Conservation Authority
5750 Ramirez Canyon Road
Malibu, CA 90265

Eyvonne Drummonds
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Bruce Colbert
Property Owner Association of Riverside County
P.O. Box 127
Riverside, CA 92502

Lawrence Barnard
Corona Regional Medical Center
800 S. Main Street
Corona, CA 92882

Jeff Beehler
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503

Jane Block
Riverside Land Conservancy
4075 Mission Inn Avenue
Riverside, CA 92501

Robert Brendza
BNSF Railroad Alignment and R/W
740 E. Carnegie Drive
San Bernardino, CA 92408

Chris Carlson
Riverside Community College District
4800 Magnolia Avenue
Riverside, CA 92506-1299

David Clark
Metropolitan Water District
700 N. Alameda
Los Angeles, CA 90012-2944

Jonathan Daly
Corona Water and Power
755 Corporation Yard Way
Corona, CA 92880

Steve Glynn
Waste Management
800 S. Temescal Street
Corona, CA 92879

Robert Grajeda
Riverside Community College District – March Education Center
14745 Riverside Drive
Riverside, CA 92518

Larry Labrado
Southern California Edison
P.O. Box 11982
1325 S. Grand Avenue
Santa Ana, CA 92711-1982

Al Lopez
Western Municipal Water District
P.O. Box 5286
Riverside, CA 92508

Debbie Megna
Riverside Convention & Visitors Bureau
3750 University Avenue, #175
Riverside, CA 92501

Linda Pearson
Corona Regional Medical Center
800 S. Main Street
Corona, CA 92882

Lea Petersen
The Gas Company
3460 Orange Street
Riverside, CA 92501

Kelly Taylor
City of Corona Department of Water & Power
P.O. Box 940
Corona, CA 92878-0940

Lars Walton
University of California, Riverside
900 University Avenue
Riverside, CA 92521

Interested Groups, Organizations, and Individuals[1]

(No name)
103 Buena Vista Ave
Corona, CA 92882

(No name)
1424 Opal Street
Corona, CA 92882

Property Owner
18590 Matinique Ct
Villa Park, CA 92861

5M5
122 30th Street
Newport Beach, CA 92663

A & R INV
1451 Pomona Road
Corona, CA 92882-1710

ACM Technologies Inc
2535 Research Drive
Corona, CA 92882

Adam Silverman
2433 Pomona Road
Corona, CA 92882

A Vallaro
13551 Magnolia Ave
Corona, CA 92879

Abdo G Bouyakzan
11548 Merryhill Drive
Corona, CA 92880

Abdulfetah Abdurahman
336 Cypress Ct
Corona, CA 92879

Abdulkadir & Lynn Hourani
1114 Garland Way
Corona, CA 92879

Abel & Maria Carmen Sandoval
693 Laguna Drive
Corona, CA 92879

Adrien J & Doris C Guerrette
7251 El Cerrito Road
Corona, CA 92881

AGINS Dev Corp
P.O. Box 328
Corona, CA 92878-0328

Abel H & Mary Louise Uribe
45 W Grand Blvd
Corona, CA 92882

Abel Pamatz
19874 Katy Way
Corona, CA 92881

Abraham & Mina Abdi
1275 Quarry Street
Corona, CA 92879

Absalon D & Charlotte T Abrenica
391 Hendricks Cir
Corona, CA 92879

ACCOTEL Prop Inc.
1370 Avenue of the Americas
New York, NY 10019

Alan T & Eileen K Foate
429 Wynola Ct
Corona, CA 92879

Alan Tung Le
382 Colfax Cir
Corona, CA 92879

[1] The addresses shown for individual property owners are the mailing addresses of those owners and are not always the addresses of the parcels they own.

Adela Ortega
303 W Grand Blv
Corona, CA 92882

ADFAM
19081 Rocky Road
Santa Ana, CA 92705

Adolfo Paredes Hernandez
7531 El Cerrito Road
Corona, CA 92881

Adolfo Romero
349 Danbury Ct
Corona, CA 92879

Adolph M & Amando M Perez
116 N Belle Ave
Corona, CA 92882

Adrian Equities
1915 Elise Cir
Corona, CA 92879

Current Resident
807 San Jacinto Drive
Corona, CA 92879

Aleksey & Aleksandr Virkh
441 Teton Pl
Corona, CA 92879

Alex & Linda G Stavropoulos
14252 Saarinen
Irvine, CA 92714

Agustin H & Rosa B Gonzalez
11557 Queensborough Street
Riverside, CA 92503

Ahmanson Dev Inc
1123 S Parkview Dr #360
Covina, CA 91724

Alan & Estelle M Engel
1805 Bel Air Street
Corona, CA 92879

Alan D & Jennifer L Galbraith
11593 Norgate Cir
Corona, CA 92880

Alan L & May B Callahan
44420 Mayberry Ave
Hemet, CA 92544

Alan L. Callahan
43430 State Highway 74, Suite #F
Hemet, CA 92544

Alan R & Susan E Wakefield
3064 Dales Drive
Norco, CA 92860

Alfredo & Gabriela Palacios
215 S Sherman Ave
Corona, CA 92882

Alfredo & Miriam Beas
401 Roosevelt Street
Corona, CA 92879

Albert Bravo
151 N Merrill Street
Corona, CA 92882

Albert C & Marilynn K Sykes
7251 Magnolia Ave
Riverside, CA 92504

Albert Clarke & Brenda Lamkins
940 Corona Ave
Corona, CA 92879

Alberto R. Perez
216 South Joy Street
Corona, CA 92789-1547

Alberto S & Maria R Limon
538 Mesa Drive
Corona, CA 92879

Alejandra C Quezada
2981 Wimbledon Drive
Corona, CA 92879

Alejandro S Arricaberri
7311 Piute Creek Drive
Corona, CA 92881

Alif General Partnership Adrian Equities A
1925 Elise Cir
Corona, CA 92879

Allan H & Joan D Markowitz
700 S Lake Ave #205
Pasadena, CA 91106

Alex Avila
2340 Pepperwood Lane
Corona, CA 92882

Alex Cabrera
420 Roosevelt Street
Corona, CA 92879

Alex Richard Marmolejo
1548 Via Vista Drive
Riverside, CA 92506

Alexis A Lumsden
11411 Magnolia Ave
Riverside, CA 92505

Current Resident
1712 Newport Cir
Santa Ana, CA 92705

Alfonso G & Jessica L Sanchez
216 S Howard Street
Corona, CA 92879-1539

Current Resident
546 Laguna Cir
Corona, CA 92879

Alma Martinez
884 Corona Ave
Corona, CA 92879

Alvaro Delgadillo
357 Cypress Ct
Corona, CA 92879

Alfredo A Fernandez
220 S Sheridan Street
Corona, CA 92882

Ali & Traci Roushanzamir
20099 Newton Street
Corona, CA 92881

Alice & Barbara Felix
224 S Sheridan Street
Corona, CA 92882

Alice Ann & A Forlin
1109 Canyonwood Ct #2
Walnut Creek, CA 94595

Alice Ubry
1966 Adobe Ave
Corona, CA 92882

Alice Wiley
7142 Calico Court
Montclair, CA 91736

Alicia Covarrubias Enriquez
1228 D Street
Corona, CA 92882

Anaheim Inv
2235 Faraday Ave #O
Carlsbad, CA 92008

Andrew & Susan Nichols
661 Pebble Beach Ct
Corona, CA 92882

Allen & Evan Edelist
4420 Sherman Oaks Cir
Sherman Oaks, CA 91403

Allen L & Joyce A Herman
2616 View Lake
Santa Ana, CA 92705

Allenwood Inv
P O Box 53
Houston, TX 77001

Current Resident
4071 2nd St.
Yorba Linda, CA 92886

Alma Delia Cuevas
204 South Victoria Avenue
Corona, CA 92879

Alma Delia Cuevas
520 E 3rd Street
Corona, CA 92879

Current Resident
120 N Sheridan Street
Corona, CA 92882

Angelica Lopez
305 S Howard Street
Corona, CA 92879

Angelina F Mata
541 San Gorgonio Drive
Corona, CA 92879

Alwin H & Carla M Kolster
2550 W Rowland Ave
Anaheim, CA 92804

Current Resident
7151 Bel Air Street
Corona, CA 92881-3402

Current Resident
216 S Victoria Ave
Corona, CA 92879

Krik M. Erickson & Jessica Chades
730 Sugar Ln
Corona, CA 92882

Andrew Ferrich
20225 Caso Street
Corona, CA 92881

Angelina M Perez
916 E 3rd Street
Corona, CA 92879

Amado R. Maciel
119 East 4th Street
Corona, CA 92879

Andrew Lee
17660 Newhope St.
Fountain Valley, CA 92708

Current Resident
2980 Rochester Cir
Corona, CA 92879

Amalio Celis
731 Balsam Ln
Corona, CA 92882

Angel & Emma Torrez
1808 Boyd Pl
Pomona, CA 91766

Anna Chudikova
380 Via Capri 201
Corona, CA 92879

Ambersky Prop
6399 Wilshire Blvd., No #604
Los Angeles, CA 90048

Angel & Maria Socorro Capilla
33137 Windward Way
Lake Elsinore, CA 92530

Anna Hoover, Cultural Analyst
Pechanga Cultural Resources
P.O. Box 2183
Temecula, CA 92593

Amer Koder Makkawi
17402 Harlan Drive
Yorba Linda, CA 92886

Current Resident
2554 Monterey Peninsula Drive
Corona, CA 92882

Anna M. & John Espinoza
528 E. Third Street
Corona, CA 92879

Amos J Dorsey
2915 Via Tascana 101
Corona, CA 92879

Angela Valenti
2951 Via Milano 103
Corona, CA 92879

Anna Orlow
206 E. Everett Pl
Orange, CA 92867

Anne J Mcguire
2454 Cedar Street
La Verne, CA 91750

Current Resident
308 S Belle Ave
Corona, CA 92882

Armando Dupont
411 Jenks Circle
Corona, CA 92880

Annilyn A Guerrero
4582 Pennyroyal Drive
Corona, CA 92880

Araceli Delatorre
11677 Queensborough Street
Riverside, CA 92503

Armando G & Blanca A Bueno
2923 Wimbledon Drive
Corona, CA 92879

Anthony & Carol Sainz
139 N Vicentia Ave
Corona, CA 92882

Anthony B & Alma D Chacon
1980 Olympia Fields
Corona, CA 92883

Antonio & Arcelia C Camacho
2959 Wimbledon Drive
Corona, CA 92879

Antonio Navarrete
128 S. Buena Vista Ave.
Corona, CA 92882

Antonio Rosales
401 Bristol Way
Corona, CA 92879

Apolinar C Medina
2940 Via Toscana Street 104
Corona, CA 92879

April Calhoun
2305 Chicago Ave
Suite 200
Riverside, CA 92506

Arthur J King
411 Hamlin Cir
Corona, CA 92879

Current Resident
3039 Arbor Glen Ct
Corona, CA 92879

Ariel & Andrea R Fernandez
26131 Camelot Ave
Loma Linda, CA 92354

Aristeo Martinez
103 N. Buena Vista Ave
Corona, CA 92882

Arlene L Raygoza
430 Bristol Way
Corona, CA 92879

Arlene P Ray
1447 Pleasant View Ave
Corona, CA 92882

Armando & Catalina Gonzalez
3578 Paine Drive
Riverside, CA 92503

Armando Carreon
710 Sugar Ln
Corona, CA 92882

Armando Diaz
4773 Satin Bell Drive
Corona, CA 92880

Arturo S Garcia
475 Sloan Drive
Corona, CA 92879

Ashok A & Malini A Dhar
7212 Calico Cir
Corona, CA 92881

Armando P & Emerita L Navarrette
2125 Georgetown Drive
Corona, CA 92881

Armida B Flores
135 N Vicentia Ave
Corona, CA 92882

Arnell Love
2995 Wimbledon Drive
Corona, CA 92879

Arnold San Miguel
1170 3rd Street
Suite 100
San Bernardino, CA 92410

Arnoldo & Bertha Martinez
3314 Winding Way
Round Rock, TX 98664

Arnulfo G & Christina S Felix
522 W 3rd Street
Corona, CA 92882

Arthur Franklin & Maria Isabel Stahl
408 Yellowstone Cir
Corona, CA 92879

Bahzad B. Barouti (fractional interest)
9150 Benson Avenue
Montclair, CA 91763

Baily Gary & Annette Trust
PO Box 431
Sun City, CA 92586

Arthur Mejia
424 Teton Pl
Corona, CA 92879

Ashraf Kedice
P O Box 27472
Santa Ana, CA 92799

Jesus Ramirez &
Virginia Garcia Balderas
117 N. Cota Street
Corona, CA 92880

Arthur Mendoza & Debbie M. Garcia
750 Balsam Ln
Corona, CA 92882

AT & SF RR
740 Carnegie Drive
San Bernardino, CA 92408

Baltazar & Cristina H Aguirre
1349 Pleasant View Ave
Corona, CA 92882

Arthur Ray Reece
19781 Katy Street
Corona, CA 92881

Atlantic Richfield Co
P O Box 5015
Buena Park, CA 90623

Banda Prop
11333 Lakeport Drive
Riverside, CA 92505

Arthur Sosa
926 S Main Street
Santa Ana, CA 92701

Atoosa Vakili Mozafari
31731 Isle Vista
Laguna Niguel, CA 92677

Barbara Harris Frigge
4735 Majorca Way
Oceanside, CA 92056

Arturo & Gabriela Licea
3009 Arbor Glen Ct
Corona, CA 92879

Auto Center Drive
2701 E Imperial Hwy
Brea, CA 92821

Barbara V Poss
350 Via Capri No #202
Corona, CA 92879

Arturo Gomez
352 Danbury Ct
Corona, CA 92879

Avalon Vista Group
6399 Wilshire Blv #604
Los Angeles, CA 90048

Barry & Cyndee S Lieberman
P O Box 1885
Lake Arrowhead, CA 92352

Arturo S & Victoria V Uribe
524 W 3rd Street
Corona, CA 92882

Babulal R & Kanta B Bera
420 S Lincoln Ave
Corona, CA 92882

Barry & Gina M Cox
477 Corona Ave
Corona, CA 92879

Barry Blake
712 Payette Drive
Corona, CA 92881

Beatrice Verdusco
1580 1St Street
Norco, CA 92860

Current Resident
410 Hamlin Cir
Corona, CA 92879

Current Resident
2680 Kennedy Drive
Corona, CA 92879

Beatriz Segura
875 Bollero Pl
Corona, CA 92882

Benito Sierra
431 Rushmore Drive
Corona, CA 92879

Barry Konier
20541 Amapola
Orange, CA 92869

Basilio G Barrios
1967 Via Santiago
Corona, CA 92882

Baxter Miller
310 N. Joy Street
Corona, CA 92879

BBS Dev
905 East 3rd Street
Corona, CA 92879

BCE Dev Inc
2201 Dupont Dr #200
Irvine, CA 92714

Beatrice Joan Harvey Kritikos
4116 Baldwin Arbor
Nashville, TN 37215

Beatrice Ruiz Plata
130 N Merrill Street
Corona, CA 92882

Ebtsam A. Beshara & Awny L. Yacob
415 E 3rd Street
Corona, CA 92879

Betty Deanda
1067 Ridgewood Drive
Corona, CA 92881

Becerra Trust
108 North Victoria Avenue
Corona, CA 92879

Bedrosian Quarry LLC
4285 N. Golden State Blvd.
Fresno, CA 93722-6319

Behzad B Barouti
9150 Benson Ave
Montclair, CA 91763

Ben & Chris F Tu
404 Colfax Cir
Corona, CA 92879

Ben & Janelle Dzik
20031 Bedford Canyon Road
Corona, CA 92881

Benish Saleem
445 Mondale Street
Corona, CA 92879

Benito Guzman
203 South Sheridan Street
Corona, CA 92882

Blanca L Moran
3609 W Washington Ave
Santa Ana, CA 92703

Bluestone Assoc
P O Box 22845
Oklahoma City, OK 73123

Benjamin Balderas Figueroa
P.O. Box 6332
Norco, CA 92860

Benjamin Delico Arizona
321 Termino Ave
Corona, CA 92879

Benjamin Hill LLC
4745 Sterlingbridge Cir
Yorba Linda, CA 92887

Berelimon Holding
2950 Palisades Road
Corona, CA 92882

Bernard & Patricia D Swanick
805 San Jacinto Drive
Corona, CA 92879

Bernard D Spangler
1711 Delilah Street
Corona, CA 92879

Bernardo Garcia
812 Laguna Drive
Corona, CA 92879

Current Resident
3585 Normandy Cir
Oceanside, CA 92056

Braig Holdings
2535 Anselmo Drive
Corona, CA 92879

Betty J Johnson
28325 Oasis View Cir
Menifee, CA 92584

Betty Jean Pierce
2900 Dorchester Cir
Corona, CA 92879

Betty Schopen
390 Cabrillo Cir
Corona, CA 92879

Betzalel & Anat Louk
4116 Lester Ave
Corona, CA 92881

Bhupinder Singh & Swaran Kaur Saggu
7450 E Hummingbird Cir
Anaheim Hills, CA 92808

BKM Thomas Ranch
P.O. Box 11404
Newport Beach, CA 92658

Blanca E. Muguia
1111 Zircon Street
Corona, CA 92882

Brett Lockwood
2020 Main Street
Suite 1000
Irvine, CA 92614

Brian & Diana M Champion
342 Oakwood Ct
Corona, CA 92879

Current Resident
1500 North Priest Drive
Tempe, AZ 85281

BNY Western Trust
1500 N Priest Drive
Tempe, AZ 85281

Boand Holdings Corona
7444 Florence Ave #C
Downey, CA 90240

Bob Bradberry
421 N. Cota Street
Corona, CA 92880

Bob Turner
570 West Avenue 26, Suite
100Los Angeles, CA 90065

Brad & Marcia Wicks
11614 Sterling Ave
Riverside, CA 92503

Brad & Marcia Wicks
11750 Sterling Ave #D
Riverside, CA 92503

Brian Hochenedel
1952 Cog Hill Dr.
Corona, CA 92883

Brian J & Lori Ruoff
387 S Arthur Cir
Corona, CA 92879

Brain Laurent
711 Butternut Ln
Corona, CA 92882

Brandon & Tonia Abblitt
7201 Old Temescal Road
Corona, CA 92879

Brandon Mcclurg
710 Balsam Ln
Corona, CA 92882

BRCP MA Corona
125 University Ave #160
Palo Alto, CA 94301

BRE Properties
525 Market Street
San Francisco, CA 94105

Brenda Turnbull
P O Box 238
San Luis Rey, CA 92068

Brent A & Terril Lohse
7248 Piute Creek Drive
Corona, CA 92881

Bruce A & Karen J Mattis
18745 State St
Corona, CA 92881

Bruce Armstrong
1698 Bel Air Street
Corona, CA 92881

Brian Anders
20532 El Toro Road, Suite 203
Mission Viejo, CA 92692

Brian Bucsit
1325 Peridot Drive
Corona, CA 92882

Current Resident
4557 Feather River Road
Corona, CA 92880

Current Resident
2012 Railroad Street
Corona, CA 92880

Brian D & Nicole C Sammons
390 Via Lugano 202
Corona, CA 92879

Brian E & Marilee A Rydell
412 Bristol Way
Corona, CA 92879

Brian G & Merry Workman
1700 Laurel Canyon Way
Corona, CA 92881

C Carl Dreager
1553 Yorba Street
Corona, CA 92882

C P I Prop
13551 Magnolia Ave
Corona, CA 92879

Current Resident
9050 Pulsar Court Suite C
Corona, CA 92883

Brian R & Linda K Fobear
414 Wynola Ct
Corona, CA 92879

Brian S & Joy A Kissam
341 Camden Ct
Corona, CA 92879

Brian Tomier
232 E. Grand Blvd.
Corona, CA 92879

Brian Tressen
1195 Pomona Road
Corona, CA 92882

Bruce & Theresa S Aldrich
462 Newhall Drive
Corona, CA 92879

Bruce A & Brent J Bechtel
1128 Quarry Street
Corona, CA 92879

Cang Van & Ngam Thi Ha
14872 Dahlquist Road
Irvine, CA 92604

Carl & Rita Marie Gutierrez
7120 Bel Air Street
Corona, CA 92879

Bruce D & Geraldine S Long
19741 Long Branch Way
Corona, CA 92881

Bruce Inback & Doyun Choi
1302 E 6Th Street
Corona, CA 92879

W. Vazac
1080 Pomona Road
Corona, CA 92882

Bryan E & Natalie R Wilson
7261 Bel Air Street
Corona, CA 92881

Bryan Paulson
7152 Bel Air Street
Corona, CA 92879

Bt Homes
9345 Otto
Downey, CA 90240

Byron Ely
6065 Haven Avenue
Rancho Cucamonga, CA 91737

Carlos & Evelia Z Guerrero
223 S Sheridan Street
Corona, CA 92882

Carlos & Rose Mary Frausto
44 E Grand Blv
Corona, CA 92879

Current Resident
54160 Riviera
La Quinta, CA 92253

Calane Assoc Ltd Partnership
P O Box 9507
Boston, MA 02114

Calave Partners
1195 Pomona Road
Corona, CA 92881

California Dart Container
500 Hogsback Road
Mason, MI 48854

Camilo F & Ma Theresa A Co
430 Dylan Drive
Corona, CA 92879

Candace Cunningham
11702 Chadwick Road
Corona, CA 92880

Candido Ariza
2930 Via Toscana Street 107
Corona, CA 92879

Carmel & Beverly Y Sapiano
323 Camden Ct
Corona, CA 92879

Carmen Anthony & Gloria Jean Coppolino
7120 Saw Mill Road
Corona, CA 92881

Carl A Lentz
804 San Jacinto Drive
Corona, CA 92879

Carl Adkins
20150 Klyne Street
Corona, CA 92881

Carl C Wilson
2915 Via Milano 101
Corona, CA 92879

Carl D. & Carol A. Rowe
741 Poplar Ln
Corona, CA 92882

Carl T & Pamela J Cochrane
1436 Pleasantview Ave
Corona, CA 92882

Carlene Lee Lujan
4738 Satin Bell Drive
Corona, CA 92880

Carlos & Dina Alba
890 Mandevilla Way
Corona, CA 92879

Carolyn Crick
6735 Chadbourne Ave
Riverside, CA 92505

Cash Ltd
P O Box 2423
Santa Ana, CA 92707

Carlos Fregoso
1425 Pleasant View Ave
Corona, CA 92882

Current Resident
P.O. Box 1653
Romoland, CA 92585

Carlos Jimenez
147 N Merrill Street
Corona, CA 92882

Carlos Jose & Diane Chacon
765 N Main Street
Corona, CA 92880

Carlos Lujan Falconi
7365 Bel Air Street
Corona, CA 92881

Carlos M & Julie M Quezada
323 S Smith Ave
Corona, CA 92882

Carlos Salinas
2584 Monterey Peninsula Drive
Corona, CA 92882

Current Resident
1761 Bel Air Street
Corona, CA 92881

Chad Miller
4605 Feather River Rd
Corona, CA 92880

Carol J. Wilder
1018 Pond Apple Ct
Oviedo, FL 32765

Carol L. Hennebelle
P O Box 182
Corona, CA 92878

Carol Lynn Holt
11533 Queensborough Street
Riverside, CA 92503

Carol M Billman
612 Mesa Drive
Corona, CA 92879

Carol May
2901 Via Toscana 106
Corona, CA 92879

Carole S Tuman
7630 Liberty Ave
Corona, CA 92881

Carolyn & Vince Herfel
19841 Frances
Corona, CA 92881

Charles C & Carole A Wyatt
1691 Delilah Street
Corona, CA 92879

Charles C & Cynthia L Methven
4763 Valley Glen Drive
Corona, CA 92880

Castle & Cooke Crossings I Inc
P O Box 11165
Bakersfield, CA 93389

Catherine Quinn Ganahl
P O Box 31
Anaheim, CA 92815

Catherine S, CA bral
2940 Via Toscana Street 202
Corona, CA 92879

Cathy and Victor Tessier
281 S. Thomas, # 505
Pomona, CA 91766

Current Resident
3187 Red Hill Ave #200
Costa Mesa, CA 92626

Cecilia A Greer
3093 Arbor Glen Ct
Corona, CA 92879

Celia I Webb
401 Royal Cir
Corona, CA 92879

Cherie A Fitschen
1203 W 6Th Street
Corona, CA 92882

Cheryl L Erskine
351 Oakwood Ct
Corona, CA 92879

Chad R & Todd W Campbell
2490 Anselmo Drive
Corona, CA 92879

Chako LTD Partnership
2446 Bonnie Brae
Santa Ana, CA 92706

Chandrakant J & Hasmita C Parekh
P O Box 4860
Cerritos, CA 90703

Chantho So
409 N Arthur Cir
Corona, CA 92879

Charlene Frugia
2941 Via Milano Street 108
Corona, CA 92879

Charles & Lynn Olive
7151 Bel Air Street
Corona, CA 92879

Charles & Melinda Patterson
66415 Desert View Avenue, #3
Desert Hot Springs, CA 92240

Chris Ivany
1321 Cresta Road
Corona, CA 92879

Chris J & Patricia L Smith
535 Gise Cir
Corona, CA 92879

Charles E & Yvonne Lee Maticke
435 Wynola Ct
Corona, CA 92879

Charles L & Jekita Smith
383 Glacier Cir
Corona, CA 92879

Charles L & Margaret A Brinkerhoff
15925 La Ronda Cir
Hacienda Heights, CA 91745

Charles M & Ila H Piester
1675 Commerce Street #A
Corona, CA 92880

Current Resident
3090 Bristol Sst #300
Costa Mesa, CA 92626

Charles W & Linda D Lotshaw
424 Pike Drive
Corona, CA 92879

Charlie & Rosina Webb
2000 Frontage Road
Corona, CA 92882

Chuck Hirboul
1148 E. Grand Boulevard
Corona, CA 92879

Chuck Tzu Chiang & Olivia Mei Ling Wu
3460 Winchester Way
Rowland Heights, CA 91748

Cheryl Ramirez
101 N. Vicentia Ave
Corona, CA 92882

Chevron USA Inc. (No. 99010)
P.O. Box 1392
Bakersfield, CA 93302

Chi Yu King
2121 Mountain View Drive
Corona, CA 92882

Chong Ming & Yu Tsu Lee
1245 Webb Cir
Corona, CA 92879

Chris & Kristin Randall
305 Atwood Drive
Corona, CA 92879

Chris & Rosa Demopoulos
441 S Old Ranch Road
Anaheim, CA 92806

Chris Higa
391 Berkley Cir
Corona, CA 92879

City of Corona
815 W Sixth Street
Corona, CA 92882

City of Corona
P.O. Box 940
Corona, CA 92878

Chris M & Joy L Bell
2315 N Santa Isabel Ct
Orange, CA 92867

Monique Lee
Springhill Suites
2025 Compton Ave
Corona, CA 92881

Christin Iger
2102 Business Center Drive, # 130
Irvine CA 92612

Christine A & Jose Munoz
228 Vicentia Ave
Corona, CA 92882

Christine M Straub
350 Capri 104
Corona, CA 92879

Christopher Ignacio
2820 Crestview Drive
Norco, CA 92860

Christopher J & Jaclyn Ann Fielder
339 Cypress Ct
Corona, CA 92879

Clarence M & Sherri L Christiansen
19872 Katy Way
Corona, CA 92881

Clarence W & Betty A Altenburger
19992 Washington Street
Corona, CA 92881

Cindy A Stewart
2901 Via Toscana 105
Corona, CA 92879

Cipriano R. Hernandez
1039 Bluecrest Street
Corona, CA 92882

Circle Seal Controls Inc.
2301 Wardlow Cir
Corona, CA 92880

Citibank
400 Countrywide Way
Simi Valley, CA 93065

City of Corona Redevelopment Agency
400 S Vicentia Ave
Corona, CA 92882

City of Corona Redevelopment Agency
815 W 6Th Street
Corona, CA 92882

City of Corona
400 S Vicentia Ave #310
Corona, CA 92882

Colby & Corrie Cataldi
1030 Via Blairo
Corona, CA 92879

Colleen Tripp
2020 s. Tale St.
Santa Ana, CA 92704

City of Norco Redevelopment Agency
2870 Clark Ave
Norco, CA 92860

City of Norco Redevelopment Agency
P O Box 428
Norco, CA 92860

Tom Boyd
City of Riverside
3900 Main Street
Riverside, CA 92522

Current Resident
P O Box 487
Yorba Linda, CA 92885-0487

CKT Enterprises
2460 Anselmo Drive
Corona, CA 92879

Clair West Prop
P O Box 222038
Carmel, CA 93922

Claire Schollerbeck
PO Box 9835
Brea, CA 92822

Corona 3rd Street
63 W Grand Ave
Corona, CA 92882

Corona 3rd Street
63 West Grand Blvd.
Corona, CA 92879

Claude H & Yolanda S Davis
4648 Valley Glen Drive
Corona, CA 92880

Claude Newsome
7233 Bel Air Street
Corona, CA 92881-3404

Cleon E Benson
1428 E 6Th Street
Corona, CA 92879

Clifford R & Bridget K Moore
2180 Georgetown Drive
Corona, CA 92881

Clinton & Melba J. Reese
701 Balsam Ln
Corona, CA 92882

Club Drive Partner
10005 Mission Mill Road
Whittier, CA 90601

Co Residential Fundin
4828 Loop Central Drive
Houston, TX 77081

Corona Hills Country Club Corp
1295 Cresta Road
Corona, CA 92579

Corona Inv Prop
29379 Rancho Calif Road #201
Temecula, CA 92591

Collier Brown Loretta Trust
7520 Boyd Ave
Corona, CA 92881

Concepcion G. Vargas
24 West Grand Blvd.
Corona, CA 92882-2006

Connie Gomes
2925 Via Toscana No #201
Corona, CA 92879

Connie P Ortiz
219 S Belle Ave
Corona, CA 92882

Consuelo Hernandez
2924 Dorchester Cir
Corona, CA 92879

Consuelo Nunez
1923 Via Santiago
Corona, CA 92882

Current Resident
34092 Violet Lantern #200
Dana Point, CA 92629

Corona Summit
400 Emerald Bay #100
Laguna Beach, CA 92651

Corona Towne Center
1040 S Vintage Ave #A
Ontario, CA 91761

Corona Associates
736 S Ynez Ave
Monterey Park, CA 91754

Corona BB Co.
P.O. Box 1573
Pomona, CA 91769

Regina Veerachaglukana
Hotel Paseo
355 Bristol Street
Costa Mesa, CA 92626

Current Resident
2841 Executive Dr #220
Clearwater, FL 33762

Pete Patel
Corona Dynasty Suites Inc
1805 W. 6th St.
Corona, CA 92882-2957

Corona El 74
9952 Santa Monica Blvd #200
Beverly Hills, CA 90212

Corona Gardens Partners
234 E 17th St Ste 103
Costa Mesa, CA 92627

County of Riverside
3133 Mission Inn Avenue
Riverside, CA 92507

Cozy & Erica Nicholson
417 N Arthur Cir
Corona, CA 92879

Corona and Les Maude
18362 Hillcrest Avenue
Villa Park, CA 92861

Corona Lincoln Partners
3151 Airway Ave #H3
Costa Mesa, CA 92626

Property Owner
2518 N Santiago Blv
Orange, CA 92867

Corona Police Activities League Inc.
P O Box 2614
Corona, CA 92878

Corona Pomona
2433 Pomona Rd
Corona, CA 92880

Current Resident
240 N Joy
Corona, CA 92880

Corona SFIP Prop
23 Corporate Plz #247
Newport Beach, CA 92660

Cuong N Thai
401 Hamlin Cir
Corona, CA 92879

Curlan
132 W 8th St.
National City, CA 91950

Corona Towne Center
1040 S. Vintage Avenue, Suite #A
Ontario, CA 91761

Corona Towne Center
4416 W 154Th Street
Lawndale, CA 90260

Corona Unified School District
330 South Buena Vista Avenue
Corona, CA 92882

Corona Vista Plaza Inv.
2020 E Orangethorpe
Fullerton, CA 92831

Corona Vista Plaza Inv.
3336 E 32Nd Street #217
Tulsa, OK 74135

Country Suites West Ltd. Partnership
355 Bristol Street
Costa Mesa, CA 92626

Countrywide Home Loan Servicing
400 Countrywide Way
Simi Valley, CA 93065

Dale & Jo Anne Brinson
1467 Ripchak Road
Corona, CA 92879

Dale A Willingham
2469 Pomona Rincon Road
Corona, CA 92880

CPI Prop
1516 E Upper Drive
Corona, CA 92881

CPI Prop.
13551 Magnolia Ave.
Corona, CA 92879

Current Resident
1083 N Encanto Street
Orange, CA 92869

Current Resident
6 Brighton Road
Clifton, NJ 07015

Criag Scott
Automobile Club of Southern California
3333 Fairview Road A131
Costa Mesa, CA 92626

