Interstate 215/Barton Road Interchange Improvement Project

CITIES OF GRAND TERRACE AND COLTON
SAN BERNARDINO COUNTY, CALIFORNIA
08-SBD-215 PM 0.58/1.66
EA 08-0J0700
(PN 0800000282)

Draft Initial Study with Proposed Negative Declaration/Environmental Assessment

Prepared by the
State of California Department of Transportation

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 Caltrans under its assumption of responsibility pursuant to 23 USC 327.

November 2013

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General Information about This Document

***What's in this document*:** The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has had this Initial Study/Environmental Assessment (IS/EA) prepared, which examines the potential environmental impacts of the alternatives being considered for the proposed project located in San Bernardino County, California. Caltrans is the lead agency under the National Environment Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What should you do:

- Please read this document.
- Additional copies of this IS/EA, as well as the related technical studies, are available for review at:

  San Bernardino Associated Governments
  1170 W. 3rd Street, 2nd Floor
  San Bernardino, CA 92410-1715

  City of Colton City Hall
  650 North La Cadena Drive
  Colton, CA 92324

  City of Grand Terrace City Hall
  22795 Barton Road
  Grand Terrace, CA 92313

  Grand Terrace Branch Library
  22795 Barton Road
  Grand Terrace, CA 92313

  City of Colton Public Library – Main Branch
  656 North 9th Street
  Colton, CA 92324

- Attend the public hearing: December 12, 2013
- We'd like to hear what you think. If you have any comments about the proposed Project, please attend the public hearing and/or send your written comments to Caltrans by the deadline.
  - Send comments via postal mail to:
    James Shankel, Senior Environmental Planner
    California Department of Transportation, District 8
    Division of Environmental Planning
    464 West 4th Street, 6th Floor MS 827
    San Bernardino, CA 92401
  - Send comments via email to: james_shankel@dot.ca.gov
- Send comments by the deadline: December 30, 2013

What happens next:
After comments are received from the public and reviewing agencies, Caltrans, as assigned by the FHWA may: (1) give environmental approval to the proposed Project, (2) do additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the project.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to the San Bernardino Associated Governments, Attn.: Jane Dreher, San Bernardino Associated Governments, 1170 W. 3rd Street, 2nd Floor, San Bernardino, CA 92410-1715; (909) 884-8276 (voice); or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.

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SCH #_____
08-SBD-215 PM 0.58/1.66
EA 08-0J0700
(PN 0800000282)

Reconstruct and Improve the Interstate 215 (I-215)/Barton Road Interchange, from postmile 0.58 to postmile 1.66 on I-215, located within the Cities of Grand Terrace and Colton, San Bernardino County, California.

Initial Study with Proposed Negative Declaration/ Environmental Assessment

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

THE STATE OF CALIFORNIA
Department of Transportation

11/25/2013
Date of Approval

David Bricker
Deputy District Director
District 8 Division of Environmental Planning
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SCH #_____
08-SBD-215 PM 0.58/1.66
EA 08-0J0700
(PN 0800000282)

PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The San Bernardino Associated Governments (SANBAG), in cooperation with the California Department of Transportation (Caltrans), the City of Grand Terrace, and the City of Colton, proposes to improve the Interstate 215 (I-215)/Barton Road interchange.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is the intent of Caltrans to adopt an ND for this Project. This does not mean that the Caltrans decision regarding the Project is final. This ND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending public review, Caltrans expects to determine from this study that the proposed Project would not have a significant effect on the environment for the following reasons:

The proposed Project would have no effect on:

- Coastal Zones
- Wild and Scenic Rivers
- Farmlands or Timberlands
- Floodplains

In addition, the proposed Project would have less than significant effects to:

- Land Use
- Growth
- Community Character and Cohesion
- Relocations
- Utilities and Emergency Services

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- Traffic and Transportation/Pedestrian and Bicycle Facilities
- Visual/Aesthetics
- Cultural Resources
- Water Quality
- Geology and Soils
- Paleontological Resources
- Air Quality
- Noise
- Natural Communities
- Wetlands and Other Waters
- Animal Species
- Plant Species
- Threatened and Endangered Species

DRAFT

_____ _____

David Bricker Date
Deputy District Director
District 8 Division of Environmental Planning
California Department of Transportation

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the lead agency under the National Environmental Policy Act (NEPA), and the California Environmental Quality Act (CEQA).

The San Bernardino Associated Governments (SANBAG) in cooperation with Caltrans, the City of Grand Terrace, and the City of Colton, proposes to improve the Interstate 215 (I-215)/Barton Road interchange (Project). The proposed Project is located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County. On Barton Road, the Project construction limits extend from approximately 0.3 mile (mi) west of I-215 to 0.4 mi east of I-215. The Project construction limits on I-215 extend from approximately 0.7 mi south of Barton Road to 0.4 mi north of Barton Road. Figure 1.1 shows the Project location and Figure 1.2 shows the Project vicinity.

The proposed Project is included in the Southern California Association of Governments (SCAG) 2012 financially constrained Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The funding sources based on the SANBAG 10-Year Delivery Plan and the Project cost based on the Draft Project Report are shown in Table 1.A.

The anticipated start of construction is mid-2016, and completion is anticipated in mid-2018.

When the proposed Project completes the Environmental Document and Project Approval phase, it is being planned to proceed utilizing the Construction Manager/ General Contractor (CM/GC) contract process. The CM/GC or CM at Risk project delivery method will allow SANBAG to contract with a construction manager during the design process to provide assistance to the design team, including advice regarding scheduling, pricing, phasing, and other matters that would help Caltrans and SANBAG design a more constructible project. The Federal Highway Administration (FHWA) has found that the benefits of this procurement method include that the public agency does not sacrifice control over the design of the Project

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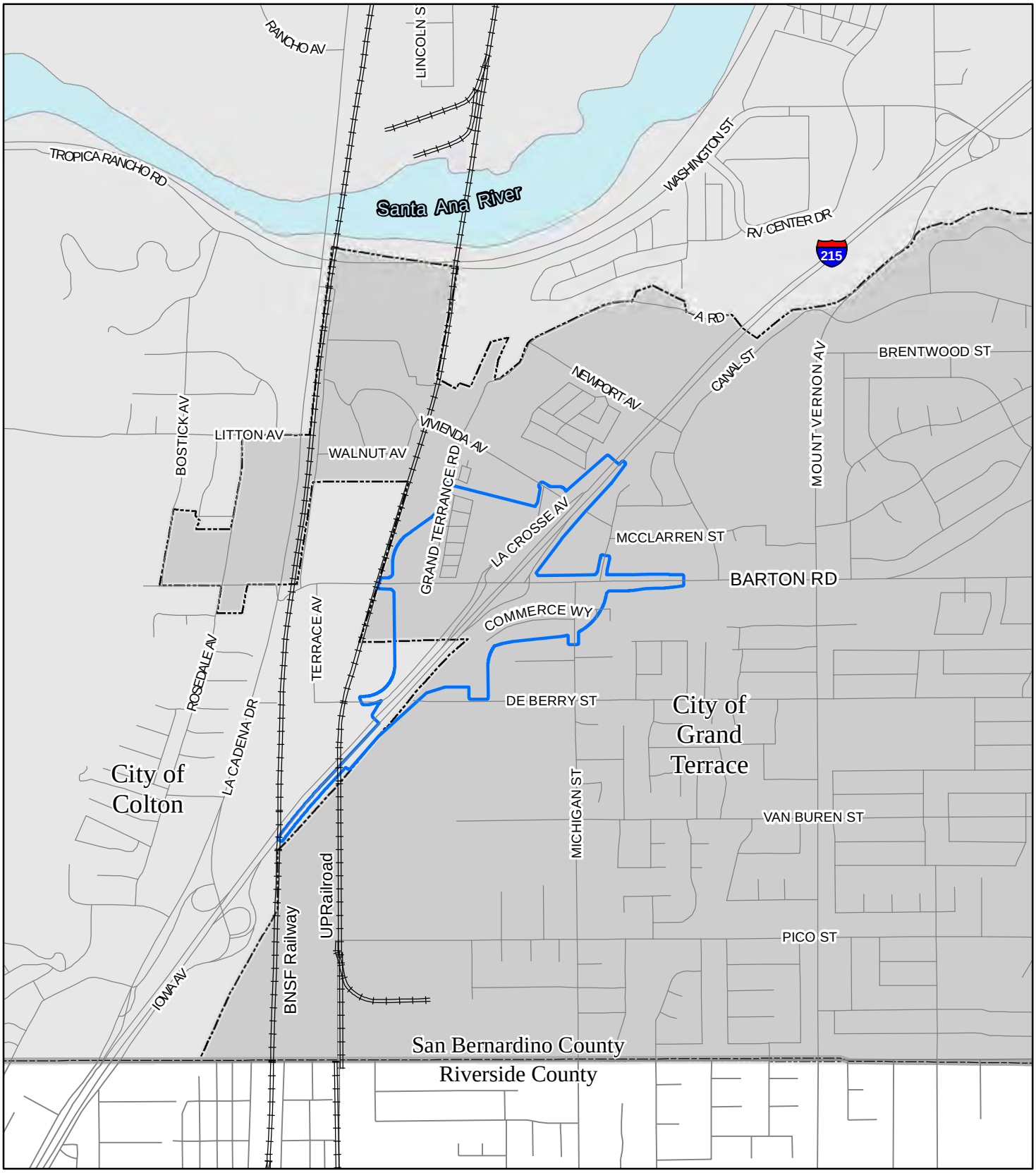

LEGEND

- Project Area
- City of Colton
- City of Grand Terrace

FIGURE 1.1

N

0 750 1500
FEET

SOURCE: Thomas Brothers (2010)

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I-215/Barton Road Interchange Improvement Project

Project Location

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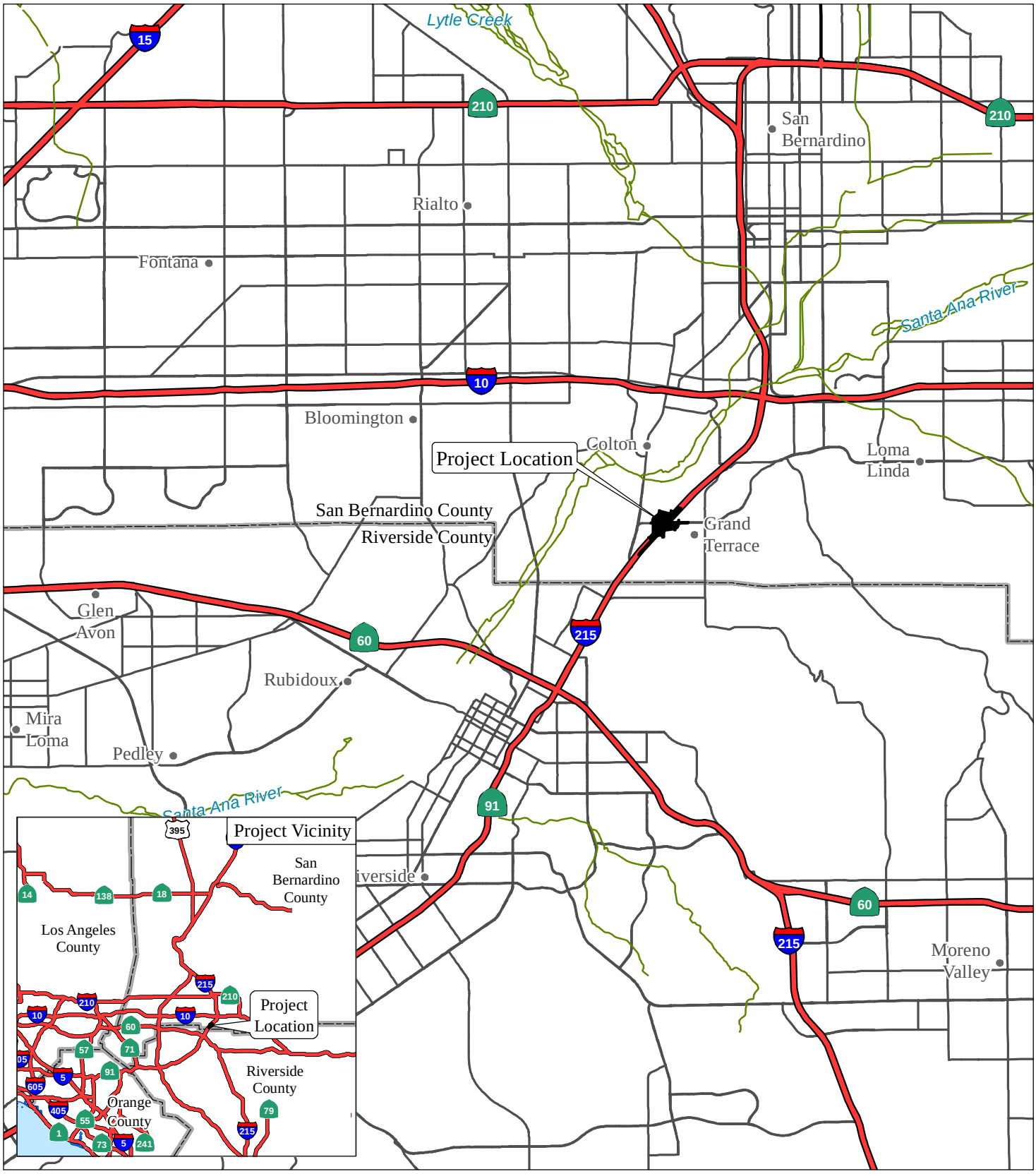

LEGEND

Project Area

FIGURE 1.2

0 6000 12000
FEET

SOURCE: ESRI (2008)

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I-215/Barton Road Interchange Improvement Project

Project Vicinity

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Table 1.A Funding Sources and Project Cost

Phase	Funding Source					Total Cost
	RIP	Measure I	DEMO-SAFETEA-LU	STP	Private	
Final Design	$3,272,000	$2,183,000			$2,481,000	$3,596,000
Right-of-Way	$17,400,000	$3,436,000	$1,500,000		$0	$18,617,000
Construction	$22,611,000	$18,551,000	$0	$10,632,000	$0	$40,273,000
TOTAL	**$40,011,000**	**$24,170,000**	**$1,500,000**	**$10,632,000**	**$2,481,000**	**$62,486,000**

DEMO = Federal Demonstration
Measure I= San Bernardino County sales tax
RIP = Regional Improvement Program
STP = Surface Transportation Program

and that during the construction phase, the contractor is very familiar with the Project design resulting in less disputes over design issues.[1]

1.1.1 Existing Facility

I-215 is a major north-south freeway facility extending approximately 55 mi from the southern junction of Interstate 15 (I-15) in the City of Murrieta in Riverside County and terminating at the northern junction with I-15 in Devore in San Bernardino County. It provides an alternative route to I-15. The portion of I-215 within the Project limits currently provides three through lanes in each direction and a paved median. The I-215/Barton Road interchange is a compact diamond interchange with single-lane on- and off-ramps. The off-ramps expand to two lanes at the street intersections to accommodate turning traffic. The southbound off-ramp merges onto a local street (La Crosse Avenue) before intersecting Barton Road. The northbound and southbound ramp intersections are spaced approximately 350 feet (ft) apart. The existing overcrossing is a single lane in each direction with back-to-back left-turn pockets for the on-ramps.

Barton Road is an east-west primary arterial in the County of San Bernardino extending from La Cadena Drive in the City of Colton to east of San Mateo Street in the City of Redlands. Within the Project limits, Barton Road is a two-lane roadway west of I-215. East of I-215, Barton Road is a four-lane facility with turn lanes at various intersections. The following intersections are within the Project limits at Barton Road:

[1] http://www.fhwa.dot.gov/construction/cqit/cm.cfm; http://www.dot.ca.gov/hq/oppd/contracting/AlternativeProcurementGuide.pdf (accessed November 4, 2013).

- Grand Terrace Road (unsignalized T-intersection)
- Southbound ramps and La Crosse Avenue intersection (signalized)
- Northbound ramps intersection (signalized)
- Michigan Avenue intersection (signalized T-intersection)
- Vivienda Avenue intersection (unsignalized T-intersection)

1.1.2 Relationship to other Freeway Projects

The Project limits of the proposed I-215/Barton Road Interchange Improvement Project overlap or are adjacent to the project limits of four other planned projects along I-215. The traffic, air quality, and noise modeling for the proposed Project considers these other four planned transportation projects along I-215 as applicable. The anticipated schedule for the proposed Project includes completion of the environmental document in early 2014, final design and right-of-way acquisition from early 2014 to mid-2016, and construction from mid-2016 to mid-2018. A brief description of each of the four projects is listed below.

- I-215 Bi-County Improvement Project. This project would add a general-purpose lane in each direction on I-215 and would include auxiliary lanes between State Route 60 (SR-60) in the City of Riverside and Orange Show Road in the City of San Bernardino. This project has not been programmed but is planned for completion prior to 2040.

  The proposed Project is being designed to accommodate the I-215 Bi-County Improvement Project, which partially overlaps with the Project.

- I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project. This project will add an HOV lane in each direction on I-215 between SR-60 in the City of Riverside and Orange Show Road in the City of San Bernardino. This project was approved in April 2011, and construction is programmed to be completed by 2015; this project will be completed before the I-215/Barton Road Interchange Improvement Project.

  The proposed Project has been designed to be consistent with the I-215 Bi-County HOV Lane Gap Closure Project, which partially overlaps with the Project. The I-215 Bi-County HOV Lane Gap Closure Project is currently under construction; therefore, the existing condition, as noted throughout Chapter 2 of this document accounts for the current construction activities associated with this project. Furthermore, the No Build Alternative analyses accounts for the permanent impacts and improvements associated with the I-215 Bi-County HOV Lane Gap

Closure Project. The I-215 Bi-County HOV Lane Gap Closure Project is anticipated to be open to traffic in mid-2015.

- I-215/Mount Vernon Avenue-Washington Street Interchange Improvement Project. This project would reconstruct interchange ramps and local roadways and add auxiliary lanes. While this project is in the project study phase, it does not overlap the footprint of the I-215/Barton Road Interchange Improvement Project. At this time, construction is planned to be completed by 2020 and, therefore, would not be completed before the I-215/Barton Road Interchange Improvement Project.

  The proposed Project would not affect the design of the I-215/Mount Vernon Avenue-Washington Street Interchange Improvement Project.

- I-215/Newport Avenue Overcrossing Project. A separate stand-alone State Highway Operation and Protection Program (SHOPP) project was developed through completion of the Project Approval & Environmental Document phase to replace this overcrossing with a structure providing higher clearance over I-215, however, subsequently the replacement of the Newport Avenue Overcrossing was incorporated into part of the I-215 Bi-County HOV Lane Gap Closure Project, currently under construction and as indicated above, anticipated to be open to traffic in mid-2015. The Newport Avenue Overcrossing has already been removed. The new structure has been designed to accommodate the proposed I-215/Barton Road IC Improvement Project.

The proposed I-215/Barton Road Interchange Improvement Project accounts for the following improvements that are part of the I-215 Bi-County HOV Lane Gap Closure Project: reconstruction of the BNSF Railway two-track bridge over the freeway between the Iowa Avenue/La Cadena Drive interchange and the Barton Road interchange to provide adequate vertical clearance with the widened freeway (between SR-60 and Orange Show Road).

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the proposed Project is to improve the operation, increase the capacity, and reduce the existing and future congestion at the I-215/Barton Road interchange, and improve access to facilities served by the interchange.

1.2.2 Need

Based on traffic projections and the existing and planned land uses in the vicinity, the facility is forecast to degrade to level of service (LOS) F (breakdown condition) by 2040 without improvements.

1.2.2.1 Capacity, Transportation Demand, and Safety

To determine existing traffic demand versus capacity in a study area, traffic counts are recorded for passenger cars, two-axle trucks, three-axle trucks, and four-axle trucks. Trucks are factored into Passenger Car Equivalents (PCEs) that convert traffic volumes to an equivalent number of passenger cars based on the type of truck.

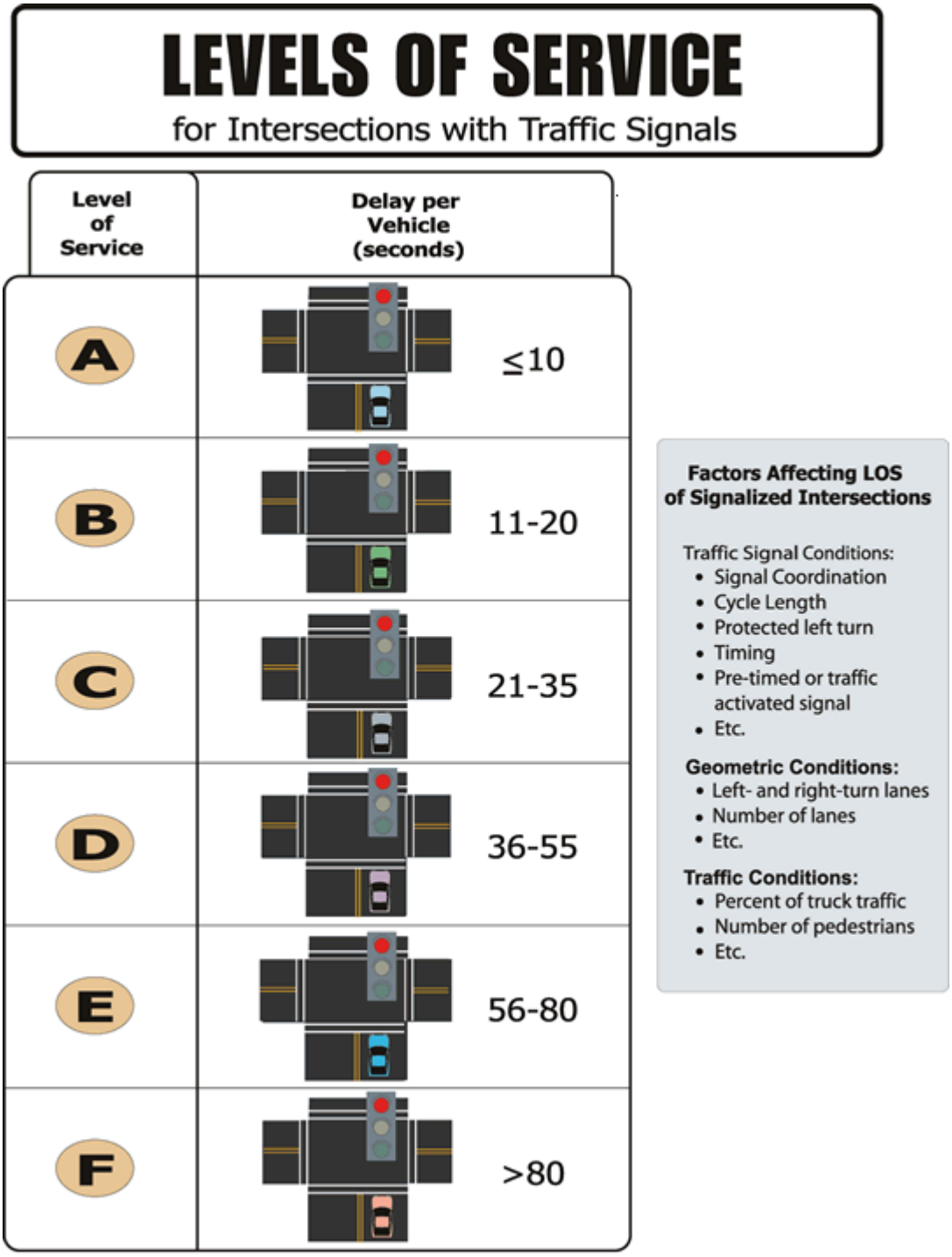
Based on traffic forecasts, the daily and peak-hour number of vehicles at the study area freeway segments and intersections are projected to increase over time, which will increase traffic congestion in the Project area under the existing lane and ramp configurations. Both freeway and local intersection traffic flow can be defined in terms of LOS. For both freeways and intersections, there are six LOS, ranging from LOS A to LOS F. On freeways, LOS A represents free traffic flow with low volumes and high speeds, resulting in low densities, while LOS F represents traffic volumes that exceed capacity and result in forced flow operations at low speeds, resulting in high densities, as shown in Figure 1.3. As shown in Figure 1.4, LOS at signalized intersections is calculated using the time (delay) that vehicles wait to pass through an intersection. The delay is measured in seconds for each movement at an intersection (e.g., through movement, right-turn, and left-turn). These individual delays are averaged to provide the LOS for the intersection as a whole.

The demand for interchange access is represented in traffic volumes. Traffic projections for 2040, the identified design horizon year for the proposed Project, indicate that the peak-hour volumes on I-215 will double in most segments, as shown in Table 1.B, although only one mainline freeway segment would operate at LOS F in 2040 (Table 1.E). The 2009 (existing condition) Barton Road interchange ramp volumes are forecast to double by 2040 as shown in Table 1.C. As discussed in the *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis*, the freeway main line and ramp merge/diverge areas are similar in each of the alternatives; freeway mainline and ramp volumes for all of the alternatives (No Build and Build Alternatives) are the same.

LEVELS OF SERVICE
for Freeways

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 Levels of Service for Freeways



Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 1.4 Levels of Service for Intersections with Traffic Signals

Table 1.B Existing (2009) and Future (2016 and 2040) Freeway Mainline Volumes

Freeway Segment Between	Direction	Existing Volumes		2016 Volumes		2040 Volumes	
		2009 AM Peak Hour	2009 PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Washington Street and Barton Road	Northbound	4,881	5,677	6,089	6,975	10,188	11,402
	Southbound	6,069	5,276	6,926	6,372	9,863	10,128
Barton Road and Iowa Avenue	Northbound	4,876	5,685	5,987	6,979	9,798	11,416
	Southbound	6,198	5,346	7,144	6,487	10,207	10,122

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Table 1.C Existing (2009) and Future (2016 and 2040) Freeway Ramp Volumes

Ramp	2009 Volumes		2016 Volumes		2040 Volumes	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Barton Road Northbound On-Ramp	370	406	544	549	1,095	922
Barton Road Northbound Off-Ramp	365	414	442	553	706	935
Barton Road Southbound On-Ramp	462	431	639	618	1,047	883
Barton Road Southbound Off-Ramp	333	361	421	503	703	890

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

As shown in Table 1.D, the study area intersections operate at satisfactory LOS during the AM and PM peak hours in the existing condition (2009). Without improvements (No Build condition), the Barton Road/Grand Terrace Road intersection would operate at unsatisfactory LOS during the AM and PM peak hours in 2016. In addition, the Barton Road/I-215 southbound ramps intersection would operate at unsatisfactory LOS during the PM peak hour in 2016. Because of the projected demand, without improvements, by 2040 all seven study area intersections would operate at an unsatisfactory LOS (LOS F) during both the AM and PM peak hours, with the exception of Barton Road/La Cadena Drive during the AM peak hour, which would operate at LOS C.

Freeway ramp LOS is satisfactory in 2016 and 2040 (Table 1.F). The ramp LOS improves in the 2040 No Build condition because the I-215 Bi-County Improvement Project would have been completed and the off-ramps in the study area would have been widened to two lanes. However, additional capacity is needed at the interchange to accommodate projected traffic volumes and improve LOS at the study area intersections.

Table 1.D Existing (2009) and Future No Build (2016 and 2040) Intersection Levels of Service

Freeway Segment Between	2009		2016		2040	
	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Barton Road/La Cadena Drive	B	B	B	C	C	F
Barton Road/Grand Terrace Road	B	C	F	F	F	F
Barton Road/La Crosse Avenue	B	B	B	C	F	F
Barton Road/I-215 Southbound Ramps	B	C	C	F	F	F
Barton Road/I-215 Northbound Ramps	B	B	B	C	F	F
Barton Road/Michigan Street	B	B	B	B	F	F
Barton Road/Vivienda Avenue	B	B	C	C	F	F

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Table 1.E Existing (2009) and Future No Build (2016 and 2040) Mainline Levels of Service

Freeway Segment Between	2009		2016		2040	
	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Northbound						
Iowa Avenue On-Ramp to Barton Road Off-Ramp	D	E	D	E	D	E
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	D	D	E	F
Barton Road On-Ramp to Washington Street Off-Ramp	D	E	D	E	D	E
Southbound						
Washington Street On-Ramp to Barton Road Off-Ramp	E	D	E	D	D	D
Barton Road Off-Ramp to Barton Road On-Ramp	E	D	D	D	E	E
Barton Road On-Ramp to La Cadena Drive Off-Ramp	E	D	E	D	D	D

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Table 1.F Existing (2009) and Future No Build (2016 and 2040) Freeway Ramp LOS

Ramp	2009		2016		2040	
	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Northbound						
Iowa Avenue Off-Ramp	C	D	D	D	A	A
Iowa Avenue On-Ramp	D	D	D	E	C	D
Barton Road Off-Ramp	D	D	D	E	A	A
Barton Road On-Ramp	C	D	D	D	C	B
Mt. Vernon Avenue Off-Ramp	D	D	D	E	NA	NA
Mt. Vernon Avenue On-Ramp	D	D	D	D	NA	NA
Washington Street Off Ramp	NA	NA	NA	NA	B	B
Southbound						
Washington Street Off-Ramp	F	E	E	E	B	B
Washington Street On-Ramp	D	D	D	D	B	C
Barton Road Off-Ramp	E	D	E	D	A	A
Barton Road On-Ramp	D	D	D	D	C	B
La Cadena Drive Off-Ramp	E	D	E	D	B	B
La Cadena Drive On-Ramp	D	C	D	D	C	B

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Traffic Accident Surveillance and Analysis System (TASAS)-Transportation System Network (TSN) data were provided by Caltrans District 8 and are shown in Table 1.G. The data includes accidents that occurred on the I-215 freeway from Post Mile 0.58 to Post Mile 1.66 and the interchange ramp areas over a period of 3 years (October 1, 2008 to September 30, 2011).

Table 1.G TASAS Accident Rate from 10/01/08 to 09/30/11

Location	Actual			Statewide Average for Similar Facilities		
	Fatal	F+I*	Total	Fatal	F+I*	Total
Northbound						
Barton Road Off-Ramp	0.000	0.37	1.28	0.003	0.35	1.01
Barton Road On-Ramp	0.000	0.15	0.29	0.002	0.22	0.63
Mainline	0.011	0.23	0.70	0.005	0.33	1.06
Southbound						
Barton Road Off-Ramp	0.000	0.00	0.00	0.001	0.17	0.54
Barton Road On-Ramp	0.000	0.00	0.55	0.002	0.22	0.75
I-215 Mainline	0.000	0.26	0.88	0.005	0.33	1.06

* F+I = Fatal+Injury
Accident rates for mainline expressed as: number of accidents/million vehicle miles
Accident rates for ramps expressed as: number of accidents/million vehicles

The accident rate data for the I-215 Barton Road interchange and I-215 near the interchange indicate that the total accident rate and F+I accident rate are lower than the statewide average rate at each ramp with one exception, the northbound exit ramp. At this location, the total accident rate per million vehicle miles is 1.28 as compared

to a statewide average of 1.01 and the fatal plus injury (F+I) accident rate is 0.37 as compared to a statewide average of 0.35 during the 3-year period between 2008 and 2011. The table also indicates that the actual Fatal accident rate for the northbound mainline is higher than the statewide average. Modified Alternative 7 would provide a longer tangent as vehicles exit the freeway, which would provide more distance for motorists to reduce speed before entering a curve or nearing the intersection.

No accident data for Barton Road is available either from the City of Grand Terrace Public Works or the San Bernardino County Sheriff's Department. The increased capacity of the interchange and Barton Road, in particular at the ramp intersections, is expected to relieve the existing congestion, thus reducing congestion-related accidents. The features in this document are not anticipated to have an adverse effect on the safety of this facility.

1.2.2.2 Levels of Service

Because there are four other planned freeway projects in the Project vicinity that are multijurisdictional and that influence the traffic results in 2016 and/or 2040, the Project Development Team (PDT) agreed on a common set of analysis parameters for the traffic study. These LOS parameters and standards are as follows:

- Capacity of a mixed-flow lane: 2,300 vehicles per hour
- Capacity of a high occupancy vehicle lane: 1,600 vehicles per hour
- Lost time per signal phase: 2 seconds
- Minimum green time per signal phase: 7 seconds
- Minimum LOS standard for freeways: LOS E
- Minimum LOS standard for intersections: LOS D

Based on vehicle classification counts conducted at the Barton Road interchange, the following truck percentages were used in the LOS analysis:

- Percentage of trucks during the AM peak hour: 7 percent
- Percentage of trucks during the PM peak hour: 4 percent

1.2.2.3 Roadway Deficiencies

The existing I-215 southbound off-ramp at Barton Road is nonstandard per the Caltrans *Highway Design Manual* (6th Edition) because it intersects and merges with a local street (La Crosse Avenue) before reaching Barton Road. In addition, the left-turn lane on westbound Barton Road at the I-215 southbound on-ramp does not have sufficient vehicle capacity during the AM and PM peak hours, as shown in Table 1.H.

This prevents left-turning and through traffic from moving through the interchange. As a result, although the Barton Road/southbound ramps intersection currently operates at LOS B and C in the AM and PM peak hours, respectively (Table 1.D), because turning movement delays are averaged to calculate LOS, delays at this intersection are excessive due to the long queue of vehicles waiting to turn left and also blocking the through lane. In 2016, the AM peak hour queue length will more than double (four times existing capacity) and will increase more in 2040 without interchange improvements. Additional turn-pocket capacity is needed in order to reduce excessive delays at the interchange.

1.2.2.4 Social Demand and Economic Development

The I-215/Barton Road interchange is the primary regional access for the City of Grand Terrace. It also serves the southwestern portion of the City of Colton and provides direct access to the City of Loma Linda. The build out of the interchange area in accordance with the City of Grand Terrace General Plan and the Barton Road Specific Plan will result in increased traffic congestion on the freeway and the local street networks leading to the interchange. Reconstruction of the interchange is needed to relieve additional congestion.

1.2.2.5 Modal Interrelationships and System Linkages

The I-215/Barton Road interchange, in combination with the I-215/Mount Vernon Avenue/Washington Street interchange, provides regional access to the Cities of Colton, and Grand Terrace, as well as Loma Linda Hospital, the Pettis Veteran's Administration (VA) Hospital, and Loma Linda University. Interstate 10 (I-10), a major interstate freeway, connects to I-215 approximately 2 mi north of Barton Road. I-215 provides a regional connection between Los Angeles, Orange, Riverside, and San Bernardino Counties through its interchanges with SR-60 and State Route 91 (SR-91). State Route 210 (SR-210) provides a connection to foothill and mountain highways.

The Project site and its vicinity are served by Omnitrans and the Riverside Transit Agency (RTA). Omnitrans and the RTA provide extensive fixed-route bus systems that include bus routes in the interchange area. Omnitrans Route 325, which starts at the corner of Barton Road and Michigan Avenue within the Project area, runs east along Barton Road, and connects Grand Terrace residents to locations such as the Grand Terrace Senior Center, Loma Linda Hospital, City Hall, and the VA Hospital. Omnitrans Route 19 connects to Route 325 near Washington Street and provides access to areas west of I-215, including the City of Colton and the Fontana Metrolink

Table 1.H Existing (2009) and Future No Build (2016 and 2040) Intersection Queue Lengths

Intersection	2009				2016				2040			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 Southbound Ramps – Westbound left-turn lane	120	213	120	297	120	478	120	231	120	491	120	252

Source: *Interstate 215/Barton Road Interchange Improvement Project Traffic Operations Analysis* (December 2011).

Station. RTA Route 14 connects downtown Riverside with Omnitrans Route 325 at Michigan Avenue and Center Street near the Highgrove Library.

Ontario International Airport is a full-service airport with commercial jet service to major U.S. cities and through service to many international destinations. Located in the City of Ontario, the airport is less than 0.5 mi south of I-10 and approximately 2.5 mi west of I-15. The airport is the center of a developing freight movement system that includes the airport, two railroads, four major freeways, and an expanding network of freight forwarders. In 2011, 4.5 million passengers used the airport and 419,523 tons of air freight were shipped.[1]

According to the 2010 U.S. Census, most of the employed labor force in the City of Grand Terrace and the City of Colton work outside of their respective city of residence. Of the workers over the age of 16 years, 2.7 percent of Grand Terrace residents and 2.6 percent of Colton residents utilize public transportation to get to work. Approximately 92 percent of Grand Terrace and Colton residents use an automobile to get to work.

1.2.2.6 Air Quality Improvements

The I-215/Barton Road interchange on- and off-ramps currently are not metered. In addition, the bicycle lane on the south side of Barton Road ends east of Michigan Avenue. The City of Grand Terrace General Plan Circulation Element shows a planned bicycle lane on Barton Road from west of Michigan Avenue to the western city limits. The planned bicycle lane would improve connectivity between Grand Terrace Elementary School and the Towne Plaza shopping area and the western end of the city for bicyclists.

1.2.3 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that a proposed project:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Have independent utility or independent significance (be usable and require a reasonable expenditure even if no additional transportation improvements in the area are made); and

[1] http://www.lawa.org/welcome_ont.aspx?id=88 (accessed August 28, 2012).

- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The Project limits include the portion of I-215 where the reconstructed ramps and auxiliary lanes meet the mainline, and the local streets associated with maintaining the adjacent local transportation network. This area is large enough to appropriately address the potential environmental impacts of the proposed Project. In addition, the proposed Project can meet the identified need for congestion relief and ramp improvements as an independent project and is not dependent on any other projects to meet the identified purpose for the interchange improvements.

The preliminary design of the proposed Project avoids potential conflicts with the other foreseeable transportation improvements in the area. For example, the Barton Road bridge will be long enough to accommodate the HOV lanes and the future I-215 widening planned under the I-215 Bi-County Improvement Project. Therefore, the Project can be constructed independently of the other transportation improvements in the area, and conversely, the other transportation projects are not dependent on the I-215/Barton Road interchange improvements for implementation.

1.3 Project Description

This section describes the proposed action and the design alternatives that were developed to meet the identified need through accomplishing the defined purposes while avoiding or minimizing environmental impacts.

The proposed Project is located in the City of Grand Terrace, and partially in the City of Colton in San Bernardino County, California. Within the limits of the proposed Project, I-215 currently provides three lanes in each direction. Barton Road is a two-lane roadway west of I-215 and a four-lane facility with turn lanes at various intersections east of I-215. Barton Road provides four ramps that connect to I-215: southbound on- and off-ramps, and northbound on- and off-ramps.

The purpose of the proposed Project is to improve the operation, increase the capacity, and reduce the existing and future congestion at the I-215/Barton Road interchange, and improve access to facilities served by the interchange. The proposed Project would replace the existing Barton Road overcrossing, reconstruct and widen Barton Road, realign the existing on- and off-ramps to enhance turning maneuverability and storage capacity, improve local roadways, and modify traffic signals.

1.4 Project Alternatives

Four alternatives are being analyzed in this document: the No Build Alternative (Alternative 1) and three Build Alternatives (Alternatives 3, 6, and Modified Alternative 7).[1] For Build Alternatives to be considered feasible, they must meet the Project's purpose and need while not causing other operational deficiencies at the interchange ramps, on the I-215 mainline, or at local intersections. In addition to meeting purpose and need, the selection criteria for alternatives included minimization of right-of-way acquisition and displacements, cost, and minimization of nonstandard features.

1.4.1 Build Alternatives

1.4.1.1 Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would provide a conventional partial cloverleaf interchange with the northbound on- and off-ramps on the southern side of Barton Road and the southbound on and off-ramps on the northern side. This alternative would widen Barton Road from one through lane to two through lanes in each direction between Grand Terrace Avenue on the west and Commerce Center Drive on the east. The existing overcrossing would be replaced with a new structure with four through lanes and right-turn lanes at the on-ramps.

The conceptual design for Alternative 3 is shown in Figure 1.5, which follows.

1.4.1.2 Alternative 6 (Modified Cloverleaf Interchange)

Alternative 6 proposes a modified cloverleaf interchange with the southbound on- and off ramps directly connected to Barton Road; the northbound on- and off-ramps would be constructed to an extension of Commerce Way, which would be realigned to connect to Barton Road at the location of the existing Vivienda Avenue intersection to the east. Barton Road would be widened to two through lanes in each direction between Grand Terrace Avenue on the west and Commerce Center Drive on the east. The existing overcrossing would be replaced with a new structure with four through lanes, right-turn lanes at the on-ramps, a median, and a left-turn lane to Vivienda Avenue.

[1] Alternatives 2, 4, 5, and 7 were considered but rejected; refer to discussion in Section 1.5.

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LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park

0 150 300
FEET

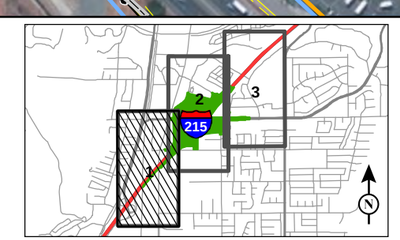

FIGURE 1.5
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 3

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park

0 150 300
FEET

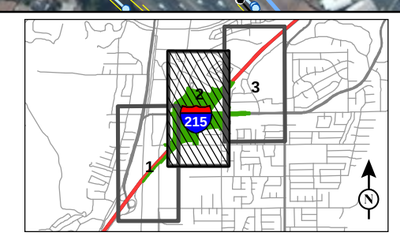

FIGURE 1.5
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 3

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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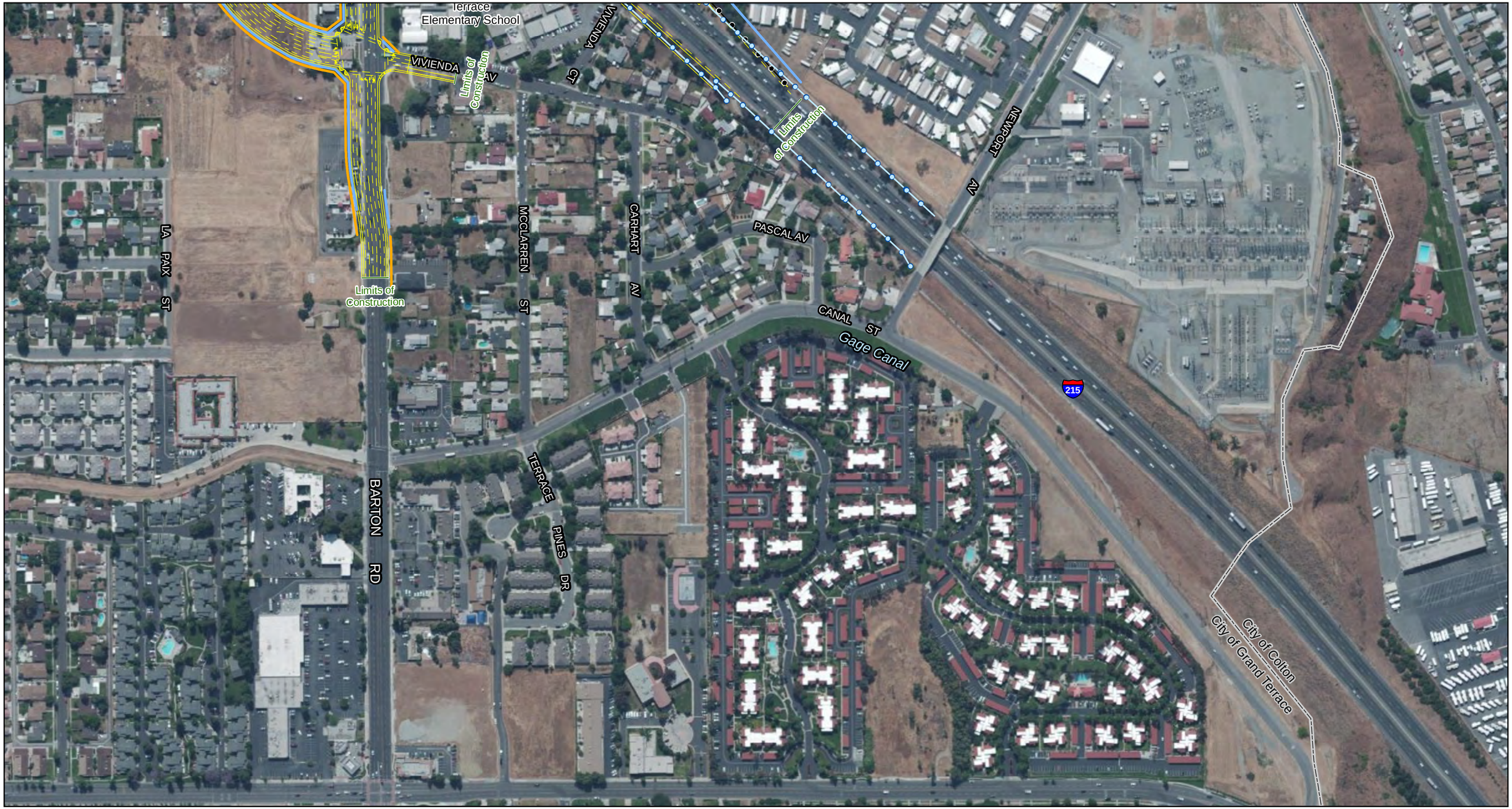

LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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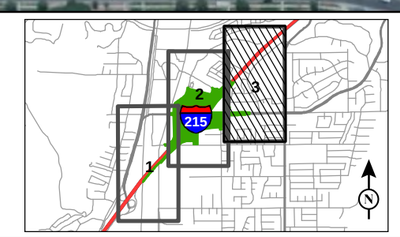

FIGURE 1.5
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 3

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The conceptual design for Alternative 6 is shown in Figure 1.6, which follows.

1.4.1.3 Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 would provide a tight diamond configuration for the northbound ramps. The southbound ramps have a similar configuration to that proposed under Alternative 6, except with a roundabout at the southbound ramp intersection with Barton Road/La Crosse Avenue. The proposed roundabout would have two lanes in the east-west direction and one lane in the north-south direction. Barton Road would be widened to two through lanes in each direction between Grand Terrace Avenue on the west and Commerce Center Drive on the east. The existing overcrossing would be replaced with a new structure with four through lanes and a left-turn lane to the northbound on-ramp.

The conceptual design for Modified Alternative 7 is shown in Figure 1.7, which follows Figure 1.6.

1.4.2 Common Design Features of the Build Alternatives

The following improvements are included in all three Build Alternatives:

- The existing ramps would be removed.
- The Barton Road Overcrossing would be reconstructed.
- New northbound and southbound on- and off-ramps would be constructed.
- Barton Road would be widened to four through lanes approximately between Grand Terrace Road and Vivienda Avenue.
- A new two-lane road between La Crosse Avenue and Grand Terrace Road would be constructed parallel to Vivienda Avenue.
- A portion of the I-215 Bi-County HOV Lane Gap Closure Project sound barrier in the northwest quadrant would be modified to accommodate the new southbound off-ramp.
- Standard sidewalks and a Class II bicycle lane would be provided on both sides of Barton Road within the Project limits.
- Bioswales would be constructed to treat storm water runoff.
- New landscaping would be provided consistent with the I-215 Bi-County Aesthetic Concept.
- Utilities would be relocated or protected in-place during construction.
- Drainage facilities would be modified consistent with other Project improvements.