Crisino &, Carmen Hernandez
2583 Monterey Peninsula Drive
Corona, CA 92882

Crown INV
2601 West Dunlap Avenue, Suite #10
Phoenix, AZ 85021

Daniel David & Amada Kulick
7231 Piute Creek Drive
Corona, CA 92881

Daniel Dennis Barton
206 South Joy Street
Corona, CA 92879

Curtis D Johns
421 Roosevelt Street
Corona, CA 92879

Current Resident
750 S Lincoln Ave #104
Corona, CA 92882

Cynthia D & Jimmie D Cobksey
9231 Lantana Drive
Corona, CA 92883

D & R Assoc
20611 Vercelli Way
Northridge, CA 91326

D.A. Cushman Realty
10106 W San Juan #100
Littleton, CO 80127

Daisy & Nereyda Dominguez
1366 Cresta Road
Corona, CA 92879

Current Resident
24240 Calle Artino
Murrieta, CA 92562

Danny C & Laurie Griffiths
3638 E Woodbine Road
Orange, CA 92867

Danny H & Mary C Loya
7202 Sarsaprilla Drive
Corona, CA 92881

Dale C & Kathleen M Berner
255 Crouse Drive
Corona, CA 92879

Dale K & Pamela Dandie
11517 Queensborough Street
Riverside, CA 92503

Damasio & Margarita Guzman
11541 Queensborough Street
Riverside, CA 92503

Damian & Arturo Avila
2297 Ridgeview Ter
Corona, CA 92882

Damon Allen
20075 Newton Street
Corona, CA 92881

Dana Allen
2951 Via Milano 106
Corona, CA 92879

Daniel A & Ana Wood
7401 Liberty Ave
Corona, CA 92881

Dave F & Sally L Erwin
7330 Liberty Ave
Corona, CA 92881

Current Resident
4777 Valley Glen Drive
Corona, CA 92880

Daniel J Martinez
3584 Boston Cir
Riverside, CA 92503

Daniel O. Kim
1010 S Summer Breeze Ln
Anaheim, CA 92808

Daniel Rittatore
400 S. Vicentia Ave.
Corona, CA 92882

Daniel S & M Patricia Buckley
7260 Whiskey Creek
Corona, CA 92881

Daniel Vargas & Lucy Lopez Cortez
1026 Elmhurst
Corona, CA 92880

Daniel Vargas Cortez
1026 Elmhurst Drive
Corona, CA 92880

Danielle Nadeau
380 Via Capri 104
Corona, CA 92879

Current Resident
2951 Via Milano No #201
Corona, CA 92879

David A Wurangian
345 Oakwood Ct
Corona, CA 92879

Current Resident
350 Via Lugano 201
Corona, CA 92879

Darin J Kruswicki
2930 Via Milano Road 202
Corona, CA 92879

Darrell Lynn & Esther M Clardy
3075 Arbor Glen Ct
Corona, CA 92879

Darrell M & Louann Mcphie
434 Rushmore Drive
Corona, CA 92879

Darrin S Altman
2676 Kennedy Drive
Corona, CA 92879

Daryl &, CA thy A Verdoorn
320 N Reed Cir
Corona, CA 92879

Dave Cole
1531 Pomona Road
Corona, CA 92880

David L & Debray K Fleis$
7201 Whiskey Creek
Corona, CA 92881

David M & Maria Elena Verdusco
153 N Cota Street
Corona, CA 92882

David & April Murphy
2228 Ridgeview Ter
Corona, CA 92882

David & Debora Werksman
7241 Old Temescal Road
Corona, CA 92879

David & Julie Fulkman
7205 El Cerrito Road
Corona, CA 92881

David & Melinda Sand
20043 Case Street
Corona, CA 92881

Ramon & Alicia Medina
2020 Ridgeview Ter
Corona, CA 92882

David A & Debra Lynn Gerger
20151 Corona Street
Corona, CA 92881

David A & Vickie M Simon
2741 Griffin Way
Corona, CA 92879

David W Jameson
518 Greengate Street
Corona, CA 92879

David Woo
200 E. Sandpoint Ave
Santa Ana, CA 92707

David C & Lauriann Ferguson
348 Oakwood Ct
Corona, CA 92879

David C. Coleman
2074 Ridgeview Ter
Corona, CA 92882

David G Dixon
P O Box 835
Murrieta, CA 92564

David Golkar
8891 Research Drive
Irvine, CA 92618

David H & Virginia Soto
740 St Andrews Ct
Corona, CA 92882

David J & Tina R Squires
7601 Boyd Ave
Corona, CA 92881

David J Squires
7601 Boyd Ave
Corona, CA 92881

Debbie Dreyer
11121 Spaulding Drive
Riverside, CA 92505

Debbie Sims
2930 Via Toscana #102
Corona, CA 92879

David M. Becerra
108 North Victoria Avenue
Corona, CA 92879

David Pathe
48 The Point
Coronado, CA 92118

David R & Anne J Arlington
18570 Streetate Street
Corona, CA 92879

David R & Kathleen N Powles
425 Shadow Oaks Cir
Corona, CA 92879

David R & Ruth A Clark
1623 Fairway Drive
Corona, CA 92883

David T & Jaime L Rocks
11572 Norgate Cir
Corona, CA 92880

David W & Velma M Spriggs
1861 Bel Air Street
Corona, CA 92879

Delilah Properties Inc.
1985 Sampson Ave
Corona, CA 92879

Current Resident
1061 N Kraemer Pl
Anaheim, CA 92806

Daviod G. Dixon
P.O. Box 835
Murrieta, CA 92564

Davis Hung Tuan &
Valentina Thanh Tran Bui
9421 Larkspur Drive
Westminster, CA 92683

Current Resident
380 Via Capri No #102
Corona, CA 92879

Dayton Hudson Corp
P O Box 9456
Minneapolis, MN 55440

De Ross Towers Rivers
2595 W Post Road
Las Vegas, NV 89119

Deanna G Garrett
592 Peachwood Pl
Riverside, CA 92506

Deanne S Brady
823 Ringdahl Cir
Corona, CA 92879

Dennis Frank & Pamela Ann Horvath
2983 Shain Cir
Corona, CA 92881

Dennis Huddleston
7250 Sarsaprilla Drive
Corona, CA 92881

Deborah D Johnston
11627 Queensborough Street
Riverside, CA 92503

Deborah K Logan
4551 Feather River Road
Corona, CA 92880

Deborah M Davis
16322 Skyridge Drive
Riverside, CA 92503

Debra A Durrough
7261 Whiskey Creek
Corona, CA 92881

Debra C Dunham
2910 Via Toscana 201
Corona, CA 92879

Debra Cluff
2660 Kennedy Drive
Corona, CA 92879

Delfino C & Emma M, CA cho
20070 Newton Street
Corona, CA 92881

Deutsche Bank Natl Trust Co
3476 Stateview Blv
Ft Mill, SC 29715

Deutsche Bank Natl Trust Co
150 Allegheny Center
Pittsburgh, PA 15212

Delphine P Tso
127 Susan Way
Monterey Park, CA 91754

Current Resident
414 Dylan Drive
Corona, CA 92879

Denis I & Olga L Morales
1686 Laurel Canyon Cir
Corona, CA 92881

Denise Adriana Torres
2900 Via Milano 102
Corona, CA 92879

Denise Torrescano
1405 Pleasant View Ave
Corona, CA 92882

Denise Y Turgeon
2941 Via Toscana 102
Corona, CA 92879

Dennis E Ghibaudo
12691 W Rancho Estates Pl
Rancho Cucamonga, CA 91739

Dick & Lisa Vanryn
2575 Vista Ct
Norco, CA 92860

Dieceintia Larue
2551 Griffin Way
Corona, CA 92879

Dennis P Vlach
1570 Consumer Cir
Corona, CA 92880

Current Resident
317 E Grand Blv
Corona, CA 92879

Dennis S & Margene Taylor
20131 Newton Street
Corona, CA 92881

Current Resident
4063 Santa Lucia
Orange, CA 92865

Derek & Selia Debano
1881 Via Santiago
Corona, CA 92882

Derek N & Lavern Wilson
2935 Wimbledon Drive
Corona, CA 92879

Derek Paul
1501 Quail Street
Suite 150
Newport Beach, CA 92660

Don R & Betty L Flora
130 Hill Ridge
Laguna Niguel, CA 92677

Don Tos Inv Partners
P O Box 711
Anaheim, CA 92815

Deutsche Bank Natl Trust Co
155 N Lake Ave
Pasadena, CA 91101

Devon Doan
510 Sageleaf Drive
Corona, CA 92879

Diana J Moter
765 N Main Street
Corona, CA 92880

Diana Martines
1325 Spruce Street
Riverside, CA 92507

Diana Rodriguez
415 Newhall Drive
Corona, CA 92879

Diane Goodrich
Inland Empire Economic Partnership
1201 Research Park Drive, #100
Riverside, CA 92507

Diane Marie Bronski
7219 Piute Creek Drive
Corona, CA 92881

Current Resident
2915 Via Milano 105
Corona, CA 92879

Donna K & John R Ash
P.O. Box 495
Fawnskin, CA 92333

Diego A & Deborah L Lopez
4618 Pennyroyal Drive
Corona, CA 92880

Diversifed Products International Inc
1655 W 6Th Street #111
Corona, CA 92882

DKM & RKM INV
2016 Rosecrans Ave
Gardena, CA 90249

Dock Pros Inc
39195 Del Sol Ct
Murrieta, CA 92562

Dolores Castillo
107 N Victoria Ave
Corona, CA 92879

Dominico E & Rosario M Edpao
391 Glacier Cir
Corona, CA 92879

Don Fuller
725 Huntley Drive
Corona, CA 92882

Douradas Inv
2857 Paradise Road #2703
Las Vegas, NV 89109

Drew Hampton & Luba Annette Lowery
11561 Merryhill Drive
Corona, CA 92880

Donald C & Donna L, Caffrey
2950 Rochester Cir
Corona, CA 92879

Current Resident
835 Mandevilla Way
Corona, CA 92879

DSEP Management
10301 Longden Street
Cypress, CA 90630

Donald C & Linda R Coniglio
130 N Sherman Ave A&B
Corona, CA 92882

Donnie Bernice Diller
2550 W Wardlow Road
Corona, CA 92880

Dudley A Sewell
2109 Old Bridge Road
Riverside, CA 92506

Donald E & Shirley L Goodell
16571 Channel Ln
Huntington Beach, CA 92649

Roger Diller
Donnie Bernice Diller
2550 W. Wordlow Rd.
Corona, CA 92880

Dvorak & Payne Ltd
1570 E Edinger No #12
Santa Ana, CA 92705

Donald Earl Pletting
925 Mandevilla Way
Corona, CA 92879

Dorn William & Stephanie Ann Norbury
11577 Norgate Cir
Corona, CA 92880

Dwight M & Brenda D Danielson
20174 Newton Street
Corona, CA 92881

Donald G & Kathleen M Cyr
7290 Gingersnap Drive
Corona, CA 92881

Douglas C & Christine A Jensen
416 Dylan Drive
Corona, CA 92879

E & M Inv
3100 Palisades Road
Corona, CA 92882

Donald L Wilkie
380 Via Capri No #202
Corona, CA 92879

Douglas H & David Christian Nilsen
4 Pegasus Drive
Coto De Caza, CA 92679

E Floyd & Daneal M Bailey
7220 Whiskey Creek
Corona, CA 92881

Donna & Thomas Cooper
19206 Streetate Street
Corona, CA 92881

Current Resident
2 Elm Creek Dr #518
Elmhurst, IL 50126

E Ryan Barbee
404 Yosemite Cir
Corona, CA 92879

Earl & Sherry Hanley
495 Rimpau Ave
Corona, CA 92879

Edtih Duffey
2901 Via Toscana 201
Corona, CA 92879

Edward A Blowers
2650 Kennedy Drive
Corona, CA 92879

Eberardo M & Estela Zuniga
P O Box 2082
Corona, CA 92878

Eduardo & Pauline Lozano
2032 Ridgeview Ter
Corona, CA 92882

Edward Barton
204 South Joy Street
Corona, CA 92879

Ed Sloman
KWC Engineers
1880 Compton
Corona, CA 92880

Eddie Rojas
1239 D Street
Corona, CA 92882

Edgar E & Shirley M Moore
8675 E 7Th Street
Downey, CA 90241

Edgar F Gutierrez
P O Box 9802
Moreno Valley, CA 92552

Edilbert H & Luzviminda A Cruz
390 Dylan Cir
Corona, CA 92879

Edith A Arellano
2774 W Madison Cir
Anaheim, CA 92801

Edna Thomas
350 Via Capri No #103
Corona, CA 92879

Efren Puente
2190 Wembley Lane
Corona, CA 92881

Eileen Zavala Mcbride
362 Camden Ct
Corona, CA 92879

Eduardo C & Consorcia S Co
420 N Arthur Cir
Corona, CA 92879

Eduardo Resendiz Morales
1067 Quarry Street
Corona, CA 92879

Eduardo T & Sylvia M Casillas
219 S Victoria Ave
Corona, CA 92879

Edward & Friederike J Brown
5080 Via Ricardo
Yorba Linda, CA 92886

Edward & Paula Arciniega
906 E 3rd Street
Corona, CA 92879

Edward A & Lucille E Ahumada
302 S Belle Ave
Corona, CA 92882

Edward A & Marilyn J Money
1180 California Ave
Corona, CA 92881

Elisa Garcia Murillo
137 N Cota Street
Corona, CA 92882

Eliseo P & Ma Delrefujio Cabrera
1429 Pleasant View Ave
Corona, CA 92882

Edward Charles & Wayne
Christopher Smith
P O Box 2594
Anaheim, CA 92814

Edward G & Connie Murillo
2564 Monterey Peninsula Drive
Corona, CA 92882

Edward Louis & Rayann Webster
1167 N Navarro Pl
Orange, CA 92869

Edwin H & M Arloene Watts
19135 Grovewood Drive
Corona, CA 92881

Efrain & Candelario D Pena
1931 Via Santiago
Corona, CA 92882

Efrain & Marisela Meraz
714 Via Antonio
Corona, CA 92882

Efren Escoto
150 N Cota Street
Corona, CA 92882

Emmanuel & Arlene Kurkjian
1545 Yorba Street
Corona, CA 92882

Enrique Gonzalez
1673 Sheridan Drive
Corona, CA 92882

Einer G & Rosalinda Lindholm
P O Box 1898
Corona, CA 92878

El Corona
9952 Santa Monica Blvd., Suite #200
Beverly Hills, CA 90212

Eleanor Dean Noerdlinger
1880 Hunters Drive
Steamboat Springs, CO 80487

Eleanor H Crabtree
450 B Street #1700
San Diego, CA 92101

Eleanor M & Richard H Obrien
7310 Gingersnap Drive
Corona, CA 92881

Eleanore & R J Fischer
393 Meyer Cir
Corona, CA 92879

Elgitha B Baldonado
417 Bristol Way
Corona, CA 92879

Eric Shanebeck
2941 Via Toscana No #10
Corona, CA 92879

Erick J & Shelly A Bickett
4069 Live Oak Ln
Yorba Linda, CA 92886

Elizabeth & Samuel Mannarino
211 S Victoria Ave
Corona, CA 92879

Elizabeth Hayden
1276 Kelley Ave
Corona, CA 92882

Elizabeth L. Edmunds
2044 Ridgeview Ter
Corona, CA 92882

Elmer R & Gutberta Fish
421 Pike Drive
Corona, CA 92879

Elvia & Ana Chavez
1355 Cresta Road
Corona, CA 92879

Emelia Baltazar Garcia
802 E 3rd Street
Corona, CA 92879

Emma R & Joseph H Lopez
125 N Merrill Street
Corona, CA 92882

Esperanza V & Roberto V Medina
P O Box 2384
Corona, CA 92878

Estela Llanos
305 S Victoria Ave
Corona, CA 92879

Enrique Gonzalez
1831 Bel Air Street
Corona, CA 92879

Enterprise 135
1601 Dove Street #190
Newport Beach, CA 92660

Enterprise Partner
5400 Old Millington Road
Millington, TN 38053

Envision
5005 S 9Th E
Idaho Falls, ID 83404

Epifanio & Mary Vargas
212 S Sheridan Street
Corona, CA 92882

EPUS
264 Mariah Cir
Corona, CA 92879

Eric D & Kitti R Gozlan
45967 Corte Tobarra
Temecula, CA 92592

Eusebio & Deidre L Mendoza
1006 E 3rd Street
Corona, CA 92879

Eva B Johnson
1105 Quarry Street
Corona, CA 92879

Erik Campbell
1441 Pomona Road, # 21
Corona, CA 92882

Current Resident
1046 E 3rd Street
Corona, CA 92879

Eva Elsa Aliaga Bowen
11509 Queensborough Street
Riverside, CA 92503

Erika E Davalos
518 Sageleaf Drive
Corona, CA 92879

Esther Shin
20532 El Toro Road, Suite 203
Mission Viejo, CA 92692

Evelin Monge
534 Laguna Cir
Corona, CA 92879

Alberto R. Perez
216 S Joy Street
Corona, CA 92879

Eugene & Paula A Montanez
831 Johnny Cash Drive
Corona, CA 92881

Everardo & Herminia Godoy
26851 Bridalewood Drive
Laguna Hills, CA 92653

Ernest Walker
375 Cabrillo Cir
Corona, CA 92879

Eugene E Eustaquio
3 Dogwood South
Irvine, CA 92612

Everett Emerson & Linnie Aileen Bieger
1152 Letty Ln
Tustin, CA 92780

Ernestina Varela
307 S Belle Ave
Corona, CA 92882

Eugene Mckinley Toliver
386 Yellowstone Cir
Corona, CA 92879

Ewing Irrigation Products Inc.
3441 E Harbour Drive
Phoenix, AZ 85034

Ernesto & Lourdes Chumacero
20206 Klyne Street
Corona, CA 92881

Current Resident
112 N Buena Vista
Corona, CA 92882

Exxonmobil Oil Corp
PO BOX 53
Houston, TX 77001

Ernesto Gyurec
18540 State Street
Corona, CA 92879

Eulalio Serrato
1832 Bel Air Street
Corona, CA 92881

Current Resident
1511 Rimpau Avenue
Corona, CA 92881

F M K
P O Box 78189
Los Angeles, CA 90016

Fernando Zempoalteca
2258 Ridgeview Ter
Corona, CA 92882

Forrest West
27021 Pueblo Nuevo Drive
Mission Viejo, CA 92691

Fanny Loredo
1221 D Street
Corona, CA 92882

Ferre G & Adelita T Cabagnot
982 S Cascade Ln
Anaheim Hills, CA 92808

Fourbro Realty
137 N. Joy St.
Corona, CA 92879-1321

Far West Foothill
32524 Seacliff Drive
Rch Palos Verdes, CA 90275

Fausto A & Elsa Reyes
2230 S Gardenia Ave
Ontario, CA 91762

Federico & Guillermina Aguayo
1939 Via Santiago
Corona, CA 92882

Felipe De & Irene Ramirez
431 Palomar Drive
Corona, CA 92879

Felipe G & Cindi J Tamez
2218 Streetate Street
Corona, CA 92881

Felipe M Gutierrez
700 Via Josefa
Corona, CA 92882

Ferdinand C Olson
2248 Ridgeview Ter
Corona, CA 92882

Francisco & Terri Sanchez
917 Beverly Road
Corona, CA 92879

Current Resident
1427 Ripchak Road
Corona, CA 92879

Fidel Nava
760 Balsam Ln
Corona, CA 92882

Maria H. Avalos
215 S Victoria Ave
Corona, CA 92879

Filemon Huizar
2915 Wimbledon Drive
Corona, CA 92879

Filomena Kora
3850 Vine Street
Riverside, CA 92507

First Church of The Nazarene of Corona
524 E Chapman Ave
Orange, CA 92666

Five Sai Desais
18442 Villa Drive
Villa Park, CA 92861

Florence M Beridon
3063 Arbor Glen Ct
Corona, CA 92879

Frank E & Beverly Ann Diskin
2998 War Eagle Drive
Lake Havasu City, AZ 86406

Frank E & Sabrina S Spann
2288 Ridgeview Ter
Corona, CA 92882

France E Junkins
542 Mesa Drive
Corona, CA 92879

Frances Perez
215 S Sheridan Street
Corona, CA 92882

Current Resident
346 Danbury Ct
Corona, CA 92879

Franchise Realty Interstate Corp
PO BOX 182571
Columbus , OH 43218

Francisco & Enriqueta Carmona
24761 Daphne West
Mission Viejo, CA 92691

Francisco & Maria Urtez
845 Bollero Pl
Corona, CA 92882

Francisco & Rosina Torres
228 S Howard Street
Corona, CA 92879

Fred Bush & Assoc
2151 Sampson Ave
Corona, CA 92879

Fred C & L Earlene Carter
1470 Woodway Ct
Corona, CA 92879

Francisco Sanchez
917 Beverly Road
Corona, CA 92879

Francisco Varela
312 S Belle Ave
Corona, CA 92882

Frank & Emma Gerny
7461 Liberty Street
Corona, CA 92881

Francisco Martinez
700 Poplar Ln
Corona, CA 92882

Frank & Martha Avila
14334 Sunny Brook Lane
Corona, CA 92880

Frank & Rachel Contreras
2025 Belle Ave
Corona, CA 92882

Frank & Victoria M Hollick
1445 Ripchak Road
Corona, CA 92879

Current Resident
2510 Streetate Street
Corona, CA 92881

G Co Powerstride Buildi
122 Enterprise Ct
Corona, CA 92882

Frank L & Teresa D Roberson
1435 Valley View
Norco, CA 92860

Frank M. Contreras
202 South Belle Avenue
Corona, CA 92882

Frank R & Doni Alexander Smith
415 Dylan Drive
Corona, CA 92879

Frank R & Evelyn H Melendrez
925 Corona Ave
Corona, CA 92879

Frank V. Torres
130 North Vincentia Avenue
Corona, CA 92882

Fred & Jennifer Madriaga
1565 Yorba Street
Corona, CA 92882

Fred & Rachel V Montejano
311 S Belle Ave
Corona, CA 92882

Garry R & Mary K Gaekel
713 Via Josefa
Corona, CA 92882

Current Resident
387 Cabrillo Cir
Corona, CA 92879

Fred P & Diana Haney
7320 Bel Air Drive
Corona, CA 92881

Freddie L & Yolanda Sherman
416 Brittany Drive
Corona, CA 92879

Current Resident
721 Broadmoor Ct
Corona, CA 92882

Frederick J Simon
20025 Newton Street
Corona, CA 92881

Fredrick A & Susan L Saldana
419 Wynola Ct
Corona, CA 92879

Freeway Business Center
P O Box 6467
Santa Ana, CA 92706

Fufina Contreras
102 School Street
Corona, CA 92882

Gary S & Pamela C Elster
145 N Kihei Road #527
Kihei, HI 96753

Gary S. & Pamela C. Elster
12 Malihini Pl
Wailuku, HI 96739

G H D Prop Inv
1067 S Sundance Drive
Anaheim, CA 92808

Gabriel & Veronica Ortega
2212 Streetate Street
Corona, CA 92881

Galdino & Alicia Nava
20080 Case Street
Corona, CA 92881

Galdino Nava
441 Winslow Drive
Corona, CA 92879

Ganahl Lumber Co
P O Box 31
Anaheim, CA 92815

Garo Jourekian
1535 W 6Th Street
Corona, CA 92882

Garrett Kramer
2260 Grikkin Way
Corona, CA 92882

George & Sharon Oettor
105 N. Merrill
Corona, CA 92882

George A & Nancy I Pendleton
19521 Blacksmith Path
Corona, CA 92881

Gary & Ramona Richardson
20114 Newton Street
Corona, CA 92881

Gary & Reta A Kraus
1750 Laurel Canyon Way
Corona, CA 92881

Gary & Sophia Smead
806 San Jacinto Drive
Corona, CA 92879

Gary A Schneider
23 Spicewood
Aliso Viejo, CA 92656

Gary F & Mary M Gehley
7650 Liberty Ave
Corona, CA 92881

Gary Gosling
324 Oakwood Court
Corona, CA 92879

Gary L & Satuala Duenas
1947 Via Santiago
Corona, CA 92882

George R & Lupe M Montejano
220 S Belle Ave
Corona, CA 92882

Georgette E Sherman
425 Newhall Drive
Corona, CA 92879

Gary T & Elizabeth D Ray
20057 Case Street
Corona, CA 92881

Gary W & Mary Rauschenburg
4724 Satin Bell Drive
Corona, CA 92880

Gaudensio Jimenez
9416 Palm Ln
Fontana, CA 92335

Gene H Langenberg
7207 Piute Creek Drive
Corona, CA 92881

Genevieve & Yacoub Saba
25302 Wilkes Pl
Laguna Hills, CA 92653

George & Christiane Brightenburg
20087 Layton Street
Corona, CA 92881

George & Claudette Naujokas
83 Rancho Del Sol
Camino, CA 95709

Geraldine Asperin
3027 Arbor Glen Ct
Corona, CA 92879

Geraldine E Torres
1224 D Street
Corona, CA 92882

George B & Kathleen G Beckman
1695 California Ave
Corona, CA 92881

George F & Joan E Hoanzl
4135 Indus Way
Riverside, CA 92503

George J & Gayle R Apodaca
410 Brookhaven Cir
Corona, CA 92879

George K & Patricia A Ochs
1401 S 6Th Ave
Arcadia, CA 91006

George L Warren
935 Corona Ave
Corona, CA 92879

George Moreno Perez
102 North Buena Vista Avenue
Corona, CA 92882

George N & Masako S Asawa
2801 Altivo Pl
Fullerton, CA 92835

Gilberto Cruz Morales
1893 Via Santiago
Corona, CA 92882

Gildo M & Corazon V Molina
2971 Wimbledon Drive
Corona, CA 92879

Gerald & Patricia Valcourt
391 Tompkins Cir
Corona, CA 92879

Current Resident
101 S Eucalyptus Drive
Anaheim, CA 92808

Gerald A. & Jack V. Hale
646 Paseo Grande
Corona, CA 92882

Gerald J. Norman
2050 Frontage Rd.
Corona, CA 92882

Gerald R Douglass
7251 Magnolia Ave
Riverside, CA 92504

Current Resident
19321 Jasper Hill Road
Trabuco Canyon, CA 92679

Gerald R. Feather
19321 Jasper Hill Road
Trabuco Canyon, CA 92679

Glenn J & Marilyn K Salsbury
P O Box 1898
Corona, CA 92878

Glenn Parker
Wildlife Corridor Conservation Authority
P.O. Box 1718
Brea, CA 92822-1718

Geraldine M Thomas
740 Butternut Ln
Corona, CA 92882

Gerardo Heredia
875 Mandevilla Way
Corona, CA 92879

Ghassan Saba
C Saba Enterprises I
363 American Circle
Corona, CA 92882

Gil Darmofal
1872 W. Pomona Road
Corona, CA 92880

Current Resident
4508 Feather River Road
Corona, CA 92880

Gilbert J & Mary A Bastien
431 Teton Pl
Corona, CA 92879

Gilbert V Ochoa
148 N Merrill Street
Corona, CA 92882

Grand Inv Inc
38 Allyssum
Rancho Santa Margarita, CA 92688

Granite Holdings
1493 E Bentley Dr #102
Corona, CA 92879

Gildred Building C
550 W C Street #1820
San Diego, CA 92101

Ginette Truitt
338 Camden Ct
Corona, CA 92879

Current Resident
390 Via Lugano 104
Corona, CA 92879

GKN Prop
5706 E Bryce Ave
Orange, CA 92867

Glen J & Emma Jean Claflin
2593 Monterey Peninsula Drive
Corona, CA 92882

Glenda Lee Long
1134 Garland Way
Corona, CA 92879

Glenn Dion
4234 Floyd Drive
Corona, CA 92883

Green Rivers Homeowners Assoc.
1123 S Parkview Dr #360
Covina, CA 91724

Greg Eisenman
1900 Frontage Road
Corona, CA 92882

Gloria J Draffen
3856 Simmons Ave
Riverside, CA 92505

Gloria Mejia
860 Corona Ave
Corona, CA 92879

Gonzalo & Graciela Bravo
308 S Victoria Ave
Corona, CA 92879

Gordon F & Lillian R Cusick
2671 Griffin Way
Corona, CA 92879

Gordon Holdings
1700 W 6th St
Corona, CA 92882

GP Enterprises
1270 Webb Cir
Corona, CA 92879

Graciela Nava
7221 Whiskey Creek
Corona, CA 92881

Gretel K & Tim Noble
3294 Date Street
Brea, CA 92621

Gricelda Marquez
404 Yellowstone Cir
Corona, CA 92879

Grant & Kathleen Parker
10565 58Th Street
Mira Loma, CA 91752

Gray Fox Prop
1880 Compton Ave #100
Corona, CA 92881

Green Barn Inc
P O Box 5915
Orange, CA 92863

Green Plan
1691 California Ave
Corona, CA 92881

Green River Homeowners Assn
P O Box 1510
Upland, CA 91785

Green River Prop
200 Witmer Rd
Horsham, PA 19044-2213

Green River Properties
200 Witmer Road
Horsham, PA 19044

Guillermo & Marissa Almeida
11539 Merryhill Drive
Corona, CA 92880

Guillermo & Mayela Gutierrez
12335 Doherty Street
Riverside, CA 92503

GREGEM
4300 Green River Road
Corona, CA 92880

Griffen Inv Co
110 N Lincoln Ave
Corona, CA 92882

Guillermo Delaisla
19414 Dry Gulch Road
Corona, CA 92881

Gregory & Rosalinda Ortiz
11055 Middleborough Road
Riverside, CA 92503

Current Resident
445 Hamilton Ave
White Plains, NY 10601

Gumildo & Maria Lopez
741 Butternut Ln
Corona, CA 92882

Gregory A & Dianne M Marciano
1601 Nabil Cir
Corona, CA 92881

GSL Inv
143 Business Center Drive
Corona, CA 92880

Gustavo Mora
224 S Victoria Ave
Corona, CA 92879

Gregory D Mieczkowski
563 Gise Cir
Corona, CA 92879

Current Resident
11589 Norgate Cir
Corona, CA 92880

Gustavo, CA stro
134 N Vicentia Ave
Corona, CA 92882

Gregory R & Maryann Luber
7346 Spindletop Drive
Corona, CA 92881

Guadalupe G Herrera
1056 E 3rd Street
Corona, CA 92879

Gwendolyn Wright
2948 Dorchester Cir
Corona, CA 92879

Gregory R & Susan R Roush
215 E Monterey Road
Corona, CA 92879

Guadalupe Ortiz
19820 Frances Street
Corona, CA 92881

H D Dev of Maryland UBC
P O Box 105842
Atlanta, GA 30348

Current Resident
341 N Delilah Street #102
Corona, CA 92879

Guadalupe Soto
2145 Garretson Ave
Corona, CA 92879

Current Resident
1815 E Heim Ave #100
Orange, CA 92865

Current Resident
205 South Howard Street
Corona, CA 92789

Harold L & Catherine A Andrews
4120 Indus Way
Riverside, CA 92503

Hector Herrera
4481 Feather River Road
Corona, CA 92880

HAGF Enterprises LP
29484 Live Oak Canyon Road
Redlands, CA 92373

Harriet Jeanne Dejong
517 Gise Cir
Corona, CA 92879

Hector J Lopez
825 Mandevilla Way
Corona, CA 92879

Hai Pham Vo
383 Colfax Cir
Corona, CA 92879

Hanna M & Gloria H Tafesh
415 Hamlin Cir
Corona, CA 92879

Hans Juergenwalter & Betty Jean Luehr
2553 Monterey Peninsula Drive
Corona, CA 92882

Hansen Beverage Co
550 Monica Cir Ste 201
Corona, CA 92880

Hansen Beverage Company
1010 Railroad St
Corona, CA 92882

Current Resident
383 Arthur Cir
Corona, CA 92879

Harold C Standal
2611 Toumey Ln
Corona, CA 92881

Henry Chavez
118 N. Cota Street
Corona, CA 92882

Henry Joseph Ruchel
810 Serrano Drive
Corona, CA 92879

Harry C & Barbara J Bucher
20090 Newton Street
Corona, CA 92881

Harry Scott & Melanie Diane Brandt
4706 Valley Glen Drive
Corona, CA 92880

Current Resident
390 Via Lugano 201
Corona, CA 92879

Hazel Hernandez
223 S Belle Ave
Corona, CA 92882

Heather M Harris
955 Mandevilla Way
Corona, CA 92879

Hector & Concepcion Quintero
19160 Box Canyon Road
Corona, CA 92881

Hector & Joanne Weckmann
324 S Main Street
Corona, CA 92882

Hermelindo & Horacio Perez
712 Park Ln
Corona, CA 92879

Hermenegildo Ruiz
130 N Cota Street
Corona, CA 92882

Hector M & Aurora V Jimenez
2620 State St
Corona, CA 92881

Hector Manuel Cardoso
20115 Newton Street
Corona, CA 92881

Hector R Monroy
722 Via Josefa
Corona, CA 92882

Helen Huynh
326 Camden Ct
Corona, CA 92879

Helen Kay Falzone
7278 Piute Creek Drive
Corona, CA 92881

Hendrikus W & Henriette Kok
1349 Valley View Ave
Norco, CA 92860

Henry & Virginia Cruz
5865 Panama Drive
Buena Park, CA 90620

HK Chiu
1836 Fir St.
Corona, CA 92882

Hoang Huu Mai
400 N Arthur Cir
Corona, CA 92879

Henry M & Maria R Verdusco
697 Laguna Drive
Corona, CA 92879

Current Resident
141 N Cota Street
Corona, CA 92882

Henry R & Aurora A Murga
25770 Onate Drive
Moreno Valley, CA 92557

Henry V. Chavez
P.O. Box 2713
Corona, CA 92878

Henry W & Marjorie L Schaffner
310 Via Lugano 202
Corona, CA 92879

Herb Spiegel
PO Box 878
Corona, CA 92878

Heriberto & Joanna Perez
1662 Laurel Canyon Cir
Corona, CA 92881

Howard Kim
20050 Newton Street
Corona, CA 92881

Howard L & Julie M Craig
1321 Hillkirk Ln
Norco, CA 92860

HFLP III Corona
1430 Larimer Street, Suite #200
Denver, CO 80202

Hid LLC
405 Convent Ave
Laredo, TX 78040

Hidden Hills
P O Box 6406
Norco, CA 92860

Hilaria G Hernandez
138 N Vicentia Ave
Corona, CA 92882

Hip 51 Compton Partner
4100 Newport Pl #750
Newport Beach, CA 92660

Hip Mccray PBP Partner
3199 A1 Airport Loop Drive
Costa Mesa, CA 92626

Hip Patel Prop Partner
1131 Foothill Blv
La Verne, CA 91750

I B Prop Holdings
4425 Ponce De Leon 5Th Fl
Coral Gables, FL 33146

Current Resident
11333 N Scottsdale No #180
Scottsdale AZ 85254

Hoang Lieu
387 Glacier Cir
Corona, CA 92879

Homayoun & Lesley Farah
1121 Vista Loma Ln
Corona, CA 92882

Current Resident
5101 Collins Ave
Miami, FL 33140

Homes By Ayres
355 Bristol Street #A
Costa Mesa, CA 92626

Hometime Green River Village
150 N Wacker Dr Ste2800
Chicago, IL 60606

Honorato & Imelda M Pebenito
405 Dylan Drive
Corona, CA 92879

Howard Duerson Chastain
P O Box 1565
Corona, CA 92878

IHOP Realty Corp
450 N Brand Blvd #7TH
Glendale, CA 91203

Ihop Realty Corp
450 N Brand Blvd
Glendale, CA 91203

HSBC Bank USA Natl Assn
4828 Central Loop Drive
Houston, TX 77081

Iacono Prop
230 Crouse Drive
Corona, CA 92879

Il Parr Bohn Prop Ltd
721 Santa Monica Blv
Santa Monica, CA 90401

Hsing Chieh & Bi Yu W Shih
27865 Fawn Creek Ct
Los Altos Hills, CA 94022

Iain Cowie
4462 Feather River Rd
Corona, CA 92880

Ilene Hope Robbins
19060 State Street
Corona, CA 92881

Hugh J Ritchie
6055 E Washington Blv #1032
Los Angeles, CA 90040

Ian Yoshi & Elsie Chiyono Kagihara
7322 Piute Creek Drive
Corona, CA 92881

Imre & Roberta B Well
29859 Long Horn Drive
Canyon Lake, CA 92587

Hugo Perez
1860 Bel Air Street
Corona, CA 92879

Ibis Enterprises
3945 Skofstad Street
Riverside, CA 92505

In N Out Burger
4199 Campus Dr #900
Irvine, CA 92612

Hung Minh Thai
2711 Griffin Way
Corona, CA 92879

Ignacio L & Hortencia Alvarado
387 Hobart Cir
Corona, CA 92879

In N Out Burgers
13502 Hamburger Ln
Baldwin Park, CA 91706

Current Resident
400 Bristol Way
Corona, CA 92879

Ignacio Siqueiros
340 Danbury Ct
Corona, CA 92879

Inc Hehr International
3333 Casitas Ave
Los Angeles, CA 90039

Hyman Goss Prop
320 S Main Street
Corona, CA 92882

Ignatius & Larcina Dieudonne
2972 Rochester Cir
Corona, CA 92879

Ingrid B Elman
386 Roosevelt Street
Corona, CA 92879

Innovative Performance Partners
252 Granite Street
Corona, CA 92879

Isaias Elizarravas
1901 Via Santiago
Corona, CA 92882

J J & Esther Johnson
1841 Bel Air Street
Corona, CA 92879

Invigorate
38551 Calle Decampanero
Murrieta, CA 92562

Isidro & Martha Franco
2080 Ridgeview Ter
Corona, CA 92882

J Ron & Kathy Gerwin
6422 E Hollyoak Ridge
Orange, CA 92867

Ioana Seuga
2931 Via Milano 102
Corona, CA 92879

Ion & Paulina Semen
1232 D Street
Corona, CA 92882

Iraj Maqsoudi
11889 Magnolia Ave
Riverside, CA 92503

Irineo & Isabel Zuniga
19115 Grovewood Drive
Corona, CA 92881

John Boslet
The Irvine Company
550 Newport Center Drive
Newport Beach, CA 92660-7011

Irwin Gisler
3808 Murray Street
Riverside, CA 92504

Isabel C Mosqueda
528 W 3rd Street
Corona, CA 92882

Jack Yulin & Teresa Chao Fan Lin
136 W Camino Real Ave
Arcadia, CA 91007

Current Resident
2751 Griffin Way
Corona, CA 92879

Ismael & Ana Ordaz
3568 Paine Drive
Riverside, CA 92503

Ismael C. Resendiz
692 Via Josefa
Corona, CA 92882

Isra Inc
13681 Newport Ave #8262
Tustin, CA 92780

Israel Santamaria
13196 Firestone Drive
Rancho Cucamonga, CA 91739

Isrrael Becerra
27 Cypress Ct
Corona, CA 92879

J & R Oil Co Inc
P O Box 1958
Corona, CA 92878

J & R Wong Family Partnership II
7425 Stone Creek Ln
Anaheim, CA 92808

James A & Eugenia M Steppe
1880 Bel Air Street
Corona, CA 92879

Current Resident
1353 Cresta Road
Corona, CA 92879

J. Marconi
1201 Roya Ridge Lane
Corona, CA 92881

Jacinto E Olivares
7225 Piute Creek Drive
Corona, CA 92881

Jack C & Eula F Higgins
456 Barrow Street
Corona, CA 92881

Jack E Stewart
1594 1St Street
Norco, CA 92860

Current Resident
31562 Via Dulcinea
San Juan Capistrano, CA 92675

Jack P Farnham
2530 Monterey Peninsula Drive
Corona, CA 92882

Jack Va & Kaysone Chieng
390 Tompkins Cir
Corona, CA 92879

James H Kroll
1103 E Wilson Ave
Orange, CA 92867

James J & Patricia A Teska
546 Mesa Drive
Corona, CA 92879

Jadier Ruiz
129 E. Grand Boulevard
Corona, CA 92879

James Bruce & Louann Johnson Dieckmeyer
19794 Evelyn Street
Corona, CA 92881

James L & Nancy L Fago
9742 Crestview Cir
Villa Park, CA 92861

Jaime A & Nimfa C Cuenca
4562 Feather River Road
Corona, CA 92880

James C & Carol A Morosan
636 N Donner
Walnut, CA 91789

James M & Alison R Luckman
P O Box 4068
Hailey Id 83333

Jaime C & Luisa I Blanco
7162 Bel Air Street
Corona, CA 92879

James C & Jena J Roberts
1790 Laurel Canyon Way
Corona, CA 92881

James M & Leslie H Miner
P O Box 78286
Corona, CA 92877

Jaime R Martinez
541 Mesa Drive
Corona, CA 92879

James C & Justina Y Cho
405 Colfax Cir
Corona, CA 92879

James M & Rene L Donato
1570 1St Street
Norco, CA 92860

Jairo E & Gloria L Clavijo
1453 Pleasant View Ave
Corona, CA 92882

James D & Mary J Perkins
3150 Palisades Drive
Corona, CA 92880

James Michael Patterson
P O Box 204
Brea, CA 92822

James & Amy Matejcek
2930 Via Toscana Street 103
Corona, CA 92879

James E & Cathy LCadaret
19453 Dry Gulch Road
Corona, CA 92881

James R Goguen
19830 Frances Street
Corona, CA 92881

James & Jeanette M Bruneio
19283 Box Canyon Drive
Corona, CA 92881

James H & Linda M Kroll
1103 E. Wilson Ave.
Orange, CA 92867-5033

Brent Vanzuiden & Lauren Cohen
710 Butternut Ln
Corona, CA 92882

James T & Laurie G Leduc
7432 Piute Creek Drive
Corona, CA 92881

Janeen E Arreguin
3601 S Timber Street
Santa Ana, CA 92707

Javier & Hilda Tamai
4590 Pennyroyal Drive
Corona, CA 92880

James V & Heidi L Bligh
424 Dylan Drive
Corona, CA 92879

Janet Arlene Tinsman
730 Broadmoor Ct
Corona, CA 92882

Javier Castillo
741 Balsam Ln
Corona, CA 92882

James V & Pete Espinoza
19740 Katy Way
Corona, CA 92881

Janet Carol Cronkrite
19860 Katy Street
Corona, CA 92881

Shawndi Benn & Anetta Y. Clack
700 Sugar Ln
Corona, CA 92882

Current Resident
431 Wellesley Dr #204
Corona, CA 92879

Janet Louise Loftus
441 Palomar Drive
Corona, CA 92879

Javier L & Monica Landerbs
20046 Newton Street
Corona, CA 92881

James W Hollingsworth
1145 N Kenmore Ave
Los Angeles, CA 90029

Janice Mayhand Atkins
7366 Piute Creek Drive
Corona, CA 92881

Javier M & Julio Preciado
19800 Frances Street
Corona, CA 92881

James W Hollingsworth
8653 Hayes St
La Mesa, CA 91942

Jasen & Lisa Eminger
19877 Trotter Ln
Yorba Linda, CA 92886

Javier Z Zambrano
4531 Feather River Road
Corona, CA 92880

Current Resident
7421 Paisley Ave
Hesperia, CA 92345

Jason & Regina Hawkey
803 San Jacinto Drive
Corona, CA 92879

Jay K & Priti M Patel
365 Camden Ct
Corona, CA 92879

James W. Bush
32480 Cape Drive
Lake Elsinore, CA 92530

Jason & Sanaa Shbaita
1840 Madera Cir
Corona, CA 92879

Jean L Kleih
2915 Via Toscana 102
Corona, CA 92879

James W. Quintero
128 West Grand Blvd.
Corona, CA 92882

Jason M & Charise Allingham
2533 Monterey Peninsula Drive
Corona, CA 92882

Jean M Carman
432 Brittany Drive
Corona, CA 92879

Jeff Bennett
760 E. Parkridge
Corona, CA 92879

Jerome A & Paula Fiore
347 Camden Ct
Corona, CA 92879

Jessica G Mosqueda
532 W 3rd Street
Corona, CA 92882

Jeff Ruscigno
3240 Mission Inn
Riverside, CA 92507

Jerry & Denise Oliver
2701 Griffin Way
Corona, CA 92879

Jessica Thuong Tran
416 Roosevelt Street
Corona, CA 92879

Jeffery J Knight
2201 E Willow Street
Signal Hill, CA 90755

Jeffery P & Kristin H Rabbetts
19240 Box Canyon Drive
Corona, CA 92881

Current Resident
4571 Feather River Road
Corona, CA 92880

Jeffrey & Edith Swift
336 Oakwood Ct
Corona, CA 92879

Jeffrey A & Bernadette I Bates
4523 Feather River Road
Corona, CA 92880

Current Resident
2915 Via Milano 108
Corona, CA 92879

Current Resident
2901 Via Milano 102
Corona, CA 92879

Jesus O Aguirre
P O Box 5041
Norco, CA 92860

Current Resident
421 Colfax Cir
Corona, CA 92879

Jerry D & Jodi A Brokaw
20113 Klyne Street
Corona, CA 92881

Jerry E & Carolyn B Scott
7210 Piute Creek Drive
Corona, CA 92881

Jerry W & Rosemary D Savala
382 Cabrillo Cir
Corona, CA 92879

Current Resident
414 Royal Cir
Corona, CA 92879

Jesse & Christina Teasley
2067 Ridgeview Ter
Corona, CA 92882

Current Resident
1045 W 5Th Street
Corona, CA 92882

Jesse Spruill
359 Camden Ct
Corona, CA 92879

Joan Christine & George Edward Bryant
4514 Feather River Road
Corona, CA 92880

Joan Hamilton
307 S. Smith Ave., Space 77
Corona, CA 92882

Jesus & Celia C Espinoza
2843 Anchor Ave
Orange, CA 92865

Jesus & Elizabeth Martinez
405 S Smith Ave
Corona, CA 92882

Jesus & Elsa M Rodriguez
11571 Queensborough Street
Riverside, CA 92503

Jesus & Martha A Marta
310 Howard Street
Corona, CA 92879

Jesus Avendano
902 E 3rd Street
Corona, CA 92879

Jesus Christ LDS Corp of Pres
Bishop
50 E North Temple 22Nd Fl
Salt Lake City, UT 84150

Jesus M & Rosa M Fernandez
370 Cabrillo Cir
Corona, CA 92879

Joe Sepulveda
117 N. Cota Street
Corona, CA 92882

Joe Vargas
1256 D Street
Corona, CA 92882

Current Resident
4120 Tigris Way
Riverside, CA 92503

Jim Fago
1631 Pomona Rd
Corona, CA 92880

Jim H & Elizabeth Vandenakker
2691 Griffin Way
Corona, CA 92879

Jim K & Ardith M Fletcher
2230 E Orangethorpe
Fullerton, CA 92831

Jimmie D & Delores Kelley
2630 State St
Corona, CA 92881

Jmj Building
1253 Enterprise Ct
Corona, CA 92882

Joan C Wallace
2915 Via Milano 202
Corona, CA 92879

John A & Carla V Moore
2850 Palisades Road
Corona, CA 92882

John A & Donna J Roode
720 Broadmoor Ct
Corona, CA 92882

Joan Rudisil
2050 Main Street, #600
Irvine, CA 92614

Joe & Esther Robles
4226 Goodman Street
Riverside, CA 92503

Joe & Oduila Rodriquez
128 N Sheridan Street
Corona, CA 92882

Joe Dominguez Post #742
P O Box 933
Corona, CA 92877

Joe L & Lupe D Aguirre
1506 Monif Cir
Corona, CA 92881

Joe M & Frances A Ruiz
444 Pike Drive
Corona, CA 92879

Joe M & Gloria Salgado
676 Green Gate Street
Corona, CA 92879

John Charles Monnig
245 Benjamin Drive
Corona, CA 92879

John E & Karon K Bowles
630 E Chase Drive
Corona, CA 92881

Joel Gomez
382 S Arthur Cir
Corona, CA 92879

Joel R Flores
2940 Dorchester Cir
Corona, CA 92879

Joey Mcmahan
731 Butternut Ln
Corona, CA 92882

John & Evangelina Reynoso
16627 Creekside Road
Riverside, CA 92503

John & Leola F Thomas
19141 Oriente Drive
Yorba Linda, CA 92886

John & Mary Saner
761 Balsam Ln
Corona, CA 92882

John & Rochelle Plocharczyk
4530 Feather River Road
Corona, CA 92880

John L & Michelle L Krickl
19222 Box Canyon Drive
Corona, CA 92881

John M & Julia C Rodriguez
1511 S Main Street
Corona, CA 92882

John A & Maria R Delgado
1214 D Street
Corona, CA 92882

John A & Patricia Luna Benline
331 Danbury Ct
Corona, CA 92879

John A Bennett
18320 E Payson Street
Azusa, CA 91702

John A Rojo
2910 Via Milano 201
Corona, CA 92879

John and Cathy Rogozinski
4480 Feather River Road
Corona, CA 92880

John B & Eileen M Kreta Zickefoose
7330 Spindletop Drive
Corona, CA 92881

John C Thomson
3151 Airway Ave #H3
Costa Mesa, CA 92626

John Palmieri
1655 W. 6th St., #111
Corona, CA 92882

John R & Amanda D Butz
2521 Springhill Drive
Grapevine, TX 76051

John E Sanderson
1443 Ripchak Road
Corona, CA 92879

John F & Lisa J Griffin
244 Jason Ct
Corona, CA 92879

John G Perez
116 N Merrill
Corona, CA 92882

John H & Beverly S Clement
1539 Yorba Street
Corona, CA 92882

John H & Carolyn L Brown
434 Palomar Drive
Corona, CA 92879

John J & G Dawn Simmons
11564 Norgate Cir
Corona, CA 92880

Current Resident
2901 Via Toscana 101
Corona, CA 92879

Jon & Beth Steffen
1336 Hillkirk Ln
Norco, CA 92860

Jonathan & Shannon Weber
11575 Norgate Cir
Corona, CA 92880

John M. Enriquez
1452 Del Norte Drive
Corona, CA 92879

John M. Felix
111 North Belle Avenue
Corona, CA 92882

John Ngoc Hoang
4735 Satin Bell Drive
Corona, CA 92880

John O L & Eileen W Tan
12305 Doherty Street
Riverside, CA 92503

Current Resident
19204 Box Canyon Drive
Corona, CA 92881

John P & Shelly L Wirt
1975 Compton Ave
Corona, CA 92879

John P. Wirt
1975 Compton Avenue
Corona, CA 92881-3319

Jorge A & Lupe Marioni
400 Scarborough Cir
Corona, CA 92879

Jorge E & Catherine A Lopez
133 N Cota Street
Corona, CA 92882

John R & Janice T Evans
424 Rushmore Drive
Corona, CA 92879

John R Caufield
17 Eagles Way
Cape May Ch Nj 08210

John R Widly
785 E Harrison #100
Corona, CA 92879

John R Young
P O Box 2872
Newport Beach, CA 92659

John T & Vesta A Perry
3746 E Adonis Drive
Salt Lake City, UT 84124

John W & Sueann Hathaway
820 Aspen
Corona, CA 92879

John W Barber
7218 Piute Creek Drive
Corona, CA 92881

Jose & Margarita Serrano
711 Sugar Ln
Corona, CA 92882

Jose & Margo Toni Saldivar
390 Hobart Cir
Corona, CA 92879

Current Resident
12602 Peppermill Way
La Mirada, CA 90638

Jonathan J & Anna C Lomibao
4769 Valley Glen Drive
Corona, CA 92880

Jonathon J & Theresa Allen
5298 Pearlman Way
San Diego, CA 92130

Jonatkim Enterprises
627 S Manchester Ave
Anaheim, CA 92802

Current Resident
2940 Via Milano Road 101
Corona, CA 92879

Jorge & Cecilia Salomon
25605 Mont Pointe
Lake Forest, CA 92630

Jorge & Erika Gallardo Diaz
7861 Warbler Ct
Corona, CA 92880

Jose C & Silvia Topete
19850 Layton Street
Corona, CA 92881

Jose Ernesto & Lourdes Chumarcero
20105 Klyne Street
Corona, CA 92881

Jose & Alfonsa Nocelo
413 Roosevelt Street
Corona, CA 92879

Jose & Angelina Gutierrez
1247 D Street
Corona, CA 92882

Jose & Carmen Santillan
311 S Howard Street
Corona, CA 92879

Jose & Delia Casas
808 San Jacinto Drive
Corona, CA 92879

Jose & Elizabeth Lozano
1440 Pleasant View Ave
Corona, CA 92882

Jose & Leticia Montano
154 N Cota Street
Corona, CA 92882

Jose & Margarita Ramirez
408 Brittany Drive
Corona, CA 92879

Jose Luis & Elisa Ponce
464 Pike Drive
Corona, CA 92879

Current Resident
808 Laguna Drive
Corona, CA 92879

Jose & Marijes S Tostado
7111 Bel Air Street
Corona, CA 92879

Jose & Marilou Ines
412 Colfax Cir
Corona, CA 92879

Jose & Mirtha Fuentes
1697 Bel Air Street
Corona, CA 92881

Jose A & Norma Deanda
1508 Monif Cir
Corona, CA 92881

Current Resident
1450 Woodway Ct
Corona, CA 92879

Jose A Ferrino
384 Colfax Cir
Corona, CA 92879

Jose Arnel & Virgilita Monzon Nora
406 Bristol Way
Corona, CA 92879

Current Resident
2931 Via Milano Road 104
Corona, CA 92879

Jose Tostado
7111 Bel Air Street
Corona, CA 92881-3402

Jose Gomez
431 Mondale Street
Corona, CA 92879

Jose I & Ana Maria Padilla
7549 El Cerrito Road
Corona, CA 92881

Jose Ignacio Arreola
21430 Kinney Street
Perris, CA 92570

Jose L & Inge C Chavez
20171 Klyne Street
Corona, CA 92881

Jose L & Maria E Molina
753 Via Josefa
Corona, CA 92882

Jose L & Sonia M Garcia
865 Bollero Pl
Corona, CA 92882

Jose L Mora
20201 Orange Street
Corona, CA 92881

Joseph Thomas & Allanah Stranieri
390 Berkley Cir
Corona, CA 92879

Josh Fisher
169 Radio Road
Corona, CA 92879

Jose Luis Ayala
16182 Fairfax Ave
Fontana, CA 92336

Jose Luis Cruz
2298 Ridgeview Ter
Corona, CA 92882

Current Resident
1049 W 5th Street
Corona, CA 92882

Jose M Quiroz
400 Yosemite Cir
Corona, CA 92879

Jose M. Valdez
22813 Cowie Ave
Perris, CA 92570

Jose R & Martha I Castorena
416 Colfax Cir
Corona, CA 92879

Jose Ruben & Guadalupe G Kim
1671 Bel Air Street
Corona, CA 92881

Juan & Margarita Ceja
1439 Pleasant View Ave
Corona, CA 92882

Juan A Varela
722 Via Antonio
Corona, CA 92882

Jose Vicente & Erika Merino
3033 Arbor Glen Ct
Corona, CA 92879

Josefina Rodriguez
1204 D Street
Corona, CA 92882

Joseph A Guilbeau
16425 Basswood Ln
Fontana, CA 92336

Joseph C Castille
19915 Layton Street
Corona, CA 92881

Joseph Cubeiro
531 Harbor Island Drive
Newport Beach, CA 92660

Joseph Rajzman
413 Dylan Drive
Corona, CA 92879

Joseph S & Elvira K Millich
19780 Evelyn Street
Corona, CA 92881

Juan Ochoa
405 N Arthur Cir
Corona, CA 92879

Juan R & Maia E Comparetto
1678 Laurel Canyon Cir
Corona, CA 92881

Joshua Willam Henderson,
Casey Christian Henderson
2571 Northmoor Drive
Corona, CA 92882