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

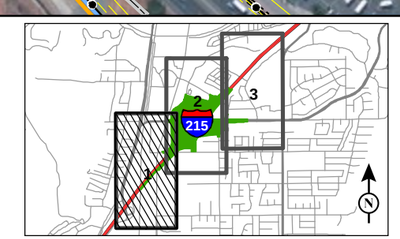

FIGURE 1.6
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 6

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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FIGURE 1.6
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 6

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Terrace Elementary School
VIRGINIA AV
VIRGINIA CT
Limits of Construction
Limits of Construction
Limits of Construction
LA PAIX ST
MCCLAREN ST
CARHART AV
PASCAL AV
CANAL ST
Gage Canal
NEWPORT AV
215
BARTON RD
TERRACE PINES DR
City of Colton
City of Grand Terrace

LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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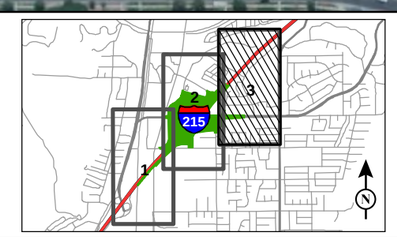

FIGURE 1.6
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Alternative 6

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LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

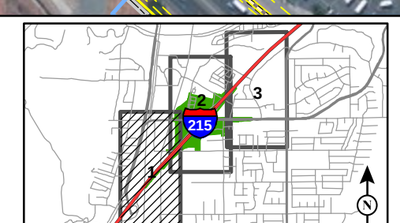

FIGURE 1.7
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013)

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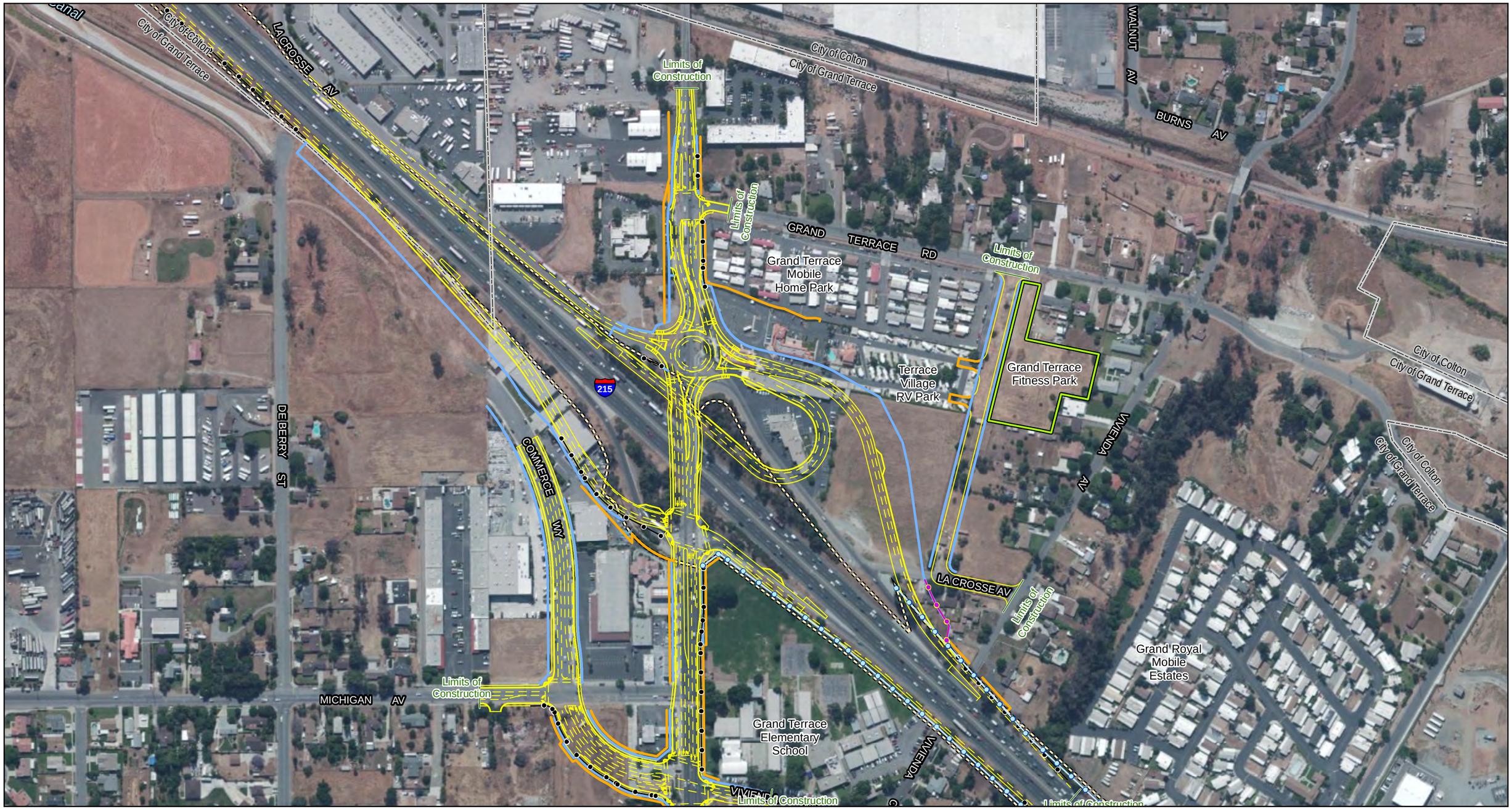

LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

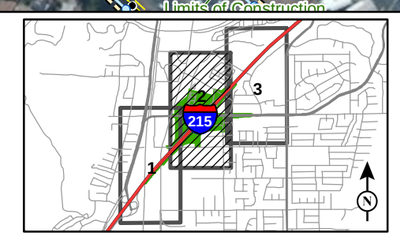

FIGURE 1.7
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013)

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Terrace Elementary School
VIVIENDA AV
VIVIENDA CT
Limits of Construction
Limits of Construction
Limits of Construction
LA PAIX ST
MCCLAREN ST
CARHART AV
PASCAL AV
NEWPORT AV
CANAL ST
Gage Canal
215
City of Colton
City of Grand Terrace
BARTON RD
TERRACE PINES DR

LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- City Boundary
- Grand Terrace Fitness Park
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013)

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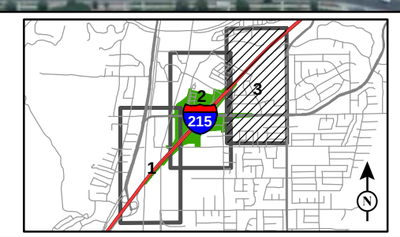

FIGURE 1.7
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7

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1.4.3 Construction Staging for the Build Alternatives

Because the Barton Road overcrossing would stay at its existing alignment, it is proposed that the new structure be built in two stages. The first stage would include:

- Demolition of half of the existing structure
- Construction of half of the new structure while maintaining one lane of traffic in each direction on the remaining half of the existing structure
- Construction of the ramps, northbound auxiliary lane, and retaining walls
- Improvements to local streets

The second stage would include:

- Demolition of the second half of the overcrossing structure
- Construction of the remaining half of the overcrossing structure
- Traffic signal work
- Intersection modifications/improvements
- Completion of the reconstructed bridge connection to each end of Barton Road

During each stage, a single 5 ft wide sidewalk would be provided for temporary access on Barton Road.

Temporary nighttime closures of mainline lanes and ramps may be required during construction. During ramp closures at Barton Road, the I-215/Iowa Avenue/La Cadena Drive and I-215/Mount Vernon Avenue/Washington Street interchanges would be available as alternate access points to and from the I-215 mainline. La Cadena Drive and Mount Vernon Avenue would provide north-south access to Barton Road in the Project vicinity.

1.4.4 Unique Features of Build Alternatives

1.4.4.1 Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 includes the components listed below.

- The new southbound off-ramp would make a new connection at Barton Road with one right-turn lane, one shared right-/left-turn lane, and one left-turn lane.
- The new southbound loop on-ramp would provide three lanes at Barton Road. This would accommodate the dual left-turn lanes on eastbound Barton Road and the right-turn lane on westbound Barton Road.
- The new northbound off-ramp would provide three lanes (two right-turn lanes and one left-turn lane) at the Barton Road intersection.

- The new northbound loop on-ramp would provide three lanes at the Barton Road intersection. This would accommodate the dual left-turn lanes on westbound Barton Road and the right-turn lane on eastbound Barton Road.
- Most of La Crosse Avenue north of Barton road would be removed and all of La Crosse Avenue south of Barton Road would be removed.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.
- Grand Terrace Road would be extended southwest of Barton Road to tie into East De Berry Street.
- The concrete channel parallel to the existing northbound off-ramp (Drainage C on Figure 2.15.2) would be enclosed.
- The segment of Vivienda Avenue west of I-215 would be converted into a cul-de-sac.
- Grand Terrace Road and the Grand Terrace Road/Barton Road intersection would be realigned to allow adequate distance between the ramps and the local intersection.
- Traffic signal modifications would be made at the Barton Road/Grand Terrace Road/De Berry Street, I-215 northbound ramps/Barton Road, I-215 southbound ramps/Barton Road, and Commerce Way/Vivienda Avenue/Barton Road intersections.

1.4.4.2 Alternative 6 (Modified Cloverleaf Interchange)

Alternative 6 includes the components listed below:

- The new southbound loop on-ramp would provide two lanes at Barton Road. This would accommodate one left-turn lane on eastbound Barton Road and a right-turn lane on westbound Barton Road.
- The new southbound off-ramp would make a new connection at Barton Road with one right-turn lane, one left-turn lane, and one shared right-/left-turn lane.
- The new northbound off-ramp would tie in to Commerce Way and provide for dual left-turn lanes and a single right-turn lane.
- The new northbound hook on-ramp would be provided in the southeast quadrant. The access to the ramp would be through the proposed extension of the Commerce Way.
- Most of La Crosse Avenue north of Barton Road would be removed.
- La Crosse Avenue south of Barton Road would be reconfigured to a right-in/right-out layout at the Barton Road/La Crosse Avenue intersection.

- A bridge would be constructed over the Riverside Canal on the northbound off-ramp to span the canal.
- Commerce Way would be reconfigured to intersect with Barton Road at Vivienda Avenue.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.
- Traffic signal modifications would be made at the Barton Road/Grand Terrace Road, I-215 northbound ramps/Commerce Way, I-215 southbound ramps/Barton Road and Commerce Way/Vivienda Avenue/Barton Road intersections.

1.4.4.3 Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 includes the components listed below.

- The new southbound on- and off-ramps would intersect Barton Road and La Crosse Avenue south of Barton Road in a roundabout configuration with no traffic signals.
- The southbound off-ramp would have a right-turn bypass lane onto westbound Barton Road.
- The new northbound off-ramp would terminate at Barton Road with one left-turn lane, one shared through/right-turn lane, and one dedicated right-turn lane.
- The new northbound on-ramp would have two lanes at the Barton Road intersection. This would accommodate one left-turn lane on eastbound Barton Road and a right-turn lane on westbound Barton Road.
- The concrete channel parallel to the existing northbound off-ramp (Drainage C on Figure 2.15.3) would be enclosed.
- Commerce Way would be reconfigured to intersect with Barton Road at Vivienda Avenue.
- The intersection of Michigan Avenue at Barton Road would be eliminated; Michigan Avenue would form a T-intersection with Commerce Way.
- Traffic signal modifications would be made at the Barton Road/Grand Terrace Road, I-215 northbound ramps/Barton Road, and Commerce Way/Vivienda Avenue/Barton Road intersections.

1.4.5 Nonstandard Mandatory and Advisory Design Features

The Caltrans HDM establishes certain advisory and mandatory design standards. Exceptions to these standards are sometimes necessary, particularly when

reconstructing an existing interchange. Such exceptions are called nonstandard features.

Exceptions to the advisory and mandatory design standards will be required for all Build Alternatives. The proposed Nonstandard Mandatory and Advisory Design Features are summarized and are listed in Tables 1.I and 1.J. In addition to the design exceptions listed in the tables, all of the Build Alternatives may require an exception to the minimum width of traffic opening during construction due to falsework. This exception would be addressed during final design.

Table 1.I Mandatory Design Exceptions

Exception	Alt 3	Alt 6	Modified Alt 7
Interchange spacing between La Cadena Drive/Iowa Avenue interchange and Barton Road interchange	X	X	X
Intersection spacing between Grand Terrace Road and southbound off-ramp		X	X
Superelevation Rate: a. Northbound on-ramp b. Northbound off-ramp			X
Access Control: La Crosse Avenue is a local road that is presently situated on the opposite side of the intersection of the southbound on- and off-ramps with Barton Road. Proposed access rights cannot be acquired on the opposite side of the ramp terminals due to location of this road.		X	

Source: *Draft Project Report* (November 2013).

Table 1.J Advisory Design Exceptions

Exception	Alt 3	Alt 6	Modified Alt 7
Curb Ramp at northeast corner at the northbound ramp intersection			X
Curb Ramps at southbound and northbound ramp intersections with Barton Road	X	X	
Curb Ramps at intersection of Michigan Avenue/Commerce Way and intersection of Barton Road/Grand Terrace Avenue		X	
Superelevation transition length on tangent and curve: a. Northbound off-ramp			X
Superelevation transition length: a. Southbound on-ramp b. Northbound off-ramp	X		X
Superelevation runoff length on tangent and curve: a. Southbound on-ramp b. Northbound off-ramp	X		
Weaving section between the northbound on-ramp at the I-215/La Cadena Drive-Iowa Avenue interchange and the northbound off-ramp at I-215/ Barton Road interchange		X	

Source: *Draft Project Report* (November 2013).

1.4.6 Transportation Systems Management and Transportation Demand Management Alternatives

Alternative travel modes were considered during the early planning studies. Transportation Systems Management (TSM) strives to maximize efficiency of the existing system through operational modifications by providing options such as ridesharing, reversible lanes, ramp metering, and traffic-signal optimization. TSM strategy options consist of actions to improve traffic flow and increase the number of vehicle trips without altering the number of through lanes, while Transportation Demand Management (TDM) focuses on the demand side of travel behavior, with regional strategies for reducing the number of vehicle trips and vehicle miles traveled, and increasing vehicle occupancy. It facilitates higher vehicle occupancy or reduces traffic congestion by expanding travelers' transportation choices through initiatives such as telecommuting and changing work schedules to produce a more even pattern of transportation network use, muting the effect of morning and evening rush hours. In addition, multimodal alternatives integrate multiple modes of transportation, such as pedestrian, bicycle, automobile, rail, and transit.

The purpose of the I-215/Barton Road Interchange Improvement Project is to improve the operation, increase the capacity, and reduce the existing and future congestion at the I-215/Barton Road interchange, and improve access to facilities served by the interchange. A separate TDM Alternative, such as a Mass Transit Alternative, was not developed because there are transit services (i.e., Omnitrans, RTA, [local and regional bus services]) provided in the Project vicinity, and because the proposed interchange improvements are needed to provide improved access to I-215. The Build Alternatives include construction of Class II bicycle lanes and sidewalks along Barton Road within the Project area to facilitate pedestrian and bicycle circulation. In addition, the I-215 Bi-County HOV Lane Gap Closure Project is planned along the Project segment of I-215. Therefore, no TSM/TDM alternative is evaluated in this IS/EA.

Although TSM/TDM measures alone could not satisfy the purpose and need of the Project, TSM/TDM measures, including an auxiliary lane, turning lanes, and HOV bypass lanes on the on-ramps, have been incorporated into the Build Alternative for this Project. In addition, the proposed ramps would also accommodate ramp metering.

1.4.7 No Build Alternative

1.4.7.1 Alternative 1 (No Build Alternative)

Under this alternative, no interchange reconstruction would occur. This alternative would not improve operation, increase capacity, or reduce congestion at the I-215/ Barton Road interchange. As seen in Table 1.D, LOS for all study area local intersections, with the exception of the Barton Road/La Cadena Drive intersection in the AM peak hour, would deteriorate to unsatisfactory LOS by 2040 without improvements due to demand at the interchange. Analysis of the No Build Alternative for the proposed Project includes consideration of the I-215 Bi-County HOV Lane Gap Closure Project in 2016. Analysis of the No Build Alternative includes consideration of the I-215/Mount Vernon/Washington Street Interchange Improvement Project and the I-215 Bi-County Improvement Project in 2040. The No Build Alternative for the proposed Project is not consistent with the mobility goals of the Regional Congestion Management Plan.

1.5 Comparison of Alternatives

Table 1.K provides a comparison between the No Build Alternative (Alternative 1) and Build Alternatives (Alternatives 3, 6, and Modified Alternative 7). Because the interchange is within a developed area of the City of Grand Terrace, which does not have a large tax base, it is preferred that the Build Alternatives minimize right-of-way acquisition and displacements, and maintain local circulation while meeting the purpose and need for the Project. As seen in Table 1.K, Modified Alternative 7 would result in the fewest number of potential full property acquisitions, and would have the lowest cost of the Build Alternatives.

1.5.1 Operational Comparison

The Build Alternatives would reduce congestion and improve operations at the interchange when compared to the No Build Alternative. Specific data illustrating these improvements are shown in Tables 1.L through 1.P.

Table 1.L shows that all of the proposed Build Alternatives would improve LOS at most of the study area intersections and all intersections would operate at satisfactory LOS for 2016. For 2040, Table 1.M shows that with all of the Build Alternatives, the Barton Road/La Cadena Drive intersection would operate at unsatisfactory LOS (LOS F) in the PM peak hour, similar to the No Build condition (Alternative 1). This deficiency is not a result of the proposed Project; it is due to the lack of capacity to accommodate projected growth. In order to achieve a satisfactory LOS at this intersection, La Cadena Drive would need to be widened to six lanes, which would

Table 1.K Project Alternatives Comparison

Issue	Alternative 1 (No Build Alternative)	Alternative 3	Alternative 6	Modified Alternative 7
Right-of-Way Acquisition	No displacements	30 full acquisitions 8 residential displacements 31 business displacements 131–321 employee displacements	10 full acquisitions 2 residential displacements 19 business displacements 40–102 employee displacements	8 full acquisitions 2 residential displacements 21 business displacements 60–140 employee displacements
Local Circulation	No change	1. Would remove most of La Crosse Avenue north of Barton Road and all of La Crosse Avenue south of Barton Road. 2. Maintains local circulation in the southwest and northwest quadrants by providing an extension of Grand Terrace Road and a new two-lane road between La Crosse Avenue and Grand Terrace Road parallel to Vivienda Avenue, respectively. 3. Would realign Commerce Way and remove a portion of Michigan Avenue.	1. Would remove most of La Crosse Avenue north of Barton Road. 2. Maintains local circulation in the northwest quadrant by providing a new two-lane road between La Crosse Avenue and Grand Terrace Road parallel to Vivienda Avenue. 3. Would limit access to and from La Crosse Avenue south of Barton Road to Barton Road. 4. Would realign Commerce Way and remove a portion of Michigan Avenue.	1. Would remove most of La Crosse Avenue north of Barton Road. 2. Maintains local circulation in the southwest and northwest quadrants by providing a roundabout at Barton Road and the I-215 southbound ramps, and a new two-lane road between La Crosse Avenue and Grand Terrace Road parallel to Vivienda Avenue, respectively. 3. Would remove a portion of Michigan Avenue.
Estimated Cost	None	$104,717,000	$63,385,000	$62,486,000
Operational Circulation	1. Would not provide adequate storage in the left-turn lane from westbound Barton Road to the I-215 southbound ramp. 2. Would result in unsatisfactory LOS at the Barton Road/Grand Terrace Road intersection in the AM and PM peak hours in 2016. 3. All study area intersections would operate at unsatisfactory LOS in the AM and PM peak hours in 2040 with exception of the Barton Road/La Cadena Drive AM peak hour. 4. The non-standard connection between the I-215 southbound off-ramp and a local street (La Crosse Avenue), prior to reaching Barton Road, would remain.	1. Would provide adequate storage in the left-turn lane from westbound Barton Road to the I-215 southbound ramp. 2. Would provide satisfactory LOS at the Barton Road/Grand Terrace Road intersection in the AM and PM peak hours in 2016. 3. All study area intersections would operate at satisfactory LOS in the AM and PM peak hours in 2040 with exception of the Barton Road/La Cadena Drive PM peak hour. As in the No Build condition, to achieve satisfactory LOS at this intersection, La Cadena Drive would need to be widened to six lanes, which would need to be completed as a separate project by the City of Colton.	1. Would provide adequate storage in the left-turn lane from westbound Barton Road to the I-215 southbound ramp. 2. Would provide satisfactory LOS at the Barton Road/Grand Terrace Road intersection in the AM and PM peak hours in 2016. 3. All study area intersections would operate at satisfactory LOS in the AM and PM peak hours in 2040 with exception of the Barton Road/La Cadena Drive PM peak hour. As in the No Build condition, to achieve satisfactory LOS at this intersection, La Cadena Drive would need to be widened to six lanes, which would need to be completed as a separate project by the City of Colton.	1. Would provide adequate storage in the left-turn lane from westbound Barton Road to the I-215 southbound ramp. 2. Would provide satisfactory LOS at the Barton Road/Grand Terrace Road intersection in the AM and PM peak hours in 2016. 3. All study area intersections would operate at satisfactory LOS in the AM and PM peak hours in 2040 with exception of the Barton Road/La Cadena Drive PM peak hour. As in the No Build condition, to achieve satisfactory LOS at this intersection, La Cadena Drive would need to be widened to six lanes, which would need to be completed as a separate project by the City of Colton.

Table 1.L 2016 Intersection Levels of Service

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Barton Road/La Cadena Drive	B	C	B	C	B	C	B	C
Barton Road/Grand Terrace Road	F	F	A	A	A	A	A	A
Barton Road/I-215 Southbound Ramps	C	F	A	A	B	C	B	B
Barton Road/I-215 Northbound Ramps	B	C	A	A	B	B	B	B
Barton Road/Michigan Street	B	B	Does not Exist					
Barton Road/Vivienda Avenue	C	C	B	B	B	B	B	B
Barton Road/Terrace Avenue[1]	C	C	-	-	C	C	-	-

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); *Draft Project Report* (November 2013).

[1] Intersection was not studied under Alternative 3 or Modified Alternative 7 because westbound Barton Road left-turns to southbound La Crosse Avenue would be allowed. This intersection was not studied in 2040 because the I-215 Bi-County Improvement Project would realign La Crosse Avenue with Grand Terrace Road.

Table 1.M 2040 Intersection Levels of Service

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Barton Road/La Cadena Drive	C	F	D	F	D	F	D	F
Barton Road/Grand Terrace Road	F	F	A	A	A	A	A	B
Barton Road/I-215 Southbound Ramps	F	F	B	B	C	B	B	A
Barton Road/I-215 Northbound Ramps	F	F	A	B	C	B	B	C
Barton Road/Michigan Street	F	F	Does not Exist					
Barton Road/ Vivienda Avenue	F	F	D	D	D	D	D	D

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); Barton Road Interchange Improvement Project Roundabout Analyses, August 2013; Draft Project Report (November 2013).

need to be completed as a separate project by the City of Colton. The Nexus Study Arterial Project List in the 2007 SANBAG Congestion Management Plan includes the widening of La Cadena Drive to six lanes through this portion of the City of Colton.

Table 1.N shows that the freeway mainline LOS is the same for the No Build Alternative and the Build Alternatives except for the northbound segment between the Iowa Avenue on-ramp and the Barton Road off-ramp. The Build Alternatives include an auxiliary lane in this segment, which improves the LOS in 2016. All segments operate at satisfactory LOS. In 2040, in the No Build and Build conditions, all freeway segments would operate at satisfactory LOS except for the segment between the Barton Road off-ramp and the Barton Road on-ramp in the northbound direction, which would fail for a 15-minute period during the PM peak hour. This is a function of the I-215 mainline being overcapacity.

As shown in Table 1.O, freeway ramps at Barton Road are currently operating at satisfactory LOS (LOS E or better). In the 2016 and 2040 No Build condition, freeway ramps at Barton Road are projected to operate at LOS E or better. The ramps LOS are the same for the No Build Alternative and the Build Alternatives, except for the Barton Road northbound off-ramp. A second lane would be added to the Barton Road northbound off-ramp under all the Build Alternatives, which would improve LOS at this location in 2016. LOS improves in 2040 due to construction of the I-215 Bi-County Improvement Project.

As seen in Table 1.P, under Alternatives 3 and 6, the eastbound and westbound Barton Road left-turn lanes onto the southbound ramps would have adequate queuing distance during both the AM and PM peak hours in 2016 and 2040. Alternatives 3 and 6 would include longer left-turn lanes to provide the extra queue length. Modified Alternative 7 includes a roundabout configuration at the southbound ramps and the LOS at these ramps would be adequate.

1.6 Identification of the Preferred Alternative

1.6.1 Locally Preferred Alternative

After comparing and weighing the benefits and impacts of all of the feasible alternatives, SANBAG and the City of Grand Terrace have identified Modified Alternative 7 as their Locally Preferred Alternative, subject to public review. This alternative was identified as Locally Preferred because it meets the Project’s purpose and need and also provides full access at the intersection of Barton Road/I-215

Table 1.N Future (2016 and 2040) Freeway Mainline Levels of Service

Freeway Segment	2016		2040	
	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Alternative 1 (No Build)				
Northbound				
Iowa Avenue On-Ramp to Barton Road Off-Ramp	D	E	D	E
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	E	F[1]
Barton Road On-Ramp to Washington Street Off-Ramp	D	E	D	E
Southbound				
Washington Street On-Ramp to Barton Road Off-Ramp	E	D	D	D
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	E	E
Barton Road On-Ramp to La Cadena Drive Off-Ramp	E	D	D	D
All Build Alternatives				
Northbound				
Iowa Avenue On-Ramp to Barton Road Off-Ramp	C	D	D	E
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	E	F
Barton Road On-Ramp to Washington Street Off-Ramp	D	E	D	E
Southbound				
Washington Street On-Ramp to Barton Road Off-Ramp	E	D	D	D
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	E	E
Barton Road On-Ramp to La Cadena Drive Off-Ramp	E	D	D	D

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

[1] Freeway is over capacity during peak 15-minute period.

Table 1.O Future (2016 and 2040) Ramp Levels of Service

Ramp	2016		2040	
	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Alternative 1 (No Build)				
Northbound				
Barton Road Off-Ramp	D	E	A	A
Barton Road On-Ramp	D	D	C	B
Southbound				
Barton Road Off-Ramp	E	D	A	A
Barton Road On-Ramp	D	D	C	B
All Build Alternatives				
Northbound				
Barton Road Off-Ramp	B	B	A	A
Barton Road On-Ramp	D	D	C	B
Southbound				
Barton Road Off-Ramp	E	D	A	A
Barton Road On-Ramp	D	D	C	B

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Table 1.P Future (2016 and 2040) Intersection Queue Lengths

Intersection	2016				2040			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Alternative 1 (No Build)								
Barton Road/I-215 Southbound Ramps – Westbound left-turn lane	120	478	120	378	120	491	120	252
Alternative 3								
Barton Road/I-215 Southbound Ramps – Eastbound left-turn lane	220	20	220	41	220	53	220	85
Alternative 6								
Barton Road/I-215 Southbound Ramps – Eastbound left-turn lane	250	85	225	183	225	130	225	191
Modified Alternative 7								
Barton Road/I-215 Southbound Ramps – Eastbound left-turn lane	N/A[1]	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); *Barton Road Interchange Improvement Project Roundabout Analyses,* August 2013.

[1] Barton Road will intersect the I-215 southbound ramps in a roundabout configuration under this alternative.

southbound ramps/La Crosse Avenue, while minimizing right-of-way impacts and Project costs.

Modified Alternative 7 meets the Project purpose and need by improving the operation, increasing capacity, and reducing future congestion at the I-215/Barton Road interchange. All study area intersections will operate at acceptable LOS except for one intersection that requires future local roadway improvements. Additionally, turn pockets will be lengthened to accommodate future projected traffic queues.

The design of Modified Alternative 7 is anticipated to result in less displacement of businesses and residences than Alternative 3, and is comparable to the displacements based on Alternative 6. Modified Alternative 7 would displace 2 residences, 21 businesses, and require full acquisition of 8 parcels. Alternative 3 would require displacement of 8 residences, 31 businesses, and require full acquisition of 30 parcels. Alternative 6 would displace 2 residences, 19 businesses, and require full acquisition of 10 parcels. Minimizing right of way acquisition and business displacements is one of the specific evaluation criteria developed for the Project.

Modified Alternative 7 has the lowest cost of the Build Alternatives. Alternative 3 is estimated to cost $104,912,000, Alternative 6 to cost $63,287,000, and Modified Alternative 7 to cost $62,486,000. Reducing project costs is another specific evaluation criteria developed for the Project.

Based on the benefits of Modified Alternative 7 relative to the specific evaluation criteria developed for the Project, SANBAG, the Project sponsor, identified Modified Alternative 7 as their Locally Preferred Alternative in April 2013. The City of Grand Terrace, through a regularly scheduled meeting of the City of Grand Terrace City Council on September 9, 2013, identified Modified Alternative 7 as their Locally Preferred Alternative.

1.6.2 Preferred Alternative

Final identification of a preferred alternative will occur after the public review and comment period.

The preferred alternative will be identified on the basis of the following preliminary criteria. Alternatives are evaluated on the basis of both environmental and non-environmental factors, as specified below.

- Community impacts, including right-of-way acquisition and displacements
- Cost
- Operational performance

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the Project's effect on the environment. Under CEQA, if no unmitigable significant adverse impacts are identified, Caltrans will prepare a Negative Declaration (ND) or Mitigated ND. Similarly, if Caltrans determines the action does not significantly impact the environment, Caltrans, as assigned by the FHWA, will issue a Finding of No Significant Impact (FONSI) in accordance with the NEPA.

1.7 Value Analysis

A Value Analysis (VA) study was conducted in 2008 to comply with the Federal Value Engineering (VE) mandate and to explore alternatives that will enhance the Project performance. There were a total of four VA strategies identified in the VA final report dated June 11, 2008. A brief description of the four strategies is shown below along with the disposition of the each strategy:

- 1.0 Reduce the Newport Avenue Bridge width from 58 ft to 44 ft. This VA alternative applied to Alternative 5, which is no longer under consideration for this Project (see Section 5.22). However, this VA alternative was considered for the SHOPP project (EA 08-0P510), which is currently under construction. That project was combined into a single-construction contract with the I-215 Bi-County HOV Lane Gap Closure Project.
- 2.1 Construct PDT Alternative 3 in lieu of PDT Alternative 5. Alternative 3 is included as a viable alternative although it is not the locally preferred alternative due to the right-of-way impacts.
- 2.2 Redesign and construct PSR Alternative 2 with school playground land use modifications in lieu of PDT Alternative 5. Although the impact to the school property could be minimized with this strategy, it could not be avoided; thus, Alternative 2 is no longer under consideration (see Section 5.22) due to impacts to Grand Terrace Elementary School.
- 3.0 Upgrade two railroad bridges on Barton Road (west of I-215) as part of the project. It was determined that separate projects would be initiated to improve the railroad bridges but was dependent upon funding availability. Replacement or

modification to the railroad bridges will not be part of the I-215/Barton Road Interchange Improvement Project.

1.8 Alternatives Considered but Eliminated from Further Discussion

1.8.1 Alternative 2 (Spread Diamond Interchange)

Under Alternative 2, Barton Road would be widened to two through lanes in each direction plus dual back-to-back left-turn lanes. In addition, right-turn lanes would be provided for eastbound right turns from Barton Road onto the southbound on-ramp and for westbound right turns onto the northbound on-ramp. The existing overcrossing would be replaced with a new structure with four through lanes and two turn lanes.

Alternative 2 would include a new northbound on-ramp that would encroach into the playfields and portable buildings at Grand Terrace Elementary School in the northeast quadrant of the interchange. Meetings with the Colton Joint Unified School District Director of Facilities and Planning and a California Department of Education representative determined that the acquisition of school property under these alternatives would require the school to be relocated. This would require that the Project cost include the cost of moving the school and environmental clearance of a new site. Further study determined that a suitable site within the school enrollment area was not available. For these reasons, and because there were other feasible Build Alternatives to study, the PDT made a decision to withdraw Alternative 2 from further consideration on March 18, 2008.

1.8.2 Alternative 4 (Spread Diamond/Partial Cloverleaf Interchange)

Under Alternative 4, Barton Road would be widened to two through lanes in each direction plus a dual left-turn lane and a right-turn lane. The existing overcrossing would be replaced with a new structure with four through lanes and three turn lanes.

Similar to Alternative 2, Alternative 4 would include a new northbound on-ramp that would encroach into the playfields and portable buildings at Grand Terrace Elementary School in the northeast quadrant of the interchange. For the same reasons considered in deciding to withdraw Alternative 2 from further consideration, and because there were other feasible Build Alternatives to study, the PDT made a decision to also withdraw Alternative 4 from further consideration on March 18, 2008.

1.8.3 Alternative 5 (Single-Point/Bowtie Interchange)

Alternative 5 would be constructed as a single-point/bowtie interchange, with all four ramps meeting at one intersection and two ramps that fly over the freeway. Under Alternative 5, Barton Road would be widened to two lanes in each direction. The existing overcrossing would be replaced with a new structure with four through lanes and three turn lanes.

Initially, Alternative 5 was considered a Build Alternative and as such, was analyzed in the technical studies. However, subsequent design review and analysis during the environmental review process determined that Alternative 5 would conflict with the design and alignment of the I-215/Newport Avenue overcrossing.

The northbound on-ramp from Barton Road must pass under the Newport Avenue bridge as it merges with I-215; however, the placement of the bridge abutments do not provide sufficient space to accommodate the on-ramp from Alternative 5 and other programmed widening projects on I-215. Therefore, Alternative 5 causes a substantial engineering conflict.

A comparison of the Build Alternatives (Alternatives 3, 6, and 7) to Alternative 5 reveals that Alternative 5 is not superior to the other alternatives in its ability to meet the Project purpose. The primary purpose of the Project is to improve traffic operations and reduce congestion at the Barton Road interchange. The traffic study determined that the traffic improvements associated with Alternative 5 are comparable to the other Build Alternatives, and Alternative 5 would not provide a superior advantage to achieving the Project purpose.

The comparison of the Build Alternatives also reveals that Alternative 5 would cause more environmental impacts than other alternatives. For example, Alternative 5 would cause more full property acquisitions than the Build Alternatives. Alternative 5 would also cause more impacts to biological resources, including United States Army Corps of Engineers (USACE) and California Department of Fish and Wildlife (CDFW) jurisdiction, than the other Build Alternatives.

As a result of the engineering conflict, the lack of a unique Project benefit, and the greater level of environmental impacts compared to the other Build Alternatives, the PDT made a decision to withdraw Alternative 5 from further consideration on January 17, 2012. Some technical studies that were prepared in support of this Environmental Document still include reference and document the potential impacts associated with Alternative 5, however, because the PDT made the decision to

withdraw Alternative 5 from further study, Alternative 5 was not included in this Environmental Document.

1.8.4 Alternative 7 (Modified Cloverleaf/Diamond Interchange)

During the development of Alternative 7, the design team and Caltrans worked to resolve issues associated with the intersection configuration, access control on La Crosse Avenue, and intersection control measures. The existing intersection at the I-215 southbound ramps and Barton Road contains a local street, La Crosse Avenue, which forms two legs of the intersection. The existing connection of La Crosse Avenue north of Barton Road would be eliminated with Alternative 7, but the southern leg of La Crosse Avenue would remain active and provide access to the intersection. Because the connection of the southern leg of La Crosse Avenue at this intersection would occur directly opposite the proposed realigned southbound off-ramp, this connection would be nonstandard per the Caltrans HDM Index 504.8, Access Control.

In September 2011, Caltrans, SANBAG, and FHWA staff met to review the issue of access control at La Crosse Avenue. During this meeting it was concluded that right-in/right-out access to La Crosse Avenue would provide an adequate compromise to maintain access while minimizing the nonstandard access control. The decision was contingent upon verifying that traffic would operate at an acceptable LOS with the right-in/right-out access control. The traffic operations were verified in October 2011, and the right-in/right-out control at La Crosse Avenue was incorporated into the various engineering and environmental studies needed for completion of the approval of the Project.

At the February 21, 2012, PDT meeting, Richard Shields, Community Development Director at the City of Grand Terrace, and Victor Ortiz, Engineering Manager at the City of Colton, indicated that they have been getting calls from property owners with properties along the southern leg of La Crosse Avenue. The property owners were concerned about how Alternative 7 would impact the access for delivery trucks. SANBAG provided the cities with preliminary plans of the Build Alternatives so that they could be referenced when fielding questions.

Based on the concerns regarding the changes to the La Crosse Avenue/Barton Road intersection under Alternatives 6 and 7, SANBAG determined that a meeting would be held with the concerned property owners. The City of Grand Terrace held the meeting on April 23, 2012, to provide additional information regarding the

preliminary design. In addition to the business owners, the City of Grand Terrace, SANBAG, and Caltrans staff attended the meeting. The property owners provided a written statement that the loss of a left turn from westbound Barton Road to La Crosse Avenue "would cripple the existing properties and businesses and severely restrict any future development."

In August 2012, Caltrans submitted a draft Modified Access Request (MAR), which evaluated Alternative 7, to FHWA for review. FHWA staff visited the Project site along with several Caltrans Project staff members. During their visit, FHWA staff questioned whether a roundabout concept would improve conditions at the southbound ramp intersection, solve the access control issues, and eliminate the controversy regarding the right-in/right-out configuration. The group agreed that a roundabout would reduce the impacts of La Crosse Avenue on the intersection since wrong-way moves would be more difficult and all directions of the intersection's legs would be served. FHWA informally rejected the MAR in August 2012 pending further study of a roundabout.

The design team prepared a traffic analysis for one and two roundabout scenarios. The analysis determined that a roundabout would be feasible at the I-215 southbound ramps/Barton Road /La Crosse Avenue intersection. A roundabout in this location would provide access control at La Crosse Avenue, maintain access to all four legs of the intersection, and solve the truck-turning movement concerns of the surrounding property owners. The traffic analysis also concluded that a roundabout on Barton Road at the I-215 northbound ramps is not feasible due to operational issues and increased right-of-way impacts. In February 2013, the PDT decided to proceed with a modification to Modified Alternative 7 that includes a roundabout at the I-215 southbound ramps. This alternative was formally named Modified Alternative 7 at a PDT meeting on March 5, 2013. At the same PDT meeting, the PDT made the decision to withdraw Alternative 7 from further consideration. Some technical studies that were prepared in support of this Environmental Document still include reference and document the potential impacts associated with Alternative 7, however, because the PDT made the decision to withdraw Alternative 7 from further study, Alternative 7 was not included in this Environmental Document.

1.9 Permits and Approvals Needed

The following permits, reviews, and approvals would be required for Project construction, as shown in Table 1.Q.

Table 1.Q Permits and/or Approvals Needed

Agency	Permit/Approval	Status
State Water Resources Control Board	Section 402 NPDES (Construction Activity)	A Notice of Intent to comply with the Construction General Permit (Order No. 2009-0009-DWQ) and any subsequent permit will be filed prior to start of construction.
Santa Ana Regional Water Quality Control Board	Section 401 Certification	Application will be submitted after environmental document approval.
United States Army Corps of Engineers	Section 404 Permit (Nationwide)	The project will comply with the requirements of Nationwide Permit 14. Documentation, as required, will be prepared and provided as required.
California Department of Fish and Wildlife	Section 1602 or Letter of Nonjurisdiction	Application will be submitted after environmental document approval.
City of Grand Terrace	Encroachment Permit	Will be obtained prior to construction.
City of Colton	Encroachment Permit	Will be obtained prior to construction.
City of Grand Terrace	Street Vacation for La Crosse Avenue and Michigan Avenue	Will be obtained prior to construction.
City of Colton	Street Vacation for La Crosse Avenue	Will be obtained prior to construction.
FHWA	Air Quality Conformity Determination	Prior to approval of FED.
FHWA	Modified Access Report	Conceptual approval was obtained in November 2013. Final approval will be obtained after approval of FED and after Project approval.

Chapter 2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

As part of the scoping and environmental analysis carried out for the Project, the following environmental issues were considered but no substantial impacts were identified. As a result, there is no further discussion about these issues in this document.

- **Coastal Zone:** There is no potential for substantial impacts to the coastal zone because the Project site is approximately 50 miles inland from the coast.
- **Wild and Scenic Rivers:** There is no potential for substantial impacts to wild and scenic rivers due to the absence of designated wild and scenic rivers in the vicinity of the Project site.
- **Farmlands or Timberlands:** There is no potential for substantial impacts to farmlands or timberlands. The Project site is in the City of Grand Terrace and the City of Colton, and no timberlands are present. There are no farmlands in the Project area.
- **Floodplains:** According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06071C8687H (August 28, 2008), there are no 100-year floodplains within the Project area.

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HUMAN ENVIRONMENT

2.1 Land Use

This section is based on information from the *Community Impact Assessment* (CIA) (November 2013). The study area for land use analysis is the portion of the City of Grand Terrace and the City of Colton within and surrounding the Project area. For this Project, the study area includes the neighborhoods located within and adjacent to the Project design footprint. Community Profile data are collected and organized by city, county, and census tract; therefore, these boundaries are utilized in conjunction with evaluating impacts to the affected environment within the study area.

2.1.1 Existing and Future Land Use

2.1.1.1 Existing Land Use

The study area is located primarily in the City of Grand Terrace, with a small portion in the City of Colton in San Bernardino County. The Cities of Grand Terrace and Colton were incorporated in 1978 and 1887, respectively. Existing land use in the study area in the City of Grand Terrace and the City of Colton south of the Interstate 215 (I-215)/Mt. Vernon Avenue-Washington Street interchange to the cities' southern boundaries is shown in Figure 2.1.1 and is described below by quadrants that represent the intersection of I-215 with Barton Road. Within the Project area, existing land use was mapped based on field surveys. Existing land use outside of the Project area is based on aerial photographs and geographic information system (GIS) data provided by the Southern California Association of Governments (SCAG; 2008). The data was compiled into general land use designations.

Northeast Quadrant

This quadrant is within the City of Grand Terrace. Existing land uses include Grand Terrace Elementary School, a few small businesses, and single-family residential properties.

Northwest Quadrant

This quadrant is primarily within the City of Grand Terrace, with a small portion within the City of Colton. The current land uses in the northwest quadrant consist of a few single-family residences, a recreational vehicle (RV) park (Terrace Village RV Park), two mobile home parks (Grand Terrace Mobile Home Park and Grand Royal Mobile Estates), two strip malls, a restaurant (Demetri's Burgers), and an office complex.

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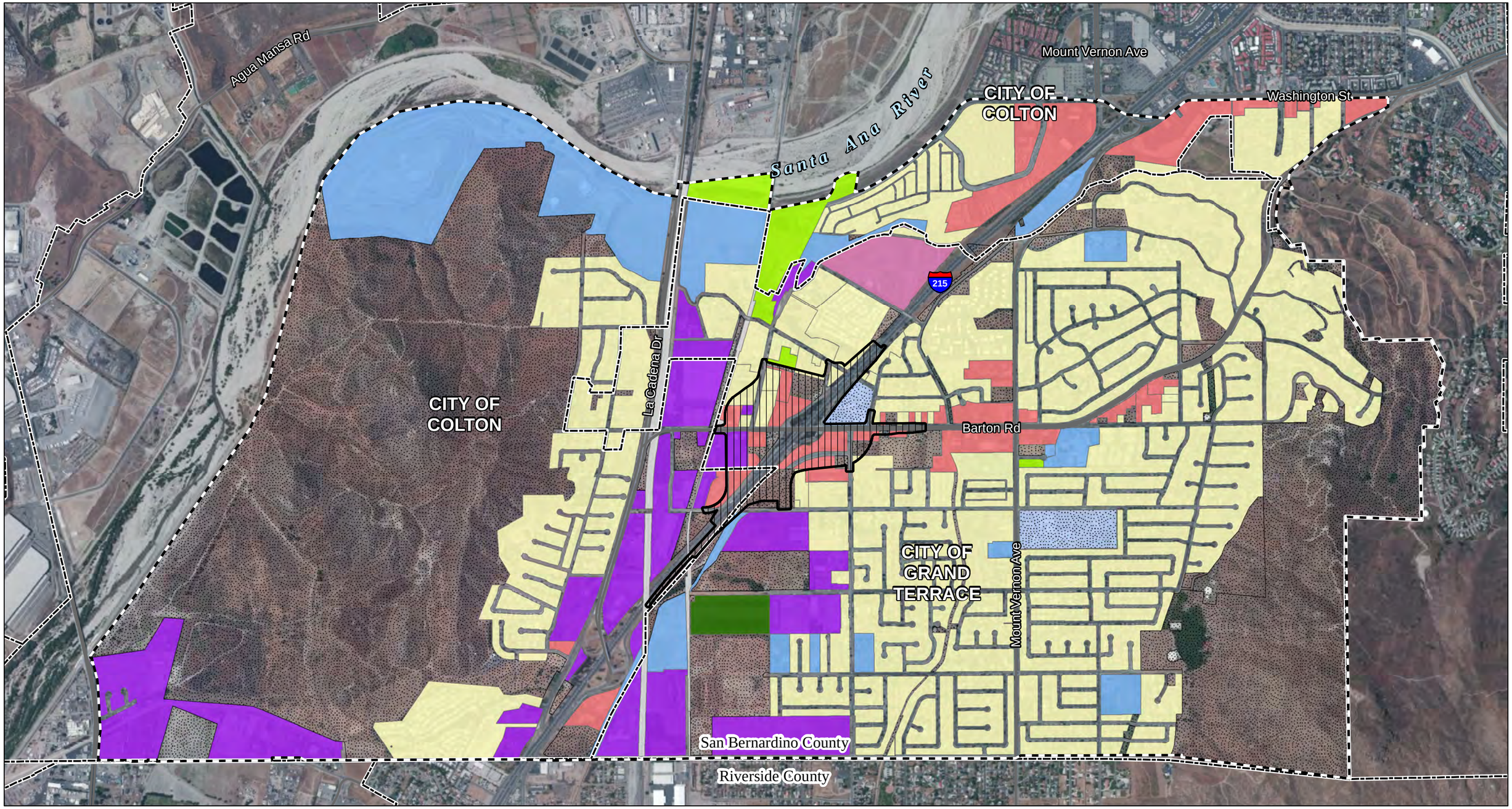

LEGEND

- Land Use Study Area
- Project Area
- City Boundaries

Existing Land Use

- Agriculture
- Residential
- Commercial
- Communication & Utility Facilities
- Industrial
- Public Facilities
- Education
- Open Space and Recreation
- Railroad
- Vacant

N

0 750 1500
FEET

SOURCE: Microsoft (5/2010); SCAG (2008); LSA (9/2013)

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FIGURE 2.1.1

I-215/Barton Road Interchange Improvement Project

Study Area Existing Land Use

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Southwest Quadrant

This quadrant is primarily within the City of Colton. A small portion is within the City of Grand Terrace, and a small portion is unincorporated. Existing land uses in this quadrant include small businesses, bus storage, industrial businesses, office buildings, and retail stores.