Joy Elaine & Robert David Friedman
2281 Mountain View Drive
Corona, CA 92882

Joyce P Crume
16965 Lake Knoll Pkwy
Riverside, CA 92503

Joyce Smith
218 N Lincoln No #108
Corona, CA 92882

Jozsef & Erika Szijarto
909 Hemingway Drive
Corona, CA 92880

Juan & Amparo Contreras
2594 Monterey Drive
Corona, CA 92882

Juan & Jesus Verdugo
3846 Simmons Ave
Riverside, CA 92505

Judy A Langford
1590 1St Street
Norco, CA 92860

Julia & Ben Elizarraras
1028 Ford Street
Corona, CA 92879

Juan Carlos & Maria L Castellanos
360 Cypress Ct
Corona, CA 92879

Juan Carlos & Olga D Loza
7230 Calico Cir
Corona, CA 92881

Juan Gallardo
205 S. Sheridan St.
Corona, CA 92882

Juan Garibay
6736 36Th Street
Riverside, CA 92509

Juan Jesus & Mirna Asusena Galvez
2901 Via Milano 201
Corona, CA 92879

Juan M & Maria Dejesus F Lopez
1024 E 3rd Street
Corona, CA 92879

Juan Manuel Gonzalez
104 N. Belle Ave.
Corona, CA 92882

K & K Prop Inc
1802 W Pomona Road
Corona, CA 92880-1777

K. Kojac
11599 Chadwick Road
Corona, CA 92880

Juan R & Socorro V Vasquez
1487 Ripchak Road
Corona, CA 92879

Juan S & Leticia Saavedra
226 S Howard Street
Corona, CA 92879

Juana Gonzalez
382 Yellowstone Cir
Corona, CA 92879

Juana Lucero
1428 Pleasant View Ave
Corona, CA 92882

Juanita Rocha
12618 Glenwood Ave
Lakewood, WA 98499

Juanita Sevilla
405 Roosevelt Street
Corona, CA 92879

Judi Staats
City of Corona - Redevelopment
400 S. Vicentia Ave.
Corona, CA 92882

Karina A German Bogner
42915 Wingate Drive
Banning, CA 92220

Karl Stewart
905 E. Third St
Corona, CA 92879

Julia D Gilreath
945 Corona Ave
Corona, CA 92879

Julia D Gilreath
955 Corona Ave
Corona, CA 92879

Julia Elizarraras
1032 Ford Street
Corona, CA 92879

Julian & Olga L Llamas
11501 Queensborough Street
Riverside, CA 92503

Julie A. Mcintyre
2057 Ridgeview Ter
Corona, CA 92882

Julio & Gloria Rivera
444 Winslow Drive
Corona, CA 92879

Jung E & June B Hong
23438 Coyote Springs Drive
Diamond Bar, CA 91765

Current Resident
1301 Dove Street #720
Newport Beach, CA 92660

Keith Holman
2931 Via Milano 107
Corona, CA 92879

Kanu & Hemlata Patel
16593 China Berry Ct
Chino Hills, CA 91709

Kanu Patel
210 S. Lincoln Ave
Corona, CA 92882

Karen A & Donald R Orlowski
7275 El Cerrito Road
Corona, CA 92881

Karen Ann Family Trust Peterson Dwight M
1648 Laurel Canyon Cir
Corona, CA 92881

Karen Hager
2925 Via Toscana No #202
Corona, CA 92879

Karen Hale
2901 Via Toscana 102
Corona, CA 92879

Karen L Sanders
20171 Corona Street
Corona, CA 92881

Kenneth Leroy & Rosemary Agnes Moore
1851 Bel Air Street
Corona, CA 92879

Kenneth R & Ruth C Jones
431 Pike Drive
Corona, CA 92879

Current Resident
425 Mondale Street
Corona, CA 92879

Kelly Nelson
1306 W Windrift Way
Gilbert, AZ 85233

Kenneth R & Vera A Thorhpson
282 S Anita Drive
Orange, CA 92868

Katherine Reardon
632 Mesa Drive
Corona, CA 92879

Ken Lawrence & Mihoko Chida
11597 Norgate Cir
Corona, CA 92880

Kenneth S Calvert
63 W Grand Blv
Corona, CA 92882

Kathy Boyer
1151 Spruce Street
Riverside, CA 92507

Kenn M & Latresha R Dobson
1425 Ripchak Road
Corona, CA 92879

Kenneth W & Lynn C Hook
1147 Old Hickory Road
Corona, CA 92882

Kathy Bradac
218 Lindon Ave
Long Beach, CA 90802

Kenneth D & Jerilyn Iriart
1819 S Main Street
Corona, CA 92879

Kenneth W & Lynn C Hook
12327 Doherty Street
Riverside, CA 92503

Kathy Warner
651 Colonial Drive
Corona, CA 92882

Kenneth D Thompson
P O Box 77640
Corona, CA 92877

Kenric Y Toliver
2931 Via Milano Road 202
Corona, CA 92879

Kaye E & Yale E Tucker
P O Box 7974
Newport Beach, CA 92658

Kenneth James & Sharon Ann Tresson
2805 Mount Niguel Cir
Corona, CA 92882

Kent Olsen
1884 Northwood Road
Nipomo, CA 93444

Current Resident
3 Jenner No #100
Irvine, CA 92618

Kenneth L & Teresa M Riggs
19890 Layton Street
Corona, CA 92881

Kerrie Lynn Hernandez
11581 Norgate Cir
Corona, CA 92880

Kevin F & Terrie L Koch
845 Mandevilla Way
Corona, CA 92879

Kimberly A & Terry Baxter
474 Pike Drive
Corona, CA 92879

Kourosh Kaveh
380 Via Capri 103
Corona, CA 92879

Kevin Lee Cruz
1439 Ripchak Road
Corona, CA 92879

Kindred/Outreach Ministries Inc
8712 E Santa Ana Canyon
Anaheim, CA 92808-1600

Kristi Stowell
4141 Inland Empire Boulevard
Ontario, CA 91764

Kevin Lindley
935 Mandevilla Way
Corona, CA 92879

Kevin P & Sharon M Schow
545 Mesa Drive
Corona, CA 92879

Kevin W. & Saveth Harris
2136 N Alona Street
Santa Ana, CA 92706

Kha John & Marie Hue Nguyen
14872 Dahlquist Road
Irvine, CA 92604

Kim & Patti Victoria
370 Tompkins Circle
Corona, CA 92879

Kim Kermit & Daisy Watrous
1411 Pleasant View Ave
Corona, CA 92882

Kim Velasco
1565 1St Street
Norco, CA 92860

Current Resident
12205 W Harrison Street
Avondale, AZ 85323

Ladd L Penfold
P O Box 999
Temecula, CA 92593

Kirk & Martha A Wheeler
1431 E La Palma Ave
Anaheim, CA 92805

Kit E Howser
4554 Feather River Road
Corona, CA 92880

KLM Prop
2575 Wardlow Road
Corona, CA 92882

Koch Family Enterprises
1195 Pomona Road
Corona, CA 92882

Kohls Dept Stores Inc.
N56 W17000 Ridgewood Drive
Menomonee Falls Wi 53051

Kosha Arabi
1351 Pomona Road
Corona, CA 92880

Kourosh Kaveh
2941 Via Milano
Corona, CA 92879

Larry N & Susan L Fishman
1860 Cottontail Creek Road
Cayucos, CA 93430

Larry R Haupert
2518 N Santiago Blv
Orange, CA 92867

Kuang Shiung & Shue Jen Chen
1599 Monte Vista Ave
Claremont, CA 91710

Kuo Yung Tang
2900 Via Toscana 202
Corona, CA 92879

Kwang Suk Park
2200 Falen Drive
Roland Heights, CA 91748

Kyle Stuart & Desiree Dai Davisson
710 Poplar Ln
Corona, CA 92882

Kyu & Suncha Cho
2561 Northmoor Drive
Corona, CA 92882

L B & Priscilla A Barnes
2721 Griffin Way
Corona, CA 92879

L Ruth Strehlow
404 Royal Cir
Corona, CA 92879

Laura Martin
P O Box 77247
Corona, CA 92877

Laura Moreno
325 Atwood Drive
Corona, CA 92879

Lakeview Professional Services Inc
104 Maple Street
Corona, CA 92880

Lance Perry
233 16th Street, Unit E
Costa Mesa, CA 92627

Laraine O Kinght
19530 Blacksmith Path
Corona, CA 92881

Laro Properties LP
16633 Ventura Blv #1300
Encino, CA 91436

Larry E & Joan Q Bedrosian
4285 N Golden State Blvd
Fresno, CA 93722

Larry G Ortiz
307 S Victoria Ave
Corona, CA 92879

Larry Lee & Barbara Lee Dehart
420 Somerset Cir
Corona, CA 92879

Lisa La Flame
4462 Feather River Road
Corona, CA 92880

Lawrence H & Dorothy J Hegg
19884 Katy Street
Corona, CA 92881

Larry R Haupert
2518 N Santiago Blvd
Orange, CA 92867

Larry S & Tracey E Pratt
245 Jason Ct
Corona, CA 92879

Laszio & Sonya Papp
379 Glacier Cir
Corona, CA 92879

Current Resident
13545 Barkley Pl
Chino, CA 91710

Laura E Fulton
537 San Gorgonio Drive
Corona, CA 92879

Laura J & Jerald P Swigart
424 Brittany Drive
Corona, CA 92879

Laura Kojac
901 Huggins Ave
Placentia, CA 92870

Ruben Sanchez
2267 Ridgeview Ter
Corona, CA 92882

Lazaro Neri Delacruz
158 N Cota Street
Corona, CA 92882

Laura Pieri
7335 Bel Air Street
Corona, CA 92881-3432

Laura Silva Robles
7009 E Columbus Drive
Anaheim Hills, CA 92807

Laurence A & Gloria A Roland
2401 Lenai Cir
Corona, CA 92879

Laurence Null
4193 Flat Rock Drive, Suite 100
Riverside, CA 92505

Laurentino & Fidelina Melendez
2932 Dorchester Cir
Corona, CA 92879

Laurie I Magnuson
366 Cypress Ct
Corona, CA 92879

Lawrence D & Wendy Collins Farrugia
1709 Bel Air Street
Corona, CA 92881

Leonard P & Vanessa Arriola
413 N Arthur Cir
Corona, CA 92879

Leonard Segueira
16795 Von Karman Avenue
Suite 205
Irvine, CA 92606

Lawrence J Gordon
1320 Hillkirk Ln
Norco, CA 92860

Lawrence M & Vickie Lynn Aragon
19831 Katy Street
Corona, CA 92881

Lawrence M Dahlin
1242 Enterprise Ct
Corona, CA 92882

Lawrence P & Deborah A Rider
400 Colfax Cir
Corona, CA 92879

Lawrence R & Jill A Soest
11558 Merryhill Drive
Corona, CA 92880

Lawrence Randall Mullins
711 Poplar Ln
Corona, CA 92882

Lawrence V & Vicki L Jackson
4190 Green River Road
Corona, CA 92882

Leslie M Maude
18362 Hillcrest Ave
Villa Park, CA 92861

Lester D. & Gloria C. Cowdin
751 Balsam Ln
Corona, CA 92882

Leata M. Ritter
2265 Mountain View Drive
Corona, CA 92882

Leaverton Spectrum II LP
4055 E La Palma Ave #H
Anaheim, CA 92807

Current Resident
2930 Via Toscana Street 106
Corona, CA 92879

Lee A Rodriguez
223 S Merrill Street
Corona, CA 92882

Leo Garcia
2586 Northmoor Drive
Corona, CA 92882

Current Resident
1472 Baird Street
Corona, CA 92882

Leonard B Flemons
345 Cypress Ct
Corona, CA 92879

Lincoln Pomona LC
224 Joy St
Corona, CA 92879

Linda Averett
337 Danbury Ct
Corona, CA 92879

Leonardo A & Evelyn M Jayme
44 Parterre Ave
Foothill Ranch, CA 92610

Leroy & Conswilla McKinney
1354 Cresta Road
Corona, CA 92879

Leroy & Joanne Nelson
228 Calle Del Verano
Palm Desert, CA 92660

Leroy & Nicole J. Dyal
700 Balsam Ln
Corona, CA 92882

Leslie D & Carol Young
8543 Sylvan Drive
Riverside, CA 92503

Leslie E & John T Pechatsko
3581 Boston Cir
Riverside, CA 92503

Leslie Gay Forbes
519 E Avenida San Juan
San Clemente, CA 92672

Lino Ruvalcaba
7264 Piute Creek Drive
Corona, CA 92881

Lisa La Flame
4462 Feather River Rd
Corona, CA 92880

Leticia Cervantes
1268 Marriott Cir
Corona, CA 92882

Leticia I Padilla
379 Cabrillo Cir
Corona, CA 92879

Brian and Sharon Tressen
Z Corona Prop
1195 Pomona Rd
Corona, CA 92882

Li Li
128 Victoria Ave.
Corona, CA 92882

Lillian M & Mike C Baltierra
445 Newhall Drive
Corona, CA 92879

Limos By Tiffany Inc.
23129 Cajalco Road
Perris, CA 92570

Lincoln Avenue Pro
8191 E Kaiser Blv
Anaheim, CA 92808

Louie E Aguirre
302 S Howard Street
Corona, CA 92879

Louis G Salgado
345 E Monterey Road
Corona, CA 92879

Linda C Anderson
2011 Via Santiago
Corona, CA 92882

Linda D & Christopher L Gooden
426 Somerset Cir
Corona, CA 92879

Linda D Olley
2941 Via Milano Street 105
Corona, CA 92879

Linda J Williams
7236 Piute Creek Drive
Corona, CA 92881

Linda Lopez Mattean
227 N. Buena Vista Ave.
Corona, CA 92882

Linda Vanderweel
2260 W. Frontage Road
Corona, CA 92882

Linna Phaychanpheng
2951 Via Toscana No #202
Corona, CA 92879

Luis & Jessica Rangel
1360 Cresta Road
Corona, CA 92879

Luis & Laura Parra
382 Glacier Cir
Corona, CA 92879

Liston Brick Co
P O Box 1869
Corona, CA 92878

Living Trust Lueras Rita Marie
3321 Nevada Ave
El Monte, CA 91731

Lloyd G & Marjorie J Francis
219 N Lincoln Ave
Corona, CA 92882

Lonenzo & Araceli Perez
809 San Jacinto Drive
Corona, CA 92879

Loralynn Yvetta Sheeron
1171 Sidonia Street
Encinitas, CA 92024

Lorrie M & Robby I Wolf
415 Mondale Street
Corona, CA 92879

Louie A. & Mary Lou Rael
2306 Pine Crest Drive
Corona, CA 92882

Lyall Building Partnership
P O Box 2259
Corona, CA 92878

Lydia B Ramirez
134 N Cota Street
Corona, CA 92882

Lowes HIW INC (No. 1743)
P.O. Box 1000
Mooresville, NC 28115

Lucas & Assoc
P O Box 358
Corona, CA 92878

Lucia Mojarro
7357 High Knoll Cir
Corona, CA 92881

Luciano & Josefina Murillo
1020 E 3rd Street
Corona, CA 92879

Lucinda R Bakeman
2940 Via Toscana Street 101
Corona, CA 92879

Luis & Diane Marie Delgado
714 Via Josefa
Corona, CA 92882

Luis & Ilda Lidia Romero
424 Winslow Drive
Corona, CA 92879

M La Magnolia Spectr
4921 Birch Street #100
Newport Beach, CA 92660

M Rossman
4193 Flat Rock Drive
Riverside, CA 92505

Luis & Lilia M Navarro
19450 Nuthatch Street
Perris, CA 92570

Luis & Lilliana Castro
2113 Verdino Cir
Corona, CA 92883

Luis E & Francisca M Hurtado
146 N Cota Street
Corona, CA 92882

Luis Molina Vargas
617 South Dennis Street
Santa Ana, CA 92704

Luis V & Elvira G Reynoso
1433 Pleasant View Ave
Corona, CA 92882

Lupe & Sylvia Guillen
104 N. Buena Vista Avenue
Corona, CA 92882

Lupe Becerra
110 N Victoria Ave
Corona, CA 92879

Malachi 310
1723 Sandtrap Drive
Corona, CA 92883

Mammoth Equitites Corona I
29222 Rancho Viejo Rd Ste203
San Juan Capistrano, CA 92675

Lyndon & Mary Melinda Dysinger
7171 Bel Air Street
Corona, CA 92879

Lynette Davis
24314 Cruise Circle Drive
Canyon Lake, CA 92587

Lynn Alcala
1444 Ripchak Road
Corona, CA 92879

Lynnette Hoey
1869 Via Santiago
Corona, CA 92882

Sharon Messner
1296 Magnolia Avenue
Corona, CA 92879

M Hebbard & Shirley Macarthur
2185 Adams Street
Riverside, CA 92504

M Ibarra
7300 Old Temescal Road
Corona, CA 92881

Manuel C & Stephanie A Grado
11463 Alder Creek Road
Corona, CA 92880

Current Resident
509 E 5th Street
Corona, CA 92879

M&G Prop
2870 Harbor Blv
Santa Ana, CA 92704

Macduff Ltd Partnership
25891 Hitching Rail Road
Laguna Hills, CA 92653

Machado Partnership
8864 Jurupa Road
Riverside, CA 92509

Maddie
506 Via Lido Nord
Newport Beach, CA 92663

Maggie Armando
902 E. Third Street
Corona, CA 92879

Magnolia Court Homeowners Association
4730 Woodman Ave Ste 200
Sherman Oaks, CA 91423

Magnolia Hospitality
1456 S Manhattan Ave
Fullerton, CA 92831

Maple South
1601 Dove St Ste190
Newport Beach, CA 92880

Maqsood A & Juanita E Nasir
2467 Peacock Ln
Corona, CA 92882

Manfred & Margaret Joan Baurmann
4755 Valley Glen Drive
Corona, CA 92880

Current Resident
11711 Independence Street
Riverside, CA 92503

Manijeh Onsori
1349 Cresta Road
Corona, CA 92879

Manual V & Elvira Ramos
250 Cross Rail Ln
Norco, CA 92860

Manuel & Lidia Rosas
516 E 3rd Street
Corona, CA 92879

Manuel & Marlene Vieira
386 Colfax Cir
Corona, CA 92879

Manuel B & Alisa J Ybarra
404 Roosevelt Street
Corona, CA 92879

Maria & Alejo Barrera
1452 Pleasant View Ave
Corona, CA 92882

Current Resident
1424 Pleasant View Ave
Corona, CA 92882

Manuel L & Eulalia R Esparza
134 N Merrill Street
Corona, CA 92882

Manuel M & Margaret Garcia
1442 Pleasant View Ave
Corona, CA 92882

Current Resident
315 Atwood Drive
Corona, CA 92879

Manuel V & Julie A Martinez
210 S Joy Street
Corona, CA 92879

Manuel V & Maria C Sandoval
365 E Kendall Street
Corona, CA 92879

Current Resident
210 South Joy Street
Corona, CA 92879

Manuela Armenta
2901 Wimbledon Drive
Corona, CA 92879

Maria G Estate of Vega
1479 Rosewood Pl
Corona, CA 92880

Current Resident
4750 Valley Glen Drive
Corona, CA 92880

Marcelino & Olga Velasquez
11667 Queensborough Street
Riverside, CA 92503

Maria Aguilera
302 S Joy Street
Corona, CA 92879

Current Resident
428 Colfax Cir
Corona, CA 92879

Marcello V & Marcella S Arguelles
620 Harris
Corona, CA 92882

Maria Chamorro
302 Gilmore Drive
Corona, CA 92879

Maria Isabel H Jaime
908 Corona Ave
Corona, CA 92879

Marco & Sara Fernandez
2916 Dorchester Cir
Corona, CA 92879

Maria De Magallanes
918 W Palmyra Ave
Orange, CA 92868

Maria Lourdes Le
1345 Pleasant View Ave
Corona, CA 92882

Margarito L & Aldee Hernandez
7245 El Cerrito Road
Corona, CA 92881

Maria Elena Macario
404 N Arthur Cir
Corona, CA 92879

Maria Luisa Farjat
P O Box 6100
Visalia, CA 93290

Margie Barton
301 S Howard Street
Corona, CA 92879

Maria Ethel Talbert
2901 Via Milano 202
Corona, CA 92879

Maria O Pendleton
734 Via Josefa
Corona, CA 92882

Margo C Mead
350 Via Capri No #201
Corona, CA 92882

Maria Fores
2574 Monterey Peninsula Drive
Corona, CA 92882

Current Resident
7185 Old Temescal Road
Corona, CA 92879

Marguerite Bailey
1032 Ford St
Corona, CA 92879

Maria G & Ruben E Caballero
382 Roosevelt Street
Corona, CA 92879

Maria Rosalba Gonzalez
148 W Mission Ct
Corona, CA 92882

Maria Serapio
20023 Case Street
Corona, CA 92881

Current Resident
7161 Bel Air Street
Corona, CA 92879

Mario & Socorro Ramos
750 St Andrews Ct
Corona, CA 92882

Maria Smith
1065 E. Third Street
Corona, CA 92879

Marie L. Keeter
7161 Bel Air Street
Corona, CA 92881-3402

Mario Alfaro
1244 D Street
Corona, CA 92882

Maria V Herrera
1449 Pleasant View Ave
Corona, CA 92882

Marie Y Ruelas
19855 Katy Street
Corona, CA 92881

Current Resident
11560 Norgate Cir
Corona, CA 92880

Mariam Rangrazha
26 St Mays Road
Ladera Ranch, CA 92694

Marielle Kaminsh
1345 Jillian Cir.
Corona, CA 92881

Mario Elias
425 Wynola Ct
Corona, CA 92879

Marshall Tate
1151 Bradford Cir
Corona, CA 92882

Marietta LaValley
4051 Mt. Elena Circle
Corona, CA 92882

Mario M & Neomi Medina
363 Cypress Ct
Corona, CA 92879

Marian Fung Ying Tang
14 Via Perazul
Newport Beach, CA 90067

Marilyn Hirvela
20030 Case Street
Corona, CA 92881

Mario Martinez & Irma D Rivera
11563 Queensborough Street
Riverside, CA 92503

Mariana Casillas & Juan Villalpando
813 S Howard Street
Corona, CA 92879

Marin & Ana Maria Torres
335 Camden Ct
Corona, CA 92879

Mario R Lira
1064 E Third Street
Corona, CA 92879

Marianne & Kerry Allen
1535 Taber Drive
Corona, CA 92881

Marinus & Mirjam Angelique Pasveer
3366 Rural Cir
Corona, CA 92882

Mario R. & Elizabeth A. Murillo
720 Poplar Ln
Corona, CA 92882

Marie A Cook
12350 Marlow Ave
Tustin, CA 92782

Mario & Maria C. Garcia
740 Balsam Ln
Corona, CA 92882

Mark & Joyce Schloemer
P O Box 17112
Anaheim, CA 92817

Mark A & Brenda Sue Lawer
603 Mystic Ln
Foster City, CA 94404

Mark Stanley
Riverside Transit Agency
P.O. Box 59968
1825 Third Street
Riverside, CA 92517

Martin Dejesus & Ofelia Marin
215 S Merrill Street
Corona, CA 92882

Mark A & Zel Dundas
5440 Camino Vista
Yorba Linda, CA 92887

Mark V & Marlene J Andrews
4544 Pennyroyal Drive
Corona, CA 92880

Martin Delgado
11327 Churchill Drive
Riverside, CA 92503

Current Resident
20020 Case Street
Corona, CA 92881

Marketplace
2870 Clark Ave
Norco, CA 92860

Martin Inv Co
P O Box 15532
Santa Ana, CA 92705

Mark A Rangel
7489 El Cerrito Road
Corona, CA 92881

Current Resident
421 Mondale Street
Corona, CA 92879

Marvin T. & Irene R. Kopay
731 Poplar Ln
Corona, CA 92882

Mark C. Bloome (Lesee)
121 Spear Street, Suite #250
San Francisco, CA 94105

Marlon & Estefany Calimlim
412 N Arthur Cir
Corona, CA 92879

Mary Ann & Raymond M Marquez
428 Wynola Ct
Corona, CA 92879

Mark Felix
111 N. Belle Ave.
Corona, CA 92882

Marlon M & Josephine R Alo
2690 Kennedy Drive
Corona, CA 92879

Mary Ann Laumbach
450 Dylan Drive
Corona, CA 92879

Mark Hillgren
923 N Main Street
Orange, CA 92867

Martha M Anaya
383 Camden Ct
Corona, CA 92879

Mary Ann Santana
8718 Lincoln Ave
Riverside, CA 92504

Mark Oliver
1431 W 9Th Street
Upland, CA 91786

Martin & Sandra Zepeda
533 Mesa Drive
Corona, CA 92879

Mary K Coulter
7213 Piute Creek Drive
Corona, CA 92881

Mark R Nerhus
P O Box 77596
Corona, CA 92877

Martin Carrillo
108 North Merrill Street
Corona, CA 92882

Mary L Villanueva
9060 Canyon Shadow Pl
Corona, CA 92883

Mary Lou Shina
6580 Glenroy Street
San Diego, CA 92120

Matthew Arfa
P O Box 10074Santa Ana, CA 92711

Mauro V. Reynoso
7221 Bel Air Street
Corona, CA 92881-3404

Mary Lou Stewart
23504 Decanso Drive
Moreno Valley, CA 92557

Matthew D & Dyan Gookin
7465 Bobbitt Street
Corona, CA 92881

Mavis J Dolf
19789 Evelyn Street
Corona, CA 92881

Mary M Howard
P O Box 2670
Toluca Lake, CA 91610

Mary M Howard
P O Box 6366
Burbank, CA 91510

Mary Mendoza
642 Mesa Drive
Corona, CA 92879

Mary Zamarripa
418 Bristol Way
Corona, CA 92879

Masao & Sawako Nishikawa
11 Bayview Drive
Buena Park, CA 90621

Masoud Sayed & Lora Grozner Eskandari
5318 Tyrone Ave
Sherman Oaks, CA 91401

Matt Valente & Family Management Co.
255 Benjamin Drive
Corona, CA 92879

Mehdi & Alida Khosravi
19232 Streetate Street
Corona, CA 92881

Melanie M Murphy
19411 Dry Gulch Road
Corona, CA 92881

Matthew Peebles
681 Laguna Drive
Corona, CA 92879

Current Resident
2951 Via Milano 102
Corona, CA 92879

Matworld
1411 Hamner Ave
Norco, CA 92860

Maude Corona
18362 Hillcrest Ave
Villa Park, CA 92861

Maurice Simpson
309 Termino Ave
Corona, CA 92879

Mauricio & Norma E Sanchez
1014 E 3rd Street
Corona, CA 92879

Mauro V & Lupe G Reynoso
7221 Bel Air Street
Corona, CA 92879

Meynardo H & Rhodora Solita A Cabrera
391 Dylan Cir
Corona, CA 92879

Michael & Barbara David
1230 Quarry Street
Corona, CA 92879

Max L & Rachael R Bell
1375 Valley View Ave
Norco, CA 92860

MCDC Enterprises
2800 Palisades Road
Corona, CA 92882

McDonalds Corp
P O Box 182571
Columbus Oh 43218

McKinley Corona
280 2Nd Street #230
Los Altos, CA 94022

Meadowood Investor
2706 Harbor Blv #205
Costa Mesa, CA 92626

Property Owner
796 E Harrison Street
Corona, CA 92879

Mee Shin
1353 Old Temescal Road
Corona, CA 92881

Michael B. Perilman
1027 East 3rd Street
Corona, CA 92879

Michael Clark
5920 Avenida Barcelona
Yorba Linda, CA 92887

Melinda Harris
7570 Liberty Ave
Corona, CA 92881

Melvin Kenneth & Cloeta Erma Gayer
617 S. Frontier Ct.
Anaheim, CA 92807

Melvin L & Suzanne Marie Bitterman
1400 Beaudry Blv
Glendale, CA 91208

Melvin Thomas
740 East Carnegie Drive
San Bernardino, CA 92408

Merco Inc
1244 Riverview Drive
Cody Wy 82414

Merian Guerra
412 Roosevelt Street
Corona, CA 92879

Merideth Cann
334 Walnut Street
Newport Beach, CA 92663

Michael P & Rene M Bathke
378 Colfax Cir
Corona, CA 92879

Michael R & Joellen, CA rlin
19171 Grovewood Drive
Corona, CA 92881

Michael & Laurie J Fuller
4500 Feather River Road
Corona, CA 92880

Michael & Maria D Simon
20025 Newton Street
Corona, CA 92881

Michael & Robin M Scott
19834 Katy Street
Corona, CA 92881

Michael & Sandy Dionisiou
1423 Avola Avenue
Santa Maria, CA 93458

Michael & Terry Moreland
5060 California Ave #1150
Bakersfield, CA 93309

Michael A & Jacquelyn Phillips
4474 Feather River Road
Corona, CA 92880

Michael Angelo Gonzalez
19141 Box Canyon Drive
Corona, CA 92881

Michele Nissen
7039 Misty Meddow
Corona, CA 92880

Michelle Gorta
400 S. Vicentia Ave
Corona, CA 92882

Michael Cong & Lisa Xuan Nguyen
7199 Old Temescal Road
Corona, CA 92881

Michael D & Donna G Juarez
1345 Cresta Road
Corona, CA 92879

Michael E Cox
410 Shadow Oaks Cir
Corona, CA 92879

Michael G & Ramona M Flack
7305 Gingersnap Drive
Corona, CA 92881

Current Resident
1233 Enterprise Ct
Corona, CA 92882

Michael J Goodwin
7200 Whiskey Creek
Corona, CA 92881

Michael Mcdonel
3069 Arbor Glen Ct
Corona, CA 92879

Miguel Carapia
2077 Ridgeview Ter
Corona, CA 92882

Miguel Cardoso
20170 Klyne Street
Corona, CA 92881

Michael Rubin
611 Anton Blvd
Suite 1400
Costa Mesa, CA 92626

Michelle Tran
3403 S Main Street
Santa Ana, CA 92707

Miguel H & Pam A Lopez
2573 Monterey Peninsula Drive
Corona, CA 92882

Michael S & Celeste Dobra
460 Dylan Drive
Corona, CA 92879

Midas Realty Corp
1300 Arlington Heights Road
Itasca, Il 60143

Miguels Prop
P O Box 1224
Corona, CA 92878

Michael S & Joanna L Gonzalez
24606 Via Vallarta
Yorba Linda, CA 92887

Miguel & Teresa Covarrubias
685 Laguna Drive
Corona, CA 92879

Mike & Martha Duran
420 Yellowstone Cir
Corona, CA 92879

Michael Todd Bucy
2901 Via Toscana 104
Corona, CA 92879

Miguel A. Cabrera
130 South Buena Vista Avenue
Corona, CA 92882-1933

Mila Asperin
212 E. Grand Boulevard
Suite A-1
Corona, CA 92879

Michael William & Patricia J Kelley
451 Rushmore Drive
Corona, CA 92879

Miguel Angel Rodriguez
711 Broadmoor Ct
Corona, CA 92882

Milbria A. Church
2091 Ridgeview Ter
Corona, CA 92882

Michel D Amador
534 Mesa Drive
Corona, CA 92879

Miguel B Martinez
7140 Bel Air Street
Corona, CA 92879

Miltos & Valerie J Varkatzas
24657 Via Buena Suerte
Yorba Linda, CA 92887

Current Resident
391 Colfax Cir
Corona, CA 92879

Miguel Bahena
210 South Howard Street
Corona, CA 92879-1539

Minoru & Emiko A Onoda
420 Shadow Oaks Cir
Corona, CA 92879

Miriam Y & Dale R Hamilton
11471 Alder Creek Road
Corona, CA 92880

Mohammed Yousuf & Mahera Ahmedyar
421 Yellowstone Cir
Corona, CA 92879

Moore Melvin a Living Trust
P O Box 293
Dana Point, CA 92629

Missionary Church
1569 Yorba Street
Corona, CA 92882

Moises Iniguez
387 Roosevelt Cir
Corona, CA 92879

Mostafa Niknafs
4 Secret Cove
Newport Coast, CA 92657

Mitch Zehan
3500 W. Orangewood Ave
Orange, CA 92868

Mojgan Zabihiaali
2640 Kennedy Drive
Corona, CA 92879

Current Resident
3536 Concours Street #300
Ontario, CA 91764

MJSC Holdings
2320 Compton Ave
Corona, CA 92881

Mona O Hawkins
16403 Holmes Pl
Cerritos, CA 90703

Mountain Vistas
P O Box 2609
Carlsbad, CA 92018

Mobil Oil Corp
P O Box 53
Houston, TX 77001

Monica Bell
2950 Via Milano Road 201
Corona, CA 92879

MPC Corona
18231 Irvine Blv #201
Tustin, CA 92780

Mohamed Ali Hanifa
413 Yellowstone Cir
Corona, CA 92879

Monica G Sciarratta
18648 Streetate Street
Corona, CA 92881

Mt Lam
4145 Horton Road
West Linn, Or 97068

Mohammad Omidvar
4592 Feather River Road
Corona, CA 92880

Monica M Reynoso
1598 1St Street
Norco, CA 92860

Current Resident
11850 Pierce Street #100
Riverside, CA 92505

Mohammad Saeed & Irma S Hosseinzadeh
2949 Wimbledon Drive
Corona, CA 92879

Monica Terrill
11599 Chadwick
Corona, CA 92880

John Shamma
MWD
PO BOX 54153
Los Angeles, CA 90054-0153

Mohammed Isaq & Mary Helen Haider
1584 Alderwood Cir
Corona, CA 92881

Monnig John Charles Prop Trust
245 Benjamin Drive
Corona, CA 92879

Myrvin H & Lera C Ellestad
1215 Pomona Road
Corona, CA 92882

Nabi Enterprises Inc.
20515 Regal Oak Drive
Yorba Linda, CA 92886

Nejat & Shahnaz Mirharooni
12245 Canna Road
Los Angeles, CA 90049

Nichole Ray Prop
4425 Butler National Road
Corona, CA 92883

Nada F Salloum
3125 Palisades Drive
Corona, CA 92880

Nelson & Judith Mainit
470 Dylan Drive
Corona, CA 92879

Nick O & Matilde Marez
1353 Pleasant View Ave
Corona, CA 92882

Nanci Inv Inc
2111 Business Center Drive
Irvine, CA 92612

Nemesio A & Corazon J, CA rnero
416 Yellowstone Cir
Corona, CA 92879

Nicolas Guerrero
720 Sugar Ln
Corona, CA 92882

Nancy A Nicola
1731 Pomona Road
Corona, CA 92880

Newman H & Nancy H Taylor
13612 Diamond Head Drive
Tustin, CA 92780

Nikia Sharod Perkins
368 Camden Ct
Corona, CA 92879

Nancy L Hawley
2546 Monterey Peninsula Drive
Corona, CA 92882

Newport Horizon, Inc.
13821 Newport Ave #100
Tustin, CA 92780

Nina T. Hayrh
2538 Northmoor Drive
Corona, CA 92882

Nancy Leticia & Eimy Delfina Robles
11525 Queensborough Street
Riverside, CA 92503

Nicholas & Erika Schwartz
203 Idaho Avenue
Santa Monica, CA 90403

Noel G & Gina Labastida
8071 Shadow Ln
Stanton, CA 90680

Nancy R Misenhelter
1586 1St Street
Norco, CA 92860

Nicholas & Georgina L Esparza
444 Palomar Drive
Corona, CA 92879

Nojan Rafieyan
11601 Norgate Cir
Corona, CA 92880

James L. and Nancy L. Fago
9742 Crestview Circle
Villa Park, CA 92861

Nicholas P & Consuelo Jasso
1053 W 5Th Street
Corona, CA 92882

Norco Corona Assoc
949 S Coast Dr #600
Costa Mesa, CA 92626

Ned Ibrahim
3969 Rancho Del Oro Dr.
Riverside, CA 92505

Nicholas R & Julia G Rodriguez
145 N Cota Street
Corona, CA 92882

Norco NBH I
260 Newport Center Drive
Newport Beach, CA 92660

Norco Town Center
2347 Gundersen Drive
San Jose, CA 95125

OC Buchanan Center
25550 Hawthorne Blv #310
Torrance, CA 90505

Oneida Dediaz
11637 Queensborough Street
Riverside, CA 92503

Norma Grech
2930 Via Toscana Street 101
Corona, CA 92879

Octavio & Margarita Fuerte
302 E Grand Blv
Corona, CA 92879

Onesimo E & Kimi Cantos Malit
409 Bristol Way
Corona, CA 92879

Norma Jean Derigge
1025 W Kendall
Corona, CA 92882

Norma L Escarcega
1363 Pleasant View Ave
Corona, CA 92882

Norma Martinez
307 S. Smith Ave
Corona, CA 92882

Norma Payton
2771 Wardlow Road
Corona, CA 92880

Number One Pipeline
P O Box 6467
Santa Ana, CA 92706

Current Resident
11555 Merryhill Drive
Corona, CA 92880

O B & Karen S Douglas
421 Winslow Drive
Corona, CA 92879

Orlando A & Rebecca D Tafolla
18989 Streetate Street
Corona, CA 92881

Orp Jefferson Smurfit
185 N Smith Ave
Corona, CA 92882

Ofelia G Martinez
154 N Buena Vista Ave
Corona, CA 92882

Ohmstar
1351 Pico Street
Corona, CA 92881

Current Resident
7 Upper Newport Plaza
Newport Beach, CA 92660

Olga Perez
109 N. Buena Vista Ave
Corona, CA 92882

Olivia Rios
371 Cabrillo Cir
Corona, CA 92879

Olympio P & Wilhelmina M Galdo
2941 Wimbledon Drive
Corona, CA 92879

Omar & Anna Mejia
3021 Arbor Glen Ct
Corona, CA 92879

Current Resident
312 S Washburn Ave
Corona, CA 92882

Pacific Spectrum
1750 California Ave #102
Corona, CA 92881

Onias L & Connie H. Acevedo
PO BOX 77308
Corona, CA 92877

Ophelia Alcala
1421 Pleasant View Ave
Corona, CA 92882

Orange County Flood Control District
17911 Mitchell Ave
Irvine, CA 92614-6015

Orange County Flood Control District
300 N Flower St #7th
Santa Ana, CA 92703-5000

Orange County Flood Control District
P O Box 4048
Santa Ana, CA 92702-4048

Orange County Harbors Beaches & Parks District
13042 Old Myford Rd.
Irvine, CA 92602

Orange County Harbors Beaches & Parks District
P O Box 4048
Santa Ana, CA 92702-4048

Parvaneh B Soleimanpour
333 Cypress Ct
Corona, CA 92879

Pat Hernandez
2591 Griffin Way
Corona, CA 92879

Oscar R & Rebeca L Santa Cruz
2505 Monterey Peninsula Drive
Corona, CA 92882

Oscar & Patricia Santos
112 N. Merril St.
Corona, CA 92882

Ospitals Kaiser Foundation
1950 Franklin Street
Oakland, CA 94612

Ostlund Family Trust
3535 Inland Empire Blvd
Ontario, CA 91764

Othon Reyes
133 South Buena Vista Avenue
Corona, CA 92882

OTR Corona
7 Weatherly Drive
Coto De Caza, CA 92679

Otto E. & Josephine T. Scharer
1229 Lomita Ave
Orange, CA 92667

Patrick J & Mary Eugenia Ryan
4454 Feather Road
Corona, CA 92880

Patrick Joseph & Monica Louise Scott
25582 Saltwater Drive
Dana Point, CA 92629

Palmetto Hospitality of Corona
2235 Faraday Ave Ste O
Carlsbad, CA 92008

Pamela A Hamilton
2941 Via Milano Street 101
Corona, CA 92879

Pamela J Galloway
2930 Via Milano 201
Corona, CA 92879

Pari Rakhshain
301 N. Cota Ave
Corona, CA 92879

Current Resident
1351 Pomona Road #210
Corona, CA 92882

Partners 1 Third Street Equity
185 E Paularino Ave #B
Costa Mesa, CA 92626

Partnership Olympic Barrington
8500 Melrose Ave #217
W Hollywood, CA 90069

Paul M & Cheryl A Savage
119 Watch Hill Road
Westerly, RI 02891

Paul M & Nirmala Swamidass
1529 Ferndale Drive
Auburn, AL 36832

Pat Tritz
980 Montecito, #101
Corona, CA 92880

Pati Moyer
205 Lewis Court
Corona, CA 92882

Patricia A Fontenot
493 Corona Ave
Corona, CA 92879

Patricia G Erickson
1458 Woodway Ct
Corona, CA 92879

Patricia M Arrayga
2963 Wimbledon Drive
Corona, CA 92879

Patricia Melette Moseley
7341 Spindletop Drive
Corona, CA 92881

Patrick & J Sharyl Kemp
4589 Feather River Road
Corona, CA 92880

Current Resident
P O Box 6130
Corona, CA 92878

Pedro & Genoveva Cruz
3597 Philadelphia Ct
Riverside, CA 92503

Patrick T & Emeline C Pak
1339 Cresta Road
Corona, CA 92879

Paul Sciacca
21520 Yorba Linda Blvd., G 146
Yorba Linda, CA 92887

Pedro Bolanos
1243 D Street
Corona, CA 92882

Paul & Eileen Green
4546 Feather River Road
Corona, CA 92880

Current Resident
140 Marine View Ave #210
Solana Beach, CA 92075

Penny Newman
P.O. Box 33124
Riverside, CA 92519

Paul C & Irma R Mudge
5436 Chelsea Ave
La Jolla, CA 92037

Paulette Gonzalez
1415 Pleasant View Ave
Corona, CA 92882

Pete & Christine Nyiri
668 Paseo Grande
Corona, CA 92882

Paul C. Ramirez
101 North Vicentia Avenue
Corona, CA 92882-1951

Pauline & Paul M Ybarra
211 S Sheridan Street
Corona, CA 92882

Pete A & Rebecca R Lopez
1741 Fraser Cir
Corona, CA 92882

Paul E & Nancy L Thede
1501 Pomona Road
Corona, CA 92880

PE
P O Box 18421
Anaheim, CA 92817

Pete Delmatoff
1441 Pomona Road
Suite 28
Corona, CA 92882

Current Resident
7256 Piute Creek Drive
Corona, CA 92881

Pearl M Diggs
2900 Via Milano 101
Corona, CA 92879

Pete M & Rose Marie Perez
109 N Buena Vista Ave
Corona, CA 92882

Paul G & Thomas Markovits
705 N Crescent Drive
Beverly Hills, CA 90210

Pearl Street Properties
43020 John Warner Road
Temecula, CA 92592

Peter & Jennifer M Mcgowan
7344 Piute Creek Drive
Corona, CA 92881

Peter Sowa
2010 Main Street
Suite 1000
Irvine, CA 92614

Phung Kim Huynh
2931 Wimbledon Drive
Corona, CA 92879

Current Resident
658 Redondo Ln
Corona, CA 92882

Peter W & Genelda Lindsay
1486 Del Norte Drive
Corona, CA 92879

Current Resident
14291 Euclid Street
Garden Grove, CA 92843

Current Resident
2701 Alton Pkwy
Irvine, CA 92606

Petra H Rodriguez
311 W Grand Blv
Corona, CA 92882

Phyllis P Navarrette
20146 Klyne Street
Corona, CA 92881

Prashanth Donthidi
665 Barbre Ln
Corona, CA 92879

Philip & Celeste Pafford
19845 Bedford Canyon Road
Corona, CA 92881

Current Resident
550 South Main Street
Orange, CA 92863

Price Reit Inc
3333 New Hyde Park Road #100
New Hyde Park, NY 10042

Philip & Joanne M Latorre
3759 Locust Street
Riverside, CA 92501

Picks Tandem Way
126 Via Trevizio
Corona, CA 92879

Price Reit Inc
999 Lake Drive
Issaquah, WA 98027

Philip Breitenbucher
353 Camden Ct
Corona, CA 92879

Piyush R & Krina P Solanki
2909 Wimbledon Drive
Corona, CA 92879

Price Reit Inc
P O Box 182571
Columbus, OH 43218

Phillip B & Caridad C Machado
1694 Laurel Canyon Cir
Corona, CA 92881

Platinum Oil Corp
1825 W. 6th St.
Corona, CA 92882-2957

Priscilla Margaret Yock
157 Spanish Spur
Fallbrook, CA 92038

Phillip C & Nancy L Cleveland
625 Newhall Drive
Corona, CA 92879

Current Resident
3637 Arlington Ave
Riverside, CA 92506

Current Resident
2683 Wardlow Rd.
Corona, CA 92882-2871

Phillip C Lowers
418 Wynola Ct
Corona, CA 92879

Pomona Corona
2433 Pomona Road
Corona, CA 92880

Professional Leasing
2683 Wardlow Road
Corona, CA 92882

Project Authority Santa Ana Watershed
3403 10Th Street #610
Riverside, CA 92501

PSW Inv
4110 Tigris Way
Riverside, CA 92505

Rafael & Roselia Herrera
1071 Quarry Street
Corona, CA 92879

Project Bake
2991 Doherty Street
Corona, CA 92879

Public Storage Properties
PO BOX 25025
Glendale, CA 91221

Rafael Jamie
354 Cypress Ct
Corona, CA 92879

Prolan R & Menchie Fandialan
P O Box 11511
Bakersfield, CA 93389

Prologis Calif I
2235 Faraday Ave #O
Carlsbad, CA 92008

Current Resident
3511 Pacific Highway #K
Torrance, CA 90505

Promenade Terrace LP
2 N Riverside Plz #400
Chicago, Il 60606

Prop System, Capital Realty
P O Box 66207
Chicago, Il 60666

Property Owner
3410 La Sierra Ave.
Riverside, CA 92503

Helen Rita Debeal
P.O. Box 12
Corona, CA 92878

Ramiro R & Lorenza G Ortiz
P.O. Box 2834
Corona, CA 92878

Ramiro T & Martha Rodriguez
408 Roosevelt Street
Corona, CA 92879

Pulte Home Corp
2 Technology Drive
Irvine, CA 92618

Quinn Paul, CA rney
400 Roosevelt Ave
Corona, CA 92879

R I Heritage Inn
P O Box 9118
Fargo, ND 58106

R Khs Marketing Cent
P O Box 90249
Austin, TX 78709

Rachael Hamilton
Inland Empire Waterkeeper
6878 Indiana Avenue, Suite D
Riverside, CA 92506

Rafael & Evelyn Vasquez
538 Laguna Cir
Corona, CA 92879

Rafael & Gudalupe Jaimes Lopez
1979 Via Santiago
Corona, CA 92882

Raul & Virginia Louisa Paz
7335 Spindletop Drive
Corona, CA 92881

Raul Barron Lopez
224 S Belle Ave
Corona, CA 92882

Rafael Martinez
31541 Sagecrest Drive
Lake Elsinore, CA 92532

Rafaela Trujillo
314 East 7th Street
Corona, CA 92879

Ralph and Frances Kulajian
PO BOX 2368
Laguna Hills, CA 92654

Ralph D & Charlene G Dean
222 W 6Th Street
Corona, CA 92882

Ralph F & Irene M Passarelli
2566 Northmoor Drive
Corona, CA 92882

Ralph Padilla
1130 West Trenton Avenue
Orange, CA 92879

Ramie A Fernandez
2581 Northmoor Drive
Corona, CA 92882

Ray and Julie Morelli
203 S. Victoria Ave.
Corona, CA 92789

Ray Ramirez
356 Camden Ct
Corona, CA 92879

Ramona Arguelles
454 Winslow Drive
Corona, CA 92879

Ramona Pino
718 Mt Whitney Cir
Corona, CA 92879

Randall L & Rita Bucy
19481 Dry Gulch Road
Corona, CA 92881

Randall L & William E Grago
2901 Via Toscana 103
Corona, CA 92879

Randalls Steel Erectors Inc.
75 E Grand Blv
Corona, CA 92879

Randy Morton
20170 Corona Street
Corona, CA 92881

Raul & Veronica Anguiano
416 N Arthur Cir
Corona, CA 92879

Raymond Weigand
1987 Via Santiago
Corona, CA 92882

RB Nanda
3941 Paseo La Cresta
Corona, CA 92881

Raul C & Lidia Corvera
2430 Via Pacifica
Corona, CA 92882

Raul Calderon
441 Rushmore Drive
Corona, CA 92879

Raul F Perez
2910 Via Toscana 102
Corona, CA 92879

Raul Garcia
930 Corona Ave
Corona, CA 92879

Raul M & Juanita M Arredondo
133 N Vicentia Ave
Corona, CA 92882

Raul R & Esther S Aparicio
216 Vicentia Ave
Corona, CA 92882

Raul V & Rose L Moreno
19098 Streetate Street
Corona, CA 92881

Renee A Laxen
350 Camden Ct
Corona, CA 92879

Renee A Vicary
7221 Old Temescal Road
Corona, CA 92879

Ray Saidian
8775 Research Drive
Irvine, CA 92618

Raymond & Dora Lee M Perez
7320 Gingersnap Drive
Corona, CA 92881

Raymond & Isana Ha
2988 Rochester Cir
Corona, CA 92879

Raymond & Lillian Shaw
757 Highland View Drive
Corona, CA 92882

Raymond A & Nellie A Perez
219 S Merrill Street
Corona, CA 92882

Raymond Cervantes
1504 Monif Cir
Corona, CA 92881

Raymond Cordova
434 Winslow Drive
Corona, CA 92879

Current Resident
8725 Dunwoody Pl #1
Atlanta, GA 30350

Reyna Solis
110 N Belle Ave
Corona, CA 92882

Current Resident
220 W Crest Street
Escondido, CA 92025

Current Resident
1560 1St Street
Norco, CA 92860

RHD Venture I
1527 Pomona Road
Corona, CA 92880

Redevelopment Agency - City of Corona
P.O. Box 940
Corona, CA 92878

Republic Bag Inc
580 E Harrison Street
Corona, CA 92879

Rhythm Sea
465 N Mckinley Street
Corona, CA 92879

Regina C Fielding
2900 Via Toscana 201
Corona, CA 92879

Current Resident
20125 Klyne Street
Corona, CA 92881

Ricardo & Arlene Villeda
308 S Joy Street
Corona, CA 92879

Renaldo R Rodriguez
1238 Mulberry Ln
Corona, CA 92879

Rex Michael & Leslie La Rue Allingham
650 Pebble Beach Ct
Corona, CA 92882

Ricardo Ruiz
13982 Hastings Ranch Ln
Rancho Cucamonga, CA 91739

Renato B & Josefina L Domingo
369 Cypress Ct
Corona, CA 92879

Rexco Corp Terrace
2518 N Santiago Blv
Orange, CA 92867

Ricardo T & Olga G Hurtado
150 N Buena Vista Ave
Corona, CA 92882

Renato L & Olivia S Salazar
4552 Pennyroyal Drive
Corona, CA 92880

Rexco Magnolia
1315 Magnolia Ave
Corona, CA 92879

Rich Haller
11615 Sterling Ave
Riverside, CA 92503

Rene C Urban
421 Teton Pl
Corona, CA 92879

Rexco Magnolia
2518 North Santiago Blvd.
Orange, CA 92867

Richard & Janice Davis
928 N. Gaffey Pl
San Pedro, CA 90731

Richard & Lenora Britt
19178 Streetate Street
Corona, CA 92881

Richard D Nibarger
1020 E Indian Knolls #12
Washington, UT 84780

Richard S & Pamela R Gaume
343 Danbury Ct
Corona, CA 92879

Richard & Mary E Bartlett
425 Colfax Cir
Corona, CA 92879

Richard J Fischer
330 Oakwood Ct
Corona, CA 92879

Richard Whitlow
3339 Clearning Lane
Corona, CA 92882

Richard A & Richard D Robinson
701 Via Josefa
Corona, CA 92882

Richard James & Vivian A Brandon
670 Pebble Beach Ct
Corona, CA 92882

Richard Yu
6539 Whitelily St
Corona, CA 92880

Richard A Henninger
1687 Bel Air Street
Corona, CA 92881

Richard K. Figluizzi
615 Avenida Del Norte
Sarasota, FL 34242

Richard Z Hernandez
2671 Raven Cir
Corona, CA 92882

Richard A Wallace
11792 Loma Linda Way
Santa Ana, CA 92705-3033

Richard L & Katherine D Green
7330 Gingersnap Drive
Corona, CA 92881

Rickey L & Frances R Scoggins
1691 Bel Air Street
Corona, CA 92881

Richard A. & Guadalupe V. Guillen
104 N. Buena Vista Ave.
Corona, CA 92882

Richard L & Suzanne R Gliddon
730 Butternut Ln
Corona, CA 92882

Ricky & Leticia Ruiz
217 E 3rd Street
Corona, CA 92879

Richard B & Mary M Winn
4656 Valley Glen Drive
Corona, CA 92880

Richard Lewis & Rebecca Christine Curtis
2541 Northmoor Drive
Corona, CA 92882

Ridgeway Dev Co Lt
1195 Pomona Road
Corona, CA 92882

Richard C & Shirley J Gillmaster
686 Via Josefa
Corona, CA 92882

Richard Louis & Mary Martha Paul
409 Yellowstone Cir
Corona, CA 92879

Rigoberto Chacon & Dario Vasquez
835 Bollero Pl
Corona, CA 92882

Richard C Hunsaker
P O Box 2423
Santa Ana, CA 92707

Richard R Smith
21660 Dunrobin Way
Yorba Linda, CA 92687

Robert & Veronica M. Orozco
720 Butternut Ln
Corona, CA 92882

Rita A Uribe
131 N Merrill Street
Corona, CA 92882

Robert & Anita Torres
1235 D Street
Corona, CA 92882

Robert A & Jacqueline G Slaughter
63 W Grand Blv
Corona, CA 92882

Rita P Mills
4596 Pennyroyal Drive
Corona, CA 92880

Robert & Brenda Vonzabern
4121 Tigris Way
Riverside, CA 92503

Robert A & Madeline Gutierrez
223 S Victoria Ave
Corona, CA 92879

Rita Sander
3095 Timberline
Corona, CA 92882

Current Resident
424 Wynola Ct
Corona, CA 92879

Rivercroft Ltd Partnership
321 High School Road
Bainbridge Island, WA 98110

Zully Smith
Riverside County Flood Control & Water
1995 Market Street
Riverside, CA 92501

Riverside Transit Agency
1825 3rd Street
Riverside, CA 92517

Rk Wiest Industrial P
3890 Pierce Street
Riverside, CA 92503

Robbie R & Mary Beth Loomer Day
950 El Sobrante Road
Corona, CA 92879

Robert F Mccay
17350 Vista Del Lago
Riverside, CA 92503

Robert G Garland
1264 W 6Th Street
Corona, CA 92882

Robert & Christa Rubino
2900 Via Toscana 104
Corona, CA 92879

Robert & Darlene Spalding
7235 El Cerrito Road
Corona, CA 92881

Robert & Debra J Tyner
1063 Quarry Street
Corona, CA 92879

Robert & Donna Hicks
7207 Fuente Ave
Oak Hills, CA 92345

Robert & Lourdes Blanchet
19490 Blacksmith Path
Corona, CA 92881

Robert & Priscilla A Delcampo
P O Box 802
Corona, CA 92878

Current Resident
20137 Klyne Street
Corona, CA 92881

Robert Kenneth & Shirley Ann Koerner
7591 El Cerrito Road
Corona, CA 92881

Robert Kofdarali
800 Serfas Club
Corona, CA 92882

Robert A Harris
10460 Prather Ln
Tustin, CA 92752

Robert Alan Misiuk
383 Cabrillo Cir
Corona, CA 92879

Robert Brandy
1113 Pine Island Ct
Las Vegas, NV 89134

Robert C & Evelia Fraire
311 S Sheridan Street
Corona, CA 92882

Robert Chavez
625 The City Drive
Orange, CA 92868

Robert E & Maryann R Donabedian
367 S Nutwood
Orange, CA 92669

Robert E. Donabedian
367 S. Nutwood Street
Orange, CA 92869

Robert V & Susan J Mccoy
19170 Grovewood Drive
Corona, CA 92881

Robert W & Gertrude A Huffman
14609 Gandesa Road
La Mirada, CA 90638

Robert H & E Janet Lind
P O Box 7218
Newport Beach, CA 92658

Robert J & Concetta C Konek
19751 Katy Street
Corona, CA 92881

Robert J & Dolores Riggio
P O Box 2287
Running Spgs, CA 92382

Current Resident
809 E Parkridge Ave
Corona, CA 92880

Robert John Fender
730 Poplar Ln
Corona, CA 92882

Robert John Mckool
4741 Avenida Del Este
Yorba Linda, CA 92886

Robert K. Wong
2384 Hoxie Drive
Tustin, CA 92882-6926

Roberto N & Antonia Guttierrez
18943 Boulder Ave
Riverside, CA 92508

Roberto O Ceja
18995 Streetate Street
Corona, CA 92881

Robert L & Eva Mae Lynch
1640 Sycamore
Vista, CA 92083

Robert L & Kathleen L Brockie
7370 Liberty Ave
Corona, CA 92881

Robert L & Sharon M Vance
2940 Via Toscana Street 102
Corona, CA 92879

Robert L. Perez
207 South Victoria Avenue
Corona, CA 92879

Robert Lee Lind
23910 Lawson Road
Corona, CA 92883

Robert R Rivas
4785 Valley Glen Drive
Corona, CA 92880

Robert S & Jacquelyn J Keller
1351 Hillkirk Ln
Norco, CA 92860

Rodrigo C & Erlinda T Manzano
386 Cabrillo Cir
Corona, CA 92879

Roger & Diane L Buchanan
7551 Boyd Ave
Corona, CA 92881

Robert W & Joyce K Morton
P O Box 5015
Buena Park, CA 90623

Robert W Dean
19124 Streetate Street
Corona, CA 92881

Robert W Drechsler
351 Cypress Ct
Corona, CA 92879

Roberta Kay Anders
2536 Monterey Peninsula Drive
Corona, CA 92882

Roberto & Alma Angelina Madrigal
691 Via Josefa
Corona, CA 92882

Roberto & Otilia Zamorano
1679 Bel Air Street
Corona, CA 92881

Roberto Gutierrez & Socorro Delatorre
16670 Catalonia Dr.
Riverside, CA 92504

Current Resident
11624 Viking Ave
Northridge, CA 91326

Rolando P & Rachael I Sanchez
401 Dylan Drive
Corona, CA 92879

Roberto R Valdepena
2284 Ridgeview Ter
Corona, CA 92882

Roberto Sanchez
431 Winslow Drive
Corona, CA 92879

Rocio and Martin Quiroz
106 North Belle Avenue
Corona, CA 92882

Current Resident
P O Box 132
Orange, CA 92666

Roderick D Gaffey
155 Enterprise Ct
Corona, CA 92882

Rodney Charles Morris
3591 Boston Cir
Riverside, CA 92503

Rodrigo & Carol Yudice
19864 Katy Street
Corona, CA 92881

Ronald Carl White
5440 S Garth Ave
Los Angeles, CA 90056

Ronald D & Marvi C Sanchez
400 Dylan Drive
Corona, CA 92879

Roger C & Marian C Heap
19845 Katy Street
Corona, CA 92881

Roger L & Darleen K Long
391 Cabrillo Cir
Corona, CA 92879

Roger L & Janet R Becker
2689 Condor Cir
Corona, CA 92882

Roger R & Noella H Benvenuti
2238 Ridgeview Ter
Corona, CA 92882

Rogers M & Christina A Mathews
524 Cedarbrook Ln
Corona, CA 92879

Current Resident
11624 Viking Ave
Northridge, CA 91326

Roland Dopozo
2867 Polk
Anaheim, CA 92801

Ronald W & Christine C Brooks
7241 Whiskey Creek
Corona, CA 92881

Ronald W & Jacqueline L Rose
3190 Sonrisa Drive
Corona, CA 92881

Roman Orozco
7511 El Cerrito Road
Corona, CA 92881

Ron & Barbara Loosen
28952 Selfridge Drive
Malibu, CA 90265

Ron Stringer
390 Via Lugano 102
Corona, CA 92879

Ronald A & Corinne L Sottis
7670 Liberty Ave
Corona, CA 92881

Ronald A Wood
1065 Lincrona Street
Corona, CA 92882

Ronald Anthony Gill
2915 Via Milano 103
Corona, CA 92879

Ronald C & Sharon Hamilton
19865 Bedford Canyon Road
Corona, CA 92881

Rosemarie Perez
109 N. Buena Vista Ave.
Corona, CA 92882

Rosendo & Victoria Ortiz
19855 Bedford Canyon Road
Corona, CA 92881

Ronald Douglas Ayers
2276 Ridgeview Ter
Corona, CA 92882

Ronald E & Mary E Dudley
19940 Katy Street
Corona, CA 92881

Ronald E Flaczinski
1460 Woodway Ct
Corona, CA 92879

Ronald G & Merlene D Risse
219 S Sheridan Street
Corona, CA 92882

Ronald H & Sira Dabreu
400 Brittany Drive
Corona, CA 92879

Ronald L & Elaine C Skaggs
20160 Klyne Street
Corona, CA 92881

Ronald P & Ofelia M Rodriguez
812 E 3rd Street
Corona, CA 92879

Roy M & Mildred J Jacobs
7230 Sarsaparilla Drive
Corona, CA 92881

Roya Rahmani
390 Colfax Cir
Corona, CA 92879

Ronald W & Janna A Visser
1153 Centinnial Ave
Camarillo, CA 93010

ROP Corporate Terrace
P O Box 77055
Corona, CA 92877

Rosa M Hite
454 Pike Drive
Corona, CA 92879

Rosa Ortega
2951 Via Milano 101
Corona, CA 92879

Rosalind Luna
484 Pike Drive
Corona, CA 92879

Rosalyn Smith
11 Sea Pines
Aliso Viejo, CA 92656

Rosario Chavez
132 N Sheridan Street
Corona, CA 92882

Ruben Moreno
2081 Ridgeview Ter
Corona, CA 92882

Ruben Ocampo Vazquez
542 Laguna Cir
Corona, CA 92879

Ross O Leventhal
1244 Parkside Drive
Seattle, WA 98112

Ross Renner
3594 Boston Cir
Riverside, CA 92503

Rossland Ten
505 S Villa Real No #201
Anaheim Hills, CA 92807

Rossland Ten
5200 Buffington Road
Atlanta Ga 30349

Roxine K Gordon
454 Palomar Drive
Corona, CA 92879

Roy D & Adrienne L Kojac
4522 Feather River Road
Corona, CA 92880

Roy Dehban
2871 Ragle Way
Corona, CA 92879

Ryan K & Melanie R Shepherd
4565 Feather River Road
Corona, CA 92880

Ryan Moore
3500 W. Orangewood Ave.
Orange, CA 92868

Royal Ridge Inv Inc
175 N Mckinley
Corona, CA 91720

Ruben & Patricia Sanchez
2285 Ridgeview Ter
Corona, CA 92882

Ruben C Martinez
20163 Corona Street
Corona, CA 92881

Ruben F Najar
806 E 3rd Street
Corona, CA 92879

Ruben L & Maria C Reyna
2292 Ridgeview Ter
Corona, CA 92882

Ruben M & Margaret A Baltierra
472 Newhall Drive
Corona, CA 92879

Ruben Martinez
204 S. Sheridan St.
Corona, CA 92882-2243

Saied & Sholeh Partow
900 El Sobrante Road
Corona, CA 92879

Salah F & Nivert Boules
435 Mondale Street
Corona, CA 92879

Current Resident
19801 Evelyn Street
Corona, CA 92881

Current Resident
1990 S Bundy Drive
Los Angeles, CA 90025

Rudy R & Maria C Arellano
2531 Northmoor Drive
Corona, CA 92882

Rudy Soerjanto
1104 Garland Way
Corona, CA 92879

Rusbel Ayala
19890 Katy Way
Corona, CA 92881

Russell L & Susan H Gross
2546 Northmoor Drive
Corona, CA 92882

Russell W & Christine Colgin
2563 Monterey Peninsula Drive
Corona, CA 92882

Salvatore Michael & Dora Marchese
24576 Ashland Drive
Laguna Hills, CA 92653

Salvatore V. & Maria Cangelosi
10102 Briley Way
Villa Park, CA 92861

Ryan W Baker
2910 Via Toscana 202
Corona, CA 92879

S & D Assoc
1020 N Batavia No B
Orange, CA 92867

S P Corona
P O Box 8700
Newport Beach, CA 92658

Saby Ponce
374 Cabrillo Cir
Corona, CA 92879

Sagar Enterprises
240 Crouse Drive
Corona, CA 92879

Sai Shankar Someswar
1463 Ripchak Road
Corona, CA 92879

Said Cohen
1862 Park Skyline Rd.
Santa Ana, CA 92705

Sangita Jaswal
11498 Alder Creek Road
Corona, CA 92880

Santiago C Luna
224 Vicentia Ave
Corona, CA 92882

Current Resident
4468 Feather River Road
Corona, CA 92880

Sally Carmeli
417 Roosevelt Street
Corona, CA 92879

Salome Reyes
439 Wynola Ct
Corona, CA 92879

Salvador & Julie A Sanchez
4576 Pennyroyal Drive
Corona, CA 92880

Salvador & Matilde Chavira
20011 Case Street
Corona, CA 92881

Salvador O Martinez
126 N Vicentia Ave
Corona, CA 92882

Salvador Ordonez
554 Mesa Drive
Corona, CA 92879

Satish K Chopra
230 S Lincoln Ave
Corona, CA 92882

Saul Chevrolet Inc
2550 Wardlow Road
Corona, CA 92880

Sam & Shirley Wattanachinda
532 Newhall Drive
Corona, CA 92879

Sam G & Demetra I Doukas
4081 N Oceanview Street
Orange, CA 92865

Samar Moussa
4747 Valley Glen Drive
Corona, CA 92880

Samit Patel
180 E. Third Street
Corona, CA 92882

Sampson Avenue Pro
1195 Pomona Road
Corona, CA 92882

Samuel B Sam
20141 Corona Street
Corona, CA 92881

Sandra Amelino
4994 Shadydale Lane
Corona, CA 92880

SDCO Hills of Corona Inc.
P O Box 4900 207
Scottsdale, AZ 85261

Current Resident
8891 Research Drive
Irvine, CA 92618

Santiago Rodriguez
2210 North Main Street, Suite #B
Santa Ana, CA 92706

Current Resident
810 San Jacinto Drive
Corona, CA 92879

Santos R & Irene Bahena
7635 Boyd Ave
Corona, CA 92881

Sara Bolanos
1087 Quarry Street
Corona, CA 92879

Sara Mendoza
210 S Belle Ave
Corona, CA 92882

Sarah Kim
1135 Summitridge Drive
Diamond Bar, CA 91765

Sarah Navarro
103 North Buena Vista Avenue
Corona, CA 92882

Current Resident
2121 Mountain View Drive
Corona, CA 92882

Services Collection Recover
P O Box 78120
Corona, CA 92877

Saul Chevrolet Inc
2603 Wardlow Road
Corona, CA 92880

Saul Chevrolet Inc; Cardinale Way
Volkswagen Hyundai
3 Hertzinger Plaza
Seaside, CA 93955

Save Most Desert Rancho
23272 Mill Creek Drive, Suite #330
Laguna Hills, CA 92653

Scott & Mary Rigg
7272 Piute Creek Drive
Corona, CA 92881

Current Resident
11499 Alder Creek Road
Corona, CA 92880

Scott D & Suzanne E Carreiro
7181 Bel Air Street
Corona, CA 92881-3402

SCW
104 Maple Street
Corona, CA 92882

Shaun De Arman
19921 Washington Street
Corona, CA 92881

Shawn Mahdavi
6755 Vista Loma
Yorba Linda, CA 92886

Sean T Shelton
1458 N Euclid Ave
Upland, CA 91786

Sebastian & Angelica Franco
1454 Woodway Ct
Corona, CA 92879

Seema Enterprises LLC
3220 Garretson Cir
Corona, CA 92881

Self Storage Corona Universal
P O Box 8008
Newport Beach, CA 92658

Sena & George Perez
102 N. Buena Vista Ave.
Corona, CA 92882

Senan Picado
409 Dylan Drive
Corona, CA 92879

Current Resident
212 East Grand Blvd.
Corona, CA 92879

Shirley MacArthur
2185 Adams Street
Riverside, CA 92504

Shivmansi Inc
1701 W 6Th Street
Corona, CA 92882

Setu Upadhya
300 N. Flower Street, 7th Floor
P.O. Box 4048
Santa Ana, CA 92702

Seung Myung & Jung Hee Moon
71 Freeland
Irvine, CA 92602

Severiano M. Palacios
107 North Howard Street
Corona, CA 92879

Shane A & Jenny A Kent
20152 Newton Street
Corona, CA 92881

Shanti S & Renu Dewan
6540 E Carnegie Ave
Anaheim, CA 92807

Sharon Franklin
317 Camden Ct
Corona, CA 92879

Sharon Messner
1296 Magnolia Ave
Corona, CA 92879

Soitubtim Resanond
408 Yosemite Cir
Corona, CA 92879

Solomon Shapiro
Corona-Norco United Way
PO Box 1809
Corona, CA 92878

Shehib Jamal Taylor
721 Sugar Ln
Corona, CA 92882

Sherrie King
4901 Green River Road
288
Corona, CA 92880

Sherry G Whitten
P O Box 2124
Corona, CA 92878

Shih Hui Chang
1205 N. Grove Court
Muncie, IN 47304

Current Resident
421 Dylan Drive
Corona, CA 92879

Shirley Brinkhoff
1134 Se 116Th Ct
Vancouver, WA 98683

Shirley Brinkhoff
15303 SE 33rd St.
Vancouver, WA 98683

Stadium Properties LLC
3151 Airway Avenue, Suite #H3
Costa Mesa, CA 92626

Stanley A & Brenda R Morrill
17931 Chalk Creek Drive
Riverside, CA 92504

Shoukat Shafi
1218 D Street
Corona, CA 92882

Shoukat Shafi
1220 D Street
Corona, CA 92882

Shoukat Shafi
2412 Garrelson Ave
Corona, CA 92881

Silverhawk Homeowners Assn
3 Jenner No #100
Irvine, CA 92618

Sky Ridge Holdings
1160 California Ave
Corona, CA 92881

Sofia Schimpf
20193 Klyne Street
Corona, CA 92881

SOG Assoc
1601 Dove Street #190
Newport Beach, CA 92660

State of California
PO BOX 942896
Sacramento, CA 94296-0001

Stater Bros Market
210 Route 4 E
Paramus NJ 07652

Soon K Kim
29433 Southfield #201
Southfield, MI 48076

South Corona Center
11777 San Vicente Blv #702
Los Angeles, CA 90049

South Maple 341
1601 Dove Street #190
Newport Beach, CA 92660

Southern California Edison
P O Box 800
Rosemead, CA 91770

Southern California Housing
Development Corp.
9065 Haven Avenue, Suite #100
Rancho Cucamonga, CA 91730