Southeast Quadrant

This quadrant is within the City of Grand Terrace. Existing land uses include two gasoline stations, (Shell and Arco), retail stores, an auto repair facility (GT Pit Stop), industrial warehouses, and a few vacant parcels.

2.1.1.2 Future Land Use

According to the City of Grand Terrace General Plan Land Use Element, approximately 5.4 percent of its land uses are designated for commercial, 6.4 percent for industrial, 4.2 percent for mixed-use, 8 percent for open space, 22 percent for public/streets, and 54 percent for residential uses. The City of Colton General Plan Land Use Element does not include percentages of land designated for specific uses.

The Land Use Elements in the General Plans for the Cities of Grand Terrace (April 2010) and Colton (2013) identify the future planned land uses in the Cities. General Plan land uses for the Cities of Grand Terrace and Colton within the Project area are shown in Figure 2.1.2. General Plan land use data is based on hard copy maps published by the Cities of Grand Terrace (April 2010) and Colton (May 2012), as well as GIS data provided by SCAG as part of the 2008 Regional Transportation Plan (RTP). No GIS data is available from the adopted 2012–2035 RTP/Sustainable Communities Strategy (SCS). The data was compiled into general land use designations. The General Plan land uses in the Project area are described below by quadrant.

Northeast Quadrant

Located in the City of Grand Terrace, this quadrant is designated as Public, General Commercial (GC), and Low- and Medium-Density Residential under the City General Plan. The Public designation includes public facilities such as schools, parks, City Hall, City maintenance facilities, and facilities owned and operated by public utilities. The GC designation provides for general commercial uses to serve the retail and service needs of the community. The Low-Density Residential designation limits land uses to single-family detached residential units and mobile homes.

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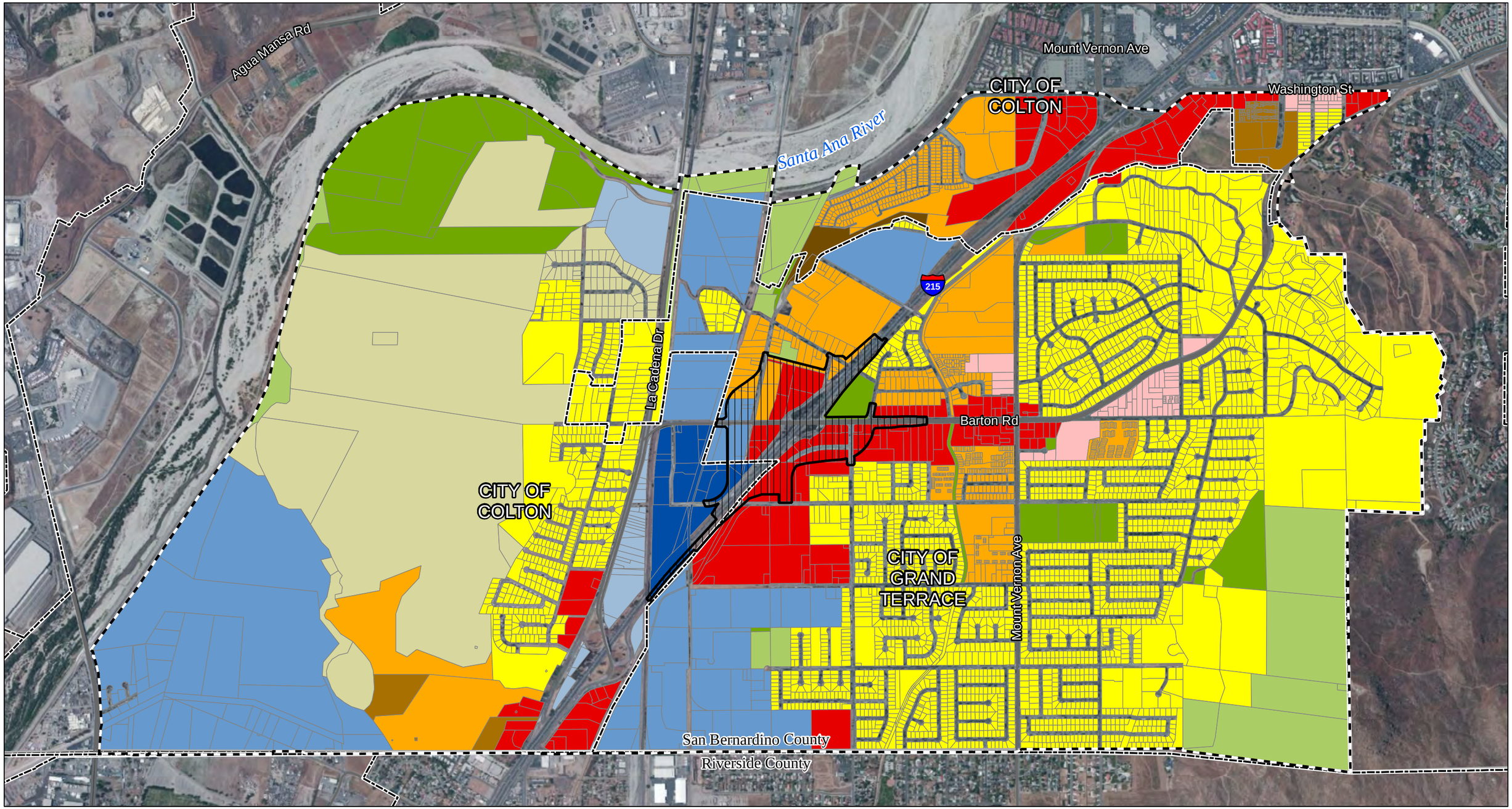

LEGEND

- Land Use Study Area
- Project Area
- City Boundaries

General Plan Land Use

- Residential Estates
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial Office
- General Commercial
- Industrial Park
- Light Industrial
- Heavy Industrial
- Open Space
- Public Facility
- Planned Community

N

0 750 1500
FEET

FIGURE 2.1.2

I-215/Barton Road Interchange Improvement Project

Study Area General Plan Land Use

SOURCE: Microsoft (5/2010); SCAG (2008); City of Grand Terrace (2010); City of Colton (2009, 2012)

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Northwest Quadrant

Also located in the City of Grand Terrace, this quadrant is designated as GC, Medium-Density Residential, and Industrial uses. Medium-Family Residential uses allow for both single-family detached and multifamily attached developments, including condominiums and apartment complexes. Industrial uses allow for manufacturing and assembly, small-scale warehousing and distribution businesses, research and development, and administrative and service types of uses.

Southwest Quadrant

This quadrant is in the Cities of Grand Terrace and Colton and is designated as GC and Industrial uses.

Southeast Quadrant

This quadrant is entirely in the City of Grand Terrace and is designated for GC Low-Density Residential uses.

2.1.1.3 Development Trends

The City of Grand Terrace was incorporated in 1978. The development of predominantly commercial and industrial uses in the City of Colton resulted in the development of the City of Grand Terrace as a residential community. Currently, the City of Grand Terrace is nearly built out; however, there are a few infill projects proposed within the City of Grand Terrace to revitalize key areas, including the core area around Barton Road and a few other locations that are predominantly west of I-215 as shown in Table 2.1.A.

The City of Colton is one of the oldest communities in the area and was incorporated in 1887. Residential areas are dominated by older residences due to the generally slow but steady development that has occurred throughout the City's history. *Colton, the Demographic, Economic, and Quality of Life Data* (2004) reports that the City of Colton has relatively little land available for residential development. For this reason, much of the new residential development in the City has occurred in the Reche Canyon area or infill lots; however, over 2,000 dwelling units are proposed as part of the Pellissier Ranch Specific Plan, although this project is delayed for the foreseeable future (refer to Table 2.1.A). As reported in *Colton, the Demographic, Economic, and Quality of Life Data* (2004), Colton also had limited available space for additional industrial and commercial operations, although there are still vacant areas in the vicinity of the Santa Ana River and Interstate 10 (I-10).

Table 2.1.A Planned Projects

Figure 2.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/ Description	Status
City of Grand Terrace				
1	Town Square Master Development Plan	South side of Barton Road between Michigan Street/Gage Canal	209,611 sf over 5 development units; commercial, retail, and restaurant/fast food uses	Development Unit 1 (65,737 sf) approved with 45,000 sf already constructed. Auto Zone is moving one lot east to the Town Square project. An application for a 7,842 sf building has been submitted to the City.
2	Barton Plaza	Northwest corner of Barton Road and Mount Vernon Avenue	40,000 sf commercial	10,000 sf building constructed in Phase 1. Phases 2 and 3 have not started.
3	Techno-dynamics	21910 Vivienda Avenue	Single-family residential, 3 lots	Project approved. Project is not moving forward.
4	Greystone Group	11830 Mount Vernon Avenue	Single-family residential, 35 units	Project approved and map recorded. No construction has started.
5	Karger Pico Tract	North Side of Pico Street, east of Kingfisher Road	Single-family residential, 18 lots	Tentative tract map valid until 8/10/2016
6	SCE Office Building	22200 Newport Avenue (SCE Vista Substation)	12,257 sf office building	Approved on 11/7/2013 by the Planning Commission.
7	Residential	12156 Preston Street	12 townhomes	Pending Planning Commission meeting for approval. Anticipate meeting before the end of 2013.
I-215 Freeway Projects				
8	I-215 Bi-County HOV Lane Gap Closure Project (SANBAG/RCTC/Caltrans)	On I-215 between SR-60 and Orange Show Road	Add HOV lanes in each direction	Under construction. Planned for completion by mid-2015.
9	I-215/Mount Vernon Avenue/Washington Street Interchange Improvement Project (SANBAG/ Caltrans)	On I-215 at Mount Vernon Avenue/ Washington Street	Reconstruct interchange and local streets, add auxiliary lanes	Preliminary Engineering in progress. Planned for completion by 2020.
10	I-215 Bi-County Improvement Project (SANBAG/RCTC/ Caltrans)	On I-215 between SR-60 and Orange Show Road	Add one mixed-flow lane in each direction, add auxiliary lanes	Planned for completion prior to 2018.
11	Newport Avenue Overcrossing Over I-215 Reconstruction Project (SANBAG/Caltrans)	Over I-215 at Newport Avenue	Reconstruct overcrossing	Under construction. Planned for completion by mid-2015.
City of Colton				
12	The West Barton Road Connection	West Barton Road Bridge across the UPRR	Connection will provide for the ultimate design width for Barton Road of a 100 ft right-of-way.	Reprogramming funding. Planned for completion by 2015.
13	Pellissier Ranch Specific Plan	Pellissier Ranch Road	1,448 ac; 2,101 units residential, commercial, schools, parks	As of August 2012, this plan has been suspended indefinitely.
14	La Cadena Bridge over Santa Ana River Bridge Replacement Project	La Cadena Drive at the Santa Ana River	Reconstruct bridge	Preliminary Engineering. Planned for completion by 2017.
15	Washington Street Extension to La Cadena Drive Project	On Washington Street	Street extension and bridge over BNSF Railway	Project Study Phase. Planned for completion by 2030.

Sources: Sandra Molina, City of Grand Terrace Planning Manager (October 2013); Victor Ortiz, City of Colton Engineering Manager (July 2013); Mark Tomich, City of Colton Planning Director (October 2013).

Planned projects for the study area census tracts and adjacent areas are shown in Table 2.1.A. The locations of these projects are shown in Figure 2.1.3.

Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area.

Alternative 3 (Partial Cloverleaf Interchange)

Approximately 37 ac of land for the proposed right-of-way would be converted to transportation land uses. Potential full acquisitions under Alternative 3 would acquire approximately 20 ac of commercial/industrial land uses, 9 ac of residential uses, and 8 ac of vacant land uses. Five residential acquisitions would occur just west of I-215; three would occur in the proximity of Grand Terrace Road; and one would occur just south of Barton Road and west of La Crosse Avenue. Two of these properties are designated GC in the City of Grand Terrace General Plan (2010), and all of these residential properties are freeway-adjacent. Businesses that remain after Project construction would benefit from improved interchange operations, which would improve the use of this land. Terrace Village RV Park and Grand Terrace Mobile Home Park would lose the buffer (i.e., the commercial strip mall that currently separates them from the southbound I-215 off- ramp). However, because Alternative 3 would not change the existing land use in the Project area (transportation facility surrounded by residential, commercial, and industrial uses, land use compatibility impacts are not considered substantial.

Alternative 6 (Modified Cloverleaf Interchange)

Approximately 22 ac of land for the proposed right-of-way would be converted to transportation land uses; therefore, Alternative 6 would have fewer land use impacts than Alternative 3. Potential full acquisitions under Alternative 6 would convert approximately 8 ac of commercial/industrial land uses, 2 ac of residential uses, and 12 ac of vacant land uses. The two residential displacements for Alternative 6 are designated GC in the City of Grand Terrace General Plan (2010). Due to their proximity to I-215, designated land use, and proximity to other land use types, these residences are not a part of a well-established and cohesive community.

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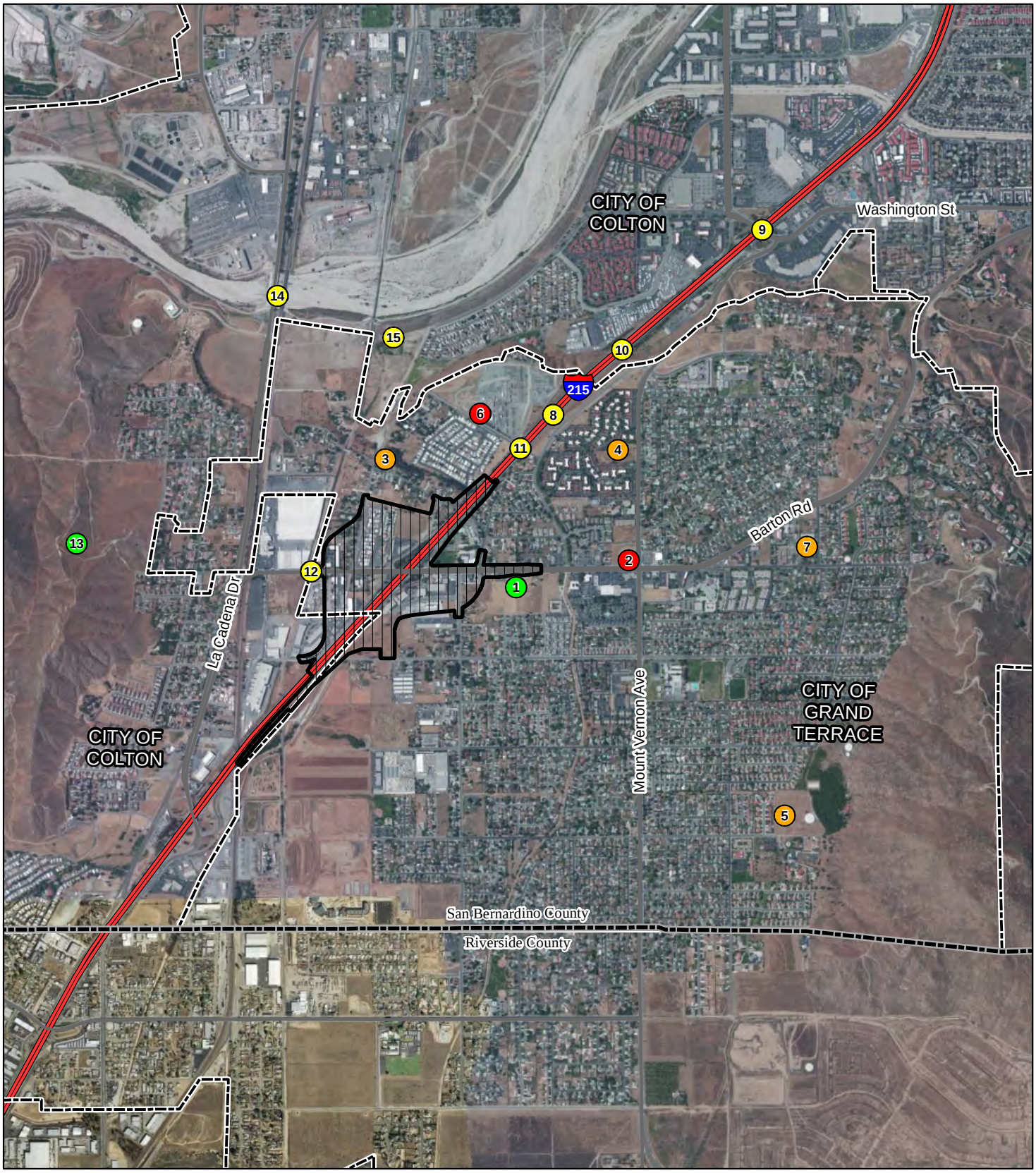

FIGURE 2.1.3

LEGEND

- Project Area
- County Boundary
- City Boundaries

Planned Projects

- Commercial
- Mixed-Use
- Residential
- Transportation

N

0 1000 2000
FEET

I-215/Barton Road
Interchange Improvement Project

Planned Projects

SOURCE: Microsoft (5/2010); City of Grand Terrace (2011); City of Colton (2011)

Note: Locations are approximate.

I:\SBA330\Barton_I-215\GIS\ISEA\CumulativeProjects.mxd (11/1/2013)

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The conditions at Terrace Village RV Park and Grand Terrace Mobile Home Park would be similar to Alternative 3, although the ramps would not be as close to these properties as they would be under Alternative 3. Because Alternative 6 would not change the existing land use in the Project area (transportation facility surrounded by residential, commercial, and industrial uses), land use compatibility impacts are not considered substantial.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 would widen and improve the existing I-215/Barton Road interchange and convert approximately 15 ac of existing land uses to transportation land uses; therefore, Modified Alternative 7 would have fewer land use impacts than Alternatives 3 or 6. Potential full acquisitions under Modified Alternative 7 would convert approximately 9 ac of commercial/industrial land uses, 2 ac of residential uses, and 4 ac of vacant land uses. Modified Alternative 7 would displace the same residential properties as Alternative 6 and, therefore, the land use impacts would be similar. Because Modified Alternative 7 would not change the existing land use in the project area (transportation facility surrounded by residential, commercial, and industrial uses), land use compatibility impacts are not considered substantial.

2.1.2 Consistency with State, Regional, and Local Plans

This section discusses the proposed Project's consistency with the 2012–2035 RTP/SCS, 2013 Federal Transportation Improvement Program (FTIP), and San Bernardino Association of Governments' (SANBAG) Congestion Management Program (CMP). Additionally, the proposed Project's consistency with adopted goals, policies, and plans from the Circulation Element of the City of Grand Terrace General Plan (2010), the City of Grand Terrace's Barton Road Specific Plan, the Mobility Element of the City of Colton General Plan (2013) and the City of Colton's Pellissier Ranch Specific Plan.

2.1.2.1 Regional Transportation Plan/Sustainable Communities Strategy

The SCAG's RTP/SCS is a long-range plan that identifies multimodal regional transportation needs and investments over the next 23 years in Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. The 2012–2035 RTP/SCS places a greater emphasis on sustainability and integrated planning than previous RTPs and defines three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. The 2012-2035 RTP/SCS was adopted by

SCAG on April 4, 2012, and found to conform by the Federal Highway Administration/Federal Transit Administration (FHWA/FTA) on June 12, 2012. The SCAG 2012-2035 RTP/SCS establishes a transportation vision for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties. The 2012-2035 RTP/SCS places a greater emphasis on sustainability and integrated planning than previous RTPs and defines three principles that collectively work as the key to the region's future: mobility, economy, and sustainability. SCAG updates the RTP every 4 years. The proposed Project is included as a "Financially-Constrained RTP Project" in the 2012-2035 RTP/SCS.

On June 6, 2013, SCAG's Transportation Committee approved Amendment #1 to the 2012-2035 RTP/SCS and Amendment #13-04 to the 2013 Federal Transportation Improvement Program (FTIP). The Amendment was developed as a response to changes to projects in the 2012-2035 RTP/SCS and the 2013 FTIP. Amendment #1 to the 2012-2035 RTP/SCS and Amendment #13-04 to the 2013 Federal Transportation Improvement Program (FTIP) were found to conform by the Federal Highway Administration/Federal Transit Administration (FHWA/FTA) on July 15, 2013. The proposed Project's schedule and description are consistent with information regarding the proposed Project associated with Amendment #1 to the 2012-2035 RTP/SCS.

2.1.2.2 Federal Transportation Improvement Program

The 2013 FTIP was adopted by SCAG on September 19, 2012, and approved by FHWA/FTA on December 14, 2012. The SCAG 2013 FTIP was prepared to implement projects and programs listed in the RTP. Amendments to the adopted FTIP are prepared and approved on a continual basis.

The FTIP provides a listing of all capital transportation projects proposed over a 6-year period for the SCAG region. A new FTIP is prepared and approved every 2 years. These funded projects include highway improvements; transit, rail, and bus facilities; carpool lanes; signal synchronization; intersection improvements; freeway ramps; and other related improvements. The proposed Project's schedule and description are consistent with information regarding the proposed Project associated with Amendment #13-04 to the 2013 FTIP and Amendment #1 to the 2012-2035 RTP/SCS. The proposed Project is included in the most current version of SCAG's 2013 FTIP (with Amendments).

2.1.2.3 San Bernardino Associated Governments Congestion Management Program

The SANBAG CMP (2009) identifies the goals of the program, defines legal requirements, and provides background information and descriptions of each element, component, and requirement of the program. A major update is planned in Fall 2013. The CMP defines the network of State highways and arterials, describes level of service (LOS) standards for major road facilities, and provides technical justification for the approach to congestion management. The decisions in the CMP are continuously reviewed through meetings of the Technical Advisory Committee and its subcommittees, the Plans and Programs Policy Committee and the SANBAG Board of Directors. The proposed project is included in the *Development Mitigation Nexus Study* (Appendix K of the CMP). The Nexus Study identifies the fair share contributions from new development for regional transportation improvements (freeway interchanges, railroad grade separations, and regional arterial highways). The Nexus Study is updated biennially or as requested and in close coordination with local jurisdictions.

2.1.2.4 City of Grand Terrace General Plan Circulation Element (2010)

In the City of Grand Terrace General Plan Circulation Element, Barton Road is defined as a Major Highway (100-foot [ft] right-of-way with a 72 ft improved section). As discussed in the Circulation Element: “Major Highways provide service to non-local through trips as well as limited local access. They often provide direct service to major commercial and industrial areas. Typically, Major Highways are characterized with four travel lanes, minimal curb cuts, and signalized intersections.”

The General Plan also indicates that the City should seek alternative funding sources to supplement Measure I funding for the expansion of the Barton Road interchange.

The Project is consistent with applicable City of Grand Terrace General Plan Circulation Element (2010) goals and policies to improve transportation corridors, provide adequate infrastructure, maintain efficient traffic operations on City streets, work with Caltrans and SANBAG to find solutions for transportation problems in the I-215 corridor area, and support the City’s bikeway network and other alternative modes of transportation.

The Circulation Element of the City of Grand Terrace General Plan includes the Bikeway Plan (Exhibit 3-2: Existing and Proposed Bikeway Plan in the Circulation Element of the General Plan). Refer to Figure 2.5.1 in Section 2.5, Traffic and

Transportation/Pedestrian and Bicycle Facilities, for an illustration of the existing and proposed bikeway system. As shown in this figure, bikeways are proposed for all arterial streets and connect residential neighborhoods to schools, parks, and retail centers.

2.1.2.5 City of Grand Terrace Barton Road Specific Plan (2003)

The Barton Road Specific Plan (BRSP) encompasses an approximately 1.3-mile corridor along Barton Road extending from Interstate 215 on the west, to the intersection of Barton Road and Victoria Street on the east. The BRSP was first approved in 1988 and formally updated in 2003.

The purpose of the BRSP and the associated Barton Road Specific Plan Zoning District is to assure the systematic implementation of the City of Grand Terrace's General Plan within the Specific Plan area, The BRSP provides a comprehensive plan of land use, development regulations, design guidelines, development incentives and other related actions aimed at implementing the goals and objectives set forth in the plan. The BRSP constitutes the legally established zoning for properties within the plan area and establishes certain development regulations, standards, and guidelines within the Barton Road corridor, a key transportation corridor through the City of Grand Terrace. The Barton Road Specific Plan contains guidelines for commercial and office development within three subareas of the Specific Plan: General Commercial (GC), Village Commercial (VC), and Office/Professional (AP). The Barton Road Specific Plan area boundary extends through the commercial and residential area on the south and north of Barton Road, including Grand Terrace Elementary School, which is adjacent to the Project site. The Project is consistent with applicable aspects of the City of Grand Terrace Barton Road Specific Plan.

2.1.2.6 City of Colton General Plan Mobility Element (2013)

The City of Colton's General Plan Mobility Element was adopted on August 20, 2013. Relevant mobility-related goals and policies in the City of Colton General Plan Mobility Element are analyzed herein.

The Project is consistent with the applicable City of Colton General Plan Mobility Element goals and policies to provide an integrated and balanced multi-modal transportation network, provide appropriate access and adequate capacity at freeway interchanges, and coordinate with other jurisdictions and agencies on regional transportation projects.

2.1.2.7 City of Colton Pellissier Ranch Specific Plan

This Pellissier Ranch Specific Plan was initially developed in 2008. The proposed Specific Plan would regulate development on approximately 1, 448 acres (ac), with 2,101 dwelling units on approximately 319 ac, an urban village center on approximately 56 ac, and a business park on approximately 130 ac. As discussed in the April 2008 Notice of Preparation, "[t]he proposed Pellissier Ranch Specific Plan would… lead to the future development of an urban village consisting of a variety of land uses that would include a wide mix of residential types, schools, parks, retail and entertainment, professional office, public utility facilities, business parks and light industrial focused around clean technologies." An internal draft specific plan and environmental impact report were prepared, but the project was put on hold sometime in 2009/2010. The City Council has defunded the project, and it has been suspended indefinitely, according to Mark Tomich, Development Services Director.[1]

2.1.3 Environmental Consequences

The Project is consistent with applicable City of Grand Terrace General Plan (2010) goals and policies to improve transportation corridors, provide adequate infrastructure, maintain efficient traffic operations on City streets, work with Caltrans and SANBAG to find solutions for transportation problems in the I-215 corridor area, and support the City's bikeway network and other alternative modes of transportation. The Project is also consistent with the applicable City of Colton General Plan Mobility Element (2013) goals and policies to provide an integrated and balanced multi-modal transportation network, provide appropriate access and adequate capacity at freeway interchanges, and coordinate with other jurisdictions and agencies on regional transportation projects. The Project is consistent with the applicable City of Colton General Plan Draft Mobility Element goals and policies to provide an integrated and balanced multi-modal transportation network, provide appropriate access and adequate capacity at freeway interchanges, and coordinate with other jurisdictions and agencies on regional transportation projects.

The proposed Project is included in the 2012-2035 RTP/SCS, included in the 2013 FTIP, and is consistent with SANBAG's CMP. Therefore, the proposed Project is consistent with the approved transportation plans.

The discussion below provides a summary of the consistency of the Project Alternatives with State, regional, and local plans.

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[1] Email correspondence, October 2013.

2.1.3.1 Regional Transportation Plan/Sustainable Communities Strategy and Federal Transportation Improvement Program

The SCAG 2012-2035 RTP/SCS and 2013 FTIP establish a transportation vision for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties to reduce traffic congestion and improve operations. The I-215/Barton Road Interchange Project is identified in the RTP/SCS and programmed in the FTIP.

Alternative 1 (No Build Alternative)

The No Build Alternative does not propose the improvements to the I-215/Barton Road interchange identified in the RTP/SCS and the FTIP. Therefore, Alternative 1 would not be consistent with the RTP/SCS and the FTIP.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

By contrast, Alternatives 3, 6, and Modified Alternative 7 are consistent with the project description in the RTP/SCS and the FTIP. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with the RTP/SCS and the FTIP.

2.1.3.2 City of Grand Terrace General Plan Circulation Element (2010)

Goal 3.1. Provide a comprehensive transportation system that provides for the current and long-term efficient movement of people and goods within and through the City.

Alternative 1 (No Build Alternative)

The No Build Alternative would not improve the existing Barton Road interchange; therefore, it would not support a comprehensive transportation system for the long-term efficient movement of people and goods in the City. Therefore, Alternative 1 would not be consistent with Goal 3.1 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

By contrast, Alternatives 3, 6, and Modified Alternative 7 would improve operations and reduce congestion at the Barton Road interchange and would, therefore, support a comprehensive transportation system for the long-term efficient movement of people and goods in the City. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal 3.1 of the City of Grand Terrace General Plan.

Policy 3.1.1. Provide a transportation system which supports planned land uses and improves the quality of life.

Alternative 1 (No Build Alternative)

The No Build Alternative does not support the planned uses in the vicinity of the interchange because there is not enough capacity to support development consistent with the City's General Plan. One study area intersection would operate at unsatisfactory LOS in 2016, and all intersections would operate at unsatisfactory LOS in 2040 except one intersection in the AM peak hour. As such, the quality of life for those using the interchange would deteriorate. Therefore, Alternative 1 would not be consistent with Policy 3.1.1 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

In comparison, Alternatives 3, 6, and Modified Alternative 7 would support the planned uses in the vicinity of the interchange by improving operation and reducing congestion. All study area intersections would operate at satisfactory LOS in 2016. All study area intersections would operate at satisfactory LOS in 2040 except one intersection in the PM peak hour, which could be improved via a separate widening project. As such, the quality of life for those using the interchange would improve under Alternatives 3, 6, and Modified Alternative 7. Therefore, Alternatives 3, 6, and Alternative 7 would be consistent with Policy 3.1.1 of the City of Grand Terrace General Plan.

Policy 3.1.2. An arterial street system shall be established that provides for the collection of local traffic and provide for the efficient movement of people and goods through the City.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include major improvements to the arterial streets in the vicinity of the interchange. Intersection LOS in the interchange area will continue to degrade, preventing the efficient movement of people and goods through the City. Therefore, Alternative 1 would not be consistent with Policy 3.1.2 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

In comparison, Alternatives 3, 6, and Modified Alternative 7 would improve LOS at local intersections in the interchange area, which would provide for the collection of local traffic and efficient movement of people and goods through the City. Therefore,

Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.1.2 of the City of Grand Terrace General Plan.

Policy 3.1.3. Commerce Way shall provide for the movement of traffic associated with commercial and business traffic.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include improvements to Commerce Way, but it would still provide for the movement of traffic associated with commercial and business traffic. Therefore, Alternative 1 would be consistent with Policy 3.1.3 of the City of Grand Terrace General Plan.

Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would include realignment of Commerce Way with new intersections at Michigan Avenue and Barton Road. The realignment would provide for the movement of commercial and business traffic. Therefore, Alternative 3 would be consistent with Policy 3.1.3 of the City of Grand Terrace General Plan.

Alternative 6 (Modified Cloverleaf Interchange)

Alternative 6 would include realignment of Commerce Way with the existing intersection at Michigan Avenue and a new intersection at Barton Road. In addition, Commerce Way would connect to the reconstructed I-215 northbound on- and off-ramps. The realignment would provide for the movement of commercial and business traffic. Therefore, Alternative 6 would be consistent with Policy 3.1.3 of the City of Grand Terrace General Plan.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 would include realignment of Commerce Way with the existing intersection at Michigan Avenue and a new intersection at Barton Road. The realignment would provide for the movement of commercial and business traffic. Therefore, Modified Alternative 7 would be consistent with Policy 3.1.3 of the City of Grand Terrace General Plan.

Policy 3.1.4. The City shall cooperate with SANBAG and Caltrans for the transportation planning, programming and implementation of agencies such as SCAG, Caltrans, SANBAG, and the cities of San Bernardino County, as well as neighboring jurisdictions in Riverside County on various studies relating to freeway, high

occupancy vehicle/high occupancy toll lanes and transportation corridor planning, construction, and improvement and ultimate expansion of I-215 between SR-91/I-215/SR-60 and I-10 in order to facilitate the planning and implementation of an integrated circulation system in accordance with regional planning goals.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange; therefore, it would not support transportation planning for this interchange as proposed by Caltrans and SANBAG. The No Build Alternative would not support an integrated circulation system along I-215 in accordance with regional planning goals. Therefore, Alternative 1 would not be consistent with Policy 3.1.4 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Caltrans, SANBAG, and the Cities of Grand Terrace and Colton are part of the Project development team for Alternatives 3, 6, and Modified Alternative 7. Alternative 3, 6, and Modified Alternative 7 would be consistent with the I-215 Bi-County HOV Lane Gap Closure Project as well as the future I-215 Widening Project; therefore, all three alternatives would facilitate the implementation of an integrated circulation system in accordance with regional planning goals. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.1.4 of the City of Grand Terrace General Plan.

Goal 3.3. Provide for a safe circulation system.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange and local intersections; however, the interchange area is not considered unsafe. Therefore, Alternative 1 would be consistent with Goal 3.2 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would improve local intersections and would replace deficient ramps and the bridge over I-215. Improvements would be consistent with current Highway Capacity Manual standards, which would improve operations. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal 3.2 of the City of Grand Terrace General Plan.

Policy 3.3.1. Promote the safe and effective movement of all segments of the population and the efficient transport of goods.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include major improvements to the arterial streets in the vicinity of the interchange. Intersection LOS in the interchange area would continue to degrade, preventing the efficient movement of people and goods through the City. Therefore, Alternative 1 would not be consistent with Policy 3.3.1 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would improve LOS at local intersections in the interchange area, which would improve the efficiency of people and goods movement. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.3.1 of the City of Grand Terrace General Plan.

Policy 3.3.3. The City shall ensure that local street improvements are designed with proper attention to community appearance and aesthetics as well as the need to move traffic safely and efficiently.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include major improvements to the arterial streets in the vicinity of the interchange and no aesthetic improvements would be made. Therefore, Alternative 1 would not be consistent with Policy 3.3.3 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would improve traffic operations in the interchange area, which would improve efficiency. As part of Alternatives 3, 6, and Modified Alternative 7, landscape and hardscape improvements would be implemented consistent with the I-215 Bi-County Aesthetic Concept prepared by Caltrans as well as City standards. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.3.3 of the City of Grand Terrace General Plan.

Policy 3.3.4. The City shall route truck traffic away from residential areas and work with regional agencies in order to mitigate potential impacts from regional traffic.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include improvements to the interchange to allow large truck movements. As such, trucks may circulate through residential areas to access adjacent interchanges, which could impact traffic operations. Therefore, Alternative 1 would not be consistent with Policy 3.3.4 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 include improvements to the interchange to allow large truck movements so that trucks do not need to detour to adjacent interchanges, which could impact traffic operations. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.3.4 of the City of Grand Terrace General Plan.

Goal 3.4. Provide for an efficient and safe bikeway system within the City.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include bikeways on both sides of Barton Road within the Project limits. Therefore, Alternative 1 would not be consistent with Goal 3.4 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would include Class II (on-road striped) bicycle lanes on both sides of Barton Road within the Project limits. This is consistent with the Bikeway Plan in the Circulation Element of the General Plan and would expand the City bikeway system (refer to Figure 2.5.1 in Section 2.5, Traffic and Transportation/Pedestrian and Bicycle Facilities). Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal 3.4 of the City of Grand Terrace General Plan.

Policy 3.4.1. Develop a system of continuous and convenient bicycle routes designed to connect schools, residential areas, shopping centers, parks, and employment areas.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include bikeways on both sides of Barton Road within the Project limits. Therefore, Alternative 1 would not be consistent with Policy 3.4.1 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would include Class II (on-road striped) bicycle lanes on each side of Barton Road within the Project limits. This would connect a school, residential areas, and employment areas. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.4.1 of the City of Grand Terrace General Plan.

Policy 3.4.2. The City shall promote and facilitate the use of bicycles as an alternative mode of transportation through the development of a City-wide network of bikeways.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include bikeways. Therefore, Alternative 1 would not be consistent with Policy 3.4.2 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would include Class II (on-road striped) bicycle lanes on each side of Barton Road within the Project limits. This would increase the bikeway network. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.4.2 of the City of Grand Terrace General Plan.

Goal 3.5. Provide for efficient alternative methods of travel.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include bikeways or sidewalks to increase pedestrian or bicycle circulation. Therefore, Alternative 1 would not be consistent with Goal 3.5 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would include Class II (on-road striped) bicycle lanes and sidewalks on each side of Barton Road within the Project limits. This would connect a school, residential areas, and employment areas. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal 3.5 of the City of Grand Terrace General Plan.

Policy 3.5.7. The City shall provide amenities along the Barton Road corridor that promote pedestrian and bicyclist use, such as a continued system of pedestrian paths and bike lanes to connect the City Center with schools, parks, and residential areas.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include bikeways or sidewalks to increase pedestrian or bicycle circulation. Therefore, Alternative 1 would not be consistent with Policy 3.5.7 of the City of Grand Terrace General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would include Class II (on-road striped) bicycle lanes and sidewalks on each side of Barton Road within the Project limits. This would connect a school, residential areas, and employment areas. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy 3.5.7 of the City of Grand Terrace General Plan.

2.1.3.3 Barton Road Specific Plan (2003)

Community Design Objectives (4th Item)

> Through continued implementation of the City street tree program, promote contemporary landscape treatments throughout the corridor. The landscaping should be of a drought-tolerant, low-maintenance nature and able to withstand occasional high winds and intense urban conditions, such as smog and automobile exhaust.

Community Design Policies (1st Item)

> Develop consistent streetscape and architectural palettes that are sensitive to the creation of a "village" statement for Barton Road. (It is not the intent of this thematic requirement to discourage innovative or contemporary architectural expressions or to imitate the architecture of the past, but to promote the harmonious coexistence of architectural styles varying from restoration to contemporary architectural themes).

Transportation Plan Development Standards

1. All roads within the Plan Area shall be improved to the ultimate standard of the General Plan Circulation Element.
2. All road improvements shall comply with the standard specifications of the San Bernardino County Transportation Department unless otherwise amended by the City of Grand Terrace.
4. Sidewalks shall be provided along all city roadways per City standard specifications.
5. Bikeways shall be provided in accordance with the City of Grand Terrace Bicycle Transportation Plan.

Alternative 1 (No Build Alternative)

The No Build Alternative would not support the Barton Road Specific Plan because it would result in no improvements to the interchange area. Lack of improvements at the I-215/Barton Road interchange would result in continued deterioration of the LOS at the interchange and directly associated local intersections. This would be inconsistent with the BRSP's overall goal to create a dynamic "downtown" commercial center that is attractive and of high quality, unifying community design image, reflective of a "village" identity, and providing an economically viable setting for a balanced mixture of commercial and administrative/professional uses with safe, efficient circulation and access.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would improve operations and reduce congestion at the I-215/Barton Road interchange; which would be supportive of the BRSP's overall goal. Alternatives 3, 6, and Modified Alternative 7 are consistent with applicable provisions of the Barton Road Specific Plan.

2.1.3.4 City of Colton General Plan Mobility Element (2013)

Goal M-1. Provide an integrated and balanced multi-modal transportation network of Complete Streets to meet the needs of all users and transportation modes.

Alternative 1 (No Build Alternative)

The No Build Alternative would not improve the I-215/Barton Road interchange; therefore, it would not provide bikeways, sidewalks, or roadway improvements that would meet the needs of all users and transportation modes in the Project area. Accordingly, Alternative 1 would not be consistent with Goal M-1 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would provide a range of improvements designed to serve drivers, bicyclists, and pedestrians, including Class II (on-road striped) bicycle lanes, sidewalks on each side of Barton Road within the Project limits, and roadway improvements that would improve LOS at local intersections in the interchange area. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal M-1 of the Mobility Element of the City of Colton General Plan.

Policy M-1.1. Provide for the needs of drivers, public transportation vehicles and patrons, bicyclists, and pedestrians of all ages and abilities in planning, programming, design, construction, reconstruction, retrofit, operations, and maintenance activities of all streets.

Alternative 1 (No Build Alternative)

The No Build Alternative would not improve the I-215/Barton Road interchange; therefore, it would not provide bikeways, sidewalks, or roadway improvements that would meet the needs of the community's drivers, public transportation vehicles and patrons, bicyclists, and pedestrians in the Project area. Therefore, Alternative 1 would not be consistent with Policy M-1.1 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would provide a range of improvements designed to serve drivers, bicyclists, and pedestrians, including Class II (on-road striped) bicycle lanes, sidewalks on each side of Barton Road within the Project limits, and roadway improvements that would improve LOS at local intersections in the interchange area. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy M-1.1 of the Mobility Element of the City of Colton General Plan.

Policy M-1.2. View all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in Colton. Recognize bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Alternative 1 (No Build Alternative)

The No Build Alternative would not improve the I-215/Barton Road interchange and local intersections; therefore, it would not provide bikeways, sidewalks, or roadway improvements to improve safety, access, and mobility for bicyclists, pedestrians, and transit users in the Project area. Therefore, Alternative 1 would not be consistent with Policy M-1.2 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would provide Class II (on-road striped) bicycle lanes and sidewalks on each side of Barton Road within the Project limits, thereby improving safety, access, and mobility for bicyclists and pedestrians in the Project area. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be

consistent with Policy M-1.2 of the Mobility Element of the City of Colton General Plan.

Goal M-4. Provide appropriate access, logical configuration, and adequate capacity at freeway interchanges, street and rail intersections, and at bridges.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange or arterial streets in the vicinity of the interchange. One study area intersection would operate at unsatisfactory LOS in 2016, and all intersections would operate at unsatisfactory LOS in 2040 except one intersection in the AM peak hour. The non-standard connection of the southbound off-ramp to a local road (La Crosse Avenue) would remain. Since the No Build Alternative would not provide adequate capacity to meet projected traffic volumes at the I-215/Barton Road Interchange, the Barton Road Overcrossing, or local street intersections in the area, Alternative 1 would not be consistent with Goal M-4 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

In comparison, Alternatives 3, 6, and Modified Alternative 7 would improve local intersections and would replace deficient ramps and the Barton Road Overcrossing bridge over I-215. Improvements would be consistent with current Highway Capacity Manual standards, which would improve operations. All study area intersections would operate at satisfactory LOS in 2016. All study area intersections would operate at satisfactory LOS in 2040 except one intersection in the PM peak hour, which could be improved via a separate widening project. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal M-4 of the Mobility Element of the City of Colton General Plan.

Policy M-4.6. Ensure that all interchange reconfiguration projects, grade separation improvements, and bridge widening projects be designed and implemented in a manner that provides positive benefit to the City of Colton.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange and would not reconstruct the Barton Road bridge over I-215. Therefore,

Policy M-4.6 of the Mobility Element of the City of Colton General Plan would not apply to Alternative 1.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would improve local intersections and would replace deficient ramps and the Barton Road bridge over I-215, which would improve LOS at local intersections in the interchange area. By improving traffic operations and reducing congestion at the I-215/Barton Road Interchange, Alternatives 3, 6, and Modified Alternative 7 would result in reduced traffic delays for drivers traveling between La Cadena Drive in the southern portion of the City of Colton and I-215. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy M-4.6 of the Mobility Element of the City of Colton General Plan.

Goal M-7. Coordinate with other jurisdictions and agencies on regional transportation projects.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange; therefore, it would not support regional transportation planning for this interchange as proposed by Caltrans and SANBAG. Therefore, Alternative 1 would not be consistent with Goal M-7 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Caltrans, SANBAG, and the Cities of Grand Terrace and Colton are part of the Project development team for Alternatives 3, 6, and Modified Alternative 7. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Goal M-7 of the Mobility Element of the City of Colton General Plan.

Policy M-7.3. Consult with Caltrans, SCAG, the South Coast Air Quality Management District, SANBAG, Omnitrans, San Bernardino County, Riverside County, and the cities of Rialto, San Bernardino, Loma Linda, Grand Terrace, and Riverside to coordinate regional transportation facilities, and to pursue Federal, State, and regional funds for local and regional traffic improvements.

Alternative 1 (No Build Alternative)

The No Build Alternative would not provide improvements to the I-215/Barton Road Interchange; therefore, it would not support local and regional traffic improvements for this interchange as proposed by Caltrans and SANBAG. Therefore, Alternative 1 would not be consistent with Policy M-7.3 of the Mobility Element of the City of Colton General Plan.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Caltrans, SANBAG, and the Cities of Grand Terrace and Colton are part of the Project development team for Alternatives 3, 6, and Modified Alternative 7. Alternative 3, 6, and Modified Alternative 7 would be consistent with the I-215 Bi-County HOV Lane Gap Closure Project as well as the future I-215 Widening Project; therefore, all three alternatives would facilitate the implementation of an integrated circulation system in accordance with regional planning goals. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with Policy M-7.3 of the Mobility Element of the City of Colton General Plan.

2.1.3.5 San Bernardino Associated Governments Congestion Management Program

The SANBAG CMP sets LOS standards for the freeway segments and street network.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include improvements at the I-215/Barton interchange. As discussed above, all study area intersections would operate at unsatisfactory LOS in 2040 except one intersection in the AM peak hour. Therefore, Alternative 1 would not be consistent with the SANBAG CMP.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would be consistent with the CMP because they would each improve LOS in the Interchange area. All study area intersections would operate at satisfactory LOS in 2040 except one intersection in the PM peak hour, which could be improved via a separate widening project. Therefore, Alternatives 3, 6, and Modified Alternative 7 would be consistent with the SANBAG CMP.

2.1.4 Avoidance, Minimization, and/or Mitigation Measures

Alternative 1, the No Build Alternative, is not supportive of the applicable local plans and is inconsistent with the applicable regional plans. If Alternative 1 were identified as the Preferred Alternative for the proposed Project, SCAG's RTP/SCS and FTIP

would have to be updated in conjunction with an Amendment that would include a modeling update.

Alternatives 3, 6, and Modified Alternative 7, the Build Alternatives, are all supportive of the applicable local plans, and consistent with specific applicable components. If either Alternative 3 or 6 were identified as the Preferred Alternative for the proposed project, SCAG's RTP/SCS and FTIP may need to be updated, either in conjunction with an Administrative Modification or an Amendment, regarding the Project's cost and description.

Modified Alternative 7 is fully consistent with all applicable regional plans.

2.1.5 Parks and Recreational Facilities

There are four parks or recreational facilities within 0.5 mile (mi) of the Project area (Pico Park, Grand Terrace Fitness Park, Cal Skate, and the Santa Ana River Trail).

Pico Park is located 0.3 mi southeast of I-215/Barton Road interchange at 21950 Pico Street in the City of Grand Terrace. This 9.3 ac park includes two basketball courts, one shelter with six tables and two barbecues, picnic tables, playgrounds, a tot lot area, walking/jogging tracks, two baseball/softball diamonds, and 24-hour video surveillance for the safety of park patrons.

Grand Terrace Fitness Park is located immediately adjacent to the Project footprint along Grand Terrace Road near the intersection of Grand Terrace Road and Vivienda Avenue. The City of Grand Terrace purchased the property for this park in August 2011 and construction began in January 2012. It was opened to public use in July 2013. Currently, the Fitness Park includes: fitness stations, covered picnic tables, restrooms, a drinking fountain, walking paths, a tennis court, a children's slide, on-site parking, a storage building, trash receptacles, lighting, and environmentally conservative landscaping. The City of Grand Terrace prepared a new parcel map that identifies a planned road easement on the southern portion of the property. This road easement (to be named Fitness Park Way) is consistent with the width of the new local road, and is proposed as part of all the Build Alternatives. This map was approved by the City Council on September 10, 2013. The parcel map was submitted to the County of San Bernardino for recording on September 17, 2013. The park is still undergoing construction and is scheduled to be completed in July 2014. Items to be added prior to park completion include: a community activities area, a handball court, a turf area, and additional playground equipment.

Cal Skate Grand Terrace is a roller skating rink within the Project footprint at 22080 Commerce Way. This privately-owned facility is open to the public and provides roller skating lessons, open skating, and private skating parties.

The Santa Ana River Trail is located approximately 0.3 mi north of the I-215/Barton Road interchange and runs parallel to the Santa Ana River. The trail crosses three counties: San Bernardino, Riverside, and Orange Counties, and provides access from the San Bernardino Mountains to the mouth of the Santa Ana River at the Pacific Ocean. The section of the Santa Ana River Trail in the study area is managed by the San Bernardino County Regional Parks Department. The Santa Ana River Trail provides for walking, jogging, bicycling, and horseback riding.

2.1.5.1 Environmental Consequences

Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, it would not result in temporary impacts to parks or recreational facilities.

Alternative 3 (Partial Cloverleaf Interchange)

All impacts to parks and recreational facilities under Alternative 3 would be permanent and are discussed below.

Alternative 6 (Modified Cloverleaf Interchange) and Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Construction of Alternative 6 and Modified Alternative 7 would require Temporary Construction Easements (TCEs) at Cal Skate Grand Terrace. Access to this roller skating rink would be maintained during construction. The roller skating rink is enclosed in a building and would not be exposed to construction-related air quality or noise impacts in levels that would prevent use of the facility.

Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, it would not result in permanent impacts to parks or recreational facilities.

Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would require the full acquisition of Cal Skate Grand Terrace. As discussed in Section 2.3.1.3 of Section 2.3, Community Impacts, there are replacement properties available within the City of Grand Terrace that could accommodate the relocation of this business.

For a complete discussion of Section 4(f) resources (Pico Park, Grand Terrace Fitness Park, and the Santa Ana River Trail), please see Appendix B of this Environmental Document. As discussed in Appendix B, there would be no use of Section 4(f) resources as defined in 23 Code of Federal Regulations (CFR) 774.17 and 23 CFR 774.15. That is: (1) no land from a Section 4(f) resource would be permanently incorporated into the Project right-of-way, (2) the temporary occupancy would not be adverse in terms of the Section 4(f) statute's preservationist purposes, and (3) there would be no constructive use of land that would impair the activities, features, or attributes of a Section 4(f) resource.

Alternative 3 would not acquire any parks or recreation facilities protected by the Park Preservation Act.

Alternative 6 (Modified Cloverleaf Interchange) and Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Alternative 6 and Modified Alternative 7 would require the partial acquisition of Cal Skate Grand Terrace. This partial acquisition would occur in the parking lot of the skate park and would remove approximately three parking spaces for both alternatives, which would not substantially impact the facility.

For a complete discussion of Section 4(f) resources (Pico Park, Grand Terrace Fitness Park, and the Santa Ana River Trail), refer to Appendix B. As discussed in Appendix B, there would be no use of Section 4(f) resources as defined in 23 CFR 774.17 and 23 CFR 774.15. That is: (1) no land from a Section 4(f) resource would be permanently incorporated into the Project right-of-way, (2) the temporary occupancy would not be adverse in terms of the Section 4(f) statute's preservationist purposes, and (3) there would be no constructive use of land that would impair the activities, features, or attributes of a Section 4(f) resource.

Alternative 6 and Modified Alternative 7 would not acquire any parks or recreation facilities protected by the Park Preservation Act.

2.1.5.2 Avoidance, Minimization, and/or Mitigation Measures

Alternative 1 (No Build Alternative)

No measures are required for Alternative 1.

Alternative 3 (Partial Cloverleaf Interchange)

If Alternative 3 were identified as the Preferred Alternative for the Project, Cal Skate Grand Terrace would be displaced and relocated. As discussed in Section 2.3.2.4 of this Environmental Document, replacement properties are expected to be available within the City of Grand Terrace and/or the City of Colton that could accommodate the relocation of this business. Measure REL-1 would be implemented in this regard.

Alternative 6 (Modified Cloverleaf Interchange) and Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

If Alternative 6 or Modified Alternative 7 were identified as the Preferred Alternative for the Project, Temporary Construction Easements (TCEs) at Cal Skate Grand Terrace are anticipated to be needed. To minimize impacts, the following measure would be implemented in addition to compensation for use and restoration of the portion of the property after use in conjunction with the temporary construction easement:

PRF-1 **Cal Skate Grand Terrace Access.** Access to Cal Skate Grand Terrace roller skating rink will be maintained throughout construction for Alternative 6 and Modified Alternative 7.

Alternative 6 and Modified Alternative 7 are anticipated to require a partial acquisition of Cal Skate Grand Terrace; removing approximately three parking spaces from the parking lot of the skate park for both alternatives. Relocation is not expected, and compensation for this permanent acquisition is anticipated to minimize this impact.

The following avoidance measure will be implemented to facilitate construction of the Project resulting in no impacts to Grand Terrace Fitness Park.

PRF-2 **Grand Terrace Fitness Park Access.** The construction contract will specifically stipulate that no staging or storage of materials will be allowed on any part of Grand Terrace Fitness Park for any duration, and further that no obstruction of access to the Park will be allowed at any time in conjunction with Project Construction. Additionally, with respect to potential temporary noise and air quality impacts, Measures AQ-1,

AQ-2, AQ-3, AQ-4, AQ-5, N-1, and N-2 are stipulated as also being specifically applicable while construction activities are occurring in close proximity to Grand Terrace Fitness Park.

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2.10 Paleontology

2.10.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as part of federally authorized projects. 16 United States Codes (USC) 431–433 (the "Antiquities Act") prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated of federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land.

16 United States Code (USC) 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 above and state law.

Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.10.2 Affected Environment

This section is based on the *Paleontological Identification and Evaluation Report* (August 2010) and the *Addendum to the Paleontological Identification and Evaluation Report (*July 2011).

The Project area is within the northwestern Peninsular Ranges geomorphic province of Southern California and is near the northern end of the Perris Block in this province. The Perris Block extends southeast from the southern foot of the San Gabriel and San Bernardino Mountains to the vicinity of Bachelor Mountain and Poly Butte. The Perris Block is bounded on the southwest by the Elsinore Fault Zone and on the northeast by the San Jacinto Fault. The surface of the Perris Block consists of granitic exposures that have been tectonically tilted eastward, leaving granitic outcrops elevated and exposed on the west side of the Perris Block (Jurupa Hills) and allowing Pleistocene sediments to cover the east side, filling the eastern San

Bernardino, Moreno, Lakeview, and San Jacinto Valleys. The block tilted eastward prior to late Pleistocene time. The Santa Ana River, which is immediately north and west of the Project site, has incised the Perris Block from its northern margin to the Elsinore Fault Zone.

A paleontological literature review was conducted using unpublished reports, paleontological assessment and monitoring reports, field notes, and published literature. In addition, a paleontological resource locality search was conducted through the San Bernardino County Museum and the Natural History Museum of Los Angeles County. The purpose of the literature review and locality search was to locate previously documented fossil localities in the Project area and in western San Bernardino and Riverside Counties and to document the potential for paleontological resources older than 9,000 years to occur in the Project area.

Geologic mapping indicates that the Project area is located on early Pleistocene alluvium (Qvof, 1 million to 2 million years ago), middle Pleistocene alluvium (Qof, 250,000 to 1 million years ago), and young (Holocene, the last 9,000 years) alluvial sediments (Qf, Qyf), including recently active Holocene wash sediments (Qw).

Older Pleistocene alluvium (Qvof) sediments are exposed on the surface over most of the Project area, and sediments are well exposed in the railroad cuts along the western margins of the Project area. Middle Pleistocene sediments are mapped as having limited surface exposure within the Project area. Older and middle Pleistocene sediments have the potential to contain significant nonrenewable paleontological resources.

The results of the literature review indicate that the Project is underlain by Pleistocene alluvium with a high sensitivity for paleontological resources. The high sensitivity is based on the occurrence of numerous paleontological finds throughout San Bernardino and Riverside Counties, including mammoth, mastodon, giant ground sloth, dire wolf, saber-tooth cat, large and small horses, camels, and bison. There are no recorded paleontological localities in the Project area. However, there is a high potential for important vertebrate fossils to occur where Pleistocene sediments crop out at the surface in the San Bernardino Basin.

Vehicular and pedestrian surveys were conducted in the Project area. The vehicular survey was conducted on February 10, 2009. The pedestrian surveys were conducted on February 11 and April 20, 2009. The vehicular survey verified the results of the literature review, analysis of the geologic mapping, and the potential for preservation

of fossils in older Pleistocene alluvium (Qvof) along the study area. Due to heavy vegetation, no mid-Pleistocene alluvium (Qof) was visible where it had been mapped.

Good exposures of sediments were present at the west ends of De Berry and Van Buren Streets and along the deep cuts for the BNSF Railway and the Union Pacific Railroad (UPRR). The pedestrian surveys verified the presence of older Pleistocene alluvium (Qvof) in the Project area. Due to a thick cover of vegetation, no mid-Pleistocene alluvium (Qof) was observed in the Project area. No paleontological resources were found during the pedestrian surveys, although the older Pleistocene sediments are appropriate for the preservation of vertebrate fossils.

2.10.3 Environmental Consequences

2.10.3.1 Temporary Impacts

Alternatives 1, 3 and 6, and Modified Alternative 7

Any impacts to paleontological resources would be considered permanent; therefore, an analysis of temporary impacts is not applicable.

2.10.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative would not result in ground disturbance or excavation; therefore, no impacts to paleontological resources would occur.

Separately, the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will result in soil disturbance and excavation in the Project area. A Paleontological Mitigation Plan (PMP) has been developed for this project and is being implemented during construction. No impacts to paleontological resources will occur.

Alternatives 3 and 6, and Modified Alternative 7 (Build Alternatives)

Construction of the Project would include grading and excavation. Excavation would cut through thin surficial soils and contact native older Pleistocene alluvial sediments. During these excavation activities, there is a potential for significant, nonrenewable paleontological resources to be encountered in the Pleistocene sediments where they crop out at the surface, as well as just below the surface. Ground disturbance would occur over approximately 40 acres (ac) for Alternative 3, approximately 33 ac for Alternative 6, and approximately 24 ac for Modified Alternative 7. Therefore,

Alternative 3 would have the greatest potential to encounter fossiliferous sediments during excavation.

The proposed ramps for the Project would be on the embankment, requiring minimal excavation, but excavation for the structural footings would require excavation depths of 10 to 15 feet (ft). In areas requiring greater depths of excavation, the potential to encounter fossiliferous sediments would be greater; therefore, the potential for impacts to paleontological resources to occur in these areas would be higher.

To avoid impacts to any paleontological resources that may be present within the Project area where excavation may take place in areas of undisturbed soils, a PMP, as specified below in Measure PAL-1, would be implemented during construction.

2.10.4 Avoidance, Minimization, and/or Mitigation Measures

The measure below is required during construction of Alternatives 3 and 6, or Modified Alternative 7 to avoid impacts to paleontological resources.

PAL-1 **Paleontological Mitigation Plan.** During Plans, Specifications, and Estimates (PS&E), a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the California Department of Transportation (Caltrans) and the Society of Vertebrate Paleontologists (SVP). The PMP will include, but not be limited to, the following:

a. A preconstruction field survey, including salvage of any observed surface paleontological resources, prior to the beginning of grading.
b. Attendance at the pregrade meeting by a qualified paleontologist or his/her representative. At this meeting, the paleontologist will explain the likelihood for encountering paleontological resources, what resources may be discovered, and the methods that will be employed if paleontological resources are discovered.
c. During construction excavation, a qualified vertebrate paleontological monitor will initially be present on a full-time basis whenever excavation will occur within sediments that have a high sensitivity rating. Monitoring may be reduced to a part-time basis if no resources are being discovered in sediments with a high sensitivity rating (monitoring reductions and when they occur will be determined by the qualified Principal Paleontologist). The

monitor will inspect fresh cuts and/or spoils piles to recover paleontological resources. The monitor will be empowered to temporarily divert construction equipment away from the immediate area of a 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, Caltrans and the San Bernardino Association of Governments (SANBAG) will consider using heavy equipment to assist in the speedy and safe removal and collection of large materials.

d. Localized concentrations of small (or micro-) vertebrates may be found in all native sediments. Therefore, it is recommended that these native sediments occasionally be spot-tested by screening through $^{1}/_{20}$-inch mesh screens to determine whether microfossils are present. If microfossils are encountered, sediment samples (up to 12 cubic yards, or 6,000 pounds) will be collected and processed through $^{1}/_{20}$-inch mesh screens to recover additional fossils.

e. Recovered specimens will be prepared to the point of identification and permanent preservation. This includes the sorting of 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 the storage cost, and the addition of approved chemical hardeners/ stabilizers to fragile specimens.

f. Specimens will be identified to the most specific taxonomic level possible and curated at an institutional repository with retrievable storage. Repository institutions usually charge a one-time fee based on the volume of material, 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. Caltrans and SVP require that a draft curation agreement be in place with an approved curation facility prior to the initiation of any paleontological monitoring or mitigation activities.

g. A Final Report will be presented to Caltrans and the repository institution, describing all salvage activities, geology, and the paleontological resources recovered and their distribution.

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2.11 Hazardous Waste/Materials

2.11.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many state and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- 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, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up

contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during Project construction.

2.11.2 Affected Environment

This section is based on the *Initial Site Assessments* (ISAs) prepared for Alternatives 3 and 6 (February 2010) and Modified Alternative 7 (November 2013) and the *Aerially Deposited Lead Investigation Report* (ADL Investigation Report) (May 2010). The study area included the Project footprint and adjacent areas that had the potential to impact the Project site. The following were conducted as part of the ISAs and ADL Investigation Report:

- Environmental Database Review: A records search of federal and State environmental databases for the study area and properties up to approximately 0.5 mile (mi) from the Project site was conducted in June 2013. However, the search of the National Priority List (NPL) was for a 1 mi radius.
- Agency Records Review: The South Coast Air Quality Management District (SCAQMD); the San Bernardino County Fire Department (SBCFD), Hazardous Materials Division; the Santa Ana Regional Water Quality Control Board (RWQCB); the State of California, Office of the State Fire Marshall, Pipeline Safety Division; and the San Bernardino County Office of the Assessors, Building and Permitting Department, were contacted with regard to obtaining and reviewing documents for properties located within and adjacent to the Project footprint. Data contained on RWQCB and SCAQMD websites were also reviewed for any relevant information.
- Historical Research: Aerial photographs, Sanborn Fire Insurance Maps, historical topographic maps, and city directories were reviewed.
- Site Reconnaissance: On March 9, 2009; June 15, 2011; and June 28, 2013, site visits of the study area were conducted to assess its current land uses and to visually search for indications of contamination.

The following hazardous materials are potentially of concern for the study area:

- Polychlorinated Biphenyls: Multiple pad-mounted transformers and pole-mounted transformers were observed on adjacent commercial properties and along Barton Road, Commerce Way, Michigan Avenue, De Berry Street, and La Crosse Avenue. The transformers appeared to be in good condition, with no visible leaks and no soil staining. However, there is the potential for the transformers to contain polychlorinated biphenyls (PCBs).
- Creosote. There is a potential that the wood utility poles in the study area were treated with creosote.
- Aerially-Deposited Lead: Lead is generally encountered in unpaved areas (or formerly unpaved areas) adjoining older roads, primarily as a result of deposition from historical vehicle emissions. Roadways in the location of both Barton Road and Interstate 215 (I-215) (Historic United States [U.S.] Routes 91 and 395) have been used since approximately 1930 and 1966, respectively, resulting in the exposure of the adjacent unpaved surficial soils to aerially-deposited lead (ADL). Therefore, an ADL Investigation Report was prepared to evaluate lead concentrations in the subsurface soil profile within the construction zone.

  The ADL survey work was limited to the existing right-of-way along the unpaved shoulders and medians of the I-215/Barton Road interchange. A total of 66 soil samples were collected at depths ranging from 0.5 to 3.0 feet (ft) below ground surface (bgs). Per the statewide variance issued to the California Department of Transportation (Caltrans) by the Department of Toxic Substances Control (DTSC) (July 1, 2009), which regulates the handling of lead-containing soil, soil with less than 1,411 milligrams per kilogram (mg/kg) of total lead or less than 1.5 milligrams per liter (mg/L) of soluble lead can be reused within Caltrans right-of-way if it is placed at least 5 ft above the groundwater level and covered by 1 ft of clean soil. The DTSC allows lead-containing soil with less than 3,397 mg/kg of total lead or 150 mg/L soluble lead to be reused within the Caltrans right-of-way, provided it is placed a minimum of 5 ft above the maximum water table and is covered by pavement. In addition, soil with a hydrogen ion index (pH) less than 5.5 but greater than 5.0 may only be used as fill under paved roads. Soils with a pH less than 5.0 shall be managed as hazardous waste. As described below, ADL is present in near-surface soils within the study area; however, lead concentrations were below established regulatory limits.

  Total lead concentrations in the samples ranged from less than 1.0 mg/kg to 340 mg/kg, with a mean concentration of 19 mg/kg (United States Environmental Protection Agency [EPA] test method 6010B). Total lead concentrations did not

exceed the Total Threshold Limit Concentration (California hazardous waste) of 1,000 mg/L.

Eleven soil samples exceeding a total lead concentration of 25 mg/kg were analyzed for soluble lead (Cal WET method). Soluble lead concentrations ranged from less than 0.20 to 17 mg/L, with a mean concentration of 1.4 mg/L. Two samples exceeded the Soluble Threshold Limit Concentration (California hazardous waste) of 5 mg/L.

The two soil samples with soluble lead concentrations exceeding the 5 mg/L were analyzed for Toxicity Characteristic Leaching Procedure (TCLP). TCLP lead concentrations ranged from 0.02 to 0.14 mg/L and did not exceed the TCLP (RCRA hazardous waste) limit of 5 mg/L.

Six samples were analyzed for soluble lead using the Cal WET-DI test. Soluble lead concentrations were less than 0.20 mg/L.

Based on the ADL survey, soil may be managed as nonhazardous or reused on site without restrictions.

- Lead Chromate: Yellow traffic markings (thermoplastic and paint) located on I-215, Barton Road, and ancillary roads associated with the study area potentially contain hazardous levels of lead chromate.
- Lead-Based Paint: It is possible for lead-based paint (LBP) to be present in buildings and structures.
- Asbestos-Containing Materials: The potential exists for buried asbestos containing cementitious pipe (“transite”) to be present within the study area. Cementitious pipe was commonly used for water transportation as part of historical agricultural practices. In addition, it is possible for asbestos-containing materials (ACM) to be present in buildings and structures within the study area.
- Pesticides: Based on the historical agricultural use of the study area, persistent pesticides may remain in soils in the study area. In addition, persistent pesticides may remain in soil along and adjacent to railroad tracks. Soil excavation is currently ongoing along I-215 within the Project area as part of the I-215 Bi-County HOV Gap Closure Project (EA#: 0M940). Testing on undisturbed historical or current agricultural areas is ongoing.
- Petroleum Hydrocarbons and Metals: The potential exists for hydrocarbons and metals to be present in soil along or adjacent to railroad tracks. Sampling was performed in March 2009 along I-215 in the vicinity of the BNSF and Union

Pacific Railroad (UPRR) railroad track bridges as part of the I-215 Bi-County HOV Lane Gap Closure Project (EA#: 0M940). Although not analyzed for petroleum hydrocarbons, soil samples collected near the bridges were analyzed for metals, semi-volatile organic compounds (SVOCs), and PCBs. One sample collected near the UPRR bridge contained an elevated lead concentration in a shallow soil sample. However, further analysis of that sample indicated the lead concentration detected was not indicative of a California hazardous waste. Elevated concentrations of arsenic were detected in soil near the BNSF Railway bridge. It was concluded that unless a variance could be obtained to allow replacement of the soil within the railroad area, it was recommended that excavated soil along the railroad tracks be disposed off-site as nonhazardous waste. SVOCs and PCBs were not detected in the samples collected near either railway bridge structure. Soil near the railway bridges will be handled as part of the Bi-County HOV Widening Project (EA#: 0M940), which is currently under construction.

Six leaking underground storage tanks (LUSTs), identified as Quik Stop ARCO and Mobil Station #92 (both at 22087 Barton Road), Former Shell Station and Texaco Service Station (both at 22045 Barton Road), and Grand Terrace Gas-Up #2603 and Jerry's Auto Service (both at 22115 Barton Road) are located in the Project area, which may have impacted soils and groundwater. In addition, a 1,000-gallon Underground Storage Tank (UST) was reported at 21801 Barton Road, which is in the Project area. Various facilities are listed at this location. Although the property is not listed in the LUST database, it was listed in the environmental database report as having a release of oil in 2005. The facility was also listed as having an ongoing problem with the tank overflowing, evidenced by spill marks on the tank and on the ground below the tank. At least one-third of the property had problems due to the contamination. In addition, oil was reportedly washed off equipment to dirt areas on site. Therefore, this property may have affected environmental conditions at the site. Testing at these properties is ongoing.

- Halogenated Compounds: A1 Cleaners, located at 21900 Barton Road (Suite 130) within the Project limits will be fully acquired under all Build Alternatives for the proposed Project. This facility is listed in the environmental database report as having disposed of halogenated compounds, one liquid with halogenated organic compounds greater than 1,000 mg/L, and aqueous solution with total organic residues less than 10 percent. In addition, SCAQMD records indicate that this facility operated dry cleaning equipment containing perchloroethylene (PCE) in

2005, 2006, and 2008. Information in SBCFD records indicates that this facility was burned down. No releases were reported for this facility. However, this property may have affected environmental conditions at the Project site. Testing at this property is ongoing.

- Other Hazardous Materials/Wastes: Insufficient information was available for Automotive FBR Generator (21823 Barton Road) and Pas Tex Plastics facility (21825 Barton Road). Based on the lack of information for these facilities in regulatory agency records, they are considered a potential environmental concern.

  The top portion of a 55-gallon drum was observed on a vacant property located west of the I-215 southbound on-ramp and south of Barton Road. The contents in the partial, or partially buried, drum were unknown.

Table 2.11.A shows properties within the Project Area and the hazardous waste concerns on those properties that could potentially affect the Project. The locations of the sites of concern are shown on Figures 2.11.1, 2.11.2, and 2.11.3, for Alternatives 3, 6, and Modified Alternative 7, respectively.

2.11.3 Environmental Consequences

2.11.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative would not involve ground and structure disturbance or construction activities in the Project area; therefore, no temporary impacts related to hazardous waste/materials would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

The Project would involve disturbance of soils and demolition of existing buildings and structures; therefore, hazardous structural materials (PCBs, lead chromate, LBP, and ACM) may be encountered during Project construction. In addition, soil impacted by petroleum hydrocarbons, halogenated compounds, or other hazardous materials could be encountered at the properties listed in Table 2.11.A. Persistent pesticides may remain in undeveloped areas of historical pesticide use, if the surface soils have not been previously disturbed.

The Barton Road overcrossing was previously tested for asbestos and LBP as part of the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, and none was detected. There is no planned soil disturbance in the vicinity of the BNSF Railway tracks.

Table 2.11.A Sites of Concern for the Build Alternatives

Figure ID[1]	Address	Facility Name	Potential Hazardous Waste	Alternative 3	Alternative 6	Modified Alternative 7
1	22087 Barton Road	Quik Stop ARCO and Mobil Station #92	Gasoline LUST. Remediation is ongoing at this site. Dissolved petroleum hydrocarbon constituents, including total petroleum hydrocarbons as gasoline (TPHg), gasoline constituents (benzene, toluene, ethylbenzene and xylenes [BTEX]), methyl tertiary buytl ether (MTBE), and other fuel oxygenates were not detected in four groundwater monitoring wells sampled on May 13, 2011. Based on results of the rebound test, the average concentrations of petroleum hydrocarbon constituents were significantly less than the concentrations detected prior to restarting continuous operation of the soil vapor extraction (SVE) system. Termination of SVE operation and preparation of a work plan for confirmation soil sampling was recommended on January 28, 2012. On April 5, 2012, the Santa Ana Regional Water Quality Control Board (SARWQCB) issued a letter indicating its approval of performing confirmatory soil sampling and indicating that it will comply with the SARWQCB's request to drill three confirmation soil borings instead of two borings. Potential hazardous wastes include: petroleum hydrocarbons, volatile organic compounds, including fuel oxygenates, and metals.	X	X	X
2 and 3	22045 Barton Road	Former Shell Station and Texaco Service Station	Gasoline LUST. SARWQCB confirms the completion of site investigation and remedial action. Although the case was closed as of December 17, 1996, residual petroleum hydrocarbons may remain in soil at this property. Case closure documentation indicates that if land use changes, a review of the corrective actions may be warranted if on-site excavation or construction activities expose contaminated soil or groundwater, or if the land use changes are such that the residual contamination at the site could pose a risk to site occupants. Potential hazardous wastes include: petroleum hydrocarbons, volatile organic compounds, including fuel oxygenates, and metals.	X	X	X

Table 2.11.A Sites of Concern for the Build Alternatives (Continued)

Figure ID[1]	Address	Facility Name	Potential Hazardous Waste	Alternative 3	Alternative 6	Modified Alternative 7
4	22115 Barton Road	Grand Terrace Gas-Up and Jerry's Auto Service	UST and LUST Case Closure. Although case closure has been granted, potential residual hydrocarbons present in soils at this facility may negatively affect environmental conditions at the site. Potential hazardous wastes include: petroleum hydrocarbons, volatile organic compounds, including fuel oxygenates, and metals.	X	X	X
5	21900 Barton Road	A1 Cleaners	Use of Dry Cleaning Solvents. Potential residual solvents; facility reportedly destroyed in fire. No releases were reported for this facility. However, because this facility is located on a parcel that will be fully acquired, this facility may have negatively affected environmental conditions at the site. Potential hazardous wastes are: volatile organic compounds, including PCE and other chlorinated solvents.	X	X	X
6	21823 Barton Road	Automotive FBR Generator	May have used or stored hazardous materials/ wastes. Potential hazardous wastes include: petroleum hydrocarbons, volatile organic compounds, including fuel oxygenates, and metals.	X	X	X
7	21825 Barton Road	Pas Tex Plastics Facility	May have used or stored hazardous materials/ wastes. Potential hazardous wastes include: petroleum hydrocarbons, volatile organic compounds, including fuel oxygenates, and metals.	X	X	X
8	2233 La Crosse Avenue	Orkin Pest Control	Pesticide storage. No releases were reported for this facility. This property is a potential acquisition. It is possible that undocumented releases may have occurred.	X		

Sources: *Initial Site Assessment* (February 2010); *Initial Site Assessment for Modified Alternative 7* (November 2013).

[1] The locations of these properties are shown on Figures 2.11.1, 2.11.2, and 2.11.3 for Alternatives 3 and 6, and Modified Alternative 7, respectively.

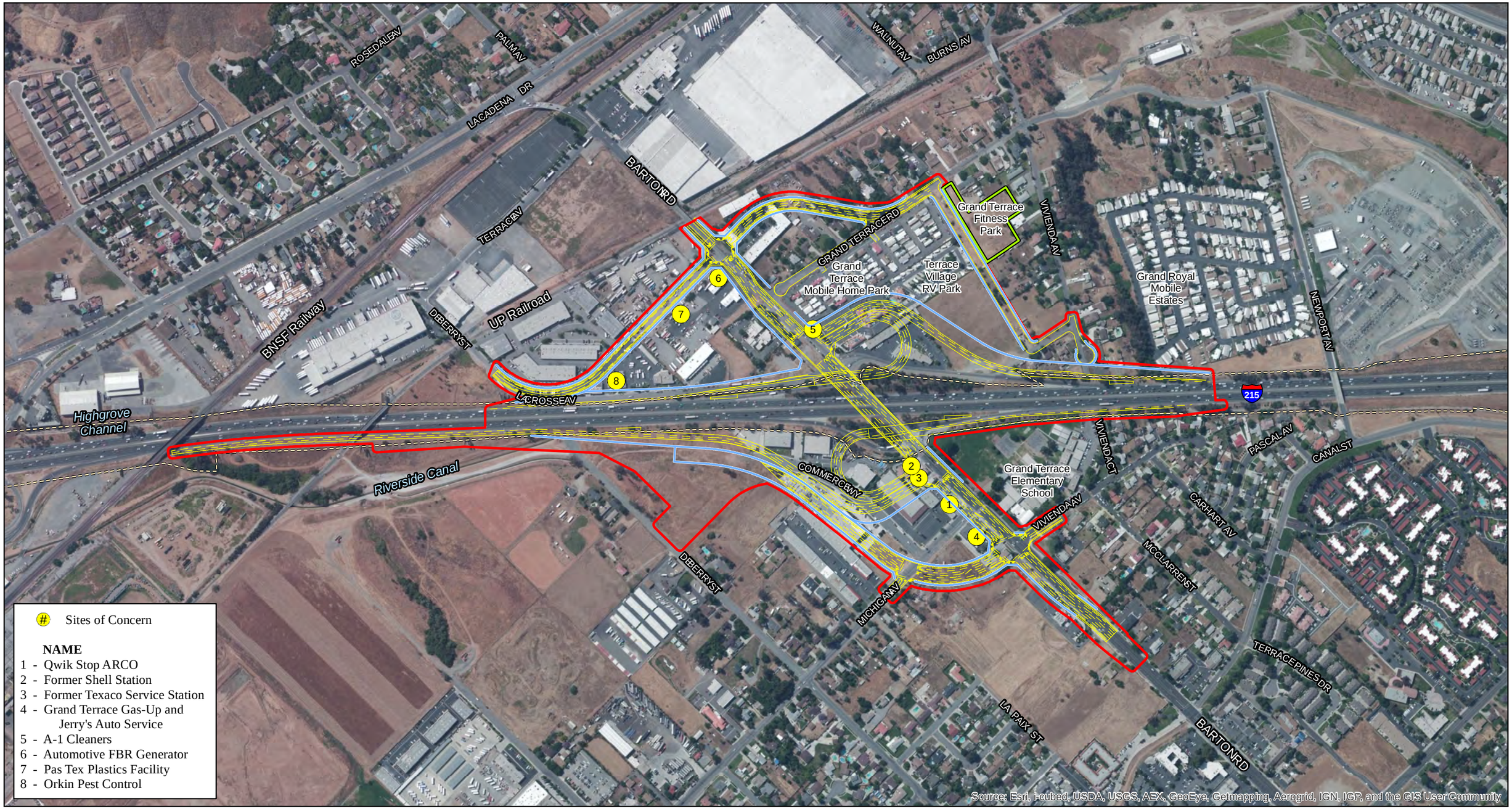

FIGURE 2.11.1

LEGEND

- Project Area
- Existing Caltrans Right of Way
- Grand Terrace Fitness Park
- Alternative 3
- Alternative 3 Proposed Right of Way

0 250 500
FEET

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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I-215/Barton Road Interchange Improvement Project

Sites of Concern for Alternative 3

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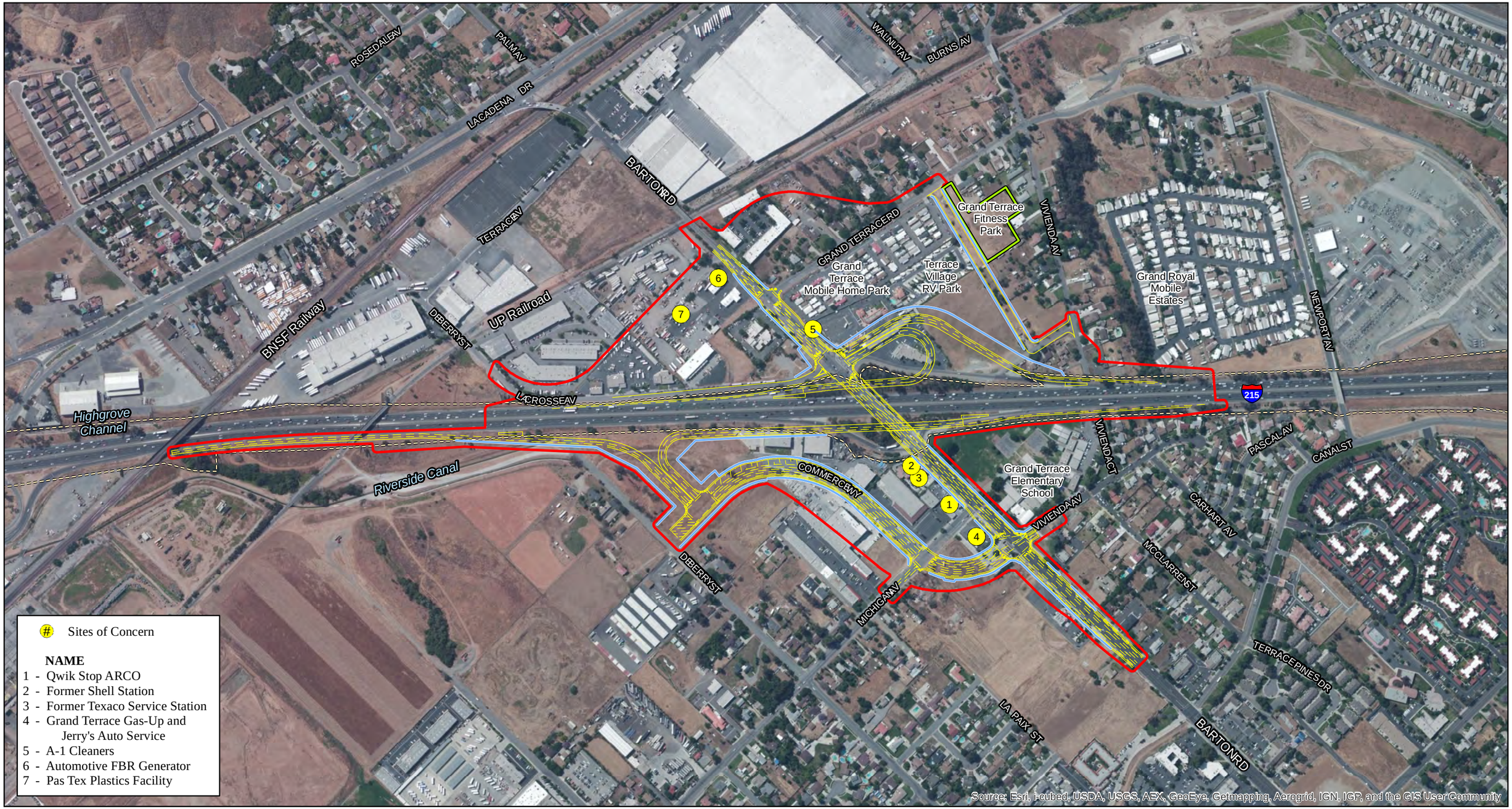

FIGURE 2.11.2

LEGEND

- Project Area
- Existing Caltrans Right of Way
- Grand Terrace Fitness Park
- Alternative 6
- Alternative 6 Proposed Right of Way

0 250 500
FEET

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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I-215/Barton Road Interchange Improvement Project

Sites of Concern for Alternative 6

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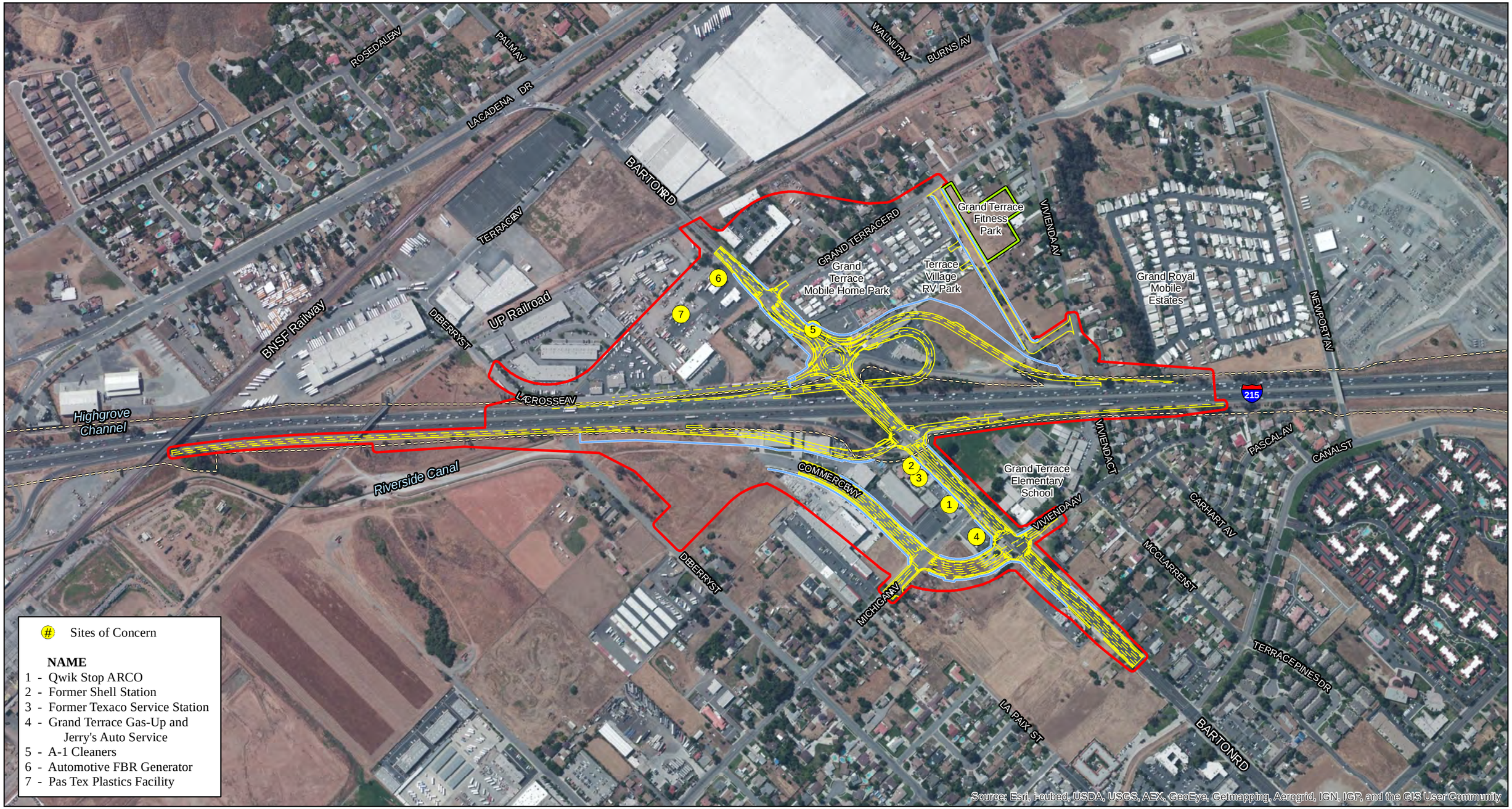

FIGURE 2.11.3

LEGEND

- Project Area
- Existing Caltrans Right of Way
- Grand Terrace Fitness Park
- Modified Alternative 7
- Modified Alternative 7 Proposed Right of Way

0 250 500
FEET

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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I-215/Barton Road Interchange Improvement Project

Sites of Concern for Modified Alternative 7

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It is possible for asbestos and LBP to be present in buildings and structures located on parcels that may need to be acquired as a result of the Project. These structures would require a survey and/or testing prior to demolition so that they can be removed and disposed of in accordance with applicable State and federal regulations.

Based on the ADL survey, soil may be managed as nonhazardous for lead or reused on site without restrictions.

Typical hazardous materials used during construction (e.g., solvents, paints, and fuels) would be handled in accordance with standard procedures. There are standard regulations and Caltrans policies (avoidance and minimization measures) that must be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of the Project to protect human health and the environment.

Measures HAZ-1 through HAZ-12, listed in Section 2.11.4 below, include performance of further testing and would require proper handling and disposal of hazardous waste and materials in accordance with local, State, and federal regulations, prior to and during construction of the Project as applicable. With implementation of these measures, all potential impacts related to hazardous materials are expected to be addressed.

2.11.3.2 Permanent Impacts

Alternatives 1, 3, 6, and Modified Alternative 7

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Similar to the Build Alternatives, routine maintenance activities would continue under the No Build Alternative, including compliance with applicable regulations regarding the handling and disposal of potentially hazardous materials.

Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. Use and disposal of hazardous materials for maintenance activities would be subject to Caltrans standards and other federal and State regulations.

2.11.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below are required for Alternatives 3, 6, and Modified Alternative 7 to avoid and/or minimize potential impacts related to hazardous waste or materials.

HAZ-1 **Historic Agricultural Properties.** Prior to completion of the Project Approval/Environmental Document (PA/ED) phase, soil sampling for pesticides will be conducted in areas of historic agricultural use that have not previously been disturbed by the excavation activities associated with the ongoing I-215 Bi-County HOV Lane Gap Closure Project (EA#: 0M940). If these areas will be disturbed by the Project (through grading, etc.), soil samples should be analyzed for organochlorine pesticides (OCPs) using United States Environmental Protection Agency (EPA) Methods 8081. The analytical results of the soil sampling will be used to determine the appropriate handling, removal, containment, and off-site transportation and disposal of any contaminated soils, as appropriate. Testing on undisturbed historical or current agricultural areas is ongoing.

HAZ-2 **Striping and Pavement Markings.** Striping paint along Interstate 215 (I-215)/Barton Road and ancillary roads in the Project area will be sampled and tested for lead chromate by trained and/or licensed professionals in areas not already tested and remediated as part of the I-215 Bi-County HOV Lane Gap Closure Project. The field and analytical data obtained during this study will be used to provide a review of the sampling locations and descriptions, a summary of the analytical results, and recommendations for striping paint removal, containment, and off-site transportation and disposal, as appropriate.

HAZ-3 **Transformers.** If transformer removal is required, Southern California Edison will be contacted prior to handling or removal of electric transformers. Should utility poles require removal, additional sampling and analysis will be conducted to determine the presence of creosote (often associated with the preservation of wooden electric poles) and appropriate disposal methods. Any hazardous transformers or poles that are disturbed/removed will be disposed of in accordance with the California Health and Safety Code.

HAZ-4 **Lead Compliance Plan.** Prior to construction, construction contractors excavating, transporting, or stockpiling soil will prepare a Lead Compliance Plan in accordance with the California Department of Transportation (Caltrans) Code of Safety Practices, the California Code of Regulations, and California Division of Occupational Safety and

Health (Cal-OSHA) standards. The Lead Compliance Plan will address the presence of aerially deposited lead (ADL) in the soils within the Project area and the health and safety of construction workers.

HAZ-5 **Aerially-Deposited Lead Investigation Report.** Prior to construction, the testing results of the ADL Investigation Report will be provided to the construction contractor handling on-site soils during construction.

HAZ-6 **Transite Piping.** During construction, if signs of transite piping are observed, construction in the area will be halted and sampling and analysis for asbestos conducted. The analytical results of the soil sampling will be used to determine the appropriate handling, removal, containment, and off-site transportation and disposal of asbestos-containing transite piping, as appropriate.

HAZ-7 **Asbestos-Containing Materials and Lead-Based Paint.** After property acquisition and prior to demolition, building structures planned for demolition within the Project area will be assessed for the possible presence of ACM and LBP. These studies will be conducted by trained and/or licensed professionals and will comply with the EPA, National Emission Standards for Hazardous Air Pollutants (NESHAPs) 40 Code of Federal Regulation (CFR), Southern California Air Quality Management District (SCAQMD) Rule 1403, Housing and Urban Development (HUD), and California Department of Public Health (CDPH) guidelines. The results of these studies will provide a description of the ACM and LBP locations, estimated quantity, and recommendations for removal, containment, and off-site transportation and disposal.

HAZ-8 **SCAQMD Rule 1403.** Notification and applicable fees will be submitted to the SCAQMD at least 10 days prior to proceeding with any demolition or renovation of a structure (refer to SCAQMD Rule 1403 (d)(1)(B)). The construction contractor will adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.

HAZ-9 **Soil Sampling.** Soil sampling will be performed at all locations within the Project area with potential hazardous waste concerns, prior to completion of PA&ED. These properties should be analyzed, at a

minimum, for total petroleum hydrocarbons with carbon chain analysis, VOCs including fuel oxygenates and chlorinated solvents, and Title 22 Metals, using EPA Methods 8015B, 8260B, and 6010B/7471A, respectively. Testing at affected properties listed in Table 2.11.A is ongoing.

HAZ-10 **Groundwater.** Although excavation activities associated with the proposed Project are not likely to encounter groundwater, should groundwater be encountered during construction/excavation activities and dewatering become necessary, regulatory compliance and permitting consistent with Santa Ana Regional Water Quality Control Board (SARWQCB) and National Pollutant Discharge Elimination System (NPDES) requirements should be adhered to, and groundwater sampling should be conducted.

HAZ-11 **Unknown Hazards.** During construction, soil excavations will be monitored for visible soil staining, odor, and the possible presence of unknown hazardous material sources, such as contaminated soil or buried 55-gallon drums and underground tanks. The contents of the partial, or partially buried, drum will be assessed and disposed of appropriately if this property is acquired as part of the Project. The resident engineer overseeing construction will have available field monitoring equipment (e.g., photoionization detector [PID]) on site to facilitate timely detection of potentially hazardous conditions in the field. If signs of potential impact (odors, discolored soil, etc.) are noted or observed during construction activity, sampling and analysis should be conducted. Soil samples should be analyzed for total petroleum hydrocarbons (TPH) with carbon chain analysis using EPA Method 8015B and VOCs by EPA Method 8260B where run-off may have collected. If other hazardous materials contamination or sources are suspected or identified during Project construction activities, an environmental professional will evaluate the course of action required. This course of action will follow the Unknown Hazards Procedures described in Chapter 7 of the *Caltrans Construction Manual* (August 2006).