Southern Pacific Transportation Co
1700 Farnam Street
Omaha, NE 68102

Speedwash Corona
21243 Ventura Blv #200
Woodland Hills, CA 91364

Steve A Hefferan
383 Yellowstone Cir
Corona, CA 92879

Steve King
2870 Clark Ave
Norco, CA 92860

Stanley M & K Elsie Mashita
6752 Auburn Drive
Huntington Beach, CA 92647

Stanley Odie Proctor
515 Corona Ave
Corona, CA 92879

State of California Div of Hwys
1120 N Street
Sacramento, CA 95814-5605

State of California Div of Hwys
3337 Michelson Dr #380
Irvine, CA 92612-8894

State of California
3337 Mlichelson Dr Ste380
Irvine, CA 92612

State of California
3347 Michelson Dr # 100
Irvine, CA 92612-0661

State of California
P.O. Box 231
San Bernardino, CA 92402

Stitt Land Enterprises
3165 Palisades Drive
Corona, CA 92880

Stonebridge Corona Apartments
3525 Lomita Blv No #200
Torrance, CA 90505

Stephanie Willems
550 Mesa Drive
Corona, CA 92879

Stephen A & Marie C Lemmon Balsamo
5505 Summerwood Ln
Yorba Linda, CA 92886

Stephen C & Caren Marie Cua
417 Yellowstone Cir
Corona, CA 92879

Stephen F & Cathleen A Larson
19221 Box Canyon Drive
Corona, CA 92881

Stephen R & Sheila Schulze
2107 Santa Anita Road
Norco, CA 92860

Steve & Catherine D Trotter
20330 Corona Street
Corona, CA 92881

Current Resident
1611 Canyon Ct
Corona, CA 92882

Susan Bobak
20177 Corona Street
Corona, CA 92881

Susan M Cabral
7300 Piute Creek Drive
Corona, CA 92881

Steve Lous
3381 Montainside Drive
Corona, CA 92882

Steve Sanders
24327 Swift Deer Trail
Corona, CA 92883

Steven & Lydia L Castaneda
424 Royal Cir
Corona, CA 92879

Steven J & Gloria L Herrera
19850 Katy Street
Corona, CA 92881

Steven L & Carol L Shaffer
7229 Bel Air Street
Corona, CA 92879

Steven M & Ida L Craft
18410 Compton Ave
Corona, CA 92881

Steven R & Vicky M Fitz
1870 Bel Air Street
Corona, CA 92879

T Fernando & Olivia Fuentes
1523 S Gold Canyon Drive
Diamond Bar, CA 91789

Tabatha L Davis
409 Roosevelt Street
Corona, CA 92879

Storage Direct at Corona
23211 S Pointe Drive
Laguna Hills, CA 92653

Strata Realty
2433 Pomona Road
Corona, CA 92880

Stuart L. & Anne Johnson
2860 W. Lynrose Dr.
Anaheim, CA192804

Sunny Creek LTD LP
5850 Avenida Encinas, Suite A
Carlsbad, CA 92008

Sunny Creek Prop
2847 Campus Pkwy
Riverside, CA 92507

Sunshine Ltd
6124 Avalon Ct
Long Beach, CA 90803

Current Resident
2908 Dorchester Cir
Corona, CA 92879

Current Resident
2940 Via Toscana Street 103
Corona, CA 92879

Tavita Aguiare
111 W. School Street
Corona, C 92882

Susan M Salcido
924 E 3rd Street
Corona, CA 92879

Susan Sae Hyun Kim
519 Silverhawk Drive
Corona, CA 92879

Current Resident
310 S Victoria Ave
Corona, CA 92879

Susy Fernandez
11570 Orion Street
Riverside, CA 92505

Suzanne Adame
659 E. Francis St.
Corona, CA 92879-2510

Suzanne Lewis
11547 Merryhill Drive
Corona, CA 92880

Suzanne Page
11549 Queensborough Street
Riverside, CA 92503

Teresa E & Vera Lopez
214 S Belle Ave
Corona, CA 92882

Teresa Gonzalez
P O Box 10905
Santa Ana, CA 92711

Taco Bell Corp
P O Box 35370
Louisville, KY 40232

Tai H & Huong Kim Tran
439 Dylan Drive
Corona, CA 92879

Tan Thi & Thai Hong Nguyen
449 Dylan Drive
Corona, CA 92879

Tanh Thien & Chimy Vu Ngo
401 Mondale Street
Corona, CA 92879

Tanner Prop
1267 Enterprise Ct
Corona, CA 92882

Tarek El-Maissi
6865 Airport Drive
Riverside, CA 92504

Tarek Z. Salloum
2296 Pine Crest Drive
Corona, CA 92882

Theopacific Corona Ltd I
17291 Irvine Blv #254
Tustin, CA 92780

Theresa Aragon Borrego
371 Glacier Cir
Corona, CA 92879

Tavita V. Aguirre
111 School Street
Corona, CA 92882

TD Riverside Meadows
190 Newport Cntr Dr #100
Newport Beach, CA 92660

TD Temescal Partners
5505 Garden Grove Blv
Westminster, CA 92683

Current Resident
11585 Norgate Cir
Corona, CA 92880

Tellar Properties
240 Teller Street
Corona, CA 92879

Teodora Lee
19235 Box Canyon Drive
Corona, CA 92881

Terence E & Ingrid C Stow
7251 Sarsaprilla Drive
Corona, CA 92881

Thomas M & Diana Jean Conenna
1781 Bel Air Street
Corona, CA 92879

Thomas M & Jessica R Lejano
371 Camden Ct
Corona, CA 92879

Teresa Linares & Victoria Bravo
1010 E 3rd Street
Corona, CA 92879

Terry E & Marisela O Solesbee
20444 Corona Street
Corona, CA 92881

Terry L Negri
11587 Queensborough Street
Riverside, CA 92503

Tesoro South Coast Co
19100 Ridgewood Parkway
San Antonio, TX 78259

Tessie Viall
378 Cabrillo Cir
Corona, CA 92879

Current Resident
440 Dylan Drive
Corona, CA 92879

Theodore W & Vicki K Anderson
1020 Via Blairo
Corona, CA 92879

Tim O'Brien
Premier Service Bank
102 E. 6th Street
Suite 100
Corona, CA 92879

Timothy C & Adrienne A Kearns
20050 Case Street
Corona, CA 92881

Current Resident
375 Glacier Cir
Corona, CA 92879

Thomas & Elysia Robinson
20183 Klyne Street
Corona, CA 92881

Thomas & Patricia Degraw
11481 Alder Creek Road
Corona, CA 92880

Thomas A & Wanda L Parks
2610 State St
Corona, CA 92881

Thomas E & Karola Bush
19997 Washington Street
Corona, CA 92881

Thomas J & Romelia S Johnson
386 Glacier Cir
Corona, CA 92879

Thomas J. & Pamela J. Cantonwine
2054 Ridgeview Terrace
Corona, CA 92882

Current Resident
7335 Gingersnap Drive
Corona, CA 92881

Todd R & Jennifer N Cottle
PO BOX 311
Tustin, CA 92781

Thomas Mcquillan
11579 Queensborough Street
Riverside, CA 92503

Thomas S & Charlene D Theiss
386 Hobart Cir
Corona, CA 92879

Three JL LP
6291 Orangethorpe Ave
Buena Park, CA 90620

Thrifty Oil Co
13116 Imperial Hwy
Santa Fe Springs, CA 90670

Thrifty Oil Co
PO Box 5015
Buena Park, CA 90623

Ti Ta & Shun Jong H Lee
9330 Balboa Ave
San Diego, CA 92123

Current Resident
2910 Via Milano 202
Corona, CA 92879

Tony R & Armida R Padilla
6906 Orozco Drive
Riverside, CA 92506

Tony Rahimian
6 Hutton Center Drive
Santa Ana, CA 92707

Timothy James & Jennifer Klarr Smith
645 Newhall Drive
Corona, CA 92879

Timothy M & Darcy A Hodges
7211 Sarsaprilla Drive
Corona, CA 92881

Timothy Patrick & Jennifer Joan Buckley
22895 Eastpark Drive
Yorba Linda, CA 92887

Current Resident
420 Colfax Cir
Corona, CA 92879

Todd & Laura L Balisky
1780 Laurel Canyon Way
Corona, CA 92881

Todd Brent Reagan
444 Rushmore Drive
Corona, CA 92879

Todd Cottle
311 S Buena Vista Ave
Corona, CA 92882

Trina G Frantela
3081 Arbor Glen Ct
Corona, CA 92879

Trinh Nguyen
405 Yellowstone Cir
Corona, CA 92879

Tokuko & Claude Newsome
7233 Bel Air Street
Corona, CA 92879

Tom & Evet Hexamer
11544 Merryhill Drive
Corona, CA 92880

Tom C & Tomoko T Ruiz
121 E 4Th Street
Corona, CA 92879

Tom Rodenbach
2940 Via Milano Road 102
Corona, CA 92879

Tom Ruiz
1805 W. 1st Street
Norco, CA 92860

Tony Cron
4545 Feather River Road
Corona, CA 92880

Tony L & Carol J Ackerman
19880 Katy Street
Corona, CA 92881

U Move N Store
325 W Collins Ave
Orange, CA 92667

U S Bank Natl Assn
4828 Loop Central Drive
Houston, TX 77081

Tonya Renee Gachett
429 Dylan Drive
Corona, CA 92879

Top of The Hill
222 S Promenade Ave
Corona, CA 92879

Current Resident
2495 Anselmo Drive
Corona, CA 92879

Toura LP #5
3972 Barranca Pkwy
Irvine, CA 92606

Trace & Tinamarie Gallagher
1670 Laurel Canyon Cir
Corona, CA 92881

Tracy J Lelevier
2600 State St
Corona, CA 92881

Travis Vivian Kimble
2537 Monterey Peninsula Drive
Corona, CA 92882

Trevor N & Heather C Byers
1431 Ripchak Road
Corona, CA 92879

Property Owner
629 Ford Street
Corona, CA 92879

Uwe K & Heike Paasch
P O Box 1355
Corona, CA 92878

Trinidad P & Fidelia Siordia
530 Mesa Drive
Corona, CA 92879

Triple Point Prop
1442 E Lincoln Ave #136
Orange, CA 92865

Trung Mai Lieu
386 Arthur Cir
Corona, CA 92879

Current Resident
1959 Quiet Ranch Road
Fallbrook, CA 92028

TTI Realty Group
1555 Consumer Cir
Corona, CA 92880

Current Resident
401 N Arthur Cir
Corona, CA 92879

Turner Riverwalk
31500 Quail Street #150
Newport Beach, CA 92660

TV Prop
1095 E Colorado Blv
Pasadena, CA 91106

Veronica T & Alicia D Navarro
1205 D Street
Corona, CA 92882

Current Resident
149 Via Trevizio
Corona, CA 92879

Ultima Tech Inc
P O Box 3525
Mckinney, TX 75070

Umesh & Ranjanben Patel
2355 Taylor Ave
Corona, CA 92882

Unilever Supply
700 Sylvan Ave
Englewood Cliffs, NJ 07632

United El Segundo Inc.
17311 S Main Street
Gardena, CA 90248

United Rentals Northwest Inc
PO BOX 4900
Scottsdale, AZ 85261

Current Resident
11617 Queensborough Street
Riverside, CA 92503

US Rentals Inc
925 4Th Ave #3300
Seattle, WA 98104

USA 101Vacant Land
No address listed

Victor L & Cynthia M Amet
11491 Alder Creek Road
Corona, CA 92880

Current Resident
2525 Wardlow Road
Corona, CA 92882

Vahe Balian
19682 Lonestar Lane
Riverside, CA 92508

Valley Partners
1726 Manor Drive
Vista, CA 92084

Van L & Sheri Barbre
20010 Kayne Street
Corona, CA 92881

Vanta Holdings
12393 Doherty Street
Riverside, CA 92503

Varkatzas Family Trust
24657 Via Buena Suerte
Yorba Linda, CA 92887

Vector Control Dist Northwest Mosquito
1966 Compton Ave
Corona, CA 92881

Verlin C Drew
12301 Doherty Street
Riverside, CA 92503

Veronica Sainz
2545 Monterey Peninsula Drive
Corona, CA 92882

Current Resident
1323 Valley View Ave
Norco, CA 92680

Vincent J & Clara A Verdi
7110 Sawmill Road
Corona, CA 92881

Vicente & Rosario Pereda
19431 Dry Gulch Road
Corona, CA 92881

Vicente Valdovinos Quiroz
149 N Cota Street
Corona, CA 92882

Vicki McKeluy
7362 Spindletop Drive
Corona, CA 92881

Vicki S McAdams
2910 Via Toscana 103
Corona, CA 92879

Victor & Carlyn Genova
915 Mandevilla Way
Corona, CA 92879

Victor & Vicenta Bautista
3588 Paine Drive
Riverside, CA 92503

Current Resident
21805 Lake Mathews Drive
Perris, CA 92570

Victor G & Catherine B Tessier
PO BOX 838
Pomona, CA 91769

Wal-Mart Stores Inc.
1301 SE 10Th Street
Bentonville, AR 72716

Walter C & Shirley Algene Adams
920 Corona Ave
Corona, CA 92879

Victor M Alfaro Bello
1911 Via Santiago
Corona, CA 92882

Victor M Madrigal
2511 Griffin Way
Corona, CA 92879

Victor Rodriguez
19186 Box Canyon Drive
Corona, CA 92881

Victor Ventura
312 Gilmore Drive
Corona, CA 92879

Victoria D Gonzales
2951 Toscana 201
Corona, CA 92879

Victoria Sandoval
145 N Merrill Street
Corona, CA 92882

Viktor Racz
2901 Via Tascana 202
Corona, CA 92879

Villa Corona Mobile Home Park
16902 Bolsa Chica Street #203
Huntington Beach, CA 92649

Wayne & Denise Stovall
1885 Bel Air Street
Corona, CA 92881

Wayne & Lonnie Rayford
330 Cypress Ct
Corona, CA 92879

Vinh Phuong & Lerie B Nguyen Tran
425 Arthur Cir
Corona, CA 92879

Viren Shah
571 Ruth Cir.
Corona, CA 92879

Virginia A Mccorkell
135 N Merrill Street
Corona, CA 92882

Virginia Quirarte
332 Camden Ct
Corona, CA 92879

Current Resident
329 Camden Ct
Corona, CA 92879

W. Vazac
1080 Pomona Rd
Corona, CA 92882

Current Resident
411 Mondale Street
Corona, CA 92879

Current Resident
400 Hamlin Cir
Corona, CA 92879

William A & Joanna M Traverse
435 Newhall Drive
Corona, CA 92879

Current Resident
622 Mesa Drive
Corona, CA 92879

Current Resident
1788 Claycord Ave
Concord, CA 94521

Walter Ocala Plapit
421 N Arthur Cir
Corona, CA 92879

Wardlow Road Dev
3598 Center Ave
Norco, CA 92860

Waren P. Kaye
22545 Barton Rd. Suite 205
Grand Terrace, CA 92882

Warren Richard & Theresa Elizabeth Stockwell
4568 Pennyroyal Drive
Corona, CA 92880

Watson Laboratorie Inc
311 Bonnie Cir
Corona, CA 92880

Watson Land Co
22010 S Willmington #400
Carson, CA 90745

Current Resident
100 Pacifica #350
Irvine, CA 92718

William L & Jefferie L James
4714 Valley Glen Drive
Corona, CA 92880

William L & Peggy A Wandelear
652 Mesa Drive
Corona, CA 92879

Wayne & Tina Kanemoto
2551 Northmoor Drive
Corona, CA 92882

Wells Fargo Bank Nat'l Assn
1270 Northland Dr #200
Mendota Heights, MN 55120

Wells Fargo Bank
14523 SW Millikan, #200
Beaverton, OR 97005

Wells Fargo Bank
1757 Tapo Canyon Road
Simi Valley, CA 93063

Wendell Bradford
905 E. Third Street
Corona, CA 92879

Wallace R & Sandra L Mackenzie
20188 Klyne Street
Corona, CA 92881

Wilfredo Dungo
441 Pike Drive
Corona, CA 92879

William & Anne Mendralla
4732 Satin Bell Drive
Corona, CA 92880

William W & Linda Mary Castleman
7325 Piute Creek Drive
Corona, CA 92881

Willie & Connie Grissom
855 Mandevilla Way
Corona, CA 92879

William C & Janet C Silke
12315 Doherty Street
Riverside, CA 92503

William D Hanshaw
13968 Goldenwest Street
Westminster, CA 92683

William Devlin
512 Newhall Drive
Corona, CA 92879

William E & Eva M Clark
2580 State St
Corona, CA 92881

William E & Gladys Williams
7231 Sarsaprilla Drive
Corona, CA 92881

William G Hanmer
19150 Streetate Street
Corona, CA 92881

William J & Joan Kourkos
19810 Evelyn Street
Corona, CA 92881

William J Brock
19440 Blacksmith Path
Corona, CA 92881

X Doherty Auto Compl
45325 Sage Ln #6
Palm Desert, CA 92260

Yacoub A & Genevieve Saba
25302 Wilkes Pl
Laguna Hills, CA 92653

William Landis
1901 Avenue of Stars #670
Los Angeles, CA 90067

William Liberty
424 Bristol Way
Corona, CA 92879

William M & Doris E Worrell
219 N Lincoln Ave
Corona, CA 92882

William R & Lynne M Houtchens
7365 Piute Creek Drive
Corona, CA 92881

William R & Marilyn C Bridges
7282 Piute Creek Drive
Corona, CA 92881

William S & Joetta L Celaya
333 Termino Ave
Corona, CA 92879

William Seigler
18317 Maria Place
Cerritos, CA 90703

William T Badger
1154 Bridgeport Road
Corona, CA 92882

Yorba Linda Water District
P O Box 309
Yorba Linda, CA 92885-0309

Yoshi Suzuki
1985 Sampson Avenue
Corona, CA 92879

Wilton F & Janice M Wilson
380 Via Capri 101
Corona, CA 92879

Wilton K Newby
P O Box 8067
Riverside, CA 92515

Wong Robert K & Mal Ltd Partnership
2384 Hoxie Drive
Tustin Ranch, CA 92782

Woodrow Harpole
63 W. Grand Boulevard
Corona, CA 92882

Woodrow W Harpole
3151 Airway Ave #H3
Costa Mesa, CA 92626

WP & Son Inv
510 S. Brea Boulevard
Brea, CA 92821

Wurtman Prop
11108 Rockridge Way
Bakersfield, CA 93311

Wurtman Prop
PO BOX 81782
Bakersfield, CA 93380

Don Cao
15334 Least Bells Court
Riverside, CA 92503

Harv Dykstra
34860 Western Way
Wildomar, CA 92595

Yale E. Tucker
P.O. Box 7974
Newport Beach, CA 92658

Yatish Chaudhri
8367 E. Chadwick
Orange, CA 92867

Genevieve & Yacoub
10808 6th Street
Rancho Cucamonga, CA 91730

Yolanda Chou
12178 Scenic View Ter
Riverside, CA 92505

Yolanda Murillo
2901 Via Toscana 108
Corona, CA 92879

Yolanda Romo
721 Poplar Ln
Corona, CA 92882

Yoncey E Delatorre
7315 Gingersnap Drive
Corona, CA 92881

Yong In Kang
7949 E Viewrim Drive
Anaheim, CA 92808

Eric Broostin
219 N. Second Street, # 301
Mineapolis, MN 55401

Rose Pierro
4792 Kellogg Cr
Boulder, CO 80303

Current Resident
3015 Arbor Glen Ct
Corona, CA 92879

Z Corona Prop
1195 Pomona Road
Corona, CA 92882

Zacarias A & Estrellita R Pascasio
3579 Paine Drive
Riverside, CA 92503

Zahra R Ahmadi
4624 Pennyroyal Drive
Corona, CA 92880

Zeeshan & Mohiuddin Hasan
348 Cypress Ct
Corona, CA 92879

Zenny Mamdani
963 Haley Talbert Drive
Corona, CA 92881

Zoella Mae Jensen
7137 Bel Air Street
Corona, CA 92881-3402

R&G Metal Trading
4740 Green River Road
Corona, CA 92880-9185

Bill Hurtado
Accor North America
4001 International Parkway
Carrollton , TX 75007

Monica Chavez
3131 Glenhurst Ave.
Los Angeles, CA 90039

Jolene Fuentes
901 East Third Street
Corona, CA 92879

Bill Hurtado
Accor North America
4001 International Parkway
Carrollton, TX 75007

David Myers
The Wildlands Conservancy
39611 Oak Glen Road, Bldg. 12
Oak Glen, CA 92399

Lena Kent
Burlington Northern Santa Fe
740 E. Carnegie Drive
San Bernardino, CA 92408

Bryn Jones
California Wilderness Coalition
4065 Mission Inn Avenue
Riverside, CA 92501

Rick Estes
Sierra Club
4079 Mission Inn Avenue
Riverside, CA 92501-3204

Norbert Cichocki
Corona Chamber of Commerce
904 E. 6th Street
Corona, CA 92879

Kerry Pendergast
Corona Chamber of Commerce
904 E. 6th Street
Corona, CA 92879

Glenn Carter
2505 190th Street
Redondo Beach, CA 90728

Darlene Moyer
1289 Barcelona Street
Corona, CA 92282

Daisy Chen
Top One Appraisal
2434 Jackson Avenue
Rosemead, CA 91770

Edward Bonadiman
Joseph E. Bonadiman & Associates, Inc.
234 N. Arrowhead Avenue
San Bernardino, CA 92408

Vince Denman
8955 Delano Drive
Riverside, CA 92503

Ernie Ortiz
11055 Middleborough Road
Riverside, CA 92503

Brian Hall
4193 Flat Rock Drive, Unit 100
Riverside, CA 92505

Justin Christopher
1615 Eastridge Avenue
Riverside, CA 92507

James Miller
13444 Hildegarde Street
Moreno Valley, CA 92553

Robert Fallon
24428 Ridgewood Drive
Murieta, CA 92562

Harv Dykstra
34860 Western Way
Wildomar, CA 92595

Lance Perry
Marcus & Millichap
19800 MacArthur Blvd, # 150
Irvine, CA 92612

Roberto Lopez
3764 Roosevelt St.
Riverside, CA 92503

John Hulett
12583 Orange Blossom Lane
River, CA 92503

Joan Rudisil
650 Town Center Drive
Costa Mesa, CA 92626

John Murphy
Murphy & Evertz Attorneys at Law
650 Town Center Drive, Suite 550
Costa Mesa, CA 92626

Jason Nguyen
8952 McClure Avenue
Westminster, CA 92683

Julie Goldsworth
Taubenhaus, Inc.
20702 Linear Lane
Lake Forest, CA 92630

Don Archer
16601 Gothard Street, Suite F
Huntington Beach, CA 92647

Patrick Delaney
1004 W. Taft Ave, # 150
Orange, CA 92865

Yatish Chaudhri
8367 E. Chadwick Parkway
Orange, CA 92867

Lorie Grose
260 N. Oak Street, Apt A
Orange, CA 92867

Alan Callahan
510 E. Second Street
Corona, CA 92879

Shawn J. Ketler
500 N. State College Blvd, #100
Orange, CA 92868

Edith Duffey
2901 Via Toscana, Unit 201
Corona, CA 92879

Eric Frickle
Commerical Realty Services
420 McKinley Street, # 111-451
Corona, CA 92879

Chris Bryant
Westside Properties
275 Teller Street
Corona, CA 92879

Chris Bryant
Westside Properties
280 Teller Street
Corona, CA 92879

Chris Bryant
Westside Properties
284 Dupont Street
Corona, CA 92879

Jolene Fuentes
901 E. Third Street
Corona, CA 92879

Brian Hall
Lee & Associates
105 Pearl Street
Corona, CA 92879

Steve Singer
416 E. Monterey Road
Corona, CA 92879

David Marine
Herron Companies
1340 El Sobrante Road
Corona, CA 92879

Henry Murga
312 E. Grand Blvd
Corona, CA 92879

Henry Murga
314 E. Grand Blvd
Corona, CA 92879

John Talacios
901 E. Third Street
Corona, CA 92879

Greg Tesdahl
2920 Via Milano # 202
Corona, CA 92879

Randall Travis
1422 Golden Eagle Drive
Corona, CA 92879

Altoosa Vikili
Serena LP
212 E. Grand Blvd
Corona, CA 92879

Bruce Anast
14045 Lemon Valley Ave
Corona, CA 92880

Jolene Wright Fontes
T&T Enterprises
901 E. Third Street
Corona, CA 92879

James Fago
Indian Motorcycles
1611 Pomona Road
Corona, CA 92880

Rani Pir
1853 Noah Drive
Corona, CA 92880

Bruce Rouman
963 Nottingham Drive
Corona, CA 92880

Guido Pieri
7335 Bel Air Street
Corona, CA 92881

Gabriel & Veronica Ortega
2212 State Street
Corona, CA 92881

Khoa Tran
1501 East Chase Drive
Corona, CA 92881

Juan Pari
729 Buckeye St
Corona, CA 92881

Guido Pieri
7335 Bel Air Street
Corona, CA 92881

Joe Vargas
1256 D Street
Corona, CA 92882

Dennis Frank & Pamela Ann Harvath
165 Washburn Circle
Corona, CA 92882

Hilda Albelo
206 S. Buena Vista Ave #52
Corona, CA 92882

Rich Amato
3333 Deaver Drive
Corona, CA 92882

Ron Ayers
2276 Ridgeview
Corona, CA 92882

Donald Eazell
3195 Nutmeg Drive
Corona, CA 92882

Doug Ferriri
1141 Pomona Road
Corona, CA 92882

Doug Ferriri
1149 Pomona Road
Corona, CA 92882

Doug Ferriri
1151 Pomona Road
Corona, CA 92882

Doug Ferriri
1159 Pomona Road
Corona, CA 92882

Doug Ferriri
1151 Pomona Road
Corona, CA 92882

Jeff Geyer
2493 Northmoor Drive
Corona, CA 92882

Senya Gonzalez
104 N. Belle Avenue
Corona, CA 92882

Woodrow Harpole
206 S. Buena Vista
Corona, CA 92882

Woodrow Harpole
321 S. Lincoln Avenue
Corona, CA 92882

Daniel & Coleen Herrera
307 S. Smith Ave, Trl 90
Corona, CA 92882

Edward Hopkins
1035 Silvercreek Road
Corona, CA 92882

Mariertta La Valley
4051 Mount Elena Circle
Corona, CA 92882

Allen Li
128 S. Vicentia Avenue
Corona, CA 92882

Judy A Linvail
200 N. Lincoln
Corona, CA 92882

Juan Manuel
104 N. Belle Avenue
Corona, CA 92882

David Marine
Travel Lodge
1701 W. 6th Street
Corona, CA 92882

Linda Mayer
3340 New York Drive
Corona, CA 92882

Mike Mohr
1452 Pomona Road
Corona, CA 92882

Dustin Mowcomber
813 Carolina Circlie
Corona, CA 92882

Blanca Murguia
201 S. Sheridan Ave
Corona, CA 92882

Jessica Thuong Woike
PECG
455 Capitol Mall, Suite 501
Sacramento, CA 95814

c/o Community Relations
City TV 3, Chino Hills
2001 Grand Avenue
Chino Hills, CA 91709

(No Name)
107 N. Sheridan Street
Corona, CA 92882

Cheryl Ramirez
101 N. Vicentia Ave.
Corona, CA 92882

Martin and Vicki Rivera
641 Colonial Drive
Corona, CA 92882

George Saucedo
307 S. Smith Ave, Space 42
Corona, CA 92882

Marla and Himanshu Shah
Lincoln Smoke Shop
401 S. Lincoln Avenue
Corona, CA 92882

Linnet and Joe Sharifi
Corona Marine and Auto Center
255 W. Grand Blvd
Corona, CA 92882

Sandra Sierra
307 S. Smith Ave
Corona, CA 92882

Brittany Soares
128 S. Vicentia Ave
Corona, CA 92882

Heidi Sutton
2351 Via Pacifica
Corona, CA 92882

Cathy Tessier
1501 Pleasant View Ave
Corona, CA 92882

Dallas Tuff
Gordon Automotive Group & Quality West Wing
1700 W. 6th Street
Corona, CA 92882

Alysia Vaccarro
CPI Properties
100 N. Lincoln Avenue
Corona, CA 92882

Benjamin Valderas Figueroa
117 N. Cota Street
Corona, CA 92882

Maria Olga Velasco
206 S. Buena Vista, Space 27
Corona, CA 92882

Shawn Williams
1238 W. 6th Street
Corona, CA 92882

Bruce Wood
Chino Hills Champion
P.O. Box 607
Chino, CA 91708

Stephanie Blanco
Parsons
3200 E. Guasti Road, #200
Ontario, CA 91761

Tim Haile
RBF
3300 Guasti Road, #100
Ontario, CA 91761

Jack in the Box
9330 Balboa Avenue
San Diego, CA 92123

Affordable Truck and RV
11854 Marisposa Road
Hesperia, CA 92345-1634

Dug Begley
The Press Enterprise
3450 14th Street
Riverside, CA 92501

Adam Gonzalez
Terminix International Company
1660 Chicago Ave. #M-21
Riverside, CA 92504

Jamil Dada
Riverside Workforce Development Centers
1151 Spruce Street
Riverside, CA 92507

Nancy Leaman
The Valley Group
39899 Longleaf Street
Temecula, CA 92591

Neil McInnes
El Dorado Ranch - McInnes
P.O. Box 79093
Corona, CA 92877

El Prado Golf Course
6555 Pine Avenue
Chino, CA 91708

B. Krause
11010 Jurupa Road
Mira Loma, CA 91752

Mark Petix
Inland Valley Daily Bulletin
2041 E. Fourth Street
Ontario, CA 91764

William Hatch
1281 Dominguez Ranch Road
Corona, CA 92282

Myrna Roberts
KNX-AM 1070
1238 Pecos
Redlands, CA 92374

Mike West
Urban Cross Roads
3685 Main Street
Riverside, CA 92501

Bill McCaughey
Inland Empire Commuter Services
7355 Magnolia Avenue
Riverside, CA 92504

Bob Rizak
KGGI-FM 99.1
2030 Iowa Avenue, #A
Riverside, CA 92507

Vinyl Fence America Co.
28052 Camino Capistrano #106
Laguna Niguel, CA 92677-1106

Al Lopez
P.O. Box 1773
Corona, CA 92878

American Medical Response
7925 Center Avenue
Rancho Cucamonga, CA 91730

James P Cunneen
Group Delta Consultants
4201 Santa Ana St. #F
Ontario, CA 91761

Schaefer Ambulance Service Inc.
324 N. Towne Avenue
Pomona, CA 91767

Jeff Davis
KFRG-FM 95.1
900 E. Washington, #315
Colton, CA 92334

David Wylie
KOLA-FM 99.9
1940 Orange Tree Lane
Redlands, CA 92374

Eric Haley
Germania Corporation
7095 Indiana Ave., 2nd Floor
Riverside, CA 92506

Kevin Wolf
Germania Corporation
7095 Indiana Ave., 2nd Floor
Riverside, CA 92506

American Medical Response
879 Marlborough Avenue
Riverside, CA 92507

Inland Medical Response Inc.
1440 S. State College Blvd., #6H
Anaheim, CA 92806-5724

Lucky Greek Burgers
3852 N. McKinley Street.
Corona, CA 92878

H. Spiegel
1128 E. 6th Street
Corona, CA 92879

Sherry Smith
Green River Village Mobile Home Park
4901 Green River Road, Space 261
Corona, CA 92880

Allstate Insurance
4230 Green River Road
Corona, CA 92880

Bay Water Pool & Spas
4375 Prado Road, #101
Corona, CA 92880

Carl's Jr.
4718 Green River Road
Corona, CA 92880

Coco's Restaurant
4714 W. Green River Road
Corona, CA 92880

Corona Business Center
4300 Green River Road, #112
Corona, CA 92880

DR Horton Builder
2280 Wardlow Circle, #100
Corona, CA 92880

Faith Fellowship Bible Church
4225 Prado Road, #105
Corona, CA 92880

Green River Escrow
4190 Green River Road
Corona, CA 92880

Andrea Yendle & Stephen McGonigle
4469 Feather River Road
Corona, CA 92880

A Classy Nails & Spa
4300 Green River Road, #113
Corona, CA 92880

Aurora Behaviorial Health Care
4238 Green River Road, #101-201
Corona, CA 92880

Bilingual Care Solutions, Inc.
342 Bonnie Circle
Corona, CA 92880

Ceramtek
2652 Pomona Road, #A
Corona, CA 92880

Controlled Products Systems
2425 Pomona Road
Corona, CA 92880

Corona Harley-Davidson Shop
2410 Wardlow Road, #105
Corona, CA 92880

D's Doughnuts
4300 Green River Road, #116
Corona, CA 92880

Galaxy Nail Products
4375 Prado Road, #105
Corona, CA 92880

Green River Family Dentistry
4300 Green River Road, #105
Corona, CA 92880

Mission Ambulance Inc.
1055 E. 3rd Street
Corona, CA 92879

Air Techniques
291 Bonnie Lane, #101
Corona, CA 92880

Avalar of Southern California
4225 Prado Road, #106
Corona, CA 92880

Business Building
4740 Green River Road
Corona, CA 92880

Chevron Gas Station
4710 W. Green River Road
Corona, CA 92880

Corona Auto Body, Inc.
255 Auto Center Drive
Corona, CA 92880

Dental Health Corona
4264 Green River Road, #102
Corona, CA 92880

F Rogers Insulation Interiors
341 Bonnie Circle, #100
Corona, CA 92880

GEO, Inc.
4375 Prado Road, #103
Corona, CA 92880

Manager
Green River Homeowners Association
11350 Crestridge Drive
Corona, CA 92880

Henri Specialties
4375 Prado Road, #102
Corona, CA 92880

Hexis USA, LLC
4375 Prado Road, #106
Corona, CA 92880

Homefinding Center
4300 Green River Road, #118
Corona, CA 92880

ICI Paints
2410 Wardlow Road, #110
Corona, CA 92880

ISU Insurance Service
2469 Pomona Road, #101
Corona, CA 92880

J Sushi Grill
4300 Green River Road, #107
Corona, CA 92880

Jenson USA Bicycles
2410 Wardlow Road, #109
Corona, CA 92880

LA Mattress/LA Carpet
2410 Wardlow Road, #107
Corona, CA 92880

Meridian Worldwide Transportation
4226 Green River Road, #201
Corona, CA 92880

Mesa West International
2451 Pomona Road
Corona, CA 92880

Metro Republic Commercial Service
320 Bonnie Circle
Corona, CA 92880

Newport Beach Fitness Equipment
2410 Wardlow Road, #103
Corona, CA 92880

No Limitz Motorsports
4325 Prado Road, #104
Corona, CA 92880

One Stop Minimart
4300 Green River Road, #115
Corona, CA 92880

OTM Fight Shop
2410 Wardlow Road, #108
Corona, CA 92880

Pizza Factory
4300 Green River Road, #111
Corona, CA 92880

Platimum Audio Car Stereo
2410 Wardlow Road, #111
Corona, CA 92880

Randi's Ceramics
4375 Prado Road, #107
Corona, CA 92880

Rehau Inc.
4254 Green River Road
Corona, CA 92880

Richard's Neon Shop
4375 Prado Road, #102
Corona, CA 92880

Royal Cleaner
4300 Green River Road, #117
Corona, CA 92880

Saint Christopher Adult Day Healthcare
4300 Green River Road, #109
Corona, CA 92880