HAZ-12 **Phase II ISA.** A Phase II Initial Site Assessment (ISA) is required prior to completion of the PA&ED phase of the Project, so that special

handling, treatment, or disposal provisions associated with hazardous wastes can be included in construction documents. This work is ongoing.

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2.12 Air Quality

2.12.1 Regulatory Setting

The Federal Clean Air Act (FCAA) as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the concentration of pollutants 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: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB) and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect 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 in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel “Conformity” requirement under the FCAA also applies.

2.12.1.1 Conformity

The conformity requirement is based on Federal Clean Air Act Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other Federal agencies from funding, authorizing, or approving plans, programs or projects that do not conform to State Implementation Plan (SIP) for attainting the NAAQS. “Transportation Conformity” applies to highway and transit projects and 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 Code of Federal Regulation (CFR) 93

govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California) sulfur dioxide (SO_2). California has attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all 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 uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the Clean Air Act and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), 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 FCAA. 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 meets regional conformity requirements for purposes of project-level analysis.

Conformity analysis at the project-level includes verification that the project is included in the regional conformity analysis and a "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 a violation of the relevant standard and the 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 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.

2.12.2 Affected Environment

This section is based on the *Air Quality Analysis* (September 2013) prepared for the Project.

2.12.2.1 Climate

The Project site is located in the City of Grand Terrace and partially within the City of Colton in San Bernardino County (County), an area within the South Coast Air Basin (Basin) that 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 South Coast Air Quality Management District (SCAQMD), a regional agency created for the Basin.

Climate in the Basin 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, and high mountains surround the rest of the Basin. The region lies in the semipermanent high-pressure zone of the eastern Pacific. 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.

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 station closest to the site that monitors temperature is the San Bernardino Station. The annual average maximum temperature recorded at this station is 79.9°F, and the annual average minimum is 48.2°F. January is typically the coldest month in this area of the Basin.

The majority of annual 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 portion of the Basin along the coastal side of the mountains. The climatological station closest to the site that monitors precipitation is the San Bernardino Station. Average rainfall measured at

this station varied from 3.25 inches in February to 0.71 inch or less between May and October, with an average annual total of 16.12 inches. 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 midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Inversion layers are significant 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 of these pollutants 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 in Los Angeles and Orange Counties are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and oxides of nitrogen (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.

2.12.2.2 Monitored Air Quality

SCAQMD operates several air quality monitoring stations within the Basin. The San Bernardino Air Quality Monitoring Station, located approximately 5.5 miles (mi) northeast of the Project site at 24302 4th Street, monitors four of the five criteria pollutants: CO, O_3, NO_2, and PM. The next closest monitoring station that collects SO_2 data is the Rubidoux Station in Riverside County, which is located approximately 6 mi southwest of the Project site at 5888 Mission Boulevard. Air quality trends identified from data collected at both air quality monitoring stations between 2010 and 2012 are listed in Table 2.12.A.

Table 2.12.A Local Air Quality Levels

Pollutant		Standard	2010	2011	2012
Carbon Monoxide					
Max 1-hour concentration (ppm)			2.1	1.9	3.1
No. days exceeded:	State	> 20 ppm/1-hour	0	0	0
	Federal	> 35 ppm/1-hour	0	0	0
Max 8-hour concentration (ppm)			1.73	1.74	1.64
No. days exceeded:	State	>9 ppm/8-hour	0	0	0
	Federal	>9 ppm/8-hour	0	0	0
Ozone					
Max 1-hour concentration (ppm)			0.129	0.135	0.124
No. days exceeded:	State	> 0.09 ppm/1-hour	27	40	41
Max 8-hour concentration (ppm)			0.104	0.121	0.109
No. days exceeded:	State	> 0.07 ppm/8-hour	60	66	77
	Federal[1]	> 0.075 ppm/8-hour	40	39	54
Particulates (PM_{10})					
Max 24-hour concentration ($\mu g/m^3$)			61	54	51
No. days exceeded:	State	> 50 $\mu g/m^3$	2	2	1
	Federal	> 150 $\mu g/m^3$	0	0	0
Annual average concentration ($\mu g/m^3$)			32.4	31.2	32.0
Exceeds Standard?	State	> 20 $\mu g/m^3$	Yes	Yes	Yes
Particulates ($PM_{2.5}$)					
Max 24-hour concentration ($\mu g/m^3$)			39.3	65.0	34.8
No. days exceeded:	Federal[2]	> 35 $\mu g/m^3$	2	2	0
Annual average concentration ($\mu g/m^3$)			11.1	N/A	11.7
Exceeds Standard?	State	> 12 $\mu g/m^3$	No	N/A	No
	Federal	> 15 $\mu g/m^3$	No	N/A	No
Nitrogen Dioxide					
Max 1-hour concentration (ppm):	State	> 0.18 ppm/1-hour	0.069	0.062	0.060
No. days exceeded			0	0	0
Annual average concentration:	Federal	0.053 ppm annual average	0.019	0.017	N/A
Exceed federal standard?			No	No	N/A
Sulfur Dioxide					
Max 24-hour concentration (ppm)			0.005	0.001	0.001
No. days exceeded:	State	0.04 ppm	0	0	0
	Federal	0.14 ppm	0	0	0
Annual average concentration:	Federal	0.030 ppm annual average	0.001	0.000	0.000
Exceed federal standard?			No	No	No

Source: EPA and ARB (2010 to 2012).

2.12.2.3 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The sensitive receptors within or adjacent to the Project area are single-family dwellings, Terrace Village RV Park, Grand Terrace Mobile Home Park, and Grand Royal Estates Mobile Home Park, as well as Grand Terrace Elementary School.

2.12.2.4 Criteria Pollutant Attainment/Nonattainment Status

The EPA General Conformity Rule applies only to federal actions that result in emissions of nonattainment or maintenance pollutants, or their precursors, in federally designated nonattainment or maintenance areas. The EPA General Conformity Rule establishes a process to demonstrate that federal actions would be consistent with applicable SIPs and would not cause or contribute to new violations of the NAAQS, increase the frequency or severity of existing violations of the NAAQS, or delay the timely attainment of the NAAQS. The emissions thresholds that trigger requirements of the General Conformity Rule for federal actions emitting nonattainment or maintenance pollutants, or their precursors, are called de minimis levels. The general conformity de minimis thresholds are defined in 40 CFR 93.153(b). The Federal General Conformity Rule does not apply to federal actions in areas designated as nonattainment of only the California ambient air quality standards (CAAQS).

The national and California ambient air quality standards (AAQS) for the criteria pollutants are summarized in Table 2.12.B.

The EPA, in conjunction with the DOT, established the Transportation Conformity Rule on November 30, 1993. The rule implements the CAA conformity provision, which mandates that the federal government not engage, support, or provide financial assistance for licensing or permitting or approve any activity not conforming to an approved CAA implementation plan. As part of the Clean Air Rules of 2004, the EPA published a final rule in the Federal Register on July 1, 2004, to amend the Transportation Conformity Rule to include criteria and procedures for the new 8-hour ozone (O_3) and fine particulate matter ($PM_{2.5}$) NAAQS. The final rule addressed a March 2, 1999, court decision by incorporating the EPA and DOT guidance. On July 20, 2004, the EPA published a technical correction notice to correct two minor errors

Table 2.12.B State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Ozone (O_3)[2]	1 hour 8 hours	0.09 ppm 0.070 ppm ---	--- [4] 0.075 ppm (4th highest in 3 years)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_X) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal: Extreme Nonattainment (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon Monoxide (CO)	1 hour 8 hours 8 hours (Lake Tahoe)	20 ppm 9.0 ppm[1] 6 ppm	35 ppm 9 ppm ---	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal: Attainment/ Maintenance State: Attainment
Respirable Particulate Matter (PM_{10})[2]	24 hours Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 ---[2] (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM_{10}.	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Attainment/Maintenance State: Nonattainment
Fine Particulate Matter ($PM_{2.5}$)[2]	24 hours Annual 24 hours (conformity process[5]) Secondary Standard (annual; also for conformity process)	--- 12 µg/m^3 ---	35 µg/m^3 12.0 µg/m^3 65 µg/m^3 15 µg/m^3 (98th percentile over 3 years)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO_X, sulfur oxides (SO_X), ammonia, and ROG.	Federal: Nonattainment State: Nonattainment
Nitrogen Dioxide (NO_2)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm[6] (98th percentile over 3 years) 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal: Attainment/ Maintenance State: Nonattainment

Table 2.12.B State and Federal Criteria Air Pollutant Standards, Effects, and Sources (Continued)

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours	0.25 ppm --- 0.04 ppm	0.075 ppm[7] (98th percentile over 3 years) 0.5 ppm	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
Lead (Pb)[3]	Monthly Rolling 3-month average	1.5 µg/m^3 ---	--- 0.15 µg/m^3 [10]	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Attainment (Except LA County) State: Attainment (Except LA County)
Sulfate	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	---	Reduces visibility. Produces haze. NOTE: not related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified

Table 2.12.B State and Federal Criteria Air Pollutant Standards, Effects, and Sources (Continued)

Pollutant	Averaging Time	State Standard[8]	Federal Standard[9]	Principal Health and Atmospheric Effects	Typical Sources	Attainment Status
Vinyl Chloride[3]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: Attainment/ Unclassified State: Attainment/ Unclassified

Sources: www.arb.ca.gov/research/aaqs/aaqs2.pdf (September 8, 2010); California Air Resources Board, Area Designations, http://www.arb.ca.gov/desig/desig.htm (accessed August 2013).

1 Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at or above 9.05 ppm.

2 Annual PM_{10} NAAQS revoked October 2006; was 50 µg/m^3. 24-hour. $PM_{2.5}$ NAAQS tightened October 2006; was 65 µg/m^3. Annual $PM_{2.5}$ NAAQS tightened from 15 µg/m^3 to 12 µg/m^3 December 2012, and secondary standard set at 15 µg/m^3.

3 The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and the EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for substantial health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

4 Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still in use in some areas where 8-hour ozone emission budgets have not been developed, such as the San Francisco Bay Area.

5 The 65 µg/m^3 $PM_{2.5}$ (24-hour) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual $PM_{2.5}$ standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with a emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the "Interim" period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

6 Final 1-hour NO_2 NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

7 The EPA finalized a 1-hour SO_2 standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of September 2012.

8 State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise. Federal standards are "not to exceed more than once a year" or as described above.

9 Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

10 Lead NAAQS are not considered in Transportation Conformity analysis.

in the July 1, 2004, notice. To remain consistent with the stricter federal standards, the ARB approved a new 8-hour O_3 standard (0.07 parts per million [ppm], not to be exceeded) for O_3 on April 28, 2005. Additionally, the ARB retained the current 1-hour-average standard for O_3 (0.09 ppm) and the current monitoring method for O_3, which uses the ultraviolet (UV) photometry method.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the 8-hour ground-level O_3 standard. ARB provided the EPA with California's recommendations for 8-hour O_3 area designations on July 15, 2003. The recommendations and supporting data were an update to a report submitted to the EPA in July 2000. On December 3, 2003, the EPA published its proposed designations. The EPA's proposal differs from the State's recommendations primarily on the appropriate boundaries for several nonattainment areas. The ARB responded to the EPA's proposal on February 4, 2004. On April 15, 2004, the EPA announced the new nonattainment areas for the 8-hour O_3 standard. The designations and classifications became effective on June 15, 2004. The transportation conformity requirement became effective on June 15, 2005.

The EPA proposed a $PM_{2.5}$ implementation rule in September 2003 and made final designations in December 2004. The $PM_{2.5}$ standard complements existing national and State ambient air quality standards that target the full range of inhalable coarse particulate matter (PM_{10}).

Attainment status for each of the criteria pollutants in the Basin is listed in Table 2.12.B.

2.12.3 Environmental Consequences

2.12.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative would not involve construction activities in the Project area; therefore, temporary air quality impacts related to construction equipment exhaust emissions and fugitive dust would not occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by excavation, grading, hauling, and other activities related to construction. Emissions from construction equipment also are

anticipated and would include CO, NO_X, volatile organic compounds (VOCs), directly-emitted particulate matter ($PM_{2.5}$ and PM_{10}), and toxic air contaminants such as diesel exhaust particulate matter.

Site preparation and roadway construction would involve clearing, cut-and-fill activities, grading, and paving roadway surfaces. Build Alternatives 3, 6, and Modified Alternative 7 would require approximately 208,000 cubic yards (cy), 157,000 cy, and 175,000 cy of net soil export, respectively. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. If not properly controlled, these activities would temporarily generate PM_{10}, $PM_{2.5}$, CO, SO_2, NO_X, and VOCs. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

In addition to dust-related PM_{10} emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs, and some soot particulate ($PM_{2.5}$ and PM_{10}) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Off-road diesel fuel meeting federal standards can contain up to 5,000 ppm of sulfur, whereas on-road diesel is restricted to less than 15 ppm of sulfur. However, under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel, so SO_2-related issues due to diesel exhaust would be minimal.

The maximum amount of construction-related emissions during a peak construction day for any of the Build Alternatives is presented in Table 2.12.C. The PM_{10} and $PM_{2.5}$ emissions assume a 50 percent control of fugitive dust from watering and

Table 2.12.C Maximum Project Construction Emissions

Project Phases	ROG	CO	NO_X	Total PM_{10}	Total $PM_{2.5}$
Grubbing/Land Clearing (lbs/day)	2.7	14.6	23.9	51.2	11.5
Grading/Excavation (lbs/day)	18.5	88.8	253.5	60	19.3
Drainage/Utilities/Sub-Grade (lbs/day)	12.1	54.5	122.5	56.2	16.1
Paving (lbs/day)	2.9	14.3	22.3	1.5	1.3
Maximum (lbs/day)	18.5	88.8	253.5	60	19.3
Total (tons/construction project)	3.3	15.8	41.4	13	3.9

Source: LSA Associates, Inc. (September 2013).

associated dust control measures, which is required by the California Department of Transportation (Caltrans) and SCAQMD. The emissions presented below are based on the best information available at the time of calculations and specify that construction would be complete in approximately 24 months, beginning in 2016 and ending in 2018. Caltrans Standard Specifications for construction (Section 14-9 [Dust Control] and Section 39-3.06 [Asphalt Concrete Plant Emissions]) will be adhered to in order to reduce emissions generated by construction equipment. Additionally, the SCAQMD has established Rule 403 for reducing fugitive dust emissions. The best available control measures (BACM), as specified in SCAQMD Rule 403, shall be incorporated into the Project commitments. With the implementation of standard construction measures (providing 50 percent effectiveness) such as frequent watering (e.g., minimum twice per day) and Measures AQ-1 through AQ-5, fugitive dust and exhaust emissions from construction activities would not result in any substantial air quality impacts with implementation of Build Alternatives 3, 6, or Modified Alternative 7.

Naturally Occurring Asbestos

The Project is located in San Bernardino County, which is not among the counties listed as containing serpentine and ultramafic rock. No impacts from naturally occurring asbestos (NOA) during Project construction are anticipated.

2.12.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. This alternative would not improve operations or reduce congestion at the Interstate 215 (I-215)/Barton Road interchange; therefore, no permanent impacts to air quality would occur.

Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. It was determined that this approved project would not substantially impact air quality.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Regional Air Quality Conformity

The proposed Project is listed in the 2012 financially constrained Regional Transportation Plan, which was found to conform by the Southern California Association of Governments (SCAG) on April 2, 2012, and FHWA and FTA made a regional conformity finding for the RTP on June 5, 2012. The Project is also included in SCAG's financially constrained 2013 FTIP. The 2013 FTIP was determined to conform by FHWA and FTA on December 13, 2012 (Project ID: SBD31850; Model No. S310. Description: *In Grand Terrace at I-215/Barton Road Interchange. Reconstruct overcrossing and ramps with partial cloverleaf configuration; northwest of I-215 work includes the addition of northbound aux lane; local street work to include widening of Barton Road, removal of La Cross Avenue between Vivienda Avenue and Barton Road, replacement with new local road, improvements to Barton Road and Michigan Way/Vivienda Avenue intersection and realignment of Commerce Way*). The design concept and scope of the proposed Project is consistent with the project description in the 2012 RTP and the 2013 FTIP, and the open to traffic assumptions of SCAG's regional emissions analysis.

Project Level Conformity

Because the proposed Project is within an attainment/maintenance area for CO and PM_{10} and a nonattainment area for $PM_{2.5}$ federal 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 below.

Carbon Monoxide

The methodology required for a CO local analysis is summarized in the Caltrans Transportation Project-Level Carbon Monoxide Protocol (Protocol), Section 3 (Determination of Project Requirements) and Section 4 (Local Analysis). In Section 3, the Protocol provides two conformity requirement decision flowcharts that are designed to assist the Project sponsors in evaluating the requirements that apply to specific projects. The flowchart in Figure 1 of the Protocol (CO Protocol flowchart in Appendix A of the *Air Quality Analysis*) applies to new projects and was used in this local analysis conformity decision. Below is a step-by-step explanation of the flow

chart. Each level cited is followed by a response, which in turn determines the next applicable level of the flowchart for the Project. The flowchart begins with Section 3.1.1:

- 3.1.1. Is this project exempt from all emissions analyses?
  NO.

  Table 1 of the Protocol is Table 2 of Section 93.126 of 40 Code of Federal Regulations (CFR). Section 3.1.1 is inquiring if the Project is exempt. Such projects appear in Table 1 of the Protocol. The Project does not appear in Table 1. Therefore, it is not exempt from all emissions analyses.

- 3.1.2. Is the project exempt from regional emissions analyses?
  NO.

  Table 2 of the Protocol is Table 3 of Section 93.127. The question is attempting to determine whether the Project is listed in Table 2. Although the Project is an interchange reconfiguration project, it includes additional through lanes on Barton Road. Therefore, it is not exempt from regional emissions analysis.

- 3.1.3. Is the project locally defined as regionally significant?
  YES.

  As mentioned above, the Project includes additional through lanes on Barton Road. Therefore, the Project is potentially regionally significant.

- 3.1.4. Is the project in a federal attainment area?
  NO.

  The Project is located within an attainment/maintenance area for the federal CO standard.

- 3.1.5. Are there a currently conforming Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP)?
  YES.

- 3.1.6. Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP?
  YES.

The Project is included in the SCAG 2012 RTP and the 2013 FTIP (Project ID: SBD31850; Model No. S310. Description: *In Grand Terrace at Barton Road Interchange. Reconstruct overcrossing and ramps with partial cloverleaf configuration; northwest of I-215 work includes the addition of northbound aux lane; local street work to include widening of Barton Road, removal of La Cross Avenue between Vivienda Avenue and Barton Road, replacement with new local road, improvements to Barton Road and Michigan Way/Vivienda Avenue intersection and realignment of Commerce Way*).

- 3.1.7. Has the project design concept and/or scope changed significantly from that in the regional analysis?
  NO.

  The proposed Build Alternatives are consistent with the Project description in the 2012 RTP and 2013 FTIP.

- 3.1.9. Examine local impacts.
  Section 3.1.9 of the flowchart directs the Project evaluation to Section 4 (Local Analysis) of the Protocol. This includes Figure 1.

Section 4 contains Figure 3 (Local CO Analysis). This flowchart is used to determine the type of CO analysis required for the Project. Below is a step-by-step explanation of the flowchart. Each level cited is followed by a response, which in turn determines the next applicable level of the flowchart for the Project. The flowchart begins at level 1:

- Level 1. Is the project in a CO non-attainment area?
  NO.

  The Project site is located in an area that has demonstrated attainment with the federal CO standard.

- Level 1 (cont.). Was the area redesignated as “attainment” after the 1990 Clean Air Act?
  YES.

- Level 1 (cont.). Has “continued attainment” been verified with the local Air District, if appropriate?
  YES.

The South Coast Air Basin was designated as attainment/maintenance by the EPA on June 11, 2007 (proceed to Level 7).

- Level 7. Does the project worsen air quality?
  YES.

  Because one of the following conditions (listed in Section 4.7.1 of the CO Protocol) is met, the Project would potentially worsen air quality.

  a. *The project significantly increases the percentage of vehicles operating in cold start mode. Increasing the number of vehicles operating in cold start mode by as little as 2 percent should be considered potentially significant.*

     The percentage of vehicles operating in cold start mode is the same or lower for the intersection under study compared to those used for the intersection in the attainment plan. It is assumed that all vehicles in the intersection are in a fully warmed-up mode. Therefore, this criterion is not met.

  b. *The project significantly increases traffic volumes. Increases in traffic volumes in excess of 5 percent should be considered potentially significant. Increasing the traffic volume by less than 5 percent may still be potentially significant if there is also a reduction in average speeds.*

     The Project would not increase the daily traffic volumes along I-215. However, the Project would significantly change the traffic volumes along Barton Road between Michigan Street and Vivienda Avenue. Therefore, this criterion is met. The 2040 traffic volumes for the No Build and the Build Alternatives are shown in Table 2.12.D.

  c. *The project worsens traffic flow. For uninterrupted roadway segments, a reduction in average speeds (within a range of 3 to 50 mph) should be regarded as worsening traffic flow. For intersection segments, a reduction in average speed or an increase in average delay should be considered as worsening traffic flow.*

     As shown in Tables 2.12.E through 2.12.H, the Build Alternatives would reduce the level of service (LOS) at the intersection of Barton Road and La Cadena Drive in the AM peak hour. However, the LOS would remain acceptable. In addition, the LOS at the other intersections within the Project area would improve under the Build Alternatives. Therefore, this criterion is not met.

Table 2.12.D 2040 Average Daily Traffic Volumes (Total AADT/Truck AADT)

Roadway Link	Alternative 1 Traffic Volumes	Alternative 3 Traffic Volumes	Alternative 6 Traffic Volumes	Modified Alternative 7 Traffic Volumes
I-215 between Washington and Barton Road	332,800 (23,296)	332,800 (23,296)	332,800 (23,296)	332,800 (23,296)
I-215 between Barton Road and Iowa	306,100 (21,427)	306,100 (21,427)	306,100 (21,427)	306,100 (21,427)
Barton Road west of Grand Terrace Road	25,750 (1,803)	24,300 (1,701)	24,300 (1,701)	24,300 (1,701)
Barton Road between Grand Terrace Road and I-215	25,850 (1,810)	26,490 (1,854)	26,490 (1,854)	26,490 (1,854)
Barton Road between I-215 and Michigan Street	44,350 (3,105)	44,250 (3,098)	34,690 (2,428)	44,250 (3,098)
Barton Road between Michigan Street and Vivienda Avenue	39,250 (2,748)	44,250 (3,098)	34,690 (2,428)	44,250 (3,098)

Source: *Air Quality Analysis* (September 2013).

Table 2.12.E 2040 without Project (No Build Alternative) Intersection LOS

Intersection		AM Peak Hour			PM Peak Hour		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1.	Barton Road/La Cadena Drive	C	31.4	0.94	F	169.3	1.51
2.	Barton Road/Grand Terrace Road	F	>500	-	F	>500	-
3.	Barton Road/La Crosse Avenue	F	223.4	-	F	>500	-
4.	Barton Road/I-215 SB Ramps	F	184.8	1.40	F	290.6	1.70
5.	Barton Road/I-215 NB Ramps	F	99.7	1.31	F	251.3	1.66
6.	Barton Road/Michigan Street	F	101.7	1.20	F	135.7	1.32
7.	Barton Road/Vivienda Avenue	F	434.9	-	F	>500	-

Source: *Air Quality Analysis* (September 2013).

Table 2.12.F 2040 Alternative 3 Intersection LOS

Intersection		AM Peak Hour			PM Peak Hour		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1.	Barton Road/La Cadena Drive	D	35.5	0.97	F	163.7	1.49
2.	Barton Road/Grand Terrace Road	A	6.3	0.60	A	5.5	0.60
3.	Barton Road/La Crosse Avenue	Does Not Exist					
4.	Barton Road/I-215 SB Ramps	B	14.6	0.68	B	12.9	0.61
5.	Barton Road/I-215 NB Ramps	A	9.5	0.71	B	13.7	0.83
6.	Barton Road/Michigan Street	Does Not Exist					
7.	Barton Road/Vivienda Avenue	D	45.7	0.91	D	38.8	0.90

Source: *Air Quality Analysis* (September 2013).

Table 2.12.G 2040 Alternative 6 Intersection LOS

Intersection		AM Peak Hour			PM Peak Hour		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1.	Barton Road/La Cadena Drive	D	38.8	0.96	F	165.9	1.49
2.	Barton Road/Grand Terrace Road	A	7.6	0.61	A	7.2	0.58
3.	Barton Road/La Crosse Avenue	Does Not Exist					
4.	Barton Road/I-215 SB Ramps	B	20.0	0.68	B	16.3	0.63
5.	Barton Road/I-215 NB Ramps	C	23.3	0.90	B	19.1	0.83
6.	Barton Road/Michigan Street	Does Not Exist					
7.	Barton Road/Vivienda Avenue	D	50.7	0.93	D	50.0	0.95

Source: *Air Quality Analysis* (September 2013).

Table 2.12.H 2040 Modified Alternative 7 Intersection LOS

Intersection		AM Peak Hour			PM Peak Hour		
		LOS	Delay (sec)	V/C	LOS	Delay (sec)	V/C
1.	Barton Road/La Cadena Drive	D	40.0	0.97	F	168.7	1.49
2.	Barton Road/Grand Terrace Road	A	8.6	0.62	A	5.2	0.58
3.	Barton Road/La Crosse Avenue	Does Not Exist					
4.	Barton Road/I-215 SB Ramps	B	13.6	0.69	B	11.3	0.62
5.	Barton Road/I-215 NB Ramps	B	13.9	0.70	C	30.5	0.95
6.	Barton Road/Michigan Street	C	26.6	0.69	C	23.3	0.55
7.	Barton Road/Vivienda Avenue	D	51.9	0.90	D	45.2	0.97

Source: *Air Quality Analysis* (September 2013).

- Level 7 (cont.). Is the project suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration? NO.

  CO concentrations at the intersections under study will be lower than those reported for the maximum of the intersections analyzed in the CO attainment plan because all of the following conditions, listed in Section 4.7.2 of the CO Protocol, are satisfied:

  - The receptor locations at the intersections under study are at the same distance or farther from the traveled roadway than the receptor locations used in the intersections in the attainment plan. The attainment plan evaluates the CO concentrations at a distance of 10 feet (ft) from the edge of the roadways. The CO Protocol does not permit the modeling of receptor locations closer than this distance.

- The Project intersection traffic volumes and geometries are not substantially different from those included in the attainment plan. Also, the intersections under study have less total traffic and the same number of lanes or fewer lanes than the intersections in the attainment plan.
- The assumed meteorology for the intersections under study is the same as the assumed meteorology for the intersections in the attainment plan. Both use the worst-case scenario meteorology settings in the CALINE4 and/or CAL3QHC models.

  As shown in Table 2.12.I, traffic lane volumes for all approach and departure segments are lower for the intersections under study than those assumed for the intersections in the attainment plan. The intersections in the attainment plan include Wilshire Boulevard/Veteran Avenue, Sunset Boulevard/Highland Avenue, La Cienega Boulevard/Century Boulevard, and Long Beach Boulevard/Imperial Highway.[1] The intersections under study were selected based on their LOS and the proposed Project's contribution to the total traffic volumes.
- The percentages of vehicles operating in cold start mode are the same or lower for the intersections under study compared to those used for the intersections in the attainment plan. It is assumed that all vehicles in the intersections are operating in fully warmed-up mode.
- The percentages of heavy-duty gas trucks in the intersections under study are the same or lower than the percentages used for the intersections in the attainment plan analysis. It is assumed that traffic distribution at the intersections under study does not vary from the EMFAC2007 standards.
- Average delay and queue length for each approach are the same or less for the intersections under study compared to those found in the intersections in the attainment plan. The predicted LOS for the intersections under study range from A to F. The LOS for the intersections in the attainment plan are not listed; however, the traffic counts and intersection geometries correspond to an LOS F for three of the four intersections in the attainment plan.

[1] At the time of attainment plan preparation, these intersections represented the "worst-case" for CO concentrations.

Table 2.12.I Traffic Volume Comparison

Attainment Plan Maximum Volumes	**Intersection 1**		**Intersection 2**		**Intersection 3**		**Intersection 4**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Existing Traffic Volumes	Wilshire Boulevard/ Veteran Avenue		Sunset Boulevard/ Highland Avenue		La Cienega Boulevard/Century Boulevard		Long Beach Boulevard/Imperial Highway	
Intersection Total	8,062	7,719	6,614	7,374	6,635	8,674	4,212	5,514
Turn Maximum	384	780	200	263	700	1,187	176	202
2040 Conditions No Build Alternative	Barton Road/ La Cadena Drive		Barton Road/ Grand Terrace Road		Barton Road/ La Crosse Avenue		Barton Road/ I-215 SB Ramps	
Intersection Total	4,244	6,427	1,947	2,640	1,804	2,654	2,766	3,442
Turn Maximum	620	682	190	52	306	360	907	615
2040 Conditions Alternative 3	Barton Road/ La Cadena Drive		Barton Road/ Grand Terrace Road		Barton Road/ La Crosse Avenue		Barton Road/ I-215 SB Ramps	
Intersection Total	4,244	6,427	1,995	2,733	N/A	N/A	3,356	3,787
Turn Maximum	620	682	186	175	N/A	N/A	907	615
2040 Conditions Alternative 6	Barton Road/ La Cadena Drive		Barton Road/ Grand Terrace Road		Barton Road/ La Crosse Avenue		Barton Road/ I-215 SB Ramps	
Intersection Total	4,244	6,427	1,995	2,733	N/A	N/A	3,059	3,786
Turn Maximum	620	682	186	175	N/A	N/A	907	615
2040 Conditions Modified Alternative 7	Barton Road/ La Cadena Drive		Barton Road/ Grand Terrace Road		Barton Road/ La Crosse Avenue		Barton Road/ I-215 SB Ramps	
Intersection Total	4,244	6,427	1,995	2,733	N/A	N/A	3,059	3,786
Turn Maximum	620	682	186	175	N/A	N/A	907	615
Build Alternative Maximum Volumes	**Intersection 5**		**Intersection 6**		**Intersection 7**			
	AM	**PM**	**AM**	**PM**	**AM**	**PM**		
2040 Conditions No Build Alternative	Barton Road/ I-215 NB Ramps		Barton Road/ Michigan Street		Barton Road/ Vivienda Avenue			
Intersection Total	4,087	3,736	4,085	5,057	2,795	3,951		
Turn Maximum	868	901	896	616	165	45		
2040 Conditions Alternative 3	Barton Road/ I-215 NB Ramps		Barton Road/ Michigan Street		Barton Road/ Vivienda Avenue			
Intersection Total	4,076	4,726	N/A	N/A	4,197	5,104		
Turn Maximum	868	901	N/A	N/A	896	616		
2040 Conditions Alternative 6	Barton Road/ I-215 NB Ramps		Barton Road/ Michigan Street		Barton Road/ Vivienda Avenue			
Intersection Total	3,677	3,071	N/A	N/A	4,354	5,172		
Turn Maximum	747	700	N/A	N/A	1,042	958		
2040 Conditions Modified Alternative 7	Barton Road/ I-215 NB Ramps		Commerce Way/ Michigan Street		Barton Road/ Vivienda Avenue			
Intersection Total	4,076	4,726	2,202	2,226	4,197	5,104		
Turn Maximum	868	901	809	660	896	616		

Source: *Air Quality Analysis* (September 2013).

- The background CO concentrations in the area of the intersections under study are 3.7 parts per million (ppm) for 1 hour and 2.3 ppm for 8 hours, which is lower than the background concentrations for the intersections in the attainment plan. These varied from 5.3 to 13.2 ppm for 1 hour and 3.7 to 9.9 ppm for 8 hours.

The Project is not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. Therefore, a detailed CALINE4 CO hot-spot analysis is not required.

Particulate Matter (PM_{10} and $PM_{2.5}$)

The proposed Project is within an attainment/maintenance area for federal PM_{10} and a nonattainment area for federal $PM_{2.5}$ standards. Therefore, per 40 CFR, Part 93, analyses are required for conformity purposes. However, the EPA does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in Section 93.123(b)(1) as an air quality concern. The Project does not qualify as a Project of air quality concern (POAQC) because of the following reasons:

i) The proposed Project is not a new or expanded highway project. The proposed Project is an interchange reconstruction Project that does not increase the capacity of I-215. This type of Project improves freeway interchange operations by reducing traffic congestion and improving merge operations. Based on the *Revised Traffic Operations Analysis* (December 2011) and the *Barton Road Interchange Improvement Project Roundabout Analyses* (August 2013), the proposed Build Alternatives would increase the capacity of Barton Road through the interchange. However, the traffic volumes along Barton Road would not exceed the 125,000 average daily trips threshold for a POAQC. In addition, the total truck percentages along Barton Road would not exceed the 8 percent threshold, and the total truck average annual daily traffic (AADT) would not exceed the 10,000-vehicle threshold for POAQC. The future traffic volumes along I-215 and Barton Road are shown previously in Table 2.12.D.

ii) The proposed Project does not affect intersections that are at LOS D, E, or F with a significant number of diesel vehicles. Based on the *Revised Traffic Operations Analysis* (December 2011) and the *Barton Road Interchange Improvement Project Roundabout Analyses* (August 2013), the proposed Build Alternatives would reduce the delay and improve the LOS at intersections within the Project vicinity. The LOS conditions in the Project vicinity with and without the proposed Build Alternatives are shown in Tables 2.12.E through 2.12.H.

iii) The proposed Project does not include the construction of a new bus or rail terminal.
iv) The proposed Project does not expand an existing bus or rail terminal.
v) The proposed Project is not 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-level PM hot-spot analysis was presented to SCAG's Transportation Conformity Working Group (TCWG) for discussion and review on August 25, 2009. Per Caltrans Headquarters policy, all nonexempt projects need to go through review by the TCWG. This Project was approved and concurred upon by Interagency Consultation at the TCWG meeting as a Project not having substantial impacts on air quality, and it meets the requirements of the Clean Air Act (CAA) and 40 CFR 93.116. On May 28, 2013, the TCWG confirmed that the addition of Modified Alternative 7 would not change the Project's determination. Copies of the TCWG findings are included in Chapter 3.

Therefore, the Project meets the CAA requirements and 40 CFR 93.116 without any explicit hot-spot analysis. The Project would not create a new, or worsen an existing, PM_{10} or $PM_{2.5}$ violation.

Mobile-Source Air Toxics

In addition to the criteria air pollutants for which there are federal AAQS, the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, nonroad 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 Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources that are listed in its Integrated Risk Information System (IRIS). In addition, EPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from its 1999 National Air Toxics Assessment (NATA). These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde,

naphthalene, and polycyclic organic matter (POM). While FHWA considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future EPA rules.

The 2007 EPA rule described above requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's MOBILE6.2 model, even if vehicle activity (vehicle miles travelled, VMT) increases by 145 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 2.12.1. 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.

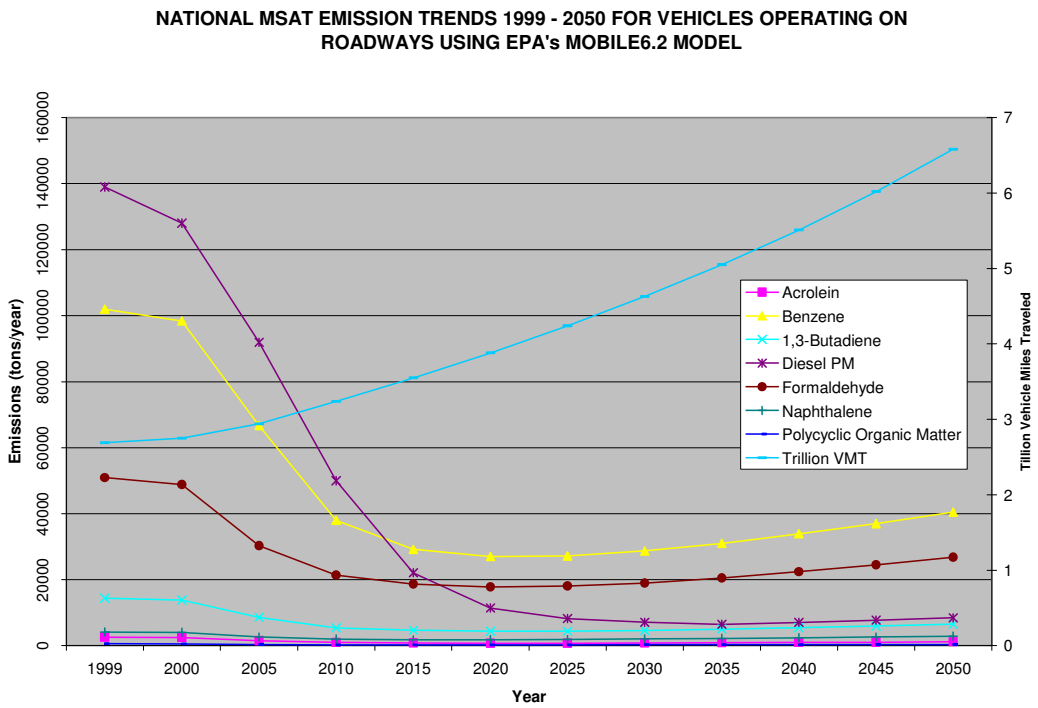

Figure 2.12.1 National MSAT Emission Trends

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.

Nonetheless, air toxics concerns continue to be raised on highway projects during the NEPA process. Even as the science emerges, we are duly expected by the public and other agencies to address MSAT impacts in our environmental documents. The FHWA, EPA, Health Effects Institute, and others have funded and conducted research studies to try to more clearly define potential risks from MSAT emissions associated with highway projects. The FHWA will continue to monitor the developing research in this field.

NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the federal government be interpreted and administered in accordance with its environmental protection goals. NEPA also requires federal agencies to use an interdisciplinary approach in planning and decision-making for any action that substantially impacts the environment. NEPA requires, and FHWA is committed to, the examination and avoidance of potential impacts to the natural and human environment when considering approval of proposed transportation projects. In addition to evaluating the potential environmental effects, we must also take into account the need for safe and efficient transportation in reaching a decision that is in the best overall public interest. The FHWA policies and procedures for implementing NEPA are contained in regulation at 23 CFR Part 771.

In December 2012, the FHWA issued guidance[1] to advise FHWA division offices as to when and how to analyze MSATs in the NEPA process for highways. This document is an update to the guidance released in February 2006 and September 2009. 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.

Information that is Unavailable or Incomplete

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, substantial 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.

[1] http://www.fhwa.dot.gov/environment/airtoxic/100109guidmem.htm.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. It is 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 and 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." 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 Update on MSAT analysis in NEPA Documents. Among the substantial health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the substantial human health effects of MSAT compounds at current environmental concentrations or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling, dispersion modeling, exposure modeling, and then final determination of health impacts. Each step in the process builds on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of Project alternatives. These difficulties are magnified for lifetime (i.e., 70-year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways, to determine the portion of time that people are actually exposed at a specific location, and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

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, a concern

expressed by HEI1. 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 diesel PM. The EPA2 and the HEI3 have not established a basis for quantitative risk assessment of diesel PM 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 in order to provide an ample margin of safety to protect public health or to prevent a substantial 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 an "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 U.S. 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 deemed 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 impacts. Consequently, the results of such assessments would not be useful to decision-makers, who would need to weigh this information against Project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Due to the limitations cited, a discussion such as the example provided in this Appendix (reflecting any local and Project-specific circumstances), should be included regarding incomplete or unavailable information in accordance with Council on Environmental Quality regulations [40 CFR 1502.22(b)]. FHWA Headquarters and Resource Center staff members Victoria Martinez ([787] 766-5600, ext. 231),

Bruce Bender ([202] 366-2851), and Michael Claggett ([505] 820-2047) are available to provide guidance and technical assistance and support.

Qualitative Project-Level MSAT Analysis

With the Project, the amount of MSATs emitted would be proportional to the VMT, assuming that other variables such as fleet mix are the same for each alternative. The proposed Project is an interchange improvement project that increases the capacity of Barton Road. This type of project improves roadway operations by reducing traffic congestion and improving traffic operations. As shown in Tables 2.12.E through 2.12.H, the proposed Build Alternatives would reduce the delay and either improve the LOS or maintain the LOS at the same level as without the Project at six out of seven of the study area intersections. In 2040, some Build Alternatives would result in a slight decrease in the a.m. peak-hour LOS at the Barton Road/La Cadena Drive intersection. However, the decrease in LOS from C to D in the a.m. peak hour is considered acceptable from a traffic perspective. In addition, as identified in the *Traffic Operations Analysis,* the City of Colton has included a project to improve this intersection in its Capital Improvement Program.

With the Project, emissions are projected to be lower in the design year than existing levels as a result of the EPA's national control programs, which are projected to reduce MSAT emissions by 72 percent between 1999 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future than they are today.

In summary, with Project implementation, it is expected that there would be similar or lower MSAT emissions in the study area relative to the No Build Alternative due to the LOS improvement. On a regional basis, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause regionwide MSAT levels to be substantially lower than they are today.

Long-Term Regional Vehicle Emission Impacts

The purpose of the proposed Project is to alleviate substantial traffic congestion and delays during the morning and afternoon peak periods and to accommodate projected future traffic volumes at the I-215/Barton Road interchange. The proposed Project would not generate new vehicular traffic trips since it would not construct new homes or businesses. However, there is a possibility that some traffic currently utilizing

other routes would be attracted to use the improved facility, thus resulting in increased VMT. 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.

A supplemental traffic analysis (January 2012) was prepared that estimated the impact that the Build Alternatives would have on regional VMT and vehicle hours traveled (VHT), as shown in Table 2.12.J. This VMT and VHT data, along with the EMFAC2007 emission rates, were used to calculate CO, reactive organic gases (ROGs), NO_X, sulfur oxide (SO_X), PM_{10}, and $PM_{2.5}$ emissions for the 2040 regional conditions. The results of the modeling are summarized in Table 2.12.K. As shown in Table 2.12.K, the Build Alternatives would add less than 11 pounds per day (lbs/day) of CO, ROG, NO_X, SO_X, PM_{10} or $PM_{2.5}$ to the region when compared to the No Build Alternative. Therefore, the Project would not contribute substantially to regional vehicle emissions.

Table 2.12.J 2040 Regional Traffic Data

Scenario	VMT	VHT	Average Speed (mph)
Existing 2009	2,602,749	71,498	36.4
No Build	3,677,227	103,183	35.6
Alternative 3	3,682,867	103,301	35.7
Alternative 6	3,683,833	103,239	35.7
Modified Alternative 7	3,679,674	103,108	35.7

Source: *Air Quality Analysis* (September 2013).

Table 2.12.K 2040 Regional Vehicle Emissions (lbs/day)

Pollutant	Existing	No Build	Alternative 3	Alternative 6	Modified Alternative 7
CO	14,993	6,031	6,041	6,042	6,035
ROG	757	292	292	292	292
NO_X	4,573	1,492	1,494	1,494	1,493
SO_X	23	32	32	32	32
PM_{10}	275	332	333	333	333
$PM_{2.5}$	184	203	203	203	203

Source: *Air Quality Analysis* (September 2013).

Qualitative Assessment of Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction

equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NO_X), volatile organic compounds (VOCs), directly-emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_X and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_X, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the United States Environmental Protection Agency (U.S. EPA) to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up 50 percent. The Department's Standard Specifications (Section 14-9.03) on dust minimization requirements requires use of water or dust palliative compounds and will reduce potential fugitive dust emissions during construction.

In addition to dust-related PM_{10} emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_X, VOCs and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site. As a control measure for equipment emissions related to diesel exhaust, areas within 200 feet of ARB-defined sensitive land uses will be designated

as no-idle areas where material storage/transfer and equipment maintenance activities are not to occur.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 ppm sulfur), so SO_2-related issues due to diesel exhaust will be minimal.

Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site(s). Such odors would quickly disperse to below detectable levels as distance from the site(s) increases.

Construction Conformity

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and Project-level conformity analysis (40 CFR 93.123(c)(5)).

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

The following SCAQMD and Caltrans standard measures are required to avoid and/ or minimize Project impacts to air quality during construction.

AQ-1 **SCAQMD Rule 403.** During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in Project specifications. Visible dust beyond the property line emanating from the Project will be prevented to the maximum extent feasible.

AQ-2 **Ozone Precursors.** Project grading plans will show the duration of construction. Ozone (O_3) precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.

AQ-3 **State Vehicle Code Section 23117.** All trucks that are to haul excavated or graded material on site will comply 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.

AQ-4 **Caltrans Standard Specifications.** Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control, will reduce any air quality impacts resulting from construction activities. The contractor will adhere to California Department of Transportation (Caltrans) Standard Specifications for Construction (Sections 14.9-02 and 14-9.03), specifically including:

a. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

b. Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.

c. Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line depending on local regulations.

d. Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.

e. Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.

f. Construction equipment and vehicles will be properly tuned and maintained. All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114.

g. A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

h. Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.

i. ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

j. Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.

k. All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.

l. Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.

m. To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

n. Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. Be aware that certain methods of mulch placement, such as straw blowing,

may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.

AQ-5 **Construction Equipment Staging Areas.** Construction equipment staging areas will be located at least 200 feet from sensitive receptors.

2.12.5 Climate Change

Climate change is analyzed at the end of this chapter. Neither the United States Environmental Protection Agency (U.S. EPA) nor Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas 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 aid 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 on climate change, the issue is addressed in a separate California Environmental Quality Act (CEQA) discussion at the end of this chapter and may be used to inform the National Environmental Policy Act (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 travelled.

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2.13 Noise

2.13.1 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.

2.13.1.1 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 CEQA noise analysis is included at the end of this section.

2.13.1.2 National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, 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 include 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 dBA) is lower than the NAC for commercial areas (72 dBA). Table 2.13.A lists the noise abatement criteria for use in the NEPA-23 CFR 772 analysis.

Table 2.13.B 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.

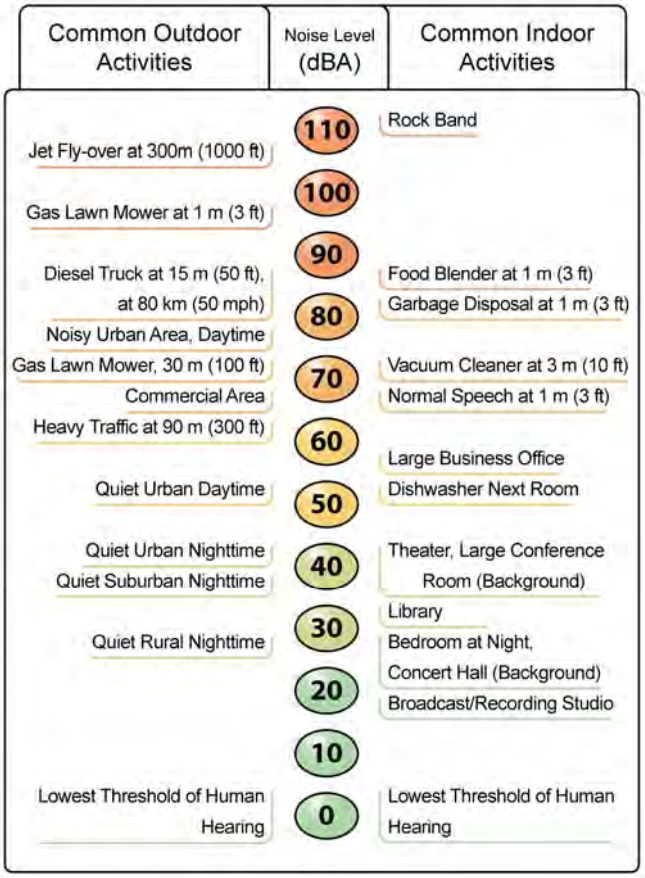
According to Caltrans *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the

Table 2.13.A 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[1]	67 (Exterior)	Residential.
C[1]	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings.
D	52 (Interior)	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F.
F	No NAC—reporting only	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing.
G	No NAC—reporting only	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category.

Table 2.13.B Noise Levels of Common Activities



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.

Caltrans *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 basically a cost-benefit

analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

2.13.2 Affected Environment

This section is based on the *Noise Study Report* (NSR) (February 2012) and the *Noise Abatement Decision Report* (NADR) (May 2012) prepared for Alternatives 3 and 6 as well as the Supplementary NSR (September 2013), the Supplementary NADR (October 2013) for Modified Alternative 7, and the *Reconstruction of the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project Sound Barrier at the I-215 Southbound Off-Ramp Memorandum* (November 2013).

2.13.2.1 Surrounding Land Use and Sensitive Receivers

Existing land uses in the Project area include single-family and multifamily residences; two mobile home parks; a recreational vehicle (RV) park (Terrace Village RV Park); a school; a fast-food restaurant with an outdoor eating area; a utility facility; office, commercial, and light industrial uses; and undeveloped land.

A total of 144 receiver locations, shown in Figure 2.13.1, were selected to represent noise-sensitive land uses in the Project vicinity. The receiver locations with outdoor active use areas include existing residences, Grand Terrace Elementary School, Grand Terrace Mobile Home Park, Grand Royale Mobile Estates, Terrace Village RV Park, light industrial uses, office uses, commercial uses, a restaurant, and utility uses.

2.13.2.2 Existing Noise Levels

The primary source of noise in the Project area is traffic on I-215 and Barton Road. As detailed in the NSR, noise measurements were conducted to calibrate the noise model and to predict the noise levels at all 144 modeled receiver locations in the Project area. The modeled receiver locations are shown in Figure 2.13.1. Table 2.13.C shows the existing traffic noise levels at the modeled receiver locations.

Interior and exterior noise level measurements were conducted at Grand Terrace Elementary School to determine the existing exterior-to-interior noise level reduction. The classroom building closest to I-215 was evaluated to ensure that the interior noise standard of 52 A-weighted decibels (dBA) equivalent continuous noise level (L_{eq}) NAC is preserved. Table 2.13.D shows the results of the exterior and interior noise level measurements and the existing exterior-to-interior noise level reduction.

LEGEND

- Existing Sound Barriers
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Monitoring Locations
- Modeled Receiver Locations
- 24-hour Noise Monitoring Location
- Exterior/Interior Noise Monitoring Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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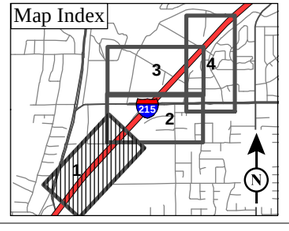

FIGURE 2.13.1

Sheet 1 of 4

I-215/Barton Road Interchange Improvement Project

Monitoring and Receiver Locations

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LEGEND

- Existing Sound Barriers
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Monitoring Locations
- Modeled Receiver Locations
- 24-hour Noise Monitoring Location
- Exterior/Interior Noise Monitoring Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200 FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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Map Index

FIGURE 2.13.1

Sheet 2 of 4

I-215/Barton Road Interchange Improvement Project

Monitoring and Receiver Locations

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LEGEND

- Existing Sound Barriers
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Monitoring Locations
- Modeled Receiver Locations
- 24-hour Noise Monitoring Location
- Exterior/Interior Noise Monitoring Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200 FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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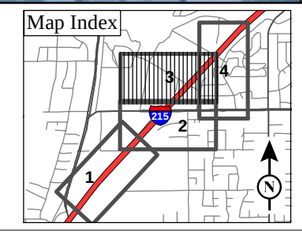

FIGURE 2.13.1

Sheet 3 of 4

I-215/Barton Road Interchange Improvement Project

Monitoring and Receiver Locations

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LEGEND

- Existing Sound Barriers
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Monitoring Locations
- Modeled Receiver Locations
- 24-hour Noise Monitoring Location
- Exterior/Interior Noise Monitoring Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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Map Index

FIGURE 2.13.1

Sheet 4 of 4

I-215/Barton Road Interchange Improvement Project

Monitoring and Receiver Locations

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Table 2.13.C Existing Noise Levels

Receiver No.	Location	Type of Land Use	No. of Units Represented	Noise Abatement Category (NAC)	Adjusted Existing Noise Level[1] (dBA L_{eq})
R-1	De Berry Street	Residential	3	B(67)	65
R-2	De Berry Street	Residential	1	B(67)	53
R-3	Rene Lane	Residential	1	B(67)	51
R-4	De Berry Street	Residential	1	B(67)	51
R-5	De Berry Street	Residential	1	B(67)	51
R-6	Rene Lane	Residential	1	B(67)	50
R-7	Rene Lane	Residential	1	B(67)	49
R-8	Rene Lane	Residential	1	B(67)	50
R-9	Rene Lane	Residential	1	B(67)	52
R-10	Rene Lane	Residential	2	B(67)	56
R-11	Michigan Street	Residential	1	B(67)	55
R-12	Michigan Street	Residential	1	B(67)	54
R-13	Michigan Street	Residential	1	B(67)	55
R-14	Michigan Street	Residential	1	B(67)	49
R-15	Michigan Street	Residential	1	B(67)	47
R-16	Michigan Street	Residential	1	B(67)	49
R-17	Barton Road	Residential	3	B(67)	59
R-18	Barton Road	Residential	1	B(67)	58
R-19	Barton Road	Residential	2	B(67)	61
R-20	Barton Road	Residential	2	B(67)	56
R-21	Barton Road	Residential	2	B(67)	58
R-22	Grand Terrace Elementary School	School	1[2]	C(67)	57
R-23	Grand Terrace Elementary School	School	3[2]	C(67)	**68**[3]
R-24	Grand Terrace Elementary School	School	3[2]	C(67)	**70**
R-25	Grand Terrace Elementary School	School	3[2]	C(67)	**73**
R-26	Vivienda Avenue	Residential	1	B(67)	61
R-27	Vivienda Court	Residential	1	B(67)	**70**
R-28	Vivienda Court	Residential	1	B(67)	**74**
R-29	Vivienda Avenue	Residential	2	B(67)	**69**
R-30	Vivienda Avenue	Residential	2	B(67)	**68**
R-31	Vivienda Avenue	Residential	2	B(67)	**67**
R-32	Vivienda Avenue	Residential	1	B(67)	**69**
R-33	Vivienda Avenue	Residential	1	B(67)	62
R-34	Pascal Avenue	Residential	2	B(67)	64
R-35	Pascal Avenue	Residential	2	B(67)	**74**
R-36	Pascal Avenue	Residential	3	B(67)	53
R-37	Pascal Avenue	Residential	2	B(67)	55
R-38	Victoria Street	Residential	2	B(67)	56
R-39	Victoria Street	Residential	1	B(67)	**73**
R-40	Victoria Street	Residential	1	B(67)	**69**
R-41	Canal Street	Residential	1	B(67)	**66**
R-42	Newport Avenue	Residential	1	B(67)	**68**
R-43	Barton Road	Residential	1	B(67)	56
R-44	Vivienda Avenue	Residential	1	B(67)	56
R-45	McClarren Street	Residential	3	B(67)	55
R-46	Carhart Avenue	Residential	1	B(67)	57
R-47	Carhart Avenue	Residential	1	B(67)	53
R-48	Carhart Avenue	Residential	2	B(67)	57
R-49	Vivienda Avenue	Residential	2	B(67)	52
R-50	Pascal Avenue	Residential	2	B(67)	57
R-51	Pascal Avenue	Residential	3	B(67)	55
R-52	Canal Street	Apartment	6	B(67)	50
R-53	Canal Street	Apartment	8	B(67)	55
R-54	Canal Street	Apartment	6	B(67)	57
R-55	Canal Street	Apartment	8	B(67)	52

Table 2.13.C Existing Noise Levels (Continued)

Receiver No.	Location	Type of Land Use	No. of Units Represented	Noise Abatement Category (NAC)	Adjusted Existing Noise Level[1] (dBA L_{eq})
R-56	Canal Street	Apartment	8	B(67)	55
R-57	Canal Street	Apartment	8	B(67)	54
R-58	Canal Street	Apartment	8	B(67)	54
R-59	Canal Street	Residential	8	B(67)	54
R-60	Grand Terrace Road	RV Park	1	B(67)	60
R-61	Grand Terrace Road	RV Park	9	B(67)	60
R-62	Grand Terrace Road	RV Park	8	B(67)	60
R-63	Grand Terrace Road	RV Park	8	B(67)	60
R-64	Grand Terrace Road	RV Park	8	B(67)	59
R-65	Grand Terrace Road	RV Park	8	B(67)	59
R-66	Grand Terrace Road	RV Park	9	B(67)	59
R-67	Vivienda Avenue	Residential	1	B(67)	**69**
R-68	La Crosse Avenue	Residential	1	B(67)	**69**
R-69	La Crosse Avenue	Residential	1	B(67)	**70**
R-70	Grand Terrace Road	Mobile Home	4	B(67)	62
R-71	Grand Terrace Road	Mobile Home	3	B(67)	60
R-72	Grand Terrace Road	Mobile Home	2	B(67)	60
R-73	Grand Terrace Road	Mobile Home	4	B(67)	59
R-74	Grand Terrace Road	Mobile Home	2	B(67)	60
R-75	Grand Terrace Road	Mobile Home	4	B(67)	59
R-76	Grand Terrace Road	Mobile Home	4	B(67)	59
R-77	Grand Terrace Road	Mobile Home	4	B(67)	63
R-78	Grand Terrace Road	Mobile Home	4	B(67)	60
R-79	Grand Terrace Road	Mobile Home	3	B(67)	60
R-80	Grand Terrace Road	Mobile Home	4	B(67)	60
R-81	Grand Terrace Road	Mobile Home	3	B(67)	59
R-82	Grand Terrace Road	Mobile Home	3	B(67)	59
R-83	Grand Terrace Road	Mobile Home	2	B(67)	63
R-84	Grand Terrace Road	Mobile Home	3	B(67)	60
R-85	Grand Terrace Road	Mobile Home	3	B(67)	61
R-86	Grand Terrace Road	Mobile Home	4	B(67)	60
R-87	Grand Terrace Road	Mobile Home	1	B(67)	60
R-88	Grand Terrace Road	Mobile Home	3	B(67)	59
R-89	Grand Terrace Road	Mobile Home	1	B(67)	59
R-90	Vivienda Avenue	Residential	1	B(67)	61
R-91	Vivienda Avenue	Residential	1	B(67)	60
R-92	Vivienda Avenue	Residential	1	B(67)	60
R-93	Grand Terrace Road	Residential	1	B(67)	58
R-94	Grand Terrace Road	Residential	1	B(67)	58
R-95	Grand Terrace Road	Residential	1	B(67)	58
R-96	Grand Terrace Road	Residential	1	B(67)	58
R-97	Grand Terrace Road	Residential	1	B(67)	58
R-98	Grand Terrace Road	Residential	1	B(67)	58
R-99	Grand Terrace Road	Residential	2	B(67)	58
R-100	Grand Terrace Road	Residential	2	B(67)	58
R-101	Grand Terrace Road	Residential	1	B(67)	59
R-102	Grand Terrace Road	Residential	1	B(67)	59
R-103	Grand Terrace Road	Residential	1	B(67)	59
R-104	Grand Terrace Road	Residential	1	B(67)	59
R-105	Grand Terrace Road	Residential	1	B(67)	59
R-106	Grand Terrace Road	Residential	1	B(67)	59
R-107	Grand Terrace Road	Residential	1	B(67)	62
R-108	Vivienda Avenue	Residential	1	B(67)	60
R-109	Vivienda Avenue	Residential	1	B(67)	62
R-110	Vivienda Avenue	Residential	2	B(67)	63
R-111	Vivienda Avenue	Residential	1	B(67)	65
R-112	Vivienda Avenue	Residential	1	B(67)	**70**
R-113	Newport Avenue	Mobile Home	2	B(67)	63

Table 2.13.C Existing Noise Levels (Continued)

Receiver No.	Location	Type of Land Use	No. of Units Represented	Noise Abatement Category (NAC)	Adjusted Existing Noise Level[1] (dBA L_{eq})
R-114	Newport Avenue	Mobile Home	2	B(67)	62
R-115	Newport Avenue	Mobile Home	2	B(67)	**66**
R-116	Newport Avenue	Mobile Home	2	B(67)	**66**
R-117	Newport Avenue	Mobile Home	2	B(67)	63
R-118	Newport Avenue	Mobile Home	2	B(67)	60
R-119	Newport Avenue	Mobile Home	2	B(67)	60
R-120	Newport Avenue	Mobile Home	1	B(67)	59
R-121	Newport Avenue	Mobile Home	5	B(67)	64
R-122	Newport Avenue	Mobile Home	2	B(67)	63
R-123	Newport Avenue	Mobile Home	1	B(67)	64
R-124	Newport Avenue	Mobile Home	2	B(67)	61
R-125	Newport Avenue	Mobile Home	4	B(67)	60
R-126	Newport Avenue	Mobile Home	3	B(67)	60
R-127	Newport Avenue	Mobile Home	4	B(67)	59
R-128	Newport Avenue	Mobile Home	3	B(67)	59
R-129	Newport Avenue	Mobile Home	4	B(67)	59
R-130	Newport Avenue	Mobile Home	3	B(67)	59
R-131	Taylor Street	Light Industrial	1	F	68
R-132	S. Iowa Avenue	Commercial	1	F	70
R-133	De Berry Street	Light Industrial	1	F	73
R-134	De Berry Street	Vacant Land	1	G	69
R-135	De Berry Street	Light Industrial	1	F	72
R-136	La Crosse Avenue	Light Industrial	1	F	72
R-137	Commerce Way	Light Industrial	1	F	63
R-138	Michigan Avenue	Light Industrial	1	F	53
R-139	Barton Road	Light Industrial	1	F	58
R-140	Barton Road	Light Industrial	1	F	61
R-141	Barton Road	Commercial	1	F	61
R-142	Barton Road	Commercial	1	F	66
R-143	Barton Road	Restaurant	1	E(72)	66
R-144	Newport Avenue	Utilities	1	F	60

Source: *Noise Study Report* (February 2012).

[1] The adjusted noise level is the result of the existing traffic noise modeling, which is based on measured existing noise levels.

[2] 100 ft frontage units were used to calculate the number of units represented for nonresidential land uses per the Caltrans Traffic Noise Analysis Protocol (August 2006).

[3] Numbers in **bold** represent noise levels that approach or exceed the NAC for that specific land use.

2.13.3 Environmental Consequences

The proposed Project is considered a Type 1 Project because it would use federal aid to improve the existing Interstate 215 (I-215)/Barton Road interchange by adding a through lane on Barton Road and substantially altering the vertical and horizontal alignment of the Barton Road interchange. A noise analysis is required for all Type 1 Projects. Therefore, noise impacts of the Build Alternatives are analyzed below.

Table 2.13.D Exterior/Interior Noise Monitoring Results

Receiver	Exterior (dBA L_{eq})	Interior (dBA L_{eq})	Exterior to Interior Noise Level Reduction	Land Use Description
EI-1	64.9	42.7	22.2	12066 Vivienda Avenue; Grand Terrace Elementary School; classroom building closest to the I-215

Source: *Noise Study Report* (February 2012).

Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Because the No Build Alternative would not result in construction activities in the Project area, no temporary noise impacts would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Two types of short-term noise impacts would occur during Project construction. The first type would be from construction crew commutes and the transport of construction equipment and materials to the Project site and would incrementally raise noise levels on access roads leading to the site. The pieces of heavy equipment for grading and construction activities will be moved on site, will remain for the duration of each construction phase, and will not add to the daily traffic volume in the Project vicinity. A high single-event noise exposure potential at a maximum level of 87 maximum instantaneous sound level (L_{max}) measured in dBA from trucks passing at 50 feet (ft) will exist. However, the projected construction traffic will be minimal when compared to existing traffic volumes on I-215 and other affected streets, and its associated long-term noise level change will not be perceptible. Therefore, short-term construction-related worker commutes and equipment transport noise impacts would be less than substantial.

The second type of short-term noise impact is related to noise generated during roadway construction. Construction is performed in distinct steps, each of which has its own mix of equipment and consequently its own noise characteristics. These various sequential phases would change the character of the noise generated and the noise levels along the Project alignment as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 2.13.E lists typical construction equipment noise

Table 2.13.E Typical Construction Equipment Noise Levels

Type of Equipment	Range of Maximum Sound Levels (dBA L_{max} at 50 ft)	Suggested Maximum Sound Levels for Analysis (dBA L_{max} at 50 ft)
Pile drivers	81–96	93
Rock drills	83–99	96
Jackhammers	75–85	82
Pneumatic tools	78–88	85
Pumps	74–84	80
Scrapers	83–91	87
Haul trucks	83–94	88
Cranes	79–86	82
Portable generators	71–87	80
Rollers	75–82	80
Dozers	77–90	85
Tractors	77–82	80
Front-end loaders	77–90	86
Hydraulic backhoe	81–90	86
Hydraulic excavators	81–90	86
Graders	79–89	86
Air compressors	76–89	86
Trucks	81–87	86

Source: *Noise Study Report* (February 2012).

levels (L_{max}) recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receiver.

Typical noise levels at 50 ft from an active construction area range up to 91 dBA L_{max} during the noisiest construction phases. The site preparation phase, which includes grading and paving, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes machinery such as graders, scrapers, excavators, bulldozers, compactors, and front loaders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings.

Noise associated with the use of construction equipment is estimated between 79 and 89 dBA L_{max} at a distance of 50 ft from the active construction area for the grading phase. As seen in Table 2.13.E, the maximum noise level generated by each earthmover is assumed to be approximately 86 dBA L_{max} at 50 ft from the earthmover in operation. Each bulldozer would generate approximately 85 dBA L_{max} at 50 ft.

The maximum noise level generated by water trucks and pickup trucks is approximately 86 dBA L_{max} at 50 ft from these vehicles. Each doubling of the sound source with equal strength increases the noise level by 3 dBA. Each piece of construction equipment operates as an individual point source. The worst-case composite noise level at the nearest residence during this phase of construction would be 91 dBA L_{max} (at a distance of 50 ft from an active construction area).

In addition to standard construction equipment, the Project may require the use of pile drivers. As shown in Table 2.13.E, pile driving generates noise levels of approximately 93 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 95 dBA L_{max} at a distance of 50 ft.

The closest sensitive receiver locations are located 50 ft from the Project construction areas. Therefore, these receiver locations may be subject to short-term noise reaching 95 dBA L_{max} generated by construction activities along the Project alignment. Measures N-1 and N-2 require compliance with the construction hours specified in the City of Colton Bid and Contract template, and the City of Grand Terrace Municipal Code would be required for work within each City's boundaries, respectively, as well as adherence to the California Department of Transportation (Caltrans) Standard Special Provisions (SSP) to minimize construction noise for work within State right-of-way. With compliance with Measures N-1 and N-2, the short-term noise impacts during Project construction would not be substantial.

Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. Potential long-term noise impacts from the I-215 Bi-County HOV Lane Gap Closure Project would be solely from traffic noise due to the freeway widening, which would increase capacity on the freeway in the Project area. Two sound barriers would be constructed: (1) along State right-of-way adjacent to Grand Terrace Elementary School; and (2) along State right-of-way, adjacent to Grand Royale Mobile Estates on Newport Avenue. Table 2.13.F shows the predicted noise levels for the No Build Alternative with and without the I-215 Bi-County HOV Lane Gap Closure Project sound barriers. As seen in the table, the I-215 Bi-County HOV Lane Gap Closure

Table 2.13.F Alternative 1 Predicted Noise Levels (2040) (dBA L_{eq})

Receptor No.	Location	Existing Noise Levels[1]	Future No Build (Without Sound Barriers)[2]	Future No Build (With Sound Barriers)[3]	Noise Level Reduction[4]
R-1	De Berry Street	65	**66**[4]	**66**	0
R-2	Barton Road	53	55	55	0
R-3	Vivienda Avenue	51	53	53	0
R-4	Vivienda Avenue	51	54	54	0
R-5	Vivienda Avenue	51	53	53	0
R-6	Vivienda Avenue	50	53	53	0
R-7	Vivienda Court	49	53	53	0
R-8	Vivienda Court	50	54	54	0
R-9	Vivienda Avenue	52	57	57	0
R-10	Vivienda Avenue	56	62	62	0
R-11	Vivienda Avenue	55	60	60	0
R-12	Vivienda Avenue	54	59	59	0
R-13	Vivienda Avenue	55	60	60	0
R-14	Pascal Avenue	49	54	53	1
R-15	Pascal Avenue	47	51	51	0
R-16	Pascal Avenue	49	53	53	0
R-17	Pascal Avenue	59	62	62	0
R-18	Victoria Street	58	61	60	1
R-19	Carhart Avenue	61	64	64	0
R-20	Carhart Avenue	56	59	58	1
R-21	Carhart Avenue	58	61	60	1
R-22	Grand Terrace Elementary School	57	65	64	1
R-23	Grand Terrace Elementary School	**68**	**69**	60	9
R-24	Grand Terrace Elementary School	**70**	**71**	60	11
R-25	Grand Terrace Elementary School	**73**	**74**	61	13
R-26	Grand Terrace Road	61	63	59	4
R-27	Grand Terrace Road	**70**	**71**	61	10
R-28	Grand Terrace Road	**74**	**75**	62	13
R-29	Vivienda Avenue	**69**	**70**	61	9
R-30	La Crosse Avenue	**68**	**69**	62	7
R-31	Grand Terrace Road	**67**	**68**	62	6
R-32	Grand Terrace Road	**69**	**70**	63	7
R-33	Grand Terrace Road	62	63	56	7
R-34	Grand Terrace Road	64	65	60	5
R-35	Grand Terrace Road	**74**	**75**	63	12
R-36	Vivienda Avenue	53	54	49	5
R-37	Vivienda Avenue	55	55	50	5
R-38	Vivienda Avenue	56	56	52	4
R-39	Vivienda Avenue	**73**	**73**	62	11
R-40	Newport Avenue	**69**	**69**	60	9
R-41	Newport Avenue	**66**	**66**	59	7
R-42	Newport Avenue	**68**	**69**	62	7
R-43	Newport Avenue	56	62	61	1
R-44	Newport Avenue	56	60	58	2
R-45	Newport Avenue	55	59	56	3
R-46	Newport Avenue	57	59	54	5
R-47	Newport Avenue	53	54	51	3
R-48	Newport Avenue	57	58	53	5
R-49	Newport Avenue	52	53	50	3
R-50	Newport Avenue	57	58	53	5
R-51	Newport Avenue	55	56	51	5
R-52	De Berry Street	50	51	48	3
R-53	Barton Road	55	56	51	5
R-54	Vivienda Avenue	57	58	54	4
R-55	Vivienda Avenue	52	54	52	2
R-56	Vivienda Avenue	55	57	56	1

Table 2.13.F Alternative 1 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Receptor No.	Location	Existing Noise Levels[1]	Future No Build (Without Sound Barriers)[2]	Future No Build (With Sound Barriers)[3]	Noise Level Reduction[4]
R-57	Vivienda Avenue	54	55	55	0
R-58	Vivienda Court	54	55	55	0
R-59	Vivienda Court	54	55	55	0
R-60	Vivienda Avenue	60	61	61	0
R-61	Vivienda Avenue	60	60	60	0
R-62	Vivienda Avenue	60	60	60	0
R-63	Vivienda Avenue	60	60	60	0
R-64	Vivienda Avenue	59	60	60	0
R-65	Pascal Avenue	59	60	60	0
R-66	Pascal Avenue	59	60	60	0
R-67	Pascal Avenue	**69**	**70**	61	9
R-68	Pascal Avenue	**69**	**70**	62	8
R-69	Victoria Street	**70**	**71**	62	9
R-70	Carhart Avenue	62	63	63	0
R-71	Carhart Avenue	60	61	61	0
R-72	Carhart Avenue	60	61	60	1
R-73	Vivienda Avenue	59	60	60	0
R-74	Pascal Avenue	60	60	59	1
R-75	Grand Terrace Road	59	59	59	0
R-76	Grand Terrace Road	59	60	60	0
R-77	Grand Terrace Road	63	64	64	0
R-78	Grand Terrace Road	60	61	61	0
R-79	Grand Terrace Road	60	60	60	0
R-80	Vivienda Avenue	60	60	60	0
R-81	La Crosse Avenue	59	60	60	0
R-82	Grand Terrace Road	59	60	60	0
R-83	Grand Terrace Road	63	**66**	**66**	0
R-84	Grand Terrace Road	60	63	63	0
R-85	Grand Terrace Road	61	61	61	0
R-86	Grand Terrace Road	60	62	62	0
R-87	Vivienda Avenue	60	61	61	0
R-88	Vivienda Avenue	59	61	61	0
R-89	Vivienda Avenue	59	61	61	0
R-90	Vivienda Avenue	61	62	59	3
R-91	Newport Avenue	60	61	59	2
R-92	Newport Avenue	60	60	59	1
R-93	Newport Avenue	58	58	58	0
R-94	Newport Avenue	58	58	58	0
R-95	Newport Avenue	58	58	58	0
R-96	Newport Avenue	58	58	58	0
R-97	Newport Avenue	58	58	58	0
R-98	Newport Avenue	58	58	58	0
R-99	Newport Avenue	58	58	58	0
R-100	Newport Avenue	58	59	59	0
R-101	Newport Avenue	59	59	59	0
R-102	Newport Avenue	59	59	59	0
R-103	De Berry Street	59	59	59	0
R-104	Barton Road	59	59	59	0
R-105	Vivienda Avenue	59	59	59	0
R-106	Vivienda Avenue	59	60	60	0
R-107	Vivienda Avenue	62	63	63	0
R-108	Vivienda Avenue	60	61	59	2
R-109	Vivienda Court	62	63	59	4
R-110	Vivienda Court	63	64	59	5
R-111	Vivienda Avenue	65	**66**	60	6
R-112	Vivienda Avenue	**70**	**71**	61	10
R-113	Vivienda Avenue	63	64	60	4
R-114	Vivienda Avenue	62	63	59	4

Table 2.13.F Alternative 1 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Receptor No.	Location	Existing Noise Levels[1]	Future No Build (Without Sound Barriers)[2]	Future No Build (With Sound Barriers)[3]	Noise Level Reduction[4]
R-115	Vivienda Avenue	**66**	**66**	60	6
R-116	Pascal Avenue	**66**	**66**	60	6
R-117	Pascal Avenue	63	63	60	3
R-118	Pascal Avenue	60	60	59	1
R-119	Pascal Avenue	60	60	59	1
R-120	Victoria Street	59	59	59	0
R-121	Carhart Avenue	64	64	59	5
R-122	Carhart Avenue	63	64	59	5
R-123	Carhart Avenue	64	65	60	5
R-124	Vivienda Avenue	61	62	59	3
R-125	Pascal Avenue	60	60	59	1
R-126	Grand Terrace Road	60	60	59	1
R-127	Grand Terrace Road	59	59	58	1
R-128	Grand Terrace Road	59	59	58	1
R-129	Grand Terrace Road	59	59	58	1
R-130	Grand Terrace Road	59	59	59	0
R-131	Vivienda Avenue	68	70	70	0
R-132	La Crosse Avenue	70	71	71	0
R-133	Grand Terrace Road	73	74	74	0
R-134	Grand Terrace Road	69	70	70	0
R-135	Grand Terrace Road	72	74	74	0
R-136	Grand Terrace Road	72	73	73	0
R-137	Grand Terrace Road	63	64	64	0
R-138	Vivienda Avenue	53	55	55	0
R-139	Vivienda Avenue	58	60	60	0
R-140	Vivienda Avenue	61	62	62	0
R-141	Vivienda Avenue	61	62	62	0
R-142	Newport Avenue	66	70	70	0
R-143	Newport Avenue	66	70	70	0
R-144	Newport Avenue	60	60	59	1

Source: LSA Associates, Inc. (September 2013).

1 The existing traffic noise levels were calculated using short-term noise levels measurement, concurrent traffic counts, and the 24-hour noise level measurement.

2 I-215/Barton Road Interchange Future No Build without sound barriers from the I-215 Bi-County HOV Lane Gap Closure Project.

3 I-215/Barton Road Interchange Future No Build with sound barriers from the I-215 Bi-County HOV Lane Gap Closure Project.

4 Numbers in **bold** represent noise levels that approach or exceed the NAC.

5 Change in noise level from the I-215 Bi-County HOV Lane Gap Closure Project sound barriers.

Project sound barriers would reduce noise levels at affected receivers within the I-215/Barton Road Interchange Improvement Project area from 0 to 13 dBA in 2040.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Potential long-term noise impacts associated with Project operations are solely from traffic noise. Traffic noise impacts occur when either of the following occurs: (1) if the traffic noise level at a sensitive receiver location is predicted to “approach or exceed” it’s NAC, or (2) if the predicted traffic noise level is 12 dBA or more over its

corresponding modeled existing noise level at the sensitive receiver locations analyzed. When traffic noise impacts occur, noise abatement measures must be considered.

Traffic noise was evaluated for the worst-case traffic condition. Future traffic noise levels for all three Build Alternatives (Alternatives 3, 6, and Modified Alternative 7) at up to 144 receiver locations were determined with existing walls using the worst-case traffic operations (prior to speed degradation) or the future 2040 peak-hour traffic volumes obtained from the Traffic Operations Analysis (December 2011), whichever was lower, because traffic noise is generally loudest when vehicles on a given roadway travel at free-flowing traffic conditions. Therefore, these worst-case traffic volume assumptions are based on the maximum number of vehicles that can typically travel in a given lane while still resulting in free-flowing traffic conditions.

Modeling of the future traffic noise levels was based on existing walls and topography. Even though the I-215 Bi-County HOV Lane Gap Closure Project will construct two sound barriers in the Project area, the noise modeling for future conditions did not assume construction of these sound barriers, in order to determine the worst-case noise levels for each of the Build Alternatives (refer to the "Predicted Noise Levels Without Project" and "With Project" columns in Tables 2.13.G, 2.13.I, and 2.13.J, later in this section). Sound barriers were independently analyzed for receivers that would approach or exceed the NAC in 2040 (design year for the I-215/ Barton Road Interchange Improvement Project).

As shown in Tables 2.13.A and 2.13.C, Receivers R-131 through R-142 and R-144 do not have an NAC; these receivers are included to report the highest expected noise levels in these areas.

Alternative 3 (Partial Cloverleaf Interchange)

Long-Term Exterior Noise Impacts

The existing and future-worst-case traffic noise level results for Alternative 3 are shown in Table 2.13.G; 16 receivers would approach or exceed the NAC under Alternative 3.

The following receiver locations would be or would continue to be exposed to noise levels that approach or exceed the NAC under Activity Categories B, C, D, and E under Alternative 3:

Table 2.13.G Alternative 3 Predicted Noise Levels (2040) (dBA L_{eq})

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
1a & 1b	R-1	De Berry Street	65	**66**[2]	**67**	1	2	Yes	**66**	**66**	65	63	62[3]	61	No
	R-2	De Berry Street	53	55	58	3	5	No	-	-	-	-	-	-	-
	R-3	Rene Lane	51	53	56	3	5	No	-	-	-	-	-	-	-
	R-4	De Berry Street	51	54	56	2	5	No	-	-	-	-	-	-	-
	R-5	De Berry Street	51	53	55	2	4	No	-	-	-	-	-	-	-
	R-6	Rene Lane	50	53	56	3	6	No	-	-	-	-	-	-	-
	R-7	Rene Lane	49	53	55	2	6	No	-	-	-	-	-	-	-
	R-8	Rene Lane	50	54	54	0	4	No	-	-	-	-	-	-	-
	R-9	Rene Lane	52	57	54	-3	2	No	-	-	-	-	-	-	-
	R-10	Rene Lane	56	62	54	-8	-2	No	-	-	-	-	-	-	-
	R-11	Michigan Street	55	60	54	-6	-1	No	-	-	-	-	-	-	-
	R-12	Michigan Street	54	59	56	-3	2	No	-	-	-	-	-	-	-
	R-13	Michigan Street	55	60	60	0	5	No	-	-	-	-	-	-	-
	R-14	Michigan Street	49	54	53	-1	4	No	-	-	-	-	-	-	-
	R-15	Michigan Street	47	51	53	2	6	No	-	-	-	-	-	-	-
	R-16	Michigan Street	49	53	58	5	9	No	-	-	-	-	-	-	-
	R-17	Barton Road	59	62	65	3	6	No	-	-	-	-	-	-	-
	R-18	Barton Road	58	61	63	2	5	No	-	-	-	-	-	-	-
	R-19	Barton Road	61	64	**66**	2	5	NF[4]	-	-	-	-	-	-	-
	R-20	Barton Road	56	59	61	2	5	No	-	-	-	-	-	-	-
	R-21	Barton Road	58	61	63	2	5	No	-	-	-	-	-	-	-
	R-22	Grand Terrace Elementary School	57	65	65	0	8	No	--[5]	64	64	64	64	NP[6]	Yes (14 ft)[7]
2a & 2b	R-23	Grand Terrace Elementary School	**68**	**69**	**69**	0	1	Yes	64	63	62	61	61	NP	Yes (14 ft)
	R-24	Grand Terrace Elementary School	**70**	**71**	**70**	-1	0	Yes	64	63	62	61	60	NP	Yes (14 ft)
	R-25	Grand Terrace Elementary School	**73**	**74**	**75**	1	2	Yes	**67**	65	63	62	61	NP	Yes (14 ft)
	R-26	Vivienda Avenue	61	63	64	1	3	No	62	61	61	60	60	NP	Yes (14 ft)

Table 2.13.G Alternative 3 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
2a & 2b	R-27	Vivienda Court	**70**	**71**	**71**	0	1	Yes	**66**	65	64	62	61	NP	Yes (14 ft)
	R-28	Vivienda Court	**74**	**75**	**75**	0	1	Yes	**69**	**67**	65	64	63	NP	Yes (14 ft)
	R-29	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	**66**	65	64	62	61	NP	Yes (14 ft)
	R-30	Vivienda Avenue	**68**	**69**	**69**	0	1	Yes	**67**	**67**	**66**	65	64	NP	Yes (14 ft)
	R-31	Vivienda Avenue	**67**	**68**	**68**	0	1	Yes	**67**	65	64	63	62	NP	Yes (14 ft)
	R-32	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	--[5]	**67**	**66**	65	63	NP	Yes (14 ft)
	R-33	Vivienda Avenue	62	63	63	0	1	No	--[5]	60	59	58	57	NP	--
	R-43	Barton Road	56	62	64	2	8	No	--	--	--	--	--	--	--
	R-44	Vivienda Avenue	56	60	62	2	6	No	--	--	--	--	--	--	--
	R-45	McClarren Street	55	59	60	1	5	No	--	--	--	--	--	--	--
2a & 2b	R-46	Carhart Avenue	57	59	59	0	2	No	56	56	56	55	54	NP	Yes (14 ft)
	R-47	Carhart Avenue	53	54	54	0	1	No	53	53	53	52	52	NP	Yes (14 ft)
	R-48	Carhart Avenue	57	58	58	0	1	No	56	56	55	54	53	NP	Yes (14 ft)
	R-49	Vivienda Avenue	52	53	53	0	1	No	52	52	52	51	50	NP	Yes (14 ft)
	R-50	Pascal Avenue	57	58	58	0	1	No	57	56	56	55	54	NP	Yes (14 ft)
	R-51	Pascal Avenue	55	56	56	0	1	No	54	54	54	53	52	NP	Yes (14 ft)
	R-60	Grand Terrace Road	60	61	--[8]	--	--	--	--	--	--	--	--	--	--
	R-61	Grand Terrace Road	60	60	65	5	5	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-62	Grand Terrace Road	60	60	63	3	3	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-63	Grand Terrace Road	60	60	62	2	2	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-64	Grand Terrace Road	59	60	61	1	2	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-65	Grand Terrace Road	59	60	61	1	2	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-66	Grand Terrace Road	59	60	61	1	2	No	--[5]	--[5]	--[5]	--[5]	--	--	--
	R-67	Vivienda Avenue	**69**	**70**	--[8]	--	--	-	--	--	--	--	--	--	--
	R-68	La Crosse Avenue	**69**	**70**	--[8]	--	--	-	--	--	--	--	--	--	--
	R-69	La Crosse Avenue	**70**	**71**	--[8]	--	--	-	--	--	--	--	--	--	--
3	R-70	Grand Terrace Road	62	63	**66**	3	4	Yes	--[5]	65	64	63	62	62	No
	R-71	Grand Terrace Road	60	61	64	3	4	No	--[5]	63	63	62	62	62	No
	R-72	Grand Terrace Road	60	61	63	2	3	No	--[5]	--	--	--	--	--	--
	R-73	Grand Terrace Road	59	60	61	1	2	No	--[5]	--	--	--	--	--	--

Table 2.13.G Alternative 3 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-74	Grand Terrace Road	60	60	61	1	1	No	--[5]	--	--	--	--	--	--
	R-75	Grand Terrace Road	59	59	60	1	1	No	--[5]	--	--	--	--	--	--
	R-76	Grand Terrace Road	59	60	60	0	1	No	--[5]	--	--	--	--	--	--
3	R-77	Grand Terrace Road	63	64	**66**	2	3	Yes	--[5]	64	63	63	62	62	No
	R-78	Grand Terrace Road	60	61	65	4	5	No	--[5]	63	63	62	62	62	No
	R-79	Grand Terrace Road	60	60	62	2	2	No	--[5]	--	--	--	--	--	--
	R-80	Grand Terrace Road	60	60	61	1	1	No	--[5]	--	--	--	--	--	--
	R-81	Grand Terrace Road	59	60	61	1	2	No	--[5]	--	--	--	--	--	--
	R-82	Grand Terrace Road	59	60	60	0	1	No	--[5]	--	--	--	--	--	--
3	R-83	Grand Terrace Road	63	**66**	**67**	1	4	Yes	--[5]	63	63	62	62	61	No
	R-84	Grand Terrace Road	60	63	63	0	3	No	--[5]	62	61	61	61	61	No
	R-85	Grand Terrace Road	61	61	61	0	0	No	--[5]	--	--	--	--	--	--
	R-86	Grand Terrace Road	60	62	61	-1	1	No	--[5]	--	--	--	--	--	--
	R-87	Grand Terrace Road	60	61	60	-1	0	No	--[5]	--	--	--	--	--	--
	R-88	Grand Terrace Road	59	61	61	0	2	No	--[5]	--	--	--	--	--	--
	R-89	Grand Terrace Road	59	61	61	0	2	No	--[5]	--	--	--	--	--	--
	R-90	Vivienda Avenue	61	62	61	-1	0	No	--	--	--	--	--	--	--
	R-91	Vivienda Avenue	60	61	61	0	1	No	--	--	--	--	--	--	--
	R-92	Vivienda Avenue	60	60	60	0	0	No	--	--	--	--	--	--	--
	R-93	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-94	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-95	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-96	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-97	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-98	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-99	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-100	Grand Terrace Road	58	59	59	0	1	No	--	--	--	--	--	--	--
	R-101	Grand Terrace Road	59	59	--[8]	--	--	-	--	--	--	--	--	--	--
	R-102	Grand Terrace Road	59	59	--[8]	--	--	-	--	--	--	--	--	--	--

Table 2.13.G Alternative 3 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-103	Grand Terrace Road	59	59	--[8]	--	--	-	--	--	--	--	--	--	--
	R-104	Grand Terrace Road	59	59	--[8]	--	--	-	--	--	--	--	--	--	--
	R-105	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
3	R-106	Grand Terrace Road	59	60	60	0	1	No	59	59	59	59	59	59	No
	R-107	Grand Terrace Road	62	63	64	1	2	No	61	60	60	59	59	59	No
	R-108	Vivienda Avenue	60	61	60	-1	0	No	--	--	--	--	--	--	--
	R-109	Vivienda Avenue	62	63	62	-1	0	No	--	--	--	--	--	--	--
	R-110	Vivienda Avenue	63	64	63	-1	0	No	--	--	--	--	--	--	--
	R-111	Vivienda Avenue	65	**66**	65	-1	0	No	--	--	--	--	--	--	--
	R-112	Vivienda Avenue	**70**	**71**	--[8]	--	--	-	--	--	--	--	--	--	--
	R-113	Newport Avenue	63	64	64	0	1	No	64	64	64	64	64	NP	No
4	R-114	Newport Avenue	62	63	62	-1	0	No	62	62	62	62	61	NP	No
	R-115	Newport Avenue	**66**	**66**	**67**	1	1	Yes	**66**	65	64	63	63	NP	No
5	R-115[9]	Newport Avenue	**66**	**66**	**67**	1	1	Yes	64	62	60	60	59	59	Yes (16ft)
	R-121	Newport Avenue	64	64	65	1	1	No	64	64	64	63	63	NP	No
4	R-122	Newport Avenue	63	64	64	0	1	No	63	63	63	62	62	NP	No
	R-123	Newport Avenue	64	65	65	0	1	No	65	64	64	63	62	NP	No
5	R-123[9]	Newport Avenue	64	65	65	0	1	No	64	61	60	60	59	59	Yes (16ft)
4	R-124	Newport Avenue	61	62	62	0	1	No	62	61	61	61	61	NP	No
	R-131	Taylor Street	68	70	71	1	3	No	--	--	--	--	--	--	--
	R-132	S. Iowa Avenue	70	71	72	1	2	No	--	--	--	--	--	--	--
	R-133	De Berry Street	73	74	75	1	2	No	--	--	--	--	--	--	--
	R-134	De Berry Street	69	70	70	0	1	No	--	--	--	--	--	--	--
	R-135	De Berry Street	72	74	74	0	2	No	--	--	--	--	--	--	--
	R-136	La Crosse Avenue	72	73	75	2	3	No	--	--	--	--	--	--	--
	R-137	Commerce Way	63	64	--[8]	--	--	-	--	--	--	--	--	--	--
	R-138	Michigan Avenue	53	55	63	8	10	No	--	--	--	--	--	--	--
	R-139	Barton Road	58	60	62	2	4	No	--	--	--	--	--	--	--
	R-140	Barton Road	61	62	66	4	5	No	--	--	--	--	--	--	--

Table 2.13.G Alternative 3 Predicted Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-141	Barton Road	61	62	66	4	5	No	--	--	--	--	--	--	--
	R-142	Barton Road	66	70	76	6	10	No	--	--	--	--	--	--	--
	R-143	Barton Road	66	70	**73**	3	7	NF[4]	--	--	--	--	--	--	--
2a & 2b	EI	Grand Terrace Elementary School	--	--	**72/50**[10]	--	--	Yes	65/43[10]	63/41[10]	62/40[10]	61/39[10]	60/38[10]	NP	Yes (14ft)

Source: *Noise Study Report* (February 2012).
[1] Receiver Nos. not shown are located beyond the limits of Alternative 3.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC for that specific land use.
[3] Underlined noise levels have been attenuated by at least 5 dBA (i.e., feasible barrier height).
[4] NF = Not Feasible. Although this receiver approaches or exceeds the NAC, it is not feasible to attenuate traffic noise levels with sound barriers due to driveway and pedestrian access to the property.
[5] Shaded area represents the existing wall height.
[6] NP = Not Permitted. Sound barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
[7] Recommended barrier height.
[8] This receiver would be acquired under Alternative 3.
[9] An alternate sound barrier along the property line was evaluated for this receiver.
[10] Exterior/Interior noise level.

- **Receiver R-1:** This receiver location represents an existing residence along De Berry Street on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield this residence. One sound barrier (Sound Barrier [SB] Nos. 1a and 1b) was modeled along the edge of shoulder to shield this residence. SB Nos. 1a and 1b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receiver R-19:** This receiver location represents single-family residences along Barton Road, east of Vivienda Avenue. Currently, there are no existing walls that shield these residences. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.
- **Receivers R-23 through R-25, and R-27 through R-32:** These receiver locations represent existing residences and the playground associated with the Grand Terrace Elementary School located along Vivienda Avenue, Vivienda Court, and Pascal Avenue on the east side of I-215 between Barton Road and Newport Avenue. An existing 5 to 7 ft high wall (Existing Wall [EW] No. 6) along the residential property line currently shields these residences. Currently, there are no existing walls that shield the school playground from I-215. One sound barrier (SB Nos. 2a and 2b) along the State right-of-way was modeled to shield these residences and the school playground. SB Nos. 2a and 2b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receivers R-70, R-77, and R-83:** These receiver locations represent existing mobile homes on the northeastern corner of Barton Road and Grand Terrace Road. An existing 5.3 to 6 ft high wall (EW No. 5) along the residential property line currently shields the mobile homes. One sound barrier (SB No. 3) along the State right-of-way was modeled to shield these mobile homes.
- **Receiver R-115:** This receiver location represents mobile homes along the west side of I-215 between Vivienda Avenue and Newport Avenue. Two existing 5.3 ft high walls (EW Nos. 7 and 8) along the residential property line currently shield these mobile homes. Two sound barriers were modeled separately at two different locations to shield these mobile homes. One sound barrier (SB No. 4) was modeled along the edge of shoulder and the other sound barrier (SB No. 5) was modeled along the residential property line. Sound barrier effectiveness at the two different locations was evaluated.

- **Receiver R-143:** This receiver location represents a fast-food restaurant with an outdoor eating area located on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield the outdoor eating area. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.