Sheldon Precision Grinding
2401 Pomona Road
Corona, CA 92880

Shell Gas Station
4721 W. Green River Road
Corona, CA 92880

Sierra Del Oro Storage
3915 Green River Road
Corona, CA 92880

Sterigenics International
344 Bonnie Circle
Corona, CA 92880

Taco Bell
4718 W. Green River Rd., #A
Corona, CA 92880

The Rock Financial Group
4214 Green River Road
Corona, CA 92880

Vasani & Associates
4230 Green River Road, #101
Corona, CA 92880

Volt Telecom Group
4210 Green River Road
Corona, CA 92880

Windy Plum Farms, Inc.
4300 Green River Road, #106
Corona, CA 92880

World Financial Group
4234 Green River Road, #101-201
Corona, CA 92880

World Group Securities
4222 Green River Road
Corona, CA 92880

Frank Zwayne
Pro Dent Lab
3115 Palisades Dr.
Corona , CA 92880-9432

Patrick Akes
500 W. 7th Street
Corona, CA 92882

Tom Alexander
2023 Adobe Avenue
Corona, CA 92882

Sally W. Andreatta
Curtain Call Performing Arts Academy of Corona
1121 Bradford Circle
Corona, CA 92882

Michael Aouon
2700 Hidden Hills Way
Corona, CA 92882

Gabriel Garcia
Corona Senior Center
921 S. Belle Avenue
Corona, CA 92882

Kathy Houlk
3575 Sweetwater Circle
Corona, CA 92882

Allstar Staffing
2771 Green River Road, #102
Corona, CA 92882

Community Access Network
2791 Green River Road, #101
Corona, CA 92882

Arco am/pm
800 Serfas Drive
Corona, CA 92882

Bank of America
2601 Green River Road
Corona, CA 92882

Seth and Benham Lisa Bernstein
2791 Green River Road, #107
Corona, CA 92882

Bosch Auto Group
2683 Wardlow Road
Corona, CA 92882

Casa Taquito
2721 Green River Road, #106
Corona, CA 92882

Chevron Gas Station
2270 Frontage Road
Corona, CA 92882

Children's Montessori Center
2791 Green River Road, #112
Corona, CA 92882

China Garden
2681 Green River Road, #102
Corona, CA 92882

Christian Heritage School
1450 W. 6th Street, #11
Corona, CA 92882

Corona Nissan
2575 Wardlow Road
Corona, CA 92882

Countours Express
2791 Green River Road, #108
Corona, CA 92882

CSP Communications Inc.
2755 Wardlow Road #101
Corona, CA 92882

Del Taco
2260 Frontage Road
Corona, CA 92882

Destination Coffeehouse
2681 Green River Road, #101
Corona, CA 92882

Dv's Video
2721 Green River Road, #104
Corona, CA 92882

Fantastic Sam's
2621 Green River Road, #106
Corona, CA 92882

Greg Blash & Associates
2791 Green River Road, #104
Corona, CA 92882

Hair Waves of California
2721 Green River Road, #105
Corona, CA 92882

Happy Tails Grooming Salon
2621 Green River Road, #104
Corona, CA 92882

HJ Kim's Tae Kwon Do
2641 Green River Road, #101
Corona, CA 92882

IHOP Restaurant
2450 Wardlow Road
Corona, CA 92882

In N Out Burger
450 Auto Center Drive
Corona, CA 92882

Jack in the Box
2711 Green River Road
Corona, CA 92882

Lovely Nails
2791 Green River Road, #105
Corona, CA 92882

Lyall RW
2665 Research Drive
Corona, CA 92882

Mary's Hallmark
2641 Green River Road, #102
Corona, CA 92882

McDonald's
808 Serfas Drive
Corona, CA 92882

Mr. Dry Clean
2621 Green River Road, #102
Corona, CA 92882

Ralph's Supermarket
2661 Green River Road
Corona, CA 92882

Round Table Pizza
2771 Green River Road, #105
Corona, CA 92882

Smoke Town
2721 Green River Road, #103
Corona, CA 92882

Stang Industrial
2616 Research Drive, #B
Corona, CA 92882

Subs Galore & More
2721 Green River Road, #101
Corona, CA 92882

Tarbell Realtor
2641 Green River Road, #108
Corona, CA 92882

U.S. Post Office
2621 Green River Road, #105
Corona, CA 92882

Union Bank of California
2661 Green River Road
Corona, CA 92882

US Donut Shop
2621 Green River Road, #101
Corona, CA 92882

USB Printing Group
2577 Research Drive
Corona, CA 92882

Victor Buick GMC
2525 Wardlow Road
Corona, CA 92882

Albert Agins c/o Woody Harpole
Calvert Real Properties
63 W. Grand Blvd.
Corona, CA 92882-2005

Corona News Topix
1001 Elwell Court
Palo Alto, CA 94303

Sara Feldman
California State Parks Foundation
714 W. Olympic Blvd., #717
Los Angeles, CA 90015

Richard Angulo
CA Indian Council Foundation
1222 Potter Avenue
Thousand Oaks, CA 91360-6419

Andy Ronquillo
Chino Valley Chamber of Commerce
13150 Seventh Street
Chino, CA 91710

Jim Ness
Inland Empire News Radio
5225 Canyon Crest Drive, #351
Riverside, CA 92507

The Nature Conservancy
201 Mission St., 4th Floor
San Francisco, CA 94105

Jay Watson
The Wilderness Society
655 Montgomery Street, #1000
San Francisco, CA 94111

Keith Hammond
California Wilderness Coalition
1212 Broadway, #1700
Oakland, CA 94612

California Wildlife Federation
P.O. Box 1527
Sacramento, CA 95812

Emily Roberson
California Native Plant Society
2707 K Street, #1
Sacramento, CA 95816

Onias & Connie Acevedo
P. O. Box 77308
Corona, CA 92877

Makram & Hanaa Abiskaron
2318 S Cota Ave
Corona, CA 92882

Mario & Estella Acevedo
336 Gay St
Corona, CA 92879

Chris & Kristen Antonius
32 Hillsdale
Irvine, CA 92602

Arthua & Delfina Aguilar
1353 Agnes St
Corona, CA 92882

Ignacio Alvarado
825 Bollero Pl
Corona, CA 92882

Irving Banbury
1602 S Eagle Park Rd
Hacienda Heights, CA 91745

Hector Arroyo
311 S Joy St
Corona, CA 92879

Miguel Bahena
210 S Howard St
Corona, CA 92879

Jose Batres
2960 Via Milano Rd 201
Corona, CA 92879

Maria Bertha & Fernando Barcenas
1360 Agnes St
Corona, CA 92882

Ehab Barghouth
758 Highland View Dr
Corona, CA 92882

Araceli Bravo
2511 Northmoor Dr
Corona, CA 92882

David M & Teresa Becerra
108 N Victoria Ave
Corona, CA 92879

Isrrael Becerra
27 Cypress Ct
Corona, CA 92879

Kenneth Calvert
63 W Grand Blvd
Corona, CA 92882

Rosabel Brose
945 Mandevilla Way
Corona, CA 92879

David & Susan Burdick
4332 Crown Ranch Rd
Corona, CA 92881

Michael Angelo and Josie Linda Clesceri
960 Manor Way
Corona, CA 92882

Henry & Gloria Chavez
P O Box 2713
Corona, CA 92878

Steve J & Georgina Chavez Villella
1313 Cresta Rd
Corona, CA 92879

Emidio & Sally Cota
777 Highland View Dr
Corona, CA 92882

Benjamin Colchado Rangel
875 Bollero Pl
Corona, CA 92882

Terri Conn
2920 Via Milano Rd 202
Corona, CA 92879

Helen Rita Debeal
P O Box 12
Corona, CA 92878

Rick Dambrosio
780 Rutland Dr
Corona, CA 92882

Kyle Stuart & Desiree Dai Davisson
710 Poplar Ln
Corona, CA 92882

Nancy Delacruz
328 Danbury Ct
Corona, CA 92879

Dejesus & Jose Dejesus Martinez
1349 Agnes St
Corona, CA 92882

Ivan & Maria Del Rosario Tinoco
1336 Agnes St
Corona, CA 92882

Lupe Delgadilio
1058 W 5Th St
Corona, CA 92882

Eric & Tammy Donaldson
P O Box 8763
Riverside, CA 92515

Almor & Maria Fernandes
651 Pebble Beach Ct
Corona, CA 92882

Richard & Lilly Fischer
2960 Via Milano 202
Corona, CA 92879

Juan Flores
1303 Agnes St
Corona, CA 92882

Glenna & GR Franks
920 Manor Way
Corona, CA 92882

Guadalup & Francisca Gamboa
7930 Poppy St
Corona, CA 92831

Daniel Gersna
751 Looking Glass Cir
Corona, CA 92882

Crecenciano Guadarrama Gomez
1319 Agnes St
Corona, CA 92882

Frances Gomez
1322 Agnes St
Corona, CA 92882

Eleanor Gomez
207 S Belle Ave
Corona, CA 92882

Kennthe & Lee Ann Goodwin
747 Highland View Dr
Corona, CA 92882

John & Joanne Gushue
752 Looking Glass Cir
Corona, CA 92882

Gloria Jean Gutierrez
710 Meridian Cir
Corona, CA 92882

Robert Wendell & Leslie ann Hahn
738 Meridian Cir
Corona, CA 92882

D Scott Heineman
2469 Northmoor Dr
Corona, CA 92882

Pedro & Leticia Hernandez
1339 Agnes St
Corona, CA 92882

Pedro & Leticia Hernandez
1350 Agnes St
Corona, CA 92882

Carolina Inda
2489 Northmoor Dr
Corona, CA 92882

Rodolfo & Maria Jareque
1359 Agnes St
Corona, CA 92882

Michelle Jaureguy
310 Via Lugano 201
Corona, CA 92879

Madalena Juliao
752 Meridian Cir
Corona, CA 92882

Flora & Mitsu Killion
22567 Cottonwood Ave
Moreno Valley, CA 92553

Kennth & Stella King
2501 Northmoor Dr
Corona, CA 92882

Ronald & Donnelli Kline
325 Danbury Ct
Corona, CA 92879

Rafael Lamasan
980 Manor Way
Corona, CA 92882

Maria Elena Lopez
1343 Agnes St
Corona, CA 92882

Lorenzo & Esther Marquez
207 S Sheridan St
Corona, CA 92882

Ralph & Esther Martinez
1319 Cresta Rd
Corona, CA 92879

Walter & Jennifer Maxwell
860 Mandevilla Way
Corona, CA 92879

Robert Luis & Rebecca Ann Mendoza
3164 Valley View
Norco, CA 92860

Yesenia & Gerardo Meza
1307 Agnes St
Corona, CA 92882

Steve Lawrence Rodig
737 Highland View Dr
Corona, CA 92882

Carols & Jesus Morales
2225 Longview Dr
Corona, CA 92882

Gustavo Morales
224 S Victoria Ave
Corona, CA 92879

Daniel G & Billie M Moss
1307 Cresta Rd
Corona, CA 92879

Milton & Pamela Irene Nollkamper
940 Manor Way
Corona, CA 92882

Eddie & Laura Noquez
768 Highland View Dr
Corona, CA 92882

Jesus Ojeda
312 S Joy St
Corona, CA 92879

Jerry & Rae Ann Ortega
780 Meridian Cir
Corona, CA 92882

Ismael & Movita Pedroza
P O Box 904
Corona, CA 91718

Leonor Penaflor
1323 Agnes St
Corona, CA 92882

Adolph M & Armando M Perez
1250 W Linden No A
Riverside, CA 92507

Christopher & Susan Perez
725 Meridian Cir
Corona, CA 92879

Dat Phan
324 Cypress Ct
Corona, CA 92879

Daniel & Alicia Powers
766 Rutland Dr
Corona, CA 92882

Pamela Purlinsky
2920 Via Milano Rd 201
Corona, CA 92879

Alan Rabrich
1209 D St
Corona, CA 92882

Rod & Rosie Raguindin
778 Highland View Dr
Corona, CA 92882

Hermina Ramirez
1591 Tilson Cir
Corona, CA 92882

Jesus Rangel & Esperanza Reyes
203 S Belle Ave
Corona, CA 92882

Silvestre & Maria Robles
880 Mandevilla Way
Corona, CA 92879

Steve Lawrence Rodig
737 Meridian Cir
Corona, CA 92882

Joseph & Esther Rodriquez
1346 Agnes St
Corona, CA 92882

David Ruiz
1902 S Main St
Corona, CA 92882

Carolyn Sanchez
1340 Agnes St
Corona, CA 92882

Alfonso & Jessica Sanchez
216 S Howard St
Corona, CA 92879

Zenaida Savellano
895 Mandevilla Way
Corona, CA 92879

Keith & Michelle Schloemer
766 Looking Glass Cir
Corona, CA 92882

Moheeb Saleh Shalabi
870 Mandevilla Way
Corona, CA 92879

Ali Sharifi
229 West Grand Ave
Corona, CA 91720

Raymond & Lillian Shaw
767 Highland View Dr
Corona, CA 92882

Shi Kwang Shin
711 Meridian Cir
Corona, CA 92882

Alfredo Solis Hernandez
1312 Agnes St
Corona, CA 92882

Reyna Solis Hernandez
2115 E Caroline Dr
Ontario, CA 91764

Shiv & Rita Talwar
4006 Zion Ct
Chino Hills, CA 91709

Marshall Tate
865 Bollero Pl
Corona, CA 92882

Victor & Catherine Tessier
P O Box 838
Pomona, CA 91769

Michael & Martha Thunstrom
2459 Northmoor Dr
Corona, CA 92882

William & Catherine Tonkovich
765 Looking Glass Cir
Corona, CA 92882

Walter & Joanne Tracy
2481 Northmoor Dr
Corona, CA 92882

Danny & Tracy Trang Luu
12964 S 1300 West
Riverton, CA 84065

Ted Triantos
970 Manor Way
Corona, CA 92882

Miguel & Yolanda Valles
21906 Juan Ave
Hawaiian Gardens, CA 90716

Michael & Martha Varisco
930 Manor Way
Corona, CA 92882

Eddie & Enedina Verduzco
1333 Agnes St
Corona, CA 92882

Reinier & Elizabeth Villucero
910 Manor Way
Corona, CA 92882

Tram Ngoc Vo
1320 Cresta Rd
Corona, CA 92879

Dennis & Ruperta Walker
2523 Northmoor Dr
Corona, CA 92882

Brian & Carlie Zavala
327 Oakwood Ct
Corona, CA 92879

ION Inc Serfas Service Station
1 Mcdonalds Pl
Oak Brook, IL 60523

New Townhomes - Magnolia Court
1251 Doris Lane Suite #101 - Sales Office
Corona, CA 92882 92882

Ages Corp Corona County Cot
18400 Von Karman No #900
Irvine, CA 92715

Prado Land Co
1901 Ave Of The Stars, #1800
Los Angeles, CA 90067

Green Park West
20151 Sw Birch No #150
Newport Beach, CA 92660

NCHO Save Most Desert
20532 El Toro Rd #302
Mission Viejo, CA 9291

Rona I Mammoth Equities
20532 El Toro Rd #302
Mission Viejo, CA 92692

Gage Network Co First National Mortgage
24005 Ventura Blvd
Calabasas, CA 91302

Gage Network Co First National Mortgage
24005 Ventura Blvd
Calabasas, CA 91302

FN Dev Co Alpha
4041 Macarthur Blvd #500
Newport Beach, CA 92660

R Village Hometown Green River
900 N Michigan Ave #1050
Chicago, IL 60611

Ments Corona De Oro Apartments
9065 Haven Ave #100
Rancho Cucamonga, CA 91730

Miguels Prop
P O Box 1224
Corona, CA 92878

ING Dev Corp Southern California Housing
9065 Haven Ave #100
Rancho Cucamonga, CA 91730

Prado Land Co
P O Box 2099
Houston, TX 77252

ION Inc Serfas Service Sta
P O Box 2499
Corona, CA 92878

Prado Land Co
P O Box 1392
Bakersfield, CA 93302

TE Trust Bailey Gary & Anne
P O Box 431
Sun City, CA 92586

TESK
P O Box 6591
Santa Ana, CA 92706

Agins Dev Corp
P O Box 328
Corona, CA 92878

Edison Co Southern California
P O Box 800
Rosemead, CA 91770

Current Resident
16809 E. Ruff Drive
Hacienda Heights, CA 91745

Walt Smith
Burlington Northern Santa Fe
740 E. Carnegie Drive
San Bernardino, CA 92408

Current Resident
1892 Bel Air Street
Corona, CA 92881

Current Resident
3185 Pullman Avenue
Costa Mesa, CA 92626

Current Resident
387 Yellowstone Circle
Corona, CA 92879

David A. Misch
3416 E. Sunset Hill Drive
West Covina, CA 91791

Current Resident
322 Gilmore Drive
Corona, CA 92879

Current Resident
1434 S. Main Street
Corona, CA 92882

Current Resident
138 N. Cota Street
Corona, CA 92882

Current Resident
650 Town Center Drive
Costa Mesa, CA 92626

Current Resident
905 Mandevilla Way
Corona, CA 92879

Current Resident
1771 Delilah Street
Corona, CA 92879

Current Resident
7132 Country Club Lane
Anaheim, CA 92807

Current Resident
4560 Pennyroyal Drive
Corona, CA 92880

Current Resident
7160 Bel Air Street
Corona, CA 92879

Current Resident
P.O. Box 77175
Corona, CA 92877

Current Resident
3741 Merced Drive, #F2
Riverside, CA 92503

Current Resident
1464 Woodway Court
Corona, CA 92879

Philip Adishian
Advantage Mailing Inc.
1633 N. Leslie Way
Orange, CA 92867

Ellen Bacalia
American Security Bank
2163 Compton Avenue
Corona, CA 92881

Karen Brock
Promenade Shops at Dos Lagos
2780 Cabot Drive, Suite #140
Corona, CA 92883

Bruce Cash
United Strategies, Inc.
P.O. Box 11328
San Bernardino, CA 92423

Ariel Corpuz
300 N. Flower Street
Santa Ana, CA 92703

Brenda Davis
Riverside Community College
Norco Campus
2001 Third Street
Norco, CA 92860-2627

Autumn DeWoody
Inland Empire Waterkeeper
3741 Merced Drive #T-2
Riverside, CA 92503

Jim Dorsey
Jim Dorsey Commercial Photography
P.O. Box 2905
Corona, CA 92878

Current Resident
1995 Via Santiago
Corona, CA 92882

Prado Land Co./Tesoro Refining & Marketing Co.
300 Concord Plaza
San Antonio, TX 78216

Laverne & Karen Adler
All Size Storage
2785 Palisades
Corona, CA 92880

Kathy Berrera
American Security Bank
2163 Compton Avenue
Corona, CA 92881

Rick Brown
Backwoods BBQ Steakhouse & Catering
370 N. McKinley Street
Corona, CA 92879

Shih Hsing & Bi Yu W Chieh
27665 Fawn Creek Court
Los Altos Hills, CA 94022

Iain Cowie
4462 Feather River Road
Corona, CA 92880

Alice De Almeida
Altura Credit Union – McKinley Avenue
2847 Campus Parkway
Riverside, CA

Jason Donnell
Car Credit Auto Group
1450 Pomona Road
Corona, CA 92882-1709

Lucy Dunn
Orange County Business Council
2 Park Plaza, Suite 100
Irvine, CA 92614

Warren D. Williams
Riverside County Flood Control & Water
1995 Market Street
Riverside, CA 92501

Current Resident
19995 Washington Street
Corona, CA 92881

Jennifer Angeloo
Public Storage Properties
1510 Pomona Road
Corona, CA 92880-6951

Jim Bradley
Jim Bradley Economic Redevelopment Consultant
13304 January Court
Corona, CA 92879

Bill Corney
Inland Empire Economic Partnership
1201 Research Park Drive, #100
Riverside, CA 92507

Jack Clugh
SendOutCards
P.O. Box 79492
Corona, CA 92877

Dwight Cromie
Atek Media Group
231 E. Alessandro Blvd., PMB #363
Riverside, CA 92508

Joyce Delco
628 Lancer Lane
Corona CA 91719

Beverly Dormer
Oak Haven Aviares
4230 Floyd Drive
Corona, CA 92883

Jean Easum
Naval Surface Warface Center, Corona
P.O. Box 5000
Corona, CA 92878

Lenny Edwards
LT Enterprises
2775 Camellia Court
Corona, CA 92882

Gary Elster
Del Taco Property
2260 Frontage Road
Corona, CA 92882-2814

Frank Emerson
SC Corporation/Dos Lagos
P.O. Box 77756
Corona, CA 92877

Rich Figliuzzi
2222 Frontage Road
Corona, CA 92882

Glen Fletcher
Peter's Road Service, Inc.
866 El Camino Avenue
Corona, CA 92879

Bill Flores
10420 La Donia Avenue
Mentone, CA 92359

Ruth Garcia-Jaffe
Kaiser Permanente
P.O. Box 1840
Corona, CA 92879

Maureen Gaunder
Lakeview Professional Services
104 S. Maple Street
Corona, CA 92880

Robert Gonzales
Cardenas Markets
1040 S. Vintage Avenue, Suite A
Ontario, CA 91761

Robert Gonzales
Cardenas Markets
301 S. Lincoln Avenue
Corona, CA 92882

Jean Gonzalez
The Little Yellow Pages – 1st Choice Directions
425 E. 6th Street, Unit #201
Corona, CA 92879

Olivia Grimke
Altura Credit Union – Campus Parkway
2847 Campus Parkway
Riverside, CA 92507

Lupe & Sylvia Guillen
104 N. Buena Vista Avenue
Corona, CA 92882

Dick Haley
Prudential Financial
424 E. 6th Street, Unit #4
Corona, CA 92879

Karen Hanson
Karen Hanson Interiors
928 Winston Way
Corona, CA 92881

Jane Harrisik
City National Bank
3484 Central Avenue
Riverside, CA 92506

Jim Hillquist
United Parcel Service
22 Brookline Drive
Aliso Viejo, CA 92656

Jim Holowatch
Sign-O-Rama
401 S. Lincoln Avenue, Unit #M
Corona, CA 92882

Kim Kennedy
In N Out Burger
13502 Hamburger Lane
Baldwin Park, CA 91706

Jason Kimes
Circle City Marketing
160 W. Foothill Pkwy., Ste. 105-246
Corona, CA 92882

Sandy Klein
RE/MAX All Stars Realty – Klein
765 N. Main Street
Corona, CA 92880

Gina Koenen
Provident Bank
487 Magnolia Avenue, Unit #101
Corona, CA 92879

Mark Krakower
Kraktronix
501 N. Smith Avenue, Unit #109
Corona, CA 92880

Richard Lambros
BIA of Southern California
1330 S. Valley Vista Drive
Diamond Bar, CA 91765

Michelle Lanksbury
Green River Community
4828 Golden Ridge Road
Corona, CA 92880

Esperanza Lettau
Provident Bank
487 Magnolia Avenue, Unit #101
Corona, CA 92880

John Lillywhite
How2Work@Home
8790 Crest View Drive
Corona, CA 92880

Tim Lynch
General Outdoor Advertising
632 S. Hope Avenue
Ontario, CA 91761

Jack Mallinckrodt
DHS Transportation Forum
14141 Stratton Way
Santa Ana, CA 92705

Joe Martinez
Lake Elsinore Storm
500 Diamond Drive
Lake Elisinore, CA 92530

Norma Martinez
Country Wood Estates
307 S. Smith Avenue
Corona, CA 92882

Ruben & Amanda P. Martinez
204 S. Sheridan Street
Corona, CA 92882

Ryan Merritt
Vulcan Materials Company
1709 Sherborn Street
Corona, CA 92882

Eve Miller
Plas-Tech Sealing Technologies, LLC
252 Mariah Circle, 2nd Floor
Corona, CA 92879

Chris Miller
Thomas Miller Mortuary
P.O. Box 762
Corona, CA 92878-0762

Jack & Delores Mobilia
cpSphere
222 S. Harbor Boulevard, Suite 515
Anaheim, CA 92805

Eugene Montanez
ZAP Printing & Graphics
127 Radio Road
Corona, CA 92879

David Mootchnik
Southern California Commuter Forum
7202 Stonewood Drive
Huntington Beach, CA 92647

Jim Mullenix
Inland Audio Visual
P.O. Box 7700
Redlands, CA 92375

Ken Rivers
Corona Regional Medical Center – CRMC
800 S. Main Street
Corona, CA 92882

Eddie Rodarte
Green River Golf Club
5215 Green River Road
Corona, CA 92880-9404

Rachel Rola
As You Like It Event Design & Catering
430 River Road, Unit #E
Corona, CA 92880

Rene Rolander
Trevi Entertainment Center
32250 Mission Trail
Lake Elsinore, CA 92530

Herman Ruiz
130 North Cota Street
Corona, CA 92882

Harry Sadeghi
9454 Wilshire Boulevard,
Penthouse Floor
Beverly Hills, CA 90212

Mark Mussmann
Massage Envy
2225 Eagle Glen Parkway, #101
Corona, CA 92883

Steve Naval
Promenade Shops at Dos Lagos
2780 Cabot Drive, Suite #140
Corona, CA 92883

Hao M. Nguyen
3323 Aster Lane
Perris, CA 92571

Joshua Uchoa
Express Signs & Digital Printing, LLC
330 S. Maple Street, Suite H
Corona, CA 92880

Rich Richmond
Corona Life Services, Pregnancy Help Center
623 N. Main Street, Unit #D4

Virginia Rios
Hair Sensationz, Inc.
629 N. Main Street, Unit C-1
Corona, CA 92880

Joel Seigler
Advanced Real Estate Appraisal
6905 Edinburgh Road
Corona, CA 92880

Joseph Serrano
104 N. Buena Vista Avenue
Corona, CA 92882

Irma Serrato
Hair Sensationz, Inc.
629 Main Street, Unit C-1
Corona, CA 92880

Soloman Shapiro
Corno-Norco United Way
P.O. Box 1809
Corona, CA 92878

Peter Sherbanenko
855 Encanto Street
Corona, CA 92881-7272

Dan Silver
Endangered Habitats League
8424-A Santa Monica Boulevard,
#592
Los Angeles, CA 90069

Ali Sahabi
SE Corporation/Dos Lagos
P.O. Box 77756
Corona, CA 92877

Kevin Sanderson
Giant RV
2200 W. Frontage Road
Corona, CA 92882

Sarah Sandstrom
Hansen's Beverage Company
1990 Pomona Road
Corona, CA 92880

Don Schilling
Alliance Club
2731 E. Maverick Avenue
Anaheim, CA 92806

Darlene Smith
Spring Hill Suites
2025 Compton Avenue
Corona, CA 92881

Jack Storer
First Congregational Church
809 S. Ramona Avenue
Corona, CA 92879

Pat Tritz
980 Montecito #101
Corona, CA 92880

Griselda Vargas
19818 State Street
Corona, CA 92881

Ricardo & Arlene Villeda
308 S. Joy Street
Corona, CA 92879

Ronald W. & Janna A. Visser
1153 Centennial Avenue
Camarillo, CA 93010

Hai Pam Vo
383 Colfax Circle
Corona, CA 92879

Dennis & Ruperta Walker
2523 Northmoor Drive
Corona, CA 92882

Richard A. Wallace
11792 Loma Linda Way
Santa Ana, CA 92705

Claire Schlotterbeck
Hills for Everyone
P.O. Box 9835
Brea, CA 92822

Nancy Spaulding
Trader Joe's
2790 Cabot Drive, Unit #165
Corona, CA 92883

Kristine Thalman
Building Industry Association Orange County (BIA/OC)
17744 Sky Park Circle, Suite 170
Irvine, CA 92614

Audry Turner
First Congregational Church
809 S. Ramona Avenue
Corona, CA 92879

Alesha Villa
013 N. Sheridan Stret
Corona, CA 92882

Reinier & Elizabeth Villucero
910 Manor Way
Corona, CA 92882

Dennis P. Vlach
1570 Consumer Circle
Corona, CA 92880

Robert & Brenda Vonzabern
4121 Tigris Way
Riverside, CA 92503

Ernest Walker
375 Cabrillo Circle
Corona, CA 92879

William A. & Peggy A. Wandelear
652 Mesa Drive
Corona, CA 92879

Shirley Skerbelis
The Inland Gateway Association of Realtors
321 E. Sixth Street
Corona, CA 92879

Aaron Stern
Custom Auto Detail
1013 W. Crestview Street
Corona, CA 92882

Mary Thomas
Cleveland N.F. Trabuco Ranger Sta.
1147 E. 6th Street
Corona, CA 92880

Sharon Tyrrell
Greater Riverside Chambers of Commerce
3985 University Avenue
Riverside, CA 92501

Melissa Villapando
Hotel Paseo
1805 W. 6th Street
Corona, CA 92882

Aleksey & Aleksandr Virth
441 Teton Pl
Corona, CA 92879

Tram Ngoc Vo
1320 Cresta Road
Corona, CA 92879

Alan R. Wakefield
3064 Danes Drive
Norco, CA 92860

Joan C. Wallace
2915 Via Milano 202
Corona, CA 92879

Frank Ward
United Rentals
525 S. Maple Street
Corona, CA 92880

Charles Warner
12020 Sherwood Court
Fontana, CA 92377

Kathy Warner
651 Colonial Drive
Corona, CA 92882

George L. Warren
935 Corona Avenue
Corona, CA 92879

Charlie Web
2000 W. Frontage Road
Corona, CA 92882

Al Whitehouse
Silvercrest
299 W. Smith Avenue
Corona, CA 92880

Linda J. Williams
7236 Piute Creek Drive
Corona, CA 92881

William E. & Gladys Williams
7231 Sarsparilla Drive
Corona, CA 92881

Dale A. Willingham
2469 Pomona Rincon Road
Corona, CA 92880

David Willmon
League of California Cities
P.O. Box 56620
Riverside, CA 92517

Jerry Wilson
Provident Bank
487 Magnolia Avenue, Unit #101
Corona, CA 92879

Bryan E. & Natalie R. Wilson
7261 Bel Air Street
Corona, CA 92881

Carl C. Wilson
2915 Via Milano 101
Corona, CA 92879

Kevin Wolf
Germania Corporation
7095 Indiana Avenue, 2nd floor
Riverside, CA 92506

Lorrie M. & Robby I. Wolf
415 Mondale Street
Corona, CA 92879

Eric Woll
185 Washburn Circle
Corona, CA 92882

Robert K. Wong
2384 Hoxie Drive
Tustin, CA 92882-6926

David Woo
200 E. Sandpoint Avenue
Santa Ana, CA 92707

Bruce Wood
Chino Hills Champion
P.O. Box 607
Chino, CA 91708

Daniel A. & Ana Wood
7401 Liberty Avenue
Corona, CA 92881

Derek N. & Lavern Wilson
2935 Wimbledon Drive
Corona, CA 92879

Wilton F. & Janice M. Wilson
380 Via Capri 101
Corona, CA 92879

Erinn Wilson
18627 Brookhurst Street, #559
Fountain Valley, CA 92708-6748

Borre Winekel
BIA Riverside
3891 11th Street
Riverside, CA 92501

Richard B. & Mary M. Winn
4656 Valley Glen Drive
Corona, CA 92880

John P. & Shelly L. Wirt
1975 Compton Avenue
Corona, CA 92879

Jessica Thuong Woike
PECG
455 Capitol Mall, Suite 501
Sacramento, CA 95814

Ronald A. Wood
1065 Lincrona Street
Corona, CA 92882

Brian G. & Merry Workman
1700 Laurel Canyon Way
Corona, CA 92881

William M. & Doris E. Worrell
219 N. Lincoln Avenue
Corona, CA 92882

Gwendolyn Wright
2948 Dorchester Circle
Corona, CA 92879

Jolene Wright Fontes
T&T Enterprises
901 E. Third Street
Corona, CA 92879

Chuck Tzu Chiang & Olivia Mei Ling Wu
3460 Winchester Way
Rowland Heights, CA 91748