Interior Noise Impacts

An interior noise analysis was conducted at the Grand Terrace Elementary School to evaluate classroom buildings under the Activity Category D (52) and to meet the requirements of Section 216 of the California Streets and Highways Code, which requires an interior noise analysis at public or private elementary or secondary schools. Grand Terrace Elementary School was the only location analyzed because it is the only school in the vicinity of the Project area. Figure 2.13.1 shows the location of the interior noise evaluation. As shown previously in Table 2.13.D, the calculated existing exterior-to-interior noise level attenuation for the school classroom building is 22.2 dBA. This noise reduction is a result of exterior noise being partly shielded by the classroom building structure (walls, doors, and windows, etc.).

Table 2.13.H shows that the predicted exterior traffic noise level would be 72.2 under Alternative 3. By reducing the predicted exterior noise level by the measured existing exterior to interior noise level attenuation of 22.2 dBA, the predicted future classroom interior noise level would be 50.0. Therefore, the interior noise levels would not approach or exceed the 52 dBA equivalent continuous sound level (L_{eq}) NAC under Alternative 3. Although the interior noise levels in the classroom buildings closest to I-215 would not approach or exceed the NAC, SB Nos. 2a & 2b were analyzed to shield classroom buildings closest to I-215 freeway.

Table 2.13.H Predicted Future Interior Noise Levels (dBA)

Receiver	Exterior to Interior Reduction[1]	Alternative 1		Alternative 3		Alternative 6		Modified Alternative 7	
		Exterior	Interior	Exterior	Interior	Exterior	Interior	Exterior	Interior
EI-1	22.2	72.7	50.5	72.2	50.0	72.3	50.1	73.3	51.1

Sources: *Noise Study Report*, February 2012; *Supplemental Noise Study Report* (September 2013).

[1] The exterior-to-interior reduction was calculated based on the simultaneous exterior and interior noise level measurements at Grand Terrace Elementary School.

Alternative 6 (Modified Cloverleaf Interchange)

Long-Term Exterior Noise Impacts

The existing and future-worst-case traffic noise level results for Alternative 6 are shown in Table 2.13.I; a total of 20 receivers would approach or exceed the NAC under Alternative 6.

The following receiver locations would be or would continue to be exposed to noise levels that approach or exceed the NAC under Activity Categories B, C, D, and E under Alternative 6:

- **Receiver R-1:** This receiver location represents an existing residence along De Berry Street on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield this residence. One sound barrier (SB Nos. 11a and 11b) was modeled along the edge of shoulder to shield this residence. SB Nos. 11a and 11b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receiver R-19:** This receiver location represents a single-family residence along Barton Road and east of Vivienda Avenue. Currently, there are no existing walls that shield this residence. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.
- **Receivers R-23 through R-25 and R-27 through R-32:** These receiver locations represent existing residences and the playground associated with Grand Terrace Elementary School located along Vivienda Avenue and Vivienda Court, on the east side of I-215 between Barton Road and Newport Avenue. An existing 6 ft high wall (EW No. 6) along the residential property line currently shields these residences. Currently, there are no existing walls that shield the school playground from I-215. One sound barrier (SB Nos. 12a and 12b) along the State right-of-way was modeled to shield these residences and the school playground. SB Nos. 12a and 12b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receivers R-60, R-70, R-77, and R-83:** These receiver locations represent existing mobile homes and a swimming pool area at Terrace Village RV Park along Grand Terrace Road on the west side of I-215 between Barton Road and Vivienda Avenue. An existing 8 to 12.6 ft high wall (EW No. 4) along Terrace Village RV Park property line currently shields this area. One sound barrier (SB No. 13) was modeled along the State right-of-way to shield the mobile homes and the swimming pool area at the Terrace Village RV Park.

Table 2.13.I Alternative 6 Predicted Traffic Noise Levels (2040) (dBA L_{eq})

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
11a & 11b	R-1	De Berry Street	65	**66**[2]	**67**	1	2	Yes	64	**66**	65	63	62[3]	61	No
	R-2	De Berry Street	53	55	61	6	8	No	--[4]	--	--	--	--	--	--
	R-3	Rene Lane	51	53	56	3	5	No	--	--	--	--	--	--	--
	R-4	De Berry Street	51	54	57	3	6	No	--	--	--	--	--	--	--
	R-5	De Berry Street	51	53	55	2	4	No	--	--	--	--	--	--	--
	R-6	Rene Lane	50	53	56	3	6	No	--	--	--	--	--	--	--
	R-7	Rene Lane	49	53	54	1	5	No	--	--	--	--	--	--	--
	R-8	Rene Lane	50	54	53	-1	3	No	--	--	--	--	--	--	--
	R-9	Rene Lane	52	57	53	-4	1	No	--	--	--	--	--	--	--
	R-10	Rene Lane	56	62	54	-8	-2	No	--	--	--	--	--	--	--
	R-11	Michigan Street	55	60	53	-7	-2	No	--	--	--	--	--	--	--
	R-12	Michigan Street	54	59	55	-4	1	No	--	--	--	--	--	--	--
	R-13	Michigan Street	55	60	59	-1	4	No	--	--	--	--	--	--	--
	R-14	Michigan Street	49	54	52	-2	3	No	--	--	--	--	--	--	--
	R-15	Michigan Street	47	51	52	1	5	No	--	--	--	--	--	--	--
	R-16	Michigan Street	49	53	57	4	8	No	--	--	--	--	--	--	--
	R-17	Barton Road	59	62	64	2	5	No	--	--	--	--	--	--	--
	R-18	Barton Road	58	61	62	1	4	No	--	--	--	--	--	--	--
	R-19	Barton Road	61	64	66	2	5	NF[5]	--	--	--	--	--	--	--
	R-20	Barton Road	56	59	61	2	5	No	--	--	--	--	--	--	--
	R-21	Barton Road	58	61	62	1	4	No	--	--	--	--	--	--	--
	R-22	Grand Terrace Elementary School	57	65	65	0	8	No	--[6]	64	64	64	64	NP[7]	--
12a & 12b	R-23	Grand Terrace Elementary School	**68**	69	69	0	1	Yes	64	63	62	61	61	NP	Yes (14ft)[8]
	R-24	Grand Terrace Elementary School	**70**	71	70	-1	0	Yes	64	63	62	61	60	NP	Yes (14ft)
	R-25	Grand Terrace Elementary School	**73**	**74**	75	1	2	Yes	**67**	65	63	62	61	NP	Yes (14ft)
	R-26	Vivienda Avenue	61	63	63	0	2	No	62	61	61	60	60	NP	Yes (14ft)

Table 2.13.I Alternative 6 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
12a & 12b	R-27	Vivienda Court	**70**	**71**	**71**	0	1	Yes	**66**	65	64	62	61	NP	Yes (14ft)
	R-28	Vivienda Court	**74**	**75**	**75**	0	1	Yes	**69**	**67**	65	64	63	NP	Yes (14ft)
	R-29	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	**66**	65	64	62	61	NP	Yes (14ft)
	R-30	Vivienda Avenue	**68**	**69**	**69**	0	1	Yes	**67**	**67**	**66**	65	64	NP	Yes (14ft)
	R-31	Vivienda Avenue	**67**	**68**	**68**	0	1	Yes	**67**	65	64	63	62	NP	Yes (14ft)
	R-32	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	--[6]	**67**	**66**	65	63	NP	Yes (14ft)
	R-33	Vivienda Avenue	62	63	63	0	1	No	--[6]	60	59	58	57	NP	Yes (14ft)
12a & 12b	R-43	Barton Road	56	62	64	2	8	No	63	63	63	63	63	NP	Yes (14ft)
	R-44	Vivienda Avenue	56	60	62	2	6	No	61	61	61	61	60	NP	Yes (14ft)
	R-45	McClarren Street	55	59	61	2	6	No	60	59	59	59	59	NP	Yes (14ft)
	R-46	Carhart Avenue	57	59	58	-1	1	No	56	56	56	55	54	NP	Yes (14ft)
	R-47	Carhart Avenue	53	54	54	0	1	No	53	53	53	52	52	NP	Yes (14ft)
	R-48	Carhart Avenue	57	58	58	0	1	No	56	56	55	54	53	NP	Yes (14ft)
	R-49	Vivienda Avenue	52	53	53	0	1	No	52	52	52	51	50	NP	Yes (14ft)
	R-50	Pascal Avenue	57	58	58	0	1	No	57	56	56	55	54	NP	Yes (14ft)
	R-51	Pascal Avenue	55	56	56	0	1	No	54	54	54	53	52	NP	Yes (14ft)
13	R-60	Grand Terrace Road	60	61	**67**	6	7	Yes	61	--	--	--	--	--	Yes (16 ft)
	R-61	Grand Terrace Road	60	60	63	3	3	No	--[6]	--[6]	--[6]	--[6]	--	--	Yes (16 ft)
	R-62	Grand Terrace Road	60	60	63	3	3	No	--[6]	--[6]	--[6]	--[6]	--	--	Yes (16 ft)
	R-63	Grand Terrace Road	60	60	62	2	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-64	Grand Terrace Road	59	60	61	1	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-65	Grand Terrace Road	59	60	61	1	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-66	Grand Terrace Road	59	60	61	1	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
14	R-67	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	65	64	63	62	62	NP	No
	R-68	La Crosse Avenue	**69**	**70**	**70**	0	1	Yes	65	63	62	62	61	NP	No

Table 2.13.I Alternative 6 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-69	La Crosse Avenue	**70**	**71**	--[9]	--	--	--	--	--	--	--	--	--	--
13	R-70	Grand Terrace Road	62	63	**66**	3	4	Yes	--[6]	65	64	63	62	62	Yes (16 ft)
	R-71	Grand Terrace Road	60	61	63	2	3	No	--[6]	63	63	62	62	62	Yes (16 ft)
	R-72	Grand Terrace Road	60	61	62	1	2	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-73	Grand Terrace Road	59	60	61	1	2	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-74	Grand Terrace Road	60	60	60	0	0	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-75	Grand Terrace Road	59	59	60	1	1	No	--[6]	--	--	--	--	--	--
	R-76	Grand Terrace Road	59	60	60	0	1	No	--[6]	--	--	--	--	--	--
13	R-77	Grand Terrace Road	63	64	67	3	4	Yes	--[6]	64	63	63	62	62	Yes (16 ft)
	R-78	Grand Terrace Road	60	61	64	3	4	No	--[6]	63	63	62	62	62	--
	R-79	Grand Terrace Road	60	60	62	2	2	No	--[6]	--	--	--	--	--	--
	R-80	Grand Terrace Road	60	60	61	1	1	No	--[6]	--	--	--	--	--	--
	R-81	Grand Terrace Road	59	60	60	0	1	No	--[6]	--	--	--	--	--	--
	R-82	Grand Terrace Road	59	60	60	0	1	No	--[6]	--	--	--	--	--	--
13	R-83	Grand Terrace Road	63	**66**	**68**	2	5	Yes	--[6]	63	63	62	62	61	Yes (16 ft)
	R-84	Grand Terrace Road	60	63	64	1	4	No	--[6]	62	61	61	61	61	Yes (16 ft)
	R-85	Grand Terrace Road	61	61	62	1	1	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-86	Grand Terrace Road	60	62	63	1	3	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-87	Grand Terrace Road	60	61	61	0	1	No	--[6]	--	--	--	--	--	Yes (16 ft)
	R-88	Grand Terrace Road	59	61	62	1	3	No	--[6]	--	--	--	--	--	--
	R-89	Grand Terrace Road	59	61	61	0	2	No	--[6]	--	--	--	--	--	--
14	R-90	Vivienda Avenue	61	62	61	-1	0	No	61	60	60	60	60	NP	No
	R-91	Vivienda Avenue	60	61	61	0	1	No	60	60	60	60	60	NP	No
	R-92	Vivienda Avenue	60	60	60	0	0	No	60	60	60	60	60	NP	No
	R-93	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-94	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-95	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-96	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-97	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--

Table 2.13.I Alternative 6 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-98	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-99	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-100	Grand Terrace Road	58	59	59	0	1	No	--	--	--	--	--	--	--
	R-101	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-102	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-103	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-104	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-105	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-106	Grand Terrace Road	59	60	60	0	1	No	--	--	--	--	--	--	--
	R-107	Grand Terrace Road	62	63	64	1	2	No	--	--	--	--	--	--	--
14	R-108	Vivienda Avenue	60	61	61	0	1	No	60	60	60	59	59	NP	No
	R-109	Vivienda Avenue	62	63	62	-1	0	No	61	61	60	60	60	NP	No
	R-110	Vivienda Avenue	63	64	63	-1	0	No	62	61	61	60	60	NP	No
	R-111	Vivienda Avenue	65	66	65	-1	0	Yes	63	63	62	61	61	NP	No
	R-112	Vivienda Avenue	**70**	**71**	**71**	0	1	Yes	**67**	**66**	65	63	63	NP	No
	R-113	Newport Avenue	63	64	64	0	1	No	64	64	64	64	64	NP	No
	R-114	Newport Avenue	62	63	63	0	1	No	62	62	62	62	61	NP	No
	R-115	Newport Avenue	**66**	66	66	0	0	Yes	**66**	65	64	63	63	NP	No
15	R-115[10]	Newport Avenue	**66**	**66**	**66**	0	0	Yes	63	59	57	55	54	53	No
14	R-121	Newport Avenue	64	64	64	0	0	No	64	64	64	63	63	NP	No
	R-122	Newport Avenue	63	64	64	0	1	No	63	63	63	62	62	NP	No
	R-123	Newport Avenue	64	65	65	0	1	No	64	64	64	63	62	NP	No
15	R-123[10]	Newport Avenue	64	65	65	0	1	No	63	59	57	55	54	53	No
14	R-124	Newport Avenue	61	62	62	0	1	No	61	61	61	61	61	NP	No
	R-131	Taylor Street	68	70	71	1	3	No	--	--	--	--	--	--	--
	R-132	S. Iowa Avenue	70	71	71	0	1	No	--	--	--	--	--	--	--
	R-133	De Berry Street	73	74	75	1	2	No	--	--	--	--	--	--	--
	R-134	De Berry Street	69	70	70	0	1	No	--	--	--	--	--	--	--
	R-135	De Berry Street	72	74	73	-1	1	No	--	--	--	--	--	--	--
	R-136	La Crosse Avenue	72	73	74	1	2	No	--	--	--	--	--	--	--

Table 2.13.I Alternative 6 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise Level Without Project	Predicted Noise Level With Project	With Project Minus No Project Conditions	With Project Minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-137	Commerce Way	63	64	--[9]	--	--	--	--	--	--	--	--	--	--
	R-138	Michigan Avenue	53	55	62	7	9	No	--	--	--	--	--	--	--
	R-139	Barton Road	58	60	61	1	3	No	--	--	--	--	--	--	--
	R-140	Barton Road	61	62	65	3	4	No	--	--	--	--	--	--	--
	R-141	Barton Road	61	62	65	3	4	No	--	--	--	--	--	--	--
	R-142	Barton Road	66	70	74	4	8	No	--	--	--	--	--	--	--
	R-143	Barton Road	66	70	**73**	3	7	NF[5]	--	--	--	--	--	--	--
12a & 12b	EI	Grand Terrace Elementary School	--	--	72/50[11]	--	2	Yes	**66**/43[11]	63/41[11]	62/40[11]	61/39[11]	60/38[11]	NP	Yes (14ft)

Source: *Noise Study Report* (February 2012).
[1] Receiver Nos. not shown are located beyond the limits of Alternative 6.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC for that specific land use.
[3] Underlined noise levels have been attenuated by at least 5 dBA (i.e., feasible barrier height).
[4] Either no barrier was analyzed at this location because the modeled receiver would not approach or exceed the NAC or this receiver would be acquired under this alternative.
[5] NF = Not Feasible. Although this receiver approaches or exceeds the NAC, it is not feasible to attenuate traffic noise levels with sound barriers due to driveway and pedestrian access to the property.
[6] Shaded area represents the existing wall height.
[7] NP = Not Permitted. Sound barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
[8] Recommended barrier height.
[9] This receiver would be acquired under Alternative 6.
[10] An alternate sound barrier along the property line was evaluated for this receiver.
[11] Exterior/Interior noise level.

- **Receivers R-67, R-68, R-112, and R-115:** These receiver locations represent existing mobile homes along Newport Avenue and residences along Vivienda Avenue and La Crosse Avenue on the west side of I-215 between Barton Road and Newport Avenue. Currently, there are no existing walls that shield Receivers R-67, R-68, and R-112. Two existing 5.3 ft high walls (EW Nos. 7 and 8) along the residential property line currently shield Receiver R-115. Two sound barriers were modeled separately at two different locations to shield these residences. One sound barrier (SB No. 14) located along the edge of shoulder was modeled and the other sound barrier (SB No. 15) located along the residential property line was modeled to shield only Receiver R-115. Sound barrier effectiveness at the two different locations was evaluated.
- **Receiver R-143:** This receiver location represents a fast-food restaurant with an outdoor eating area located on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield the outdoor eating area. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.

Interior Noise Impacts

An interior noise analysis was conducted at the Grand Terrace Elementary School, which is the only school in the vicinity of the Project area. As shown previously in Table 2.13.D, the calculated existing exterior-to-interior noise level attenuation for the school classroom building is 22.2 dBA. This noise reduction is a result of exterior noise being partly shielded by the classroom building structure (walls, doors, and windows, etc.).

As shown in Table 2.13.H, the predicted traffic noise levels at Grand Terrace Elementary School would be 72.3 dBA L_{eq} under Alternative 6. By reducing the predicted exterior noise level by the measured existing exterior to interior noise level attenuation of 22.2 dBA, the predicted future classroom interior noise level would be 50.1 dBA L_{eq}. Interior noise levels would not approach or exceed the 52 dBA L_{eq} NAC under Alternative 6. Although the interior noise levels in the classroom buildings closest to I-215 would not approach or exceed the NAC, SB Nos. 12a & 12b were analyzed to shield classroom buildings closest to I-215 freeway.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Long-Term Exterior Noise Impacts

The existing and future-worst-case traffic noise level results for Modified Alternative 7 are shown in Table 2.13.J; 22 receivers would approach or exceed the NAC under Modified Alternative 7.

The following receiver locations would be or would continue to be exposed to noise levels that approach or exceed the NAC under Activity Categories B, C, D, and E under Modified Alternative 7:

- **Receiver R-1:** This receiver location represents an existing residence along De Berry Street on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield this residence. One sound barrier (SB Nos. 22a and 22b) was modeled along the edge of shoulder to shield this residence. SB Nos. 22a and 22b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receiver R-19:** This receiver location represents a single-family residence along Barton Road and east of Vivienda Avenue. Currently, there are no existing walls that shield this residence. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.
- **Receivers R-23 through R-25, R-27 through R-32, and R-35:** These receiver locations represent existing residences and the playground associated with Grand Terrace Elementary School along Vivienda Avenue, Vivienda Court, and Pascal Avenue on the east side of I-215 between Barton Road and Newport Avenue. An existing 5 to 7 ft high wall (EW No. 6) along the residential property line currently shields these residences. Currently, there are no existing walls that shield the school playground from I-215. One sound barrier (SB Nos. 23a and 23b) along the State right-of-way was modeled to shield these residences and the school playground. SB Nos. 23a and 23b are two barriers that are evaluated as one barrier because they overlap with one another.
- **Receiver R-60:** This receiver location represents an existing swimming pool at Terrace Village RV Park located on the west side of I-215 between Barton Road and Vivienda Avenue. An existing 8 to 12.6 ft high wall (EW No. 4) along the residential property line currently shields the swimming pool area.

Table 2.13.J Modified Alternative 7 Predicted Traffic Noise Levels (2040) (dBA L_{eq})

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise level Without Project	Predicted Noise level With Project	With Project minus No Project Conditions	With Project minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
22a & 22b	R-1	De Berry Street	65	**66**[2]	**67**	1	2	Yes	**66**	65	64	63	62[3]	60	No
	R-2	De Berry Street	53	55	57	2	4	No	--[4]	--	--	--	--	--	--
	R-3	Rene Lane	51	53	56	3	5	No	--	--	--	--	--	--	--
	R-4	De Berry Street	51	54	56	2	5	No	--	--	--	--	--	--	--
	R-5	De Berry Street	51	53	55	2	4	No	--	--	--	--	--	--	--
	R-6	Rene Lane	50	53	56	3	6	No	--	--	--	--	--	--	--
	R-7	Rene Lane	49	53	55	2	6	No	--	--	--	--	--	--	--
	R-8	Rene Lane	50	54	55	1	5	No	--	--	--	--	--	--	--
	R-9	Rene Lane	52	57	56	-1	4	No	--	--	--	--	--	--	--
	R-10	Rene Lane	56	62	60	-2	4	No	--	--	--	--	--	--	--
	R-11	Michigan Street	55	60	59	-1	4	No	--	--	--	--	--	--	--
	R-12	Michigan Street	54	59	59	0	5	No	--	--	--	--	--	--	--
	R-13	Michigan Street	55	60	61	1	6	No	--	--	--	--	--	--	--
	R-14	Michigan Street	49	54	53	-1	4	No	--	--	--	--	--	--	--
	R-15	Michigan Street	47	51	53	2	6	No	--	--	--	--	--	--	--
	R-16	Michigan Street	49	53	56	3	7	No	--	--	--	--	--	--	--
	R-17	Barton Road	59	62	64	2	5	No	--	--	--	--	--	--	--
	R-18	Barton Road	58	61	62	1	4	No	--	--	--	--	--	--	--
	R-19	Barton Road	61	64	**66**	2	5	NF[5]	NF	NF	NF	NF	NF	NF	NF
	R-20	Barton Road	56	59	60	1	4	No	--	--	--	--	--	--	--
	R-21	Barton Road	58	61	63	2	5	No	--	--	--	--	--	--	--
23a & 23b	R-22	Grand Terrace Elementary School	57	65	65	0	8	No	--[6]	--[6]	64	64	63	NP[7]	Yes (14ft)[8]
	R-23	Grand Terrace Elementary School	**68**	**69**	**72**	3	4	Yes	**70**	**68**	**66**	65	63	NP	Yes (14ft)
	R-24	Grand Terrace Elementary School	**70**	**71**	**72**	1	2	Yes	**71**	**69**	**67**	65	63	NP	Yes (14ft)
	R-25	Grand Terrace Elementary School	**73**	**74**	**75**	1	2	Yes	**74**	**72**	**69**	**66**	64	NP	Yes (14ft)
	R-26	Vivienda Avenue	61	63	63	0	2	No	62	61	61	60	59	NP	Yes (14ft)

Table 2.13.J Modified Alternative 7 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise level Without Project	Predicted Noise level With Project	With Project minus No Project Conditions	With Project minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
23a & 23b	R-27	Vivienda Court	**70**	**71**	**71**	0	1	Yes	**68**	**66**	65	63	62	NP	Yes (14ft)
	R-28	Vivienda Court	**74**	**75**	**75**	0	1	Yes	**71**	**68**	**66**	64	63	NP	Yes (14ft)
	R-29	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	**67**	**66**	65	63	61	NP	Yes (14ft)
	R-30	Vivienda Avenue	**68**	**69**	**69**	0	1	Yes	**67**	**66**	65	64	63	NP	Yes (14ft)
	R-31	Vivienda Avenue	**67**	**68**	**68**	0	1	Yes	**67**	65	64	62	62	NP	Yes (14ft)
	R-32	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	--[6]	**67**	**66**	65	63	NP	Yes (14ft)
	R-33	Vivienda Avenue	62	63	64	1	2	No	--[6]	62	62	61	59	NP	Yes (14ft)
	R-34	Pascal Avenue	64	65	65	0	1	No	--[6]	63	62	61	60	NP	Yes (14ft)
	R-35	Pascal Avenue	**74**	**75**	**75**	0	1	Yes	--[6]	**69**	**67**	65	64	NP	Yes (14ft)
	R-36	Pascal Avenue	53	54	53	-1	0	No	--[6]	52	52	51	50	NP	Yes (14ft)
	R-37	Pascal Avenue	55	55	55	0	0	No	--[6]	53	53	52	51	NP	Yes (14ft)
	R-38	Victoria Street	56	56	56	0	0	No	--[6]	55	55	54	53	NP	Yes (14ft)
	R-43	Barton Road	56	62	63	1	7	No	--	--	--	--	--	--	--
	R-44	Vivienda Avenue	56	60	62	2	6	No	--	--	--	--	--	--	--
	R-45	McClarren Street	55	59	60	1	5	No	--	--	--	--	--	--	--
23a & 23b	R-46	Carhart Avenue	57	59	59	0	2	No	57	56	56	55	54	NP	Yes (14ft)
	R-47	Carhart Avenue	53	54	54	0	1	No	53	53	53	52	51	NP	Yes (14ft)
	R-48	Carhart Avenue	57	58	58	0	1	No	57	57	56	55	54	NP	Yes (14ft)
	R-49	Vivienda Avenue	52	53	53	0	1	No	52	52	52	51	50	NP	Yes (14ft)
	R-50	Pascal Avenue	57	58	58	0	1	No	57	57	56	55	54	NP	Yes (14ft)
	R-51	Pascal Avenue	55	56	56	0	1	No	54	54	54	53	52	NP	Yes (14ft)
24	R-60	Grand Terrace Road	60	61	**68**	7	8	Yes	64	63	62	62	61	61	No
	R-61	Grand Terrace Road	60	60	64	4	4	No	62	62	61	61	61	61	No
	R-62	Grand Terrace Road	60	60	63	3	3	No	--	--	--	--	--	--	--
	R-63	Grand Terrace Road	60	60	62	2	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-64	Grand Terrace Road	59	60	62	2	3	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-65	Grand Terrace Road	59	60	61	1	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--
	R-66	Grand Terrace Road	59	60	61	1	2	No	--[6]	--[6]	--[6]	--[6]	--	--	--

Table 2.13.J Modified Alternative 7 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise level Without Project	Predicted Noise level With Project	With Project minus No Project Conditions	With Project minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
25	R-67	Vivienda Avenue	**69**	**70**	**70**	0	1	Yes	65	64	63	62	62	NP	No
	R-68	La Crosse Avenue	**69**	**70**	**70**	0	1	Yes	64	63	62	61	61	NP	No
	R-69	La Crosse Avenue	**70**	**71**	--[9]	--	--	--	--	--	--	--	--	--	--
24	R-70	Grand Terrace Road	62	63	**66**	3	4	No	--[6]	64	63	62	62	62	No
	R-71	Grand Terrace Road	60	61	64	3	4	No	--[6]	62	61	61	61	61	No
	R-72	Grand Terrace Road	60	61	63	2	3	No	--[6]	61	61	61	61	60	No
	R-73	Grand Terrace Road	59	60	61	1	2	No	--[6]	60	60	60	60	60	No
	R-74	Grand Terrace Road	60	60	61	1	1	No	--[6]	60	60	60	60	60	No
	R-75	Grand Terrace Road	59	59	60	1	1	No	--[6]	--	--	--	--	--	--
	R-76	Grand Terrace Road	59	60	60	0	1	No	--[6]	--	--	--	--	--	--
24	R-77	Grand Terrace Road	63	64	**67**	3	4	Yes	--[6]	63	63	62	62	62	No
	R-78	Grand Terrace Road	60	61	65	4	5	No	--[6]	62	62	61	61	61	No
	R-79	Grand Terrace Road	60	60	62	2	2	No	--[6]	61	61	61	60	60	No
	R-80	Grand Terrace Road	60	60	61	1	1	No	--[6]	60	60	60	60	60	No
	R-81	Grand Terrace Road	59	60	61	1	2	No	--[6]	--	--	--	--	--	--
	R-82	Grand Terrace Road	59	60	60	0	1	No	--[6]	--	--	--	--	--	--
24	R-83	Grand Terrace Road	63	**66**	**67**	1	4	Yes	--[6]	64	63	63	63	63	No
	R-84	Grand Terrace Road	60	63	63	0	3	No	--[6]	62	62	62	62	62	No
24	R-85	Grand Terrace Road	61	61	62	1	1	No	--[6]	61	61	61	61	61	No
	R-86	Grand Terrace Road	60	62	62	0	2	No	--[6]	62	62	62	62	62	No
	R-87	Grand Terrace Road	60	61	61	0	1	No	--[6]	61	61	61	61	61	No
	R-88	Grand Terrace Road	59	61	62	1	3	No	--[6]	--	--	--	--	--	--
	R-89	Grand Terrace Road	59	61	61	0	2	No	--[6]	--	--	--	--	--	--
25	R-90	Vivienda Avenue	61	62	62	0	1	No	61	61	61	60	60	NP	No
	R-91	Vivienda Avenue	60	61	61	0	1	No	60	60	60	60	60	NP	No
	R-92	Vivienda Avenue	60	60	60	0	0	No	60	60	60	60	60	NP	No
	R-93	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-94	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-95	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-96	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--

Table 2.13.J Modified Alternative 7 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise level Without Project	Predicted Noise level With Project	With Project minus No Project Conditions	With Project minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
	R-97	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-98	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-99	Grand Terrace Road	58	58	58	0	0	No	--	--	--	--	--	--	--
	R-100	Grand Terrace Road	58	59	59	0	1	No	--	--	--	--	--	--	--
	R-101	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-102	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-103	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-104	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-105	Grand Terrace Road	59	59	59	0	0	No	--	--	--	--	--	--	--
	R-106	Grand Terrace Road	59	60	60	0	1	No	--	--	--	--	--	--	--
	R-107	Grand Terrace Road	62	63	63	0	1	No	--	--	--	--	--	--	--
25	R-108	Vivienda Avenue	60	61	61	0	1	No	60	60	60	60	60	NP	No
	R-109	Vivienda Avenue	62	63	63	0	1	No	61	61	61	60	60	NP	No
	R-110	Vivienda Avenue	63	64	63	-1	0	No	62	61	61	61	60	NP	No
	R-111	Vivienda Avenue	65	**66**	**66**	0	1	Yes	64	63	62	62	61	NP	No
	R-112	Vivienda Avenue	**70**	**71**	**71**	0	1	Yes	**67**	66	65	63	63	NP	No
25	R-113	Newport Avenue	63	64	65	1	2	No	65	64	63	62	61	NP	No
	R-114	Newport Avenue	62	63	63	0	1	No	62	62	61	60	60	NP	No
	R-115	Newport Avenue	**66**	**66**	**67**	1	1	Yes	**66**	65	64	63	62	NP	No
26	R-115[10]	Newport Avenue	**66**	**66**	**67**	1	1	Yes	64	62	60	60	59	59	Yes (16ft)
25	R-116	Newport Avenue	**66**	**66**	**66**	0	0	Yes	63	63	62	61	60	NP	No
26	R-116[10]	Newport Avenue	**66**	**66**	**66**	0	0	Yes	64	61	60	60	59	59	Yes (16ft)
25	R-117	Newport Avenue	63	63	63	0	0	No	62	62	61	60	60	NP	No
25	R-121	Newport Avenue	64	64	65	1	1	No	64	63	62	61	60	NP	No
	R-122	Newport Avenue	63	64	64	0	1	No	63	63	62	61	61	NP	No
	R-123	Newport Avenue	64	65	65	0	1	No	65	64	63	62	61	NP	No
26	R-123[10]	Newport Avenue	64	65	65	0	1	No	64	61	60	60	59	59	Yes (16ft)
25	R-124	Newport Avenue	61	62	62	0	1	No	62	61	61	60	60	NP	No
	R-125	Newport Avenue	60	60	60	0	0	No	60	60	59	59	59	NP	No

Table 2.13.J Modified Alternative 7 Predicted Traffic Noise Levels (2040) (dBA L_{eq}) (Continued)

Sound Barrier No.	Receiver No.[1]	Location	Adjusted Existing Peak Noise Level	Predicted Noise level Without Project	Predicted Noise level With Project	With Project minus No Project Conditions	With Project minus Existing Conditions	Noise Impact Requiring Abatement Consideration	Predicted Noise Level with Abatement						Reasonable and Feasible
									6 ft wall	8 ft wall	10 ft wall	12 ft wall	14 ft wall	16 ft wall	
25	R-126	Newport Avenue	60	60	60	0	0	No	59	59	59	59	59	NP	No
	R-127	Newport Avenue	59	59	59	0	0	No	59	59	59	59	59	NP	No
	R-131	Taylor Street	68	70	71	1	3	No	--	--	--	--	--	--	--
	R-132	S. Iowa Avenue	70	71	72	1	2	No	--	--	--	--	--	--	--
	R-133	De Berry Street	73	74	75	1	2	No	--	--	--	--	--	--	--
	R-134	De Berry Street	69	70	70	0	1	No	--	--	--	--	--	--	--
	R-135	De Berry Street	72	74	74	0	2	No	--	--	--	--	--	--	--
	R-136	La Crosse Avenue	72	73	73	0	1	No	--	--	--	--	--	--	--
	R-137	Commerce Way	63	64	--[9]	--	--	--	--	--	--	--	--	--	--
	R-138	Michigan Avenue	53	55	60	5	7	No	--	--	--	--	--	--	--
	R-139	Barton Road	58	60	60	0	2	No	--	--	--	--	--	--	--
	R-140	Barton Road	61	62	64	2	3	No	--	--	--	--	--	--	--
	R-141	Barton Road	61	62	65	3	4	No	--	--	--	--	--	--	--
	R-142	Barton Road	66	70	73	3	7	No	--	--	--	--	--	--	--
	R-143	Barton Road	66	70	**72**	2	6	NF[4]	--	--	--	--	--	--	--
23a & 23b	EI	Grand Terrace Elementary School	--	--	73/**51**[11]	--	--	--	70/48[11]	67/45[11]	66/44[11]	63/41[11]	62/40[11]	NP	Yes (14ft)

Source: *Supplemental Noise Study Report* (September 2013).
[1] Receiver Nos. not shown are located beyond the limits of Modified Alternative 7.
[2] Numbers in **bold** represent noise levels that approach or exceed the NAC for that specific land use.
[3] Underlined noise levels have been attenuated by at least 5 dBA (i.e., feasible barrier height).
[4] Either no barrier was analyzed at this location because the modeled receiver would not approach or exceed the NAC or this receiver would be acquired under this alternative.
[5] NF = Not Feasible. Although this receiver approaches or exceeds the NAC, it is not feasible to attenuate traffic noise levels with sound barriers due to driveway and pedestrian access to the property.
[6] Shaded areas represent the existing wall height.
[7] NP = Not Permitted. Sound barriers within 15 ft of the nearest travel lane are not permitted to exceed 14 ft in height.
[8] Recommended barrier height.
[9] This receiver would be acquired under Modified Alternative 7.
[10] An alternate sound barrier along the property line was evaluated for this receiver.
[11] Exterior/Interior noise level.

One sound barrier (SB No. 19) along the State right-of-way was modeled to shield these areas.

- **Receivers R-77 and R-83:** These receiver locations represent existing mobile homes along Grand Terrace Road on the west side of I-215 between Barton Road and Vivienda Avenue. An existing 5.3 to 6 ft high wall (EW No. 5) along the residential property line currently shields the mobile homes. One sound barrier (SB No. 24) along the State right-of-way was modeled to shield these areas.
- **Receivers R-67, R-68, R-111, R-112, R-115, and R-116:** These receiver locations represent existing single-family residences and mobile homes on the west side of I-215 between Barton Road and Newport Avenue. Two existing 5.3 ft high walls (EW Nos. 7 and 8) along the residential property line currently shield these mobile homes. Two sound barriers were modeled at two different locations to shield the mobile homes. One sound barrier (SB No. 25) was modeled along the edge of shoulder, and the other sound barrier (SB No. 26) was modeled along the residential property line to shield only Receivers R-115 and R-116. Sound barrier effectiveness at the two different locations was evaluated.
- **Receiver R-143:** This receiver location represents a fast-food restaurant with an outdoor eating area located on the east side of I-215, south of Barton Road. Currently, there are no existing walls that shield the outdoor eating area. As there is driveway access onto the property from Barton Road, it is not feasible to abate traffic noise with sound barriers.

Interior Noise Impacts

An interior noise analysis was conducted at the Grand Terrace Elementary School, which is the only school in the vicinity of the Project area. As shown previously in Table 2.13.D, the calculated existing exterior-to-interior noise level attenuation for the school classroom building is 22.2 dBA. This noise reduction is a result of exterior noise being partly shielded by the classroom building structure (walls, doors, and windows, etc.).

As shown in Table 2.13.H, the predicted traffic noise levels at Grand Terrace Elementary School would be 73.3 dBA L_{eq} under Modified Alternative 7. By reducing the predicted exterior noise level by the measured existing exterior-to-interior noise level attenuation of 22.2 dBA, the predicted future classroom interior noise level would be 51.1 dBA L_{eq}. Interior noise levels would approach or exceed

the 52 dBA L_{eq} NAC under Modified Alternative 7. Therefore, SB Nos. 23a & 23b were analyzed to shield classroom buildings closest to I-215 freeway.

CEQA Noise Analysis

In the future (2040) build condition, one or more receivers would experience up to a 10 dBA increase in noise levels under Alternative 3 (Table 2.13.G), up to a 9 dBA increase in noise levels under Alternative 6 (Table 2.13.I), and up to an 8 dBA increase in noise levels under Modified Alternative 7 (Table 2.13.J) as compared to existing conditions (Table 2.13.C).

Under CEQA, comparison is made between the existing noise level and the build noise level. A 3 dBA difference is generally the point at which the human ear will perceive a difference in noise level. Based on the projected comparative increases identified above, a perceptible increase in noise may be experienced at some locations; however, none of the receivers in the Project area are expected to experience a 12 dBA increase, and because their existing location is in close proximity to existing I-215 and/or Barton Road, and these sensitive receptors are recognized as already being in an area regularly subject to noticeable traffic noise associated with these facilities, the noise from the Project after construction is complete is not expected to be perceived as a substantial change in the noise environment. Accordingly, the noise increase associated with the Project is not considered significant under CEQA, and no mitigation is required.

Sound Barrier Reconstruction

A portion of the sound barrier constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project, located adjacent to the Grand Royal Mobile Estates, would be removed to allow for reconstruction of the I-215 southbound off-ramp and the new southbound on-ramp that are part of the Project. Alternatives 3, 6, and Modified Alternative 7 would remove 650 ft, 250 ft, and 285 ft of the sound barrier, respectively. The removed portion of the sound barrier would be reconstructed along the proposed State right-of-way line. The replacement of the sound barrier at the new State right-of-way with the same height would be acoustically equivalent or better than the original location.

2.13.4 Avoidance, Minimization, and/or Abatement Measures

2.13.4.1 Noise Abatement Consideration

Sound Barrier Modeling

Sound barriers were considered to shield noise-sensitive receivers along the proposed I-215/Barton Road Interchange improvement from south of Barton Road to north of

Newport Avenue, where receivers would continue to be exposed to traffic noise levels approaching or exceeding the NAC. All properties requiring abatement consideration are within Categories B through D (67 and 52 dBA L_{eq} NAC). Bold numbers in Tables 2.13.G, 2.13.I and 2.13.J show receiver locations that would approach or exceed the NAC under Alternatives 3, 6, and Modified Alternative 7 traffic conditions, respectively. Six sound barrier heights were analyzed: 6, 8, 10, 12, 14, and 16 ft. Sound barriers with the height of 16 ft were not analyzed if the barrier would be located within 15 ft of the nearest travel lane.

The following sound barriers were analyzed to shield the sensitive receiver locations that would be exposed to traffic noise levels approaching or exceeding the NAC for each of the three Build Alternatives:

Alternative 3 (Partial Cloverleaf Interchange)

- **SB Nos. 1a and 1b:** A 2,144 ft long barrier along the State right-of-way on the east side of I-215 south of Barton Road was analyzed to shield Receiver R-1.
- **SB Nos. 2a and 2b:** A 2,086 ft long barrier along the State right-of-way on the east side of I-215 between Barton Road and Newport Avenue was analyzed to shield Receivers R-23 through R-25, R-27 through R-32, and the exterior/interior receiver.
- **SB No. 3:** A 705 ft long barrier along the State right-of-way on the northeastern corner of Barton Road and Grand Terrace Road was analyzed to shield Receivers R-70, R-77, and R-83.
- **SB No. 4:** A 619 ft long barrier along the edge of shoulder on the west side of I-215 between Vivienda Avenue and Newport Avenue was analyzed to shield Receiver R-115.
- **SB No. 5:** A 270 ft long barrier along the residential property line on the west side of I-215 between Vivienda Avenue and Newport Avenue was analyzed to shield Receiver R-115.

Alternative 6 (Modified Cloverleaf Interchange)

- **SB Nos. 11a and 11b:** A 1,801 ft long barrier along the State right-of-way on the east side of I-215 south of Barton Road was analyzed to shield Receiver R-1.
- **SB Nos. 12a and 12b:** A 1,985 ft long barrier within the State right-of-way on the east side of I-215 between Barton Road and Newport Avenue was analyzed to shield Receivers R-23 through R-25, R-27 through R-32, and the exterior/interior receiver.

- **SB No. 13:** A 926 ft long barrier along the State right-of-way on the west side of I-215 between Barton Road and Vivienda Avenue was analyzed to shield Receivers R-60, R-70, R-77, and R-83.
- **SB No. 14:** A 1,291 ft long barrier along the edge of shoulder on the west side of I-215 between Vivienda Avenue and Newport Avenue was analyzed to shield Receivers R-67, R-68, R-112, and R-115. Approximately 235 ft of the southern portion of this barrier (Station [STA] 77+00 to STA 79+35) would conflict with the I-215 Bi-County HOV Lane Gap Closure Project sound barrier. A portion of SB No. 14 along the edge of shoulder on the west side of I-215 was analyzed to shield only Receiver R-115. A shorter sound barrier length of 500 ft from Station (STA) 85+00 to STA 90+00 would be used to compare with SB No. 15 to evaluate the effectiveness of the two sound barrier locations.
- **SB No. 15:** A 270 ft long barrier along the residential property line on the west side of I-215 between Vivienda Avenue and Newport Avenue was analyzed to shield Receiver R-115.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

- **SB Nos. 22a and 22b:** A 2,149 ft long barrier along the State right-of-way on the east side of I-215 south of Barton Road was analyzed to shield Receiver R-1.
- **SB Nos. 23a and 23b:** A 2,160 ft long barrier within the State right-of-way on the east side of I-215 between Barton Road and Newport Avenue was analyzed to shield Receivers R-23 through R-25, R-27 through R-32, R-35, and the exterior/interior receiver.
- **SB No. 24:** A 890 ft long barrier along the State right-of-way on the northwestern corner of I-215 and Barton Road was analyzed to shield Receivers R-60, R-70, R-77, and R-83.
- **SB No. 25:** A 1,488 ft long barrier along the edge of shoulder on the west side of I-215 between Barton Road and Newport Avenue was analyzed to shield Receivers R-67, R-68, R-111, R-112, R-115, and R-116. Approximately 235 ft of the southern portion of this barrier (STA 77+00 to STA 79+35) would conflict with the I-215 Bi-County HOV Lane Gap Closure Project sound barrier. A portion of SB No. 25 along the edge of shoulder on the west side of I-215 was analyzed to shield only Receivers R-115 and R-116. A shorter sound barrier length of 500 ft from STA 85+00 to STA 90+00 was used to compare with SB No. 26 to evaluate the effectiveness of the two sound barrier locations.

- **SB No. 26:** A 353 ft long barrier along the residential property line on the west side of I-215 between Vivienda Avenue and Newport Avenue was analyzed to shield Receivers R-115 and R-116.

It would not be feasible to abate traffic noise with a sound barrier at receivers R-19 and R-143 because there is driveway access onto these properties from Barton Road.

The locations of all the evaluated sound barriers for Alternatives 3, 6, and Modified Alternative 7 are shown in Figures 2.13.2, 2.13.3, and 2.13.4, respectively.

2.13.4.2 Sound Barrier Feasibility

Caltrans Traffic Noise Analysis Protocol states that a minimum noise reduction of 5 dBA must be achieved at the impacted receivers in order for the proposed noise abatement measure to be considered feasible. The feasibility criterion is not necessarily a noise abatement design goal. Greater noise reductions are encouraged if they can be reasonably achieved. The following elements may restrict feasibility:

- Topography
- Access requirements for driveways
- Local cross streets
- Underground utilities
- Other noise sources in the area
- Safety considerations

Of the 15 sound barriers evaluated, 14 sound barriers were capable of reducing noise levels by 5 dBA or more, as required to be considered feasible. SB No. 4 was determined to be not feasible because the barrier would not reduce noise levels by 5 dBA or more.

2.13.4.3 Sound Barrier Reasonableness

The reasonableness of a sound barrier is determined by comparing the estimated cost of the sound barrier construction against the total reasonable allowance. The total reasonable allowance is determined based on the number of benefited residences multiplied by the reasonable allowance per residence. Additionally, in accordance with the Caltrans Traffic Noise Analysis Protocol, each sound barrier must provide at least 7 dBA of noise reduction at one or more benefited receiver(s) to be considered reasonable. Therefore, if the estimated sound barrier construction cost exceeds the total reasonable allowance or was not predicted to provide at least 7 dBA of noise

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W LA LOMA AV
S IOWA AV
TERRACE AV
E DE BERRY ST
DE BERRY ST
Limits of Construction
Limits of Construction
215
SB No. 1b
SB No. 1a
25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00 38+00 39+00 40+00 41+00 42+00 43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00
131
132
133
134
135
1

LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

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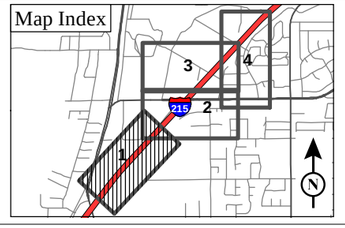

FIGURE 2.13.2
Sheet 1 of 4

I-215/Barton Road Interchange Improvement Project
Alternative 3
Modeled Sound Barriers and Receiver Locations

SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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Note: Receivers R-39 to R-42, R-52 to R-59, R-119 to R-120, and R-129 to R-130 are not shown because they are located beyond the limits of construction under alternative 3.