David A. Wurangian
345 Oakwood Ct.
Corona, CA 92879

Charles C. & Carol A. Wyatt
1691 Delilah Street
Corona, CA 92879

David Wylie
KOLA-FM 99.9
1940 Orange Tree Lane
Redlands, CA 92374

Manuel B. & Alisa J. Ybarra
404 Roosevelt Street
Corona, CA 92879

Pauline & Paul M. Ybarra
211 S. Sheridan Street
Corona, CA 92882

Priscilla Margaret Yock
157 Spanish Spur
Fallbrook, CA 92038

John R. Young
P.O. Box 2872
Newport Beach, CA 92659

Leslie D. & Carol Young
8543 Sylvan Drive
Riverside, CA 92503

Mohammed Yousuf
421 Yellowstone Circle
Corona, CA 92879

Richard Yu
6539 Whitelily Street
Corona, CA 92880

Rodrigo & Catol Yudice
19864 Katy Street
Corona, CA 92881

Jack Yulin
136 W. Camino Real Avenue
Arcadia, CA 91007

Mojgan Zabihiaali
2640 Kennedy Drive
Corona, CA 92879

Mary Zamarripa
418 Bristol Way
Corona, CA 92879

Javier Z. Zambrano
4531 Feather River Road
Corona, CA 92880

Roberto & Otilia Zamorano
1679 Bel Air Street
Corona, CA 92881

Chris Zappia
2025 Compton Avenue
Corona, CA 92881

Brian & Carlie Zavala
327 Oakwood Court
Corona, CA 92879

Mitch Zehan
3500 W. Orangewood Avenue
Orange, CA 92868

Fernando Zempoalteca
2258 Ridgeview Terrace
Corona, CA 92882

Martin & Sandra Zepeda
533 Mesa Drive
Corona, CA 92879

John B. & Eileen M. Kreta Zickefoose
7330 Spindetop Drive
Corona, CA 92881

Francesca M. Zovi
488 Bristol Way
Corona, CA 92879

Irineo & Isabel Zuniga
19115 Grovewood Drive
Corona, CA 92881

Frank Zwayne
Pro Dent Lab
3115 Palisades Drive
Corona, CA 92880-9432

A Classy Nails & Spa
4300 Green River Road #113
Corona, CA 92880

Affordable Truck and RV
11854 Mariposa Road
Hesperia, CA 92345-1634

Air Techniques
291 Bonnie Lane, #101
Corona, CA 92880

Allstar Staffing
2771 Green River Road, #102
Corona, CA 92882

Allstate Insurance
4231 Green River Road
Corona, CA 92880

American Medical Response
7925 Center Avenue
Rancho Cucamonga, CA 91730

American Medical Response
879 Marlborough Avenue
Riverside, CA 92507

Arco AM/PM
800 Serfas Drive
Corona, CA 92882

Aurora Behavioral Health Care
4238 Green River Road, #101-201
Corona, CA 92880

Avalar of Southern California
4225 Prado Road, #106
Corona, CA 92880

Bank of America
2601 Green River Road
Corona, CA 92882

Bay Water Pool & Spas
4375 Prado Road, #101
Corona, CA 92880

Bernstein Seth OD and Benham Lisa OD
2791 Green River Road, #107
Corona, CA 92882

Bilingual Care Solutions, Inc.
342 Bonnie Circle
Corona, CA 92880

Bosch Auto Group
2683 Wardlow Road
Corona, CA 92882

Business Building
4740 Green River Road
Corona, CA 92880

California Highway Patrol
8118 Lincoln Avenue
Riverside, CA 92504

California Highway Patrol
847 E. Brier Drive
San Bernardino, CA 92408

California Wildlife Federation
P.O. Box 1527
Sacramento, CA 95812

Cardinalway Hyundai & Volkswagon
2603 Wardlow Road
Corona, CA 92882

Carl's Jr.
4718 Green River Road
Corona, CA 92880

Casa Taquito
2721 Green River Road, #106
Corona, CA 92882

Ceramtek
2652 Pomona Road #A
Corona, CA 92880

Chevron Gas Station
2270 Frontage Road
Corona, CA 92882

Chevron Gas Station
4710 W. Green River Road
Corona, CA 92880

Children's Montessori Center
2791 Green River Road, #112
Corona, CA 92882

China Garden
2681 Green River Road, #102
Corona, CA 92882

Christian Heritage School
1450 W. 6th Street, #11
Corona, CA 92882

City TV 3, Chino Hills
2001 Grand Avenue
Chino Hills, CA 91709

Coco's Restaurant
4714 W. Green River Road
Corona, CA 92880

Community Access Network
2791 Green River Road, #101
Corona, CA 92882

Controlled Products Systems
2425 Pomona Road
Corona, CA 92880

Corona Auto Body, Inc.
255 Auto Center Drive
Corona, CA 92880

Corona Business Center
4300 Green River Road, #112
Corona, CA 92880

Corona Fire Station #15
1200 Canyon Crest
Corona, CA 92882

Corona Harley-Davidson Shop
2410 Wardlow Road, #105
Corona, CA 92880

Corona Municipal Airport
1900 Aviation Drive
Corona, CA 92882

Corona News Topix
1001 Elwell Court
Palo Alto, CA 94303

Corona Nissan
2575 Wardlow Road
Corona, CA 92882

Contours Express
2791 Green River Road, #108
Corona, CA 92882

CSP Communications, Inc.
2755 Wardlow Road, #101
Corona, CA 92882

Dan Copp Crushing
1300 N. Hancock Street, #B
Anaheim, CA 92807

Del Taco
2260 Frontage Road
Corona, CA 92882

Dental Health Corona
4264 Green River Road, #102
Corona, CA 92880

Destination Coffeehouse
2681 Green River Road, #101
Corona, CA 92882

HR Horton Builder
2280 Wardlow Circle, #100
Corona, CA 92880

D's Doughnuts
4300 Green River Road, #116
Corona, CA 92880

DV's Video
2727 Green River Road, #104
Corona, CA 92882

El Prado Golf Course
6555 Pine Avenue
Chino, CA 91708

F. Rogers Insulation Interiors
341 Bonnie Circle, #100
Corona, CA 92880

Faith Fellowship Bible Church
4225 Prado Road, #105
Corona, CA 92880

Fantastic Sam's
2621 Green River Road, #106
Corona CA 92882

Galaxy Nail Products
4375 Prado Road, #105
Corona, CA 92880

GEO, Inc.
4375 Prado Road, #103
Corona, CA 92880

Green River Escrow
4190 Green River Road
Corona, CA 92880

Green River Family Dentistry
4300 Green River Road
Corona, CA 92880

Green River Homeowners Association
11350 Crestridge Drive
Corona, CA 92880

Greg Blash & Associates
2791 Green River Road, #104
Corona, CA 92882

Hair Waves of California
2721 Green River Road, #105
Corona, CA 92882

Happy Tail Grooming Salon
2621 Green River Road, #104
Corona, CA 92882

Henri Specialties
4375 Prado Road, #102
Corona, CA 92880

Hexis USA, Inc.
4375 Prado Road, #106
Corona, CA 92880

HJ Kim's Tae Kwon Do
2641 Green River Road, #101
Corona, CA 92882

Homefinding Center
4300 Green River Road, #118
Corona, CA 92880

ICI Paints
2410 Wardlow Road, #110
Corona, CA 92880

IHOP Restaurant
2450 Wardlow Road
Corona, CA 92882

In N Out Burger
450 Auto Center Drive
Corona, CA 92882

Inland Medical Response, Inc.
1440 S. State College Blvd., #6H
Anaheim, CA 92806-5724

ISU Insurance Service
2469 Pomona Road, #10
Corona, CA 92880

J Sushi Grill
4300 Green River Road, #107
Corona, CA 92880

Jack in the Box
2711 Green River Road
Corona, CA 92882

Jack in the Box
9330 Balboa Avenue
San Diego, CA 92123

Jenson USA Bicycles
2410 Wardlow Road, #109
Corona, CA 92880

LA Mattress/LA Carpet
2410 Wardlow Road, #107
Corona, CA 92880

Lovely Nails
2791 Green River Road, #105
Corona, CA 92882

Lucky Greek Burgers
3852 N. McKinley Street
Corona, CA 92878

Lyall RW
2665 Research Drive
Corona, CA 92882

Mary's Hallmark
2641 Green River Road, #102
Corona, CA 92882

McDonald's
808 Serfas Drive
Corona, CA 92882

Meggitt Airdynamics
2616 Research Drive, #A
Corona, CA 92882

Meridian Worldwide Transportation
4226 Green River Road, #201
Corona, CA 92880

Mesa West International
2451 Pomona Road
Corona, CA 92880

Metro Republic Commercial Service
320 Bonnie Circle
Corona, CA 92880

Mission Ambulance Inc.
1055 E. 3rd Street
Corona, CA 92879

Montessori School of Corona
1400 W. 6th Street, #112
Corona, CA 92882

Mountain View Country Club
2121 Mountain View Drive
Corona, CA 92882

Mr. Dry Clean
2621 Green River Road, #102
Corona, CA 92882

Newport Beach Fitness Equipment
2410 Wardlow Road, #103
Corona, CA 92880

No Limits Motorsports
4325 Prado Road, #104
Corona, CA 92880

One Stop Minimart
4300 Green River Road, #115
Corona, CA 92880

OTM Fight Shop
2410 Wardlow Road, #108
Corona, CA 92880

Pizza Factory
4300 Green River Road, #111
Corona, CA 92880

Platinum Audio Car Stereo
2410 Wardlow Road, #111
Corona, CA 92880

Prado Regional Park
16700 S. Euclid Avenue
Chino, CA 91708

Ralph's Supermarket
2661 Green River Road
Corona, CA 92882

Randi's Ceramics
4375 Prado Road, #107
Corona, CA 92880

Rehau, Inc.
4254 Green River Road
Corona, CA 92880

Richard's Neon Shop
4375 Prado Road, #102
Corona, CA 92880

Round Table Pizza
2771 Green River Road, #105
Corona, CA 92882

Royal Cleaner
4300 Green River Road, #117
Corona, CA 92880

Saint Christopher Adult Day Healthcare
4300 Green River Road, #109
Corona, CA 92880

Schaefer Ambulance Service, Inc.
324 N. Towne Avenue
Pomona, CA 91767

Sheldon Precision Grinding
2401 Pomona Road
Corona, CA 92880

Shell Gas Station
4721 W. Green River Road
Corona, CA 92880

Sierra Del Oro Storage
3915 Green River Road
Corona, CA 92880

Smoke Town
2721 Green River Road, #103
Corona, CA 92882

Stang Industrial
2616 Research Drive, #B
Corona, CA 92882

Sterigenics International
344 Bonnie Circle
Corona, CA 92880

Subs Galore & More
2721 Green River Road, #101
Corona, CA 92882

Taco Bell
4718 W. Green River Road, #A
Corona, CA 92880

Tarbell Realtor
2641 Green River Road, #108
Corona, CA 92882

The Nature Conservancy
201 Mission Street, 4th Floor
San Francisco, CA 94105

The Rock Financial Group
4214 Green River Road
Corona, CA 92880

Time Warner Cable
182 E. Alder Street
Brea, CA 92821-6570

U.S. Post Office
2621 Green River Road, #105
Corona, CA 92882

Union Bank of California
2661 Green River Road
Corona, CA 92882

US Donut Shop
2621 Green River Road, #101
Corona, CA 92882

USB Printing Group
2577 Research Drive
Corona, CA 92882

Vasani & Associates
4230 Green River Road #101
Corona, CA 92880

Victor Buick GMC
2525 Wardlow Road
Corona, CA 92882

Vinyl Fence America Co.
28052 Camino Capistrano, #106
Laguna Niguel, CA 92677-1106

Volt Telecom Group
4210 Green River Road
Corona, CA 92880

Windy Plum Farms, Inc.
4300 Green River Road, #106
Corona, CA 92880

World Financial Group
4234 Green River Road, #101–201
Corona, CA 92880

World Group Securities
4222 Green River Road
Corona, CA 92880

Current Resident
1121 Bradford Circle
Corona, CA 92881

Current Resident
1535 E. Ontario Avenue, Unit #102-185
Corona, CA 92881

Current Resident
1660 Chicago Avenue, #M-21
Riverside, CA 92504

Current Resident
210 N. Smith Avenue
Corona, CA 92880

Current Resident
28441 Rancho California Road, #103
Temecula, CA 92590

Current Resident
390 N. McKinley Street, Unit #109
Corona, CA 92879

Current Resident
73710 Fred Waring Drive, #112
Palm Desert, CA 92260

Current Resident
P.O. Box 79093
Corona, CA 92877

Baldeas
117 N. Cota Street
Corona, CA 92880

Current Resident
103 Buena Vista Avenue
Corona, CA 92882

Current Resident
1424 Opal Street
Corona, CA 92882

Mario
464 W. 4th Street
San Bernardino, CA 92401

Nancy
9742 Crestview Circle
Villa Park, CA 92861

Ages Corp Corona County COT
4041 MacArthur Blvd.
Newport Beach, CA 92660

BNSF
740 E. Carnegie Drive
San Bernardino, CA 92408

Sunny Creek Prop.
5850 Avenida Encinas, #A
Carlsbad, CA 92008

Anne Deporto
20474 Mesita Lane
Murrieta, CA 92562

Current Resident
9345 Otto Street
Downey, CA 90240

Property Owner
1035 Montecito Drive, #102
Corona, CA 92879

Property Owner
104 Quail Street, #100
Newport Beach, CA 92660

Property Owner
790 S. Canyon Garden Lane
Anaheim, CA 92808

Property Owner
8111 E. Indian Bend Road
Scottsdale, AZ 85250

American Legion
3888 Old Hamner Avenue
Norco, CA 92860

Crest Home for the Elderly
4460 Crestview Drive
Norco, CA 92860

Kiwanis Club of Norco
1799 Hamner Avenue
Norco, CA 92860

Norco Community Advisory Group
2870 Clark Avenue
Norco, CA 92860

Norco Horsemen's Association
P.O. Box 847
Norco, CA 92860

Norco Lioness Club
P.O. Box 967
Norco, CA 92860

Owls Nest the Norco
2930 Shadow Canyon Circle
Norco, CA 92860

Current Resident
1135 Hamner Avenue
Norco, CA 92860

Current Resident
1245 6th Street
Norco, CA 92860

Current Resident
360 7th Street
Norco, CA 92860

Current Resident
3737 Crestview Drive
Norco, CA 92860-1772

Current Resident
P.O. Box 223
Norco, CA 92860

City of Corona
P.O. Box 940
Corona, CA 92787

Neport Horizon Inv. Inc.
302 N. Tustin Avenue, Suite 200
Santa Ana, CA 92705

Current Resident
1802 Pomona Road
Corona, CA 92880-1777

PE
P.O. Box 18421
Corona, CA 92817

Current Resident
103 North Victoria Avenue
Corona, CA 92879

Current Resident
104 North Victoria Avenue
Corona, CA 92879

(No Name)
103 North Sheridan Street
Corona, CA 92882-2045

(No Name)
1033 E. 3rd Street
Corona, CA 92879-1606

(No Name)
104 S. Maple Street
Corona, CA 92880

(No Name)
1059 W. 5th Street
Corona, CA 92882

(No Name)
107 N. Belle Avenue
Corona, CA 92882

(No Name)
107 N. Joy Street
Corona, CA 92879

(No Name)
110 Washburn Circle
Corona, CA 92882-2009

(No Name)
1245 Pomona Road
Corona, CA 92882

Serfas Service Station Inc.
P.O. Box 2499
Corona, CA 92878

R&G Metal Trading
4740 Green River Road, Suite 203
Corona, CA 92880-9185

Current Resident
1215 D Street
Corona, CA 92882

Current Resident
1543 Pleasant View Avenue
Corona, CA 92882

Current Resident
1825 W. 6th Street
Corona, CA 92882-2957

Current Resident
205 Isabella Way
Corona, CA 92882

Current Resident
2100 Frontage Road
Corona, CA 92882

Current Resident
2187 Compton Avenue
Corona, CA 92881-7272

Current Resident
2355 Compton Avenue
Corona, CA 92881-7254

Current Resident
310 S. Maple Street
Corona, CA 92880

Current Resident
4711 Green River Road
Corona, CA 92880-9163

Current Resident
4820 Green River Road
Corona, CA 92880-1600

Current Resident
523 S. Maple Street
Corona, CA 92880-1702

Current Resident
995 Pomona Road
Corona, CA 92882-1867

(No Name)
103 East 3rd Street
Corona, CA 92879-1601

(No Name)
1090 Pomona Road
Corona, CA 92882

(No Name)
111 North Victoria Avenue
Corona, CA 92879-1336

(No Name)
111 Test Only Street
Corona, CA 99999

(No Name)
112 School Street
Corona, CA 92882-1949

(No Name)
118 Buena Vista Avenue
Corona, CA 92882-1929

(No Name)
1181 California Avenue
Corona, CA 92881-7233

(No Name)
120 N. Joy Street
Corona, CA 92879-1320

(No Name)
120 W. Grand Boulevard
Corona, CA 92882-2006

(No Name)
121 S. Buena Vista Avenue
Corona, CA 92882

(No Name)
1226 Magnolia Avenue
Corona, CA 92879-2027

(No Name)
123–127 N. Buena Vista Avenue
Corona, CA 92882

(No Name)
1235 Quarry Street
Corona, CA 92879-1788

(No Name)
1239 Pomona Street
Corona, CA 92879-1788

(No Name)
124 W. Grand Boulevard
Corona, CA 92882-2006

(No Name)
1250 Corona Point Court
Corona, CA 92879-2099

(No Name)
1285 Magnolia Avenue
Corona, CA 92879-2092

(No Name)
1301 Pomona Road
Corona, CA 92882-7160

(No Name)
133 Washburn Circle
Corona, CA 92882-2000

(No Name)
1361 Agnes Street
Corona, CA 92882

(No Name)
1400 Pomona Road
Corona, CA 92882-1709

(No Name)
1510 Pomona Road
Corona, CA 92880

(No Name)
1350 E. Ontario Avenue
Corona, CA 92881-3607

(No Name)
160 N. Joy Street
Corona, CA 92879-1320

(No Name)
1705 W. 6th Street
Corona, CA 92882

(No Name)
1735 W. 6th Street
Corona, CA 92882-2955

(No Name)
1780 Pomona Rincon Road
Corona, CA 92880

(No Name)
1790 W. Rincon Street
Corona, CA 92882

(No Name)
1802 Pomona Road
Corona, CA 92880-1777

(No Name)
1826 W. 6th Street
Corona, CA 92882

(No Name)
1840 Bel Air Street
Corona, CA 92881-3437

(No Name)
1865 W. 6th Street
Corona, CA 92882-2957

(No Name)
1866 W. 6th Street
Corona, CA 92882

(No Name)
1884 Pomona Road
Corona, CA 92880-1778

(No Name)
1920 Frontage Road
Corona, CA 92882

(No Name)
1934 Pomona Road
Corona, CA 92880-6987

(No Name)
1990 Pomona Rincon Road
Corona, CA 92880

(No Name)
200 S. Main Street
Corona, CA 92882-2211

(No Name)
201 S. Harvard Street
Corona, CA 92879

(No Name)
206 S. Victoria Avenue
Corona, CA 92879-1427

(No Name)
211 S. Joy Street
Corona, CA 92879-1548

(No Name)
2200 Frontage Road
Corona, CA 92882

(No Name)
2222 Frontage Road
Corona, CA 92882

(No Name)
2703 Wardlow Road
Corona, CA 92882-2869

(No Name)
2735 Wardlow Road
Corona, CA 92882-2869

(No Name)
300 El Sobrante Road
Corona, CA 92879

(No Name)
1866 W. 6th Street
Corona, CA 92882

(No Name)
1884 Pomona Road
Corona, CA 92880-1778

(No Name)
1920 Frontage Road
Corona, CA 92882

(No Name)
1934 Pomona Road
Corona, CA 92880-6987

(No Name)
1990 Pomona Rincon Road
Corona, CA 92880

(No Name)
200 S. Main Stret
Corona, CA 92882-2211

(No Name)
201 S. Howard Street
Corona, CA 92879

(No Name)
3035 Palisades Drive
Corona, CA 92880-9433

(No Name)
304 S. Main Street
Corona, CA 92882-2205

(No Name)
307 S. Buena Vista Avenue
Corona, CA 92882

(No Name)
3075 Palisades Drive
Corona, CA 92880-9433

(No Name)
309 S. Main Street
Corona, CA 92882-2206

(No Name)
310 N. Lincoln Avenue
Corona, CA 92882

(No Name)
316 E. 2nd Street
Corona, CA 92879

(No Name)
341 S. Maple Street
Corona, CA 92880

(No Name)
350 S. Main Street
Corona, CA 92882

(No Name)
361 S. Maple Street
Corona, CA 92880-6907

(No Name)
376 American Circle
Corona, CA 92880-1758

(No Name)
412 E. 2nd Street
Corona, CA 92879

(No Name)
416 E. 2nd Street
Corona, CA 92879

(No Name)
4351 Prado Road
Corona, CA 92880

(No Name)
525 S. Maple Street
Corona, CA 92880-1702

(No Name)
656 Paseo Grande
Corona, CA 92882

(No Name)
855 Bollero Pl
Corona, CA 92882

(No Name)
903 E. 3rd Street
Corona, CA 92879-1604

Current Resident
14340 Elsworth Street, Suite 108
Moreno Valley, CA 92553

Current Resident
73710 Fred Waring Drive, #112
Palm Desert, CA 92260

Current Resident
8018 E. Santa Ana
Anaheim, CA 92808

Current Resident
P.O. Box 7480
Moreno Valley, CA 92552

John Thalasinos
901 E. Third St., Unit 85
Corona, CA 92579

Sal Riela, Ralph Kulajian and Vahe Jeknavorian
PO Box 2368
Laguna Hills, CA 92654-2368

Bruce Armstrong
1698 Bel Air Street
Corona, CA 92881

Dr. George Beloz
121 E 4th St., #A
Corona, CA 92879

Jack Brown
434 Palomar Dr
Corona, CA 92879

Kevin Bulton
2073 Dana St
Corona, CA 92879

Yatish Chaudhri
8367 E. Chadwick Pkwy
Orange, CA 92867

Vicky Chhour
401 S. Lincoln Ave #F
Corona, CA 92882

William H. Cortez
161 Mckinley St., #120
Corona, CA 92879

Sally Cota
777 Highland View Drive
Corona, CA 92882

Can Thuy Dang
401 S. Lincoln Ave., #L
Corona, CA 92882

Richard Everhart
372 Atwood Dr
Corona, CA 92879

Boka Gan
1679 Camino De Salmon St
Corona, CA 92881

Sonia & Jose Garcia
865 Bollero Pl
Corona, CA 92882

John W. Hathaway
820 Aspen St
Corona, CA 92879

Roy Hungerford
3201 Cutting Horse Road
Norco, CA 92860

Eric Johnson
245 Verbena Lane
Brea, CA 92823

Ron Kammeyer
2837 Kellogg Avenue
Corona, CA 92583

Ron Kammeyer
170 S. Raymond Blvd
San Jacinto, CA 92583

Robert Lind
23910 Lawson Road
Corona, CA 92883

Mary Mendoza
642 Mesa Dr
Corona, CA 92879

Jesus Reyes
203 S. Belle Ave
Corona, CA 92882

Martin & Vicky Rivera
641 Colonial Dr
Corona, CA 92882

Himanshu Shah
401 S. Lincoln Ave., Ste #K
Corona, CA 92882

Shadi Shanak
200 N Lincoln Ave
Corona, CA 92882

Angelo Scherer
2920 Via Milano #201
Corona, CA 92879

Greg Tesdahi
2920 Via Milano
Corona, CA 92879

Richard Winn
PO Box 2904
Corona, CA 92878-2904

Dvorak and Payne, Jim Ogle
1570 E. Edinger Ave #12
Santa Ana, CA 92705

Pro-Dent Lab
3125 Palisades Dr
Corona, CA 92880

Gala Nails
401 S. Lincoln Ave #H
Corona, CA 92882

Lincoln Smoke Shop
401 S. Lincoln Ave #K
Corona, CA 92882

Monica Chavez
3131 Glenhurst Avenue
Los Angeles, CA 90039

Charity B. Schiller, Associate
Best Best & Krieger LLP
3750 University Avenue, Suite 400
Riverside, CA 92502

Hometown Green River Village
900 N Michigan Ave. #1050
Chicago, IL 60611

Prado Land Co.
9330 Balboa Ave.
San Diego, CA 92123

Tyler Haugen & David Petlin
925 Mandevilla Way
Corona, CA 92879

Silvestre & Maria Robles
1133 Mandevilla Way
Corona, CA 92879

Stacy Jo Dorsey
710 Broadmoor Ct.
Corona, CA 92882

David L & Susan M Burdick
661 Colonial Dr.
Corona, CA 92882

Jeffrey J Geyer
2593 Northmoor Dr.
Corona, CA 92882

Almor J & Maria E Fernandes
24836 Sunstar Ln.
Dana Point, CA 92629

Allsize Storage Corona Inc.
17091 Imperial Hwy.
Yorba Linda, CA 92886

Edna Serna/Gustavo Perez
721 Balsam Ln.
Corona, CA 92882

Brian Laurent
711 Butternut Ln.
Corona, CA 92882

Jose S Valdez
2047 Ridgeview Ter.
Corona, CA 92882

Moises Camacho & Jill Camacho
1453 Pleasant View Ave.
Corona, CA 92882

Aibullah & Perreira Family Trust
700 S. Starview Ct.
Anaheim, CA 92808

Servando R. Aguilar
1323 Agnes St.
Corona, CA 92882

Mauricio D. & Francisca M. Mejia
954 Nottingham Dr.
Corona, CA 92880-7309

Juieta I. Romero
1312 Agnes St.
Corona, CA 92882

David S Ruiz
1318 Agnes St.
Corona, CA 92882

Romualdo G Miramontes &
Maria S Amezqua Llamas
139 W. Winston Rd., Apt. A
Anaheim, CA 92805

Aline V. Rabrickhkangas
639 Alta Vista Ave.
Corona, CA 92882

Refujio & Irma Torres
1356 Agnes St.
Corona, CA 92882

Concepcion G Vargas
124 W Grand Blvd.
Corona, CA 92882

Owner
P.O. Box 1602
Corona, CA 92878

Owner
107 School St.
Corona, CA 92882

Abel H & Mary Louise Uribe
45 W Grand Blvd.
Corona, CA 92882

Sara Mendoza
210 S Belle Ave.
Corona, CA 92882

Juan Gallardo
205 S Sheridan St.
Corona, CA 92882

ROI Inland LLC
2101 Business Center Dr #230
Irvine, CA 92612-1020

Benito Guzman
203 Sheridan St.
Corona, CA 92882

Othon & Rebecca Reyes
133 S Buena Vista Ave.
Corona, CA 92882

Miguel A & Aurelia R Cabrera
130 S Buena Vista Ave.
Corona, CA 92882

Frank & Rachel M. Contreras
202 S Belle Ave.
Corona, CA 92882

Octavio & Margarita Fuerte
302 E Grand Blvd.
Corona, CA 92879

Eduardo T & Sylvia M Casillas
219 S Victoria Ave.
Corona, CA 92879

Cornelio Angela Living Trust
2262 Salt Air Dr.
Santa Ana, CA 92705-3386

Robert A & Madeline Gutierrez
223 S Victoria Ave.
Corona, CA 92879

Leobardo C & Sofia M Arroyo
311 S. Victoria Ave.
Corona, CA 92879

Leobardo C & Sofia M Arroyo
2339 Chateauz Way
Corona, CA 92882 (Alt)

Tesk
14032 Pinebrook Dr., Unit #C
Tustin, CA 92780

Theresa Espinoza
218 S Victoria Ave.
Corona, CA 92879

John P & Bita K Mobbs
6561 Grand Ridge Dr.
El Paso, TX 79912-7472

GRAND LLC
c/o Dependable Wall Systems
31566 Railroad Canyon Rd., Ste. 2, PMB 636
Canyon Lake, CA 92587

Eric J & Tammy Donaldson
1315 Crest Rd.
Corona, CA 92879

Kenneth J & Lee Ann Goodwin
747 Highland View Dr.
Corona, CA 92882

Daniel K & Alicia M Powers
766 Rutland Dr.
Corona, CA 92882

Green Park West
20151 SW Birch No #150
Newport Beach, CA 92660

Felipe Betancourt Ma. Uriydiche S.
Betancourt781 Lookinglass Cr.
Corona, CA 92882

Pearl M. Diggs
1900 Via Milano #101
Corona, CA 92879

Michelle Jaureguy
310 Via Lugano #201
Corona, CA 92879

Henry W & Marjorie L Schaffner
310 Via Lugano #202
Corona, CA 92879

Richard J Fischer
2960 Via Milano #202
Corona, CA 92879

Christopher & Alicia Lindsey

Tobias N Raquet
2950 Via Milano #202
Corona, CA 92879

Darin J Kruswicki
2930 Via Milano Rd #202
Corona, CA 92879

Angela Scherer
2920 Via Milano Rd. #201
Corona, CA 92879

Cynthia K. Hemmelgarn
645 Mesa Dr.
Corona, CA 92879

Ruben M. & Margaret A. Baltierra
472 Newhall Dr.
Corona, CA 92879

Geneva A. Rich
515 Newhall Dr.
Corona, CA 92879

Raymond L. Melendrez
485 Newhall Dr.
Corona, CA 92879

James G. & Karrie K. Konkler
505 Newhall Dr.
Corona, CA 92879

James G. & Karrie K. Konkler
505 Newhall Dr.
Corona, CA 92879

John C & Virginia B Lemon
793 Laguna Dr.
Corona, CA 92879

Sharon White
809 Laguna Dr.
Corona, CA 92879

Robert G & Sandra C. Mendivil
1825 Trojan Way
Pomona, CA 91766

Mariana Rocha
522 Newhall Dr.
Corona, CA 92879

Larry & Dawn Delorto
405 Newhall Dr.
Corona, CA 92879

Stephen S & Cheryl Dawson
535 Newhall Dr.
Corona, CA 92879

Gregory A. MacDonald
455 Newhall Dr.
Corona, CA 92879

John S. & Katherine A. May
805 Laguna Dr.
Corona, CA 92879

Salvador Ivanez
471 Winslow Dr.
Corona, CA 92879

Geneva A. Rich
515 Newhall Dr.
Corona, CA 92879

Ramona Arguelles
454 Winslow Dr.
Corona, CA 92879

Vanessa Vargas
461 Winslow Dr.
Corona, CA 92879

Ramond L. Melendrez
485 Newhall Dr.
Corona, CA 92879

Ramond L. Melendrez
495 Newhall Dr.
Corona, CA 92879

Lillian M. & Mike C. Baltierra
445 Newhall Dr.
Corona, CA 92879

Nancy Thompson
813 Laguna Dr.
Corona, CA 92879

Armida Gloria Serna
475 Newhall Dr.
Corona, CA 92879

Gregory A. MacDonald
455 Newhall Dr.
Corona, CA 92879

Armida Gloria Serna
475 Newhall Dr.
Corona, CA 92879

Stanley Odie Proctor
515 Corona Ave.
Corona, CA 92879

Rene Garcia
789 Laguna Dr.
Corona, CA 92879

William Devlin
512 Newhall Dr.
Corona, CA 92879

Mario P. & Maria M. Jimenez
785 Laguna Dr.
Corona, CA 92879

Mary Mendoza
642 Mesa Dr.
Corona, CA 92879

Marie M. Quesada
622 Mesa Dr.
Corona, CA 92879

Katherine Reardon/Rick Secker Donna
632 Mesa Dr.
Corona, CA 92879

Henry M. & Maria R. Verdosco
697 Laguna Dr.
Corona, CA 92879

Gibert & Armida M. Contreras
649 Mesa Dr.
Corona, CA 92879

Carol M. Billman
6012 Mesa Dr.
Corona, CA 92879

Metro Inland LLC
452 Newhall Dr.
Corona, CA 92879

Kelley Family Trust
451 Rushmore Dr.
Corona, CA 92879

Randy E. & Lori A. Bird
465 Newhall Dr.
Corona, CA 92879

Randy E. & Lori A. Bird
465 Newhall Dr.
Corona, CA 92879

State of California
PO BOX 231
San Bernardino, CA 92402

James G. & Karrie K. Konkler
505 Newhall Dr.
Corona, CA 92879

William A. & Joanna M. Traverse
435 Newhall Dr.
Corona, CA 92879

Sam & Shirley Wattanachinda
532 Newhall Dr.
Corona, CA 92879

Rosalind Luna
484 Pike Dr.
Corona, CA 92879

Peggy A. Wandelear
23339 Holly Dr.
Murrieta, CA 92562

Erick G. & Armandina Melgar
797 Laguna Dr.
Corona, CA 92879

This page intentionally left blank