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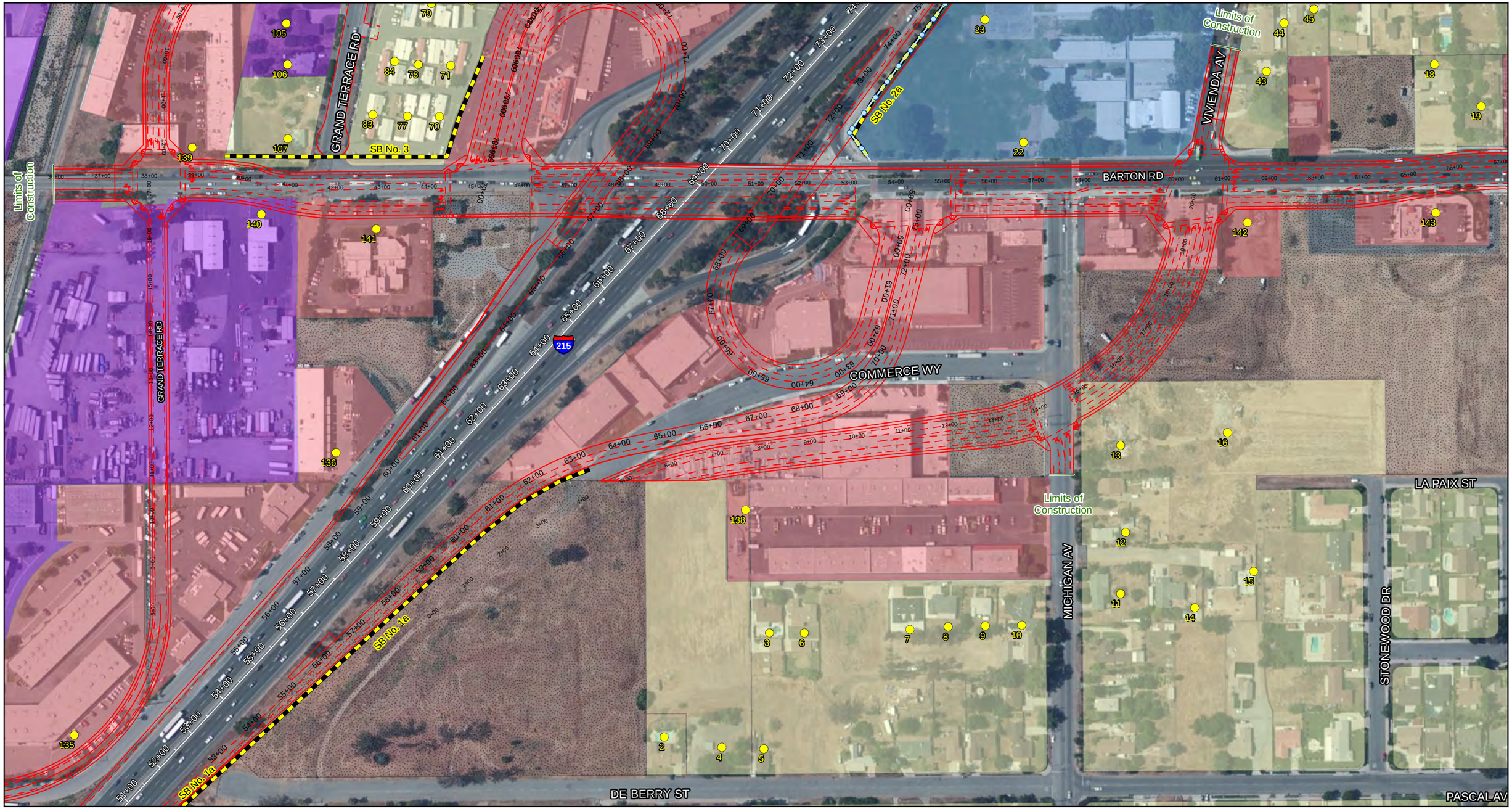

LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

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SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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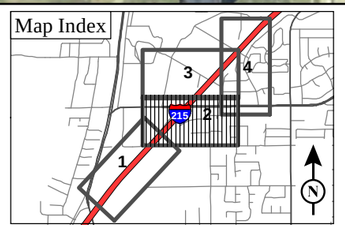

Note: Receivers R-39 to R-42, R-52 to R-59, R-119 to R-120, and R-129 to R-130 are not shown because they are located beyond the limits of construction under alternative 3.

FIGURE 2.13.2
Sheet 2 of 4

I-215/Barton Road Interchange Improvement Project
Alternative 3
Modeled Sound Barriers and Receiver Locations

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LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
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SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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FIGURE 2.13.2
Sheet 3 of 4

I-215/Barton Road Interchange Improvement Project
Alternative 3
Modeled Sound Barriers and Receiver Locations

Note: Receivers R-39 to R-42, R-52 to R-59, R-119 to R-120, and R-129 to R-130 are not shown because they are located beyond the limits of construction under alternative 3.

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LEGEND

- Alternative 3
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

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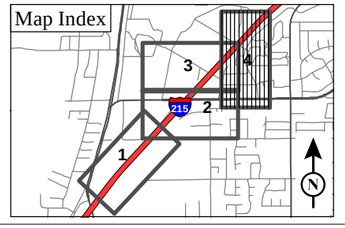

FIGURE 2.13.2
Sheet 4 of 4

I-215/Barton Road Interchange Improvement Project
Alternative 3
Modeled Sound Barriers and Receiver Locations

SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); SCAG (2008); LSA (2011)

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Note: Receivers R-39 to R-42, R-52 to R-59, R-119 to R-120, and R-129 to R-130 are not shown because they are located beyond the limits of construction under alternative 3.

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
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SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); AECOM (5/2011)

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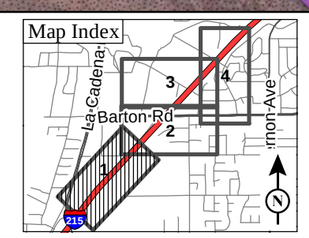

Note: Receivers R-34 to R-42, R-52 to R-59, R-116 to R-120, and R-125 to R-130 are not shown because they are located beyond the limits of construction under Alternative 6.

FIGURE 2.13.3

Sheet 1 of 4

I-215/Barton Road Interchange Improvement Project

Alternative 6

Modeled Sound Barriers and Receiver Locations

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); AECOM (5/2011)

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FIGURE 2.13.3

Sheet 2 of 4

I-215/Barton Road Interchange Improvement Project

Alternative 6

Modeled Sound Barriers and Receiver Locations

Note: Receivers R-34 to R-42, R-52 to R-59, R-116 to R-120, and R-125 to R-130 are not shown because they are located beyond the limits of construction under Alternative 6.

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); AECOM (5/2011)

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FIGURE 2.13.3

Sheet 3 of 4

I-215/Barton Road Interchange Improvement Project

Alternative 6

Modeled Sound Barriers and Receiver Locations

Note: Receivers R-34 to R-42, R-52 to R-59, R-116 to R-120, and R-125 to R-130 are not shown because they are located beyond the limits of construction under Alternative 6.

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LEGEND

- Alternative 6
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Receiver Location
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (05/2010); County of San Bernardino (5/09); AECOM (5/2011)

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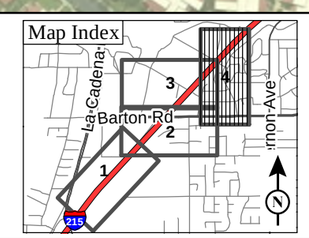

Note: Receivers R-34 to R-42, R-52 to R-59, R-116 to R-120, and R-125 to R-130 are not shown because they are located beyond the limits of construction under Alternative 6.

FIGURE 2.13.3

Sheet 4 of 4

I-215/Barton Road Interchange Improvement Project

Alternative 6

Modeled Sound Barriers and Receiver Locations

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LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Modeled Receiver Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

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SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); AECOM (3/2013)

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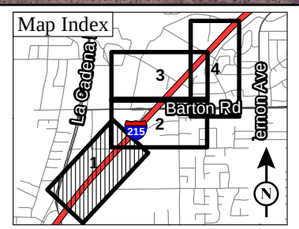

FIGURE 2.13.4
Sheet 1 of 4

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7
Modeled Sound Barriers and Receiver Locations

Note: Receivers R-36 to R-42, R-52 to R-59, R-118 to R-120, R-128 to R-130, and R-144 are not shown because they are located beyond the limits of construction under Modified Alternative 7.

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LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Modeled Receiver Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

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SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); AECOM (3/2013)

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Note: Receivers R-36 to R-42, R-52 to R-59, R-118 to R-120, R-128 to R-130, and R-144 are not shown because they are located beyond the limits of construction under Modified Alternative 7.

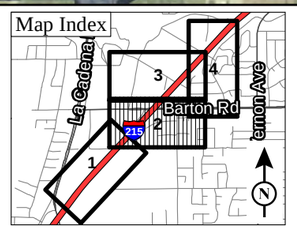

FIGURE 2.13.4
Sheet 2 of 4

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7
Modeled Sound Barriers and Receiver Locations

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LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Modeled Receiver Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); AECOM (3/2013)

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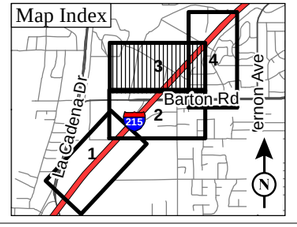

FIGURE 2.13.4
Sheet 3 of 4

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7
Modeled Sound Barriers and Receiver Locations

Note: Receivers R-36 to R-42, R-52 to R-59, R-118 to R-120, R-128 to R-130, and R-144 are not shown because they are located beyond the limits of construction under Modified Alternative 7.

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LEGEND

- Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- Modeled Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Modeled Receiver Location

Existing Land Use

- Agriculture
- Residential
- Commercial
- Industrial
- Utilities & Public Facilities
- Open Space and Recreation
- Vacant

0 100 200
FEET

SOURCE: Microsoft (5/2010); County of San Bernardino (5/09); AECOM (3/2013)

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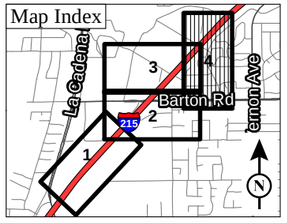

Note: Receivers R-36 to R-42, R-52 to R-59, R-118 to R-120, R-128 to R-130, and R-144 are not shown because they are located beyond the limits of construction under Modified Alternative 7.

FIGURE 2.13.4
Sheet 4 of 4

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7
Modeled Sound Barriers and Receiver Locations

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reduction at one or more benefited receiver, the sound barrier is determined to be not reasonable. However, if the estimated sound barrier construction cost is within the total reasonable allowance and is predicted to provide at least 7 dBA of noise reduction at one or more benefited receiver, the sound barrier is determined to be reasonable. Based on this methodology it was determined that SB Nos. 2a & 2b, 5, 12a & 12b, 13, 23a & 23b, and 26 are reasonable as shown in Table 2.13.K.

Table 2.13.K Feasible and Reasonable Sound Barriers

Alternative	Sound Barrier No.	Recommended Height (ft)	Approximate Length (ft)	Number of Benefited Units[1]	Noise Attenuation Range (dBA)	Sound Barrier Location
3	2a & 2b	14	2,086	25	5-14	Within State right-of-way
	5	16	270	3	6-8	Residential Property Line
6	12a & 12b	14	1,985	24	5-14	Within State right-of-way
	13	16	926	48	5-10	State right-of-way
Modified 7	23a & 23b	14	2,160	3	5-12	Within State right-of-way
	26	16	353	5	6-8	Residential Property Line

Sources: *Noise Abatement Decision Report*, May 2012; *Supplemental Noise Abatement Report* (October 2013).
[1] Number of units attenuated by 5 dBA or more by the modeled barrier (e.g., a unit is a single-family dwelling, ground-floor apartment, or school).

The I-215 Bi-County HOV Lane Gap Closure Project will construct two sound barriers: (1) along the I-215 northbound on-ramp (same location and height as SB Nos. 2a & 2b for Alternative 3, SB Nos. 12a & 12b for Alternative 6, and SB Nos. 23a & 23b for Modified Alternative 7); and (2) along the I-215 southbound off-ramp (same location and height as SB No. 4 for Alternative 3, SB No. 14 for Alternative 6, and SB No. 25 for Modified Alternative 7). The sound barrier constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project will meet the noise abatement requirements for the I-215/Barton Road Interchange Project at the corresponding impacted receivers shown in Tables 2.13.G, 2.13.I and 2.13.J.

For Alternative 3, SB No. 5 was analyzed as an alternate barrier to SB No. 4 and found to be reasonable and feasible (refer to Table 2.13.G). However, in the same location at the same height is a sound barrier that is being constructed as part of the

I-215 Bi-County HOV Lane Gap Closure Project. Therefore, SB No. 5 is not necessary.

SB No.13 for Alternative 6 was found to be reasonable and feasible. Furthermore, the southbound off-ramp sound barrier that would be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project would not reduce noise levels in this location. Based on the studies completed to date, Caltrans intends to incorporate noise abatement in the form of a barrier at the State right-of-way with a length of 926 ft, at an average height of 16 ft for Alternative 6 (SB No. 13) as shown in Table 2.13.K. Calculations based on preliminary design data indicate that this barrier would reduce noise levels by 5 to 10 dBA for 48 residences at a cost of $434,000.

If during final design, conditions have substantially changed, noise abatement may not be necessary. The final decision of the noise abatement will be made upon completion of the Project design and the public involvement processes.

According to federal policies, before a sound barrier can be constructed on Caltrans right-of-way, written agreement must be provided by at least 50 percent of the affected property owners. Consistent with Caltrans protocol, sound barrier surveys were distributed via certified mail to each property owner adjacent to SB No. 13 (for Alternative 6) to determine if the property owner was in favor of this sound barrier. No other sound barrier surveys were sent because the I-215 Bi-County HOV Lane Gap Closure Project sound barriers were previously approved by the adjacent property owners.

The following measures are required to minimize substantial construction noise impacts:

N-1 **Noise Control, Caltrans SSP 14-8.02.** The control of noise from construction activities within the California Department of Transportation (Caltrans) right-of-way will conform to the Caltrans Standard Special Provisions (SSP), Section 14-8.02, “Noise Control.” The noise level from the Contractor’s operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) at a distance of 50 feet (ft). The Contractor will use 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 muffler and

will not operate any internal combustion engine on the job site without the appropriate muffler.

N-2 **Construction Noise Standards.** In accordance with the City of Colton Bid and Contract template and the City of Grand Terrace Municipal Code, construction activities within the City of Colton will be limited to between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, excluding weekends and holidays, and within the City of Grand Terrace, construction activities will be limited to between the hours of 7:00 a.m. and 8:00 p.m., Monday through Friday, excluding weekends and holidays.

N-3 **Noise Abatement.** If the project proceeds to construction based on Alternative 6, a sound barrier with a length of 926 ft and an average height of 16 ft (Sound Barrier [SB] No. 13) will be constructed at the State right-of-way.

N-4 **Sound Barrier Reconstruction.** The portion the of the sound barrier constructed as part of the Interstate (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, located adjacent to the Grand Royal Mobile Estates, to be removed during project construction will be reconstructed along the proposed State right-of-way line.

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BIOLOGICAL ENVIRONMENT

2.14 Natural Communities

2.14.1 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. 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 2.18. Wetlands and other waters are also discussed below in Section 2.15.

2.14.2 Affected Environment

This section is based on the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) prepared for the proposed Project.

2.14.2.1 Biological Study Area

The study area that is assessed for biological resources is referred to as the Biological Study Area (BSA). The BSA is shown on Figure 2.14.1. The BSA represents the area of potential direct and indirect Project impacts to biological resources and includes the proposed ground disturbance area associated with the interchange, including the grading limits and staging areas. The BSA includes areas of potential direct impact, but also extends beyond the maximum extent of potential direct impact where necessary to identify sensitive biological resources within and adjacent to the Project area.

2.14.2.2 Natural Communities

The BSA supports three habitat types or vegetation classifications. Figure 2.14.1 shows the location of each vegetation classification in the BSA. The two dominant vegetation types in the BSA are nonnative ruderal vegetation and developed areas dominated by ornamental vegetation (Developed/Ornamental). The third vegetation type present in the BSA is riparian woodland.

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S LA CADENA DR

S IOWA AV

Highgrove Canal

BNSF Railway

215

Drainage B

ELDERBERRY ST

Riverside Canal

W MAIN ST

UP Railroad

Drainage B

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LEGEND

Biological Study Area

Vegetation

Ruderal field

Riparian habitat

Developed/Ornamental

Drainage Centerline

0 150 300
FEET

SOURCE: Microsoft (5/2010)

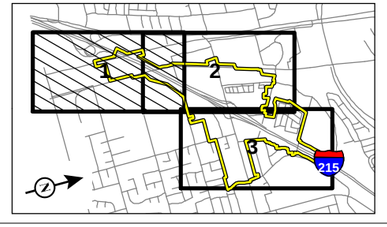

FIGURE 2.14.1
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation

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S LA CADENA DR
BNSF Railway
TERRACE AV
BARTON RD
WALNUT AV
BURNS AV
UP Railroad
EDDERBERRY ST
Riverside Canal
GRAND TERRACE RD
LA CROSSE AV
215
VIVIENDA AV
Drainage F
Drainage B

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LEGEND

Biological Study Area

Vegetation

- Ruderal field
- Riparian habitat
- Developed/Ornamental
- Drainage Centerline

0 150 300
FEET

SOURCE: Microsoft (5/2010)

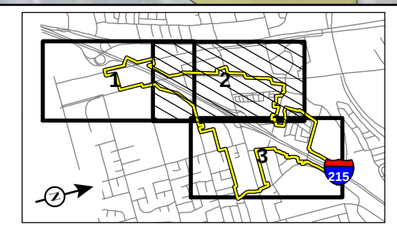

FIGURE 2.14.1
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation

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Drainage F

LA CROSSE AV
VIVIENDA AV
DE BERRY ST
COMMERCE WY
VIVIENDA CT
MICHIGAN AV
VIVIENDA AV
NEWPORT AV
PASCAL AV
CARHART AV
MCCLARREN ST
CANAL ST
Gage Canal
LAFAYETTE ST
BARTON RD
TERRACE PINES DR

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LEGEND

Biological Study Area

Vegetation

- Ruderal field
- Riparian habitat
- Developed/Ornamental
- Drainage Centerline

0 150 300
FEET

SOURCE: Microsoft (5/2010)

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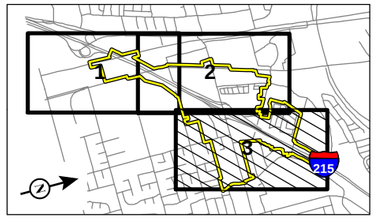

FIGURE 2.14.1
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Vegetation

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2.14.2.3 Developed/Ornamental

The majority of the BSA is developed and is dominated by ornamental plantings consisting of introduced plant species used for landscaping purposes. There is a total of 194.8 acres (ac) of developed/ornamental areas within the BSA. Species within this vegetation/land use type include Bermuda grass (*Cynodon dactylon*), ornamental pine (*Pinus* sp.), eucalyptus (*Eucalyptus* sp.), California fan palm (*Washingtonia filifera*), oleander (*Nerium oleander*), tree of heaven (*Ailanthus altissima*), and elm (*Ulmus* sp.).

Ruderal Vegetation

Ruderal vegetation is found throughout the BSA in the disked fields, vacant lots, and other undeveloped parcels. There is a total of 47.2 ac of ruderal vegetation within the BSA. Species within this vegetation classification are primarily nonnative species and consist of shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), Russian thistle (*Salsola tragus*), morning glory (*Ipomoea* sp.), dove weed (*Croton setigerus*), cheeseweed (*Malva parviflora*), wild oat (*Avena fatua*), rescue grass (*Bromus catharticus*), and foxtail barley (*Hordeum murinum*).

Riparian Woodland

There are two drainages with narrow isolated stands of riparian habitat totaling 2.7 ac within the BSA, along Drainages B and F. Drainage B is an earthen-lined channel that is separated into three segments of riparian habitat within the BSA. These stands of riparian habitat are located in the south part of the BSA, east of Interstate 215 (I-215), on either side of culverts under the Union Pacific Railroad (UPRR) and east of the BNSF Railway/I-215 bridge (Sheet 1 of Figure 2.14.1). Drainage B is moderately disturbed and contains riparian woodland habitat dominated by tree of heaven, velvet ash (*Fraxinus velutina*), and arroyo willow (*Salix lasiolepis*).

The other area of riparian habitat is located along an earthen drainage (Drainage F) in the north part of the BSA, west of I-215, approximately 1,000 feet (ft) south of Newport Avenue and 400 ft north of Vivienda Avenue (Sheets 2 and 3 of Figure 2.14.1). Species in this stand include Goodding's willow (*Salix gooddingii*), Mexican fan palm (*Washingtonia robusta*), castor bean (*Ricinus communis*), and edible fig (*Ficus carica*). Within the BSA, the drainage is highly disturbed and contains numerous exotic species. The drainage is bounded by a trailer park to the north and residential development to the south. Within the BSA, the drainage has an overstory of riparian woodland species, primarily consisting of Goodding's willow;

however, the channel bottom is covered in a concrete slurry pad for erosion protection at the I-215 culvert outlet.

2.14.2.4 Wildlife Corridors

As described above, the BSA is characterized predominantly by ruderal and ornamental vegetation. Wildlife species occurring within the BSA are characteristic of those found within developed and disturbed habitats. The Project area does not function as a wildlife movement corridor. The interchange is within a highly developed area, and there are no adjacent native habitat areas that wildlife would access by passing through the Project area. Drainage B consists of exotic species and is not contiguous with other riparian habitat. Drainage F is highly disturbed and constrained by development and fences on either side. Larger mammals would not likely use either drainage as a wildlife corridor due to access constraints posed by the fencing and the culvert under I-215.

2.14.3 Environmental Consequences

The project area for the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project overlaps with the Project area for the I-215/Barton Road Interchange Improvement Project. The I-215 Bi-County HOV Lane Gap Closure Project is currently under construction and will be completed by mid-2015, prior to construction of the I-215/Barton Road Interchange Improvement Project.

2.14.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, no temporary impacts to natural communities would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternatives 3, 6, and Modified Alternative 7 would not result in temporary impacts to the native vegetation communities associated with Drainages B and F and would only temporarily impact Developed/Ornamental and Ruderal Vegetation communities.

Temporary indirect impacts include potential impacts to adjacent habitats caused by storm water runoff and litter. Storm water and litter impacts would be avoided through compliance with the Construction General Permit and implementation of Project-specific best management practices (BMPs) as required in Measure WQ-1 (Section 2.8). Therefore, no substantial temporary indirect impacts would occur.

As described above, the Project area and drainages do not function as wildlife movement corridors. Therefore, construction of the Build Alternatives would not result in temporary impacts to wildlife corridors.

2.14.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to natural communities would occur.

Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will permanently impact 0.05 ac of riparian habitat (0.04 ac in Drainage B and 0.01 ac in Drainage F). This approved project includes mitigation measures and Regulatory Permits to mitigate impacts to natural communities, and no substantial impacts will occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

The I-215 Bi-County HOV Lane Gap Closure Project will widen I-215 where Drainage B passes below the freeway. Based on the final design plans for the I-215 Bi-County HOV Lane Gap Closure Project, no additional widening into Drainage B would be required for the I-215/Barton Interchange Improvement Project; therefore, Alternatives 3, 6, and Modified Alternative 7 would not result in permanent impacts to Drainage B. Similarly, the I-215 Bi-County HOV Lane Gap Closure Project will impact Drainage F in order to construct a sound barrier. Because this sound barrier will already be constructed as part of the HOV project, the I-215/Barton Interchange Improvement Project would not permanently impact Drainage F. Only Developed/ Ornamental and Ruderal Vegetation communities will be permanently affected by the Build Alternatives.

Potential permanent indirect impacts include degradation of adjacent riparian habitat from storm water runoff, traffic, and litter. In addition, construction has the potential to indirectly affect riparian habitat permanently through enhancing the germination and proliferation of nonnative invasive plant species. Storm water and litter indirect impacts would be avoided through compliance with the California Department of Transportation (Caltrans) Storm Water Management Plan (SWMP), the Caltrans and City National Pollutant Discharge Elimination System (NPDES) permits, and implementation of Project-specific BMPs as required in Measure WQ-2 (Section 2.8). Control of invasive plant species requires revegetation with plant species native to the

area, adherence to a weed abatement and control program, and compliance with pollution and litter laws and regulations as specified in Measure INV-1 (Section 2.19). Implementation of these measures would avoid or minimize permanent indirect impacts to riparian habitat, and no substantial impacts would occur.

As discussed in Sections 2.5, 2.12, and 2.20, Alternatives 3, 6, or Modified Alternative 7 would reduce local traffic congestion, and regional exhaust emissions would be the same as the No Build Alternative or would increase slightly. Therefore, the Build Alternatives would not cause new indirect impacts to natural communities from exhaust.

As described above, the Project area and drainages do not function as wildlife movement corridors. Therefore, construction of any of the Build Alternatives would not result in permanent impacts to wildlife corridors.

2.14.4 Avoidance, Minimization, and/or Mitigation Measures

Measures WQ-1 and WQ-2, presented in Section 2.8, Water Quality and Storm Water Runoff, and Measure INV-1, presented in Section 2.19, Invasive Species, would minimize impacts to natural communities. No additional avoidance, minimization, and/or mitigation measures are required or proposed.

2.15 Wetlands and Other Waters

2.15.1 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 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the 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 United States Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Standard 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 allow 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. There are two types of Standard permits: Individual permits and Letters of Permission. 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 (Guidelines) were developed by the U.S. EPA in conjunction with the 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 the

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.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this EO states that a federal agency, such as the FHWA and/or Caltrans, 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 State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or 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 CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW 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 CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. 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. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for additional details.

2.15.2 Affected Environment

This section is based on the *Natural Environment Study* (Minimal Impacts) (NES[MI]) (October 2013) and the *Jurisdictional Delineation* (June 2011) prepared for the Project.

The findings and conclusions of the Jurisdictional Delineation are considered preliminary until verified by the USACE, the CDFW, and the RWQCB. A request for a preliminary jurisdictional determination will be submitted to USACE prior to approval of the Final Initial Study/Environmental Assessment (IS/EA).

The study area for wetlands and other waters is the Jurisdictional Study Area (study area), which represents the area of potential Project impacts and includes the proposed ground disturbance area associated with the interchange, including the grading limits and staging areas. The Jurisdictional Study Area is depicted on Figure 2.15.1.

There are six water features located within the study area (referred to as Drainages A through F). These drainages are shown on Figure 2.15.1 and are described below.

The Riverside Canal Aqueduct (Drainage A) is a concrete channel in the southeast part of the study area that conveys groundwater pumped from wells in Colton by the City of Riverside, solely for irrigation purposes and is not diverted into waters of the United States (U.S.).

Drainage B (Highgrove Channel), in the southeast part of the study area, conveys flows from a storm drain system to the south into an earthen-lined channel with culverts under railroad tracks and under Interstate 215 (I-215). Drainage B conveys flows into the Santa Ana River near the San Bernardino/Riverside County line, approximately 3 miles (mi) to the southwest. Portions of Drainage B are vegetated with riparian habitat, as shown in Figure 2.15.1.

Drainage C is a concrete trapezoidal ditch located east of the northbound I-215 exit ramp. Drainage C receives flows from under Barton Road (from the storm drain system) and a small amount of runoff from Barton Road itself. Drainage C is approximately 250 feet (ft) long and conveys flows into another underground storm drain system.

Two concrete ditches (Drainages D and E) on either side of I-215 convey flows along the northern portion of the study area into an earthen channel (Drainage F) described below. Drainage D is a concrete v-ditch that conveys ephemeral flows along the top of the slope adjacent to southbound I-215 and outlets onto a concrete slurry pad

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S LA CADENA DR

S IOWA AV

Highgrove Canal

BNSF Railway

Drainage A
(Riverside Canal Aqueduct)

215

12 feet ACOE/
80 feet CDFW

Drainage B

E DE BERRY ST

Drainage A
(Riverside Canal Aqueduct)

Riverside Canal

W MAIN ST

UP Railroad

Drainage A
(Riverside Canal Aqueduct)

Drainage B
(Highgrove Channel)

10 feet ACOE/
18 feet CDFW

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LEGEND

- Jurisdictional Study Area
- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)
- Soil Test Pit (with ID)
- USACE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)

0 150 300
FEET

SOURCE: Microsoft (5/2010)

NOTE: USACE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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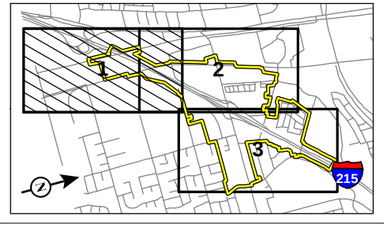

FIGURE 2.15.1
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential USACE/CDFW Jurisdictional Areas

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S LA CADENA DR
BNSF Railway
TERRACE AV
BARTON RD
WALNUT AV
BURNS AV
E DE BERRY ST
UP Railroad
Riverside Canal
GRAND TERRACE RD
VIVIENDA AV
Drainage F
Drainage A
(Riverside Canal Aqueduct)
LA CROSSE AV
215
Drainage B
(Highgrove Channel)
10 feet ACOE/
18 feet CDFW

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

LEGEND

- Jurisdictional Study Area
- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)
- Soil Test Pit (with ID)
- USACE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)

0 150 300
FEET

SOURCE: Microsoft (5/2010)

NOTE: USACE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

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FIGURE 2.15.1
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential USACE/CDFW Jurisdictional Areas

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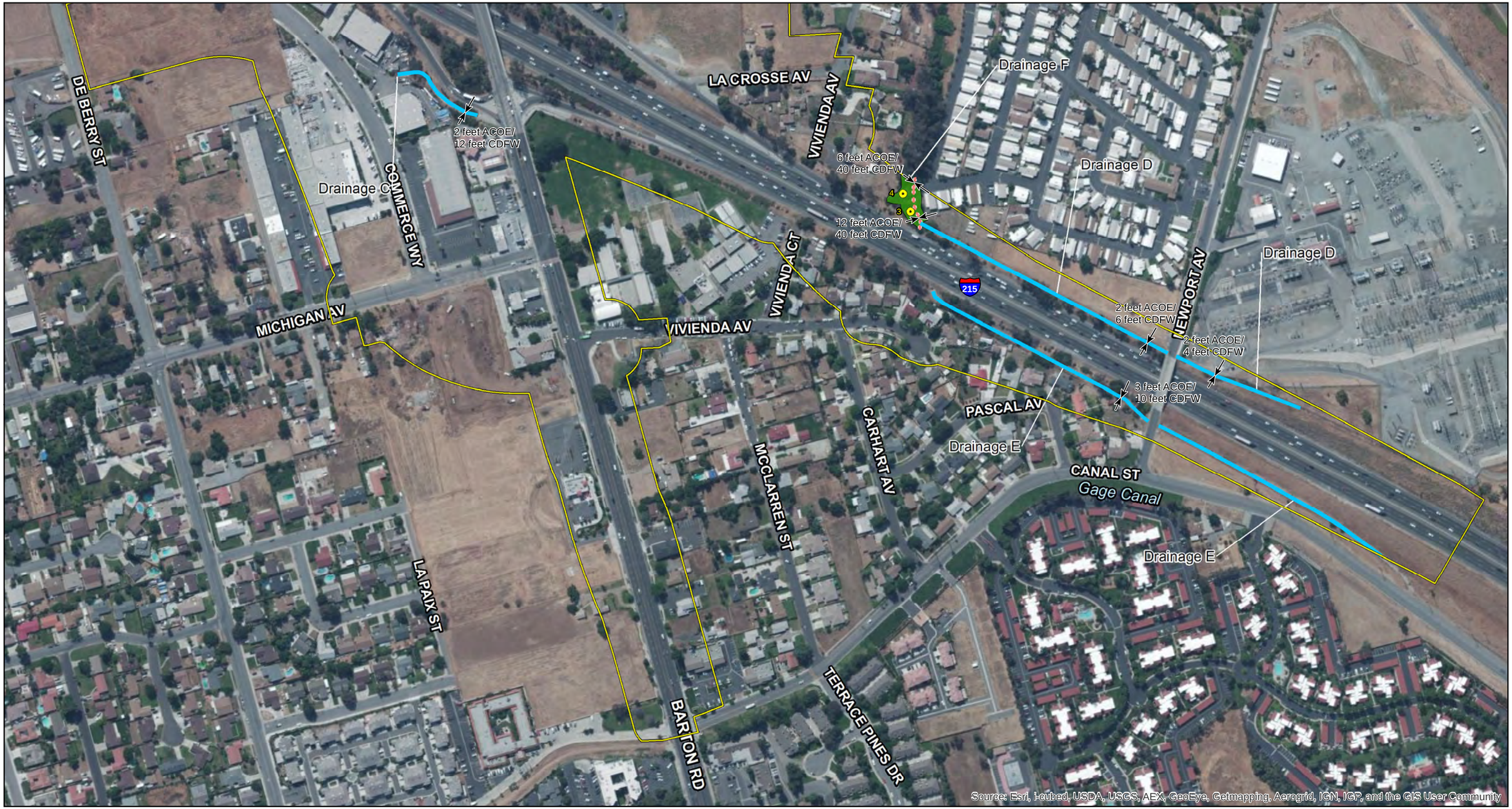

LEGEND

- Jurisdictional Study Area
- Earthen / Vegetated Channel (Wetland Waters)
- Earthen / Vegetated Channel (Non-Wetland Waters)
- Lined Channel (Non-Wetland Waters)
- Lined Channel (Non-Jurisdictional Waters)
- Soil Test Pit (with ID)
- USACE/CDFW Jurisdictional Width
- Riparian habitat (CDFW Jurisdiction)

0 150 300
FEET

SOURCE: Microsoft (5/2010)

NOTE: USACE jurisdictional width is based on Ordinary High Water Mark; CDFW jurisdictional width is based on bank to bank of streambed and includes any associated riparian habitat.

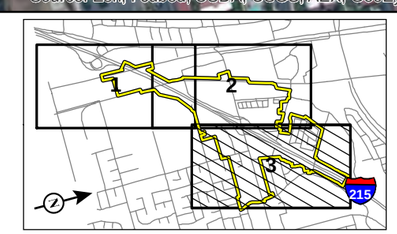

FIGURE 2.15.1
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential USACE/CDFW Jurisdictional Areas

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within the earthen drainage. Drainage E is a concrete trapezoidal ditch along the toe of slope above northbound I-215 and conveys intermittent flows through a culvert under I-215 onto the same concrete erosion control pad as Drainage F.

Drainage F is an earthen channel located west of I-215 and originates approximately 1,000 ft south of Newport Avenue and 400 ft north of Vivienda Avenue. Drainage F is vegetated with riparian habitat, as shown in Figure 2.15.1. The Drainage is highly disturbed, with nonnative species and a concrete erosion control pad at the base of the Drainage E culvert outlet under I-215 and at the base of the Drainage D outlet. Water from Drainage F is conveyed through the disturbed stand of riparian habitat and down the west side of the mesa landform. Although a connection to the Santa Ana River is not evident from the flow pattern, it is assumed that all flows eventually reach the Santa Ana River, a relatively permanent water body located less than 1 mi to the northwest.

2.15.2.1 Potential USACE Jurisdictional Areas

Drainage A is a concrete-lined aqueduct, is wholly excavated in uplands, and is not part of a surface tributary system to any navigable waters and, therefore, is not jurisdictional per 33 Code of Federal Regulations (CFR) 328.3.

All flows from Drainages B through F within the study area eventually reach the Santa Ana River. The Santa Ana River conveys flows generally southwest into Orange County and eventually into the Pacific Ocean. The Pacific Ocean is a navigable water of the U.S.; therefore, Drainages B through F each have an interstate commerce nexus and are considered potential USACE jurisdictional areas. As shown in Table 2.15.A, the total area of potential USACE nonwetland waters of the U.S. within the study area is 0.30 acre (ac). There is 0.04 ac of potential USACE jurisdictional wetlands (i.e., areas that satisfy all three criteria for USACE jurisdictional wetlands) present within Drainage B. Therefore, the total area of USACE jurisdiction within the study area is 0.34 ac (including 0.30 ac of nonwetland waters of the U.S. and 0.04 ac of wetlands). The potential USACE jurisdictional areas are shown on Figure 2.15.1.

2.15.2.2 CDFW Jurisdictional Areas

The area satisfying the USACE jurisdictional criteria for Waters of the U.S. (Drainages B through F), as described above, is also subject to CDFW jurisdiction. In addition, the width of the banks exceeding the ordinary high water mark and adjacent riparian areas extending beyond the limits of the banks are also considered subject to CDFW jurisdiction. As shown in Table 2.15.B, the total acreage of potential CDFW jurisdiction in the BSA is 1.34 ac.

Table 2.15.A Potential USACE Jurisdictional Area

Drainage	Nonwetland Area Within Study Area (ac)	Wetland Area Within Study Area (ac)	Total Acreage
A	N/A	N/A	N/A
B	0.08	0.04	0.12
C	0.01	N/A	0.01
D	0.06	N/A	0.06
E	0.12	N/A	0.12
F	0.04	N/A	0.04
Total	**0.30**	**0.04**	**0.34**

Source: *Jurisdictional Delineation* (June 2011).

Table 2.15.B Potential CDFW Jurisdictional Area

Drainage	Streambed and Associated Riparian Habitat Within the Study Area (ac)
A	N/A
B	0.47
C	0.09
D	0.16
E	0.38
F	0.24
Total	**1.34**

Source: *Jurisdictional Delineation* (June 2011).

2.15.2.3 RWQCB Jurisdictional Areas

Pursuant to Section 401 of the CWA, RWQCB asserts jurisdiction over areas meeting the federal definition of wetlands and other waters of the U.S. Therefore, the potential USACE jurisdictional areas discussed above (Drainages B through F) would also be under the jurisdiction of the RWQCB.

2.15.2.4 Functions and Values

The following is an assessment of the functions and values attributable to the potential jurisdictional drainages in the Jurisdictional Study Area. All wetlands and other waters have some degree of functionality, and no single wetland can perform all of the functions considered below. The following functions exist at low or moderate levels in the identified jurisdictional areas in the Jurisdictional Study Area. The functions and values of the concrete-lined ditches are all considered to be low, and the functions and values of the earthen-lined drainages (Drainages B and F) range from low to high.

Groundwater Discharge/Recharge

Portions of the jurisdictional waters in the study area are the product of runoff from I-215 and suburban land uses. The concrete ditches do not allow for groundwater recharge. The earthen drainages allow for recharge of groundwater but likely do not play a large role in groundwater discharge. Therefore, this is considered a low-level function of Drainages B and F.

Flood Flow Alteration

The concrete-lined ditches (Drainages C, D, and E) are artificially created structures in an urban area that are designed to accommodate high flows. The earthen channels (Drainages B and F) function to slow water and fill up to provide temporary storage. Therefore, flood flow alteration is considered a moderate- to high-level function of these potentially jurisdictional waters.

Sediment Stabilization

Sediment stabilization is a low- to moderate-level function of the jurisdictional waters in the study area. The earthen drainages (Drainages B and F) can slow flows and allow sediment to stabilize due to the gradual slope and vegetation within the channel. The sediment stabilization function is not a function of the concrete-lined channels (Drainages C, D, and E).

Sediment/Toxicant Retention

No wetland vegetation is present in the concrete-lined drainages (Drainages C, D, and E). There is only minimal evidence of newly deposited sediment in the earthen drainages (Drainages B and F). The main channel of Drainage B is largely unvegetated, with a dense canopy of trees lining the steeply sloped banks. Wetland vegetation, such as tall flatsedge, is located in Drainage F within and downstream of the study area and may function to remove toxics. However, the main channel closest to I-215 consists of fringed willow herb (*Epilobium ciliatum*), rabbitsfoot grass (*Polypogon monspieliensis*), and castor bean (*Ricinus communis*). Therefore, this is considered a low- to moderate-level function for Drainages B and F.

Nutrient Removal/Transformation

The only wetland in the study area is along Drainage B by I-215. Minimal herbaceous vegetation (consisting of fringed willow herb and rabbitsfoot grass) is present within this drainage, which would result in minimal nutrient removal and transformation. At the downstream end of the study area along Drainage F, there were some hydrophytic herbaceous plant species that may function to provide nutrient removal and

transformation. This is considered a low- to moderate-level function for Drainages B and F. There is no nutrient removal/transformation associated with the concrete-lined drainages (Drainages C, D, and E).

Wildlife Habitat

There is some evidence of wildlife use of the vegetation associated with the earthen drainages (Drainages B and F). However, the habitat is highly disturbed by nonnative plant species and surrounded by development. Wildlife using the drainages would be common to urban areas. Thus, wildlife habitat is a low- to moderate-level function for Drainages B and F. There is no wildlife habitat associated with the concrete-lined drainages (Drainages C, D, and E).

Uniqueness/Heritage

There is nothing unique or of any social significance about any of the drainages. Therefore, this is considered a low-level value in the study area.

Recreation

The drainages in the study area are surrounded by the freeway, roads, and commercial and other developed uses and do not provide any recreational opportunities. Recreation is, therefore, considered a low-level value for all of the drainages.

2.15.3 Environmental Consequences

The project area for the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project overlaps with the Project area for the I-215/Barton Road Interchange Improvement Project. The I-215 Bi-County HOV Lane Gap Closure Project is currently under construction and will be completed by mid-2015, prior to construction of the I-215/Barton Road Interchange Improvement Project.

2.15.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, no temporary impacts to wetlands or other waters would occur.

Alternative 3 (Partial Cloverleaf Interchange)

To minimize temporary direct impacts to jurisdictional waters, drainage improvements would primarily be constructed from existing roadways. As shown in Tables 2.15.C and 2.15.D, Alternative 3 would not result in temporary direct impacts to USACE, CDFW, or RWQCB jurisdiction.

Table 2.15.C Temporary Impacts to Potential USACE Jurisdictional Areas

	Alternative 3 (ac)	Alternative 6 (ac)	Modified Alternative 7 (ac)
Wetland Areas			
Drainage B (Highgrove Channel)	0	0	0
Nonwetland Areas			
Drainage C	0	0	0
Drainage D	0	0	0
Drainage E	0	0	<0.01
Drainage F	0	0	0
Total Impacts to Potential USACE Jurisdiction	**0**	**0**	**<0.01**

Source: *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013).

Table 2.15.D Temporary Impacts to Potential CDFW Jurisdictional Areas

	Alternative 3 (ac)	Alternative 6 (ac)	Modified Alternative 7 (ac)
Drainage B (Highgrove Channel)	0	0	0
Drainage C	0	0	0
Drainage D	0	0	0
Drainage E	0	0	<0.01
Drainage F	0	0	0
Total Impacts to Potential CDFW Jurisdiction	**0**	**0**	**<0.01**

Source: *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013).

Potential temporary indirect impacts to jurisdictional areas include impacts to water quality caused by litter or pollutants in construction storm water runoff. During construction activities, best management practices (BMPs) would be implemented to ensure that erosion caused by construction activities does not occur and that sediment is not deposited in the drainages.

A Storm Water Pollution Protection Plan (SWPPP) would be prepared and would specify the BMPs to be implemented as required in Measure WQ-1 (Section 2.8). Storm water and litter impacts would be avoided through compliance with the Construction General Permit and implementation of Project-specific BMPs as required in Measure WQ-1. Therefore, temporary direct impacts to jurisdictional areas would not be substantial.

Alternative 6 (Modified Cloverleaf Interchange)

Like Alternative 3, to minimize impacts to jurisdictional waters, drainage improvements would primarily be constructed from existing roadways. As shown in Tables 2.15.C and 2.15.D, Alternative 6 would not result in temporary direct impacts to USACE, CDFW, or RWQCB jurisdiction.

Potential temporary indirect impacts to jurisdictional areas are the same as Alternative 3 and would be avoided or minimized through implementation of Measure WQ-1. Therefore, temporary indirect impacts to jurisdictional areas would not be substantial.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Like Alternatives 3 and 6, to minimize impacts to jurisdictional waters, drainage improvements would primarily be constructed from existing roadways. However, Modified Alternative 7 would result in <0.01 ac of temporary impacts to USACE, RWQCB, and CDFW jurisdiction within Drainage E.

Although minor, impacts to the jurisdictional areas would require authorization from CDFW and RWQCB prior to construction as specified in Measures WET-1 and WET-2. Because Modified Alternative 7 would impact <0.1 ac of potential USACE jurisdictional non-wetland waters, a postconstruction notification is not required to be submitted to USACE. However, as specified in Measure WET-3, the Project will comply with the Nationwide Permit Program, pursuant to Section 404 of the federal CWA. During construction activities, BMPs will be implemented to ensure that erosion caused by construction activities does not occur and that sediment is not deposited in the storm drain system or adjacent drainages. With implementation of Measures WET-1 and WET-3, temporary direct impacts to jurisdictional areas would not be substantial.

Potential temporary indirect impacts to jurisdictional areas are the same as Alternatives 3 and 6, discussed above, and would be avoided or minimized through implementation of Measure WQ-1.

2.15.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to wetlands or other waters would occur.

Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. As shown in Tables 2.15.E and 2.15.F, the I-215 Bi-County HOV Lane Gap Closure Project would permanently impact 0.009 ac of USACE jurisdiction and 0.05 ac of CDFW jurisdiction. This approved project includes measures to mitigate impacts, and no substantial permanent impacts to wetlands and other waters will occur.

Table 2.15.E Permanent Impacts to Potential USACE Jurisdictional Areas

	Alternative 1 (ac)	Alternative 3 (ac)	Alternative 6 (ac)	Modified Alternative 7 (ac)
Wetland Areas				
Drainage B (Highgrove Channel)	0.007	0	0	0
Nonwetland Areas				
Drainage B	0	0	0	0
Drainage C	0	0.01	0	0.01
Drainage D	0	0	0	0
Drainage E	0	0	0	<0.01[1]
Drainage F	0.002	0	0	0
Total Impacts to Potential USACE Jurisdiction	**0.009**[2]	**0.01**	**0**	**0.01**

Sources: *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013); *NES for the I-215 Bi-County HOV Lane Gap Closure Project* (November 2010); *NES(MI) for the I-215/Newport Avenue Overcrossing Project* (June 2011).

[1] Although impacts would occur, they are well below 0.01 and, therefore, do not appear to be added to the total impacts that is rounded to two digits.

[2] Alternative 1 includes impacts to jurisdictional areas from the I-215 HOV Lane Gap Closure Improvement Project.

Table 2.15.F Permanent Impacts to Potential CDFW Jurisdictional Areas

	Alternative 1 (ac)	Alternative 3 (ac)	Alternative 6 (ac)	Modified Alternative 7 (ac)
Drainage B (Highgrove Channel)	0.04	0	0	0
Drainage C	0	0.08	0	0.08
Drainage D	0	0	0	0
Drainage E	0	0	0	<0.01[1]
Drainage F	0.01	0	0	0
Total Impacts to Potential CDFW Jurisdiction	**0.05**[2]	**0.08**	**0**	**0.08**

Sources: *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013); *NES for the I-215 Bi-County HOV Lane Gap Closure Project* (November 2010); *NES(MI) for the I-215/Newport Avenue Overcrossing Project* (June 2011).

[1] Although impacts would occur, they are well below 0.01 and, therefore, do not appear to be added to the total impacts that is rounded to two digits.

[2] Alternative 1 includes impacts to jurisdictional areas from the I-215 HOV Lane Gap Closure Improvement Project.

Alternative 3 (Partial Cloverleaf Interchange)

The I-215 Bi-County HOV Lane Gap Closure Project will widen I-215 where Drainage B passes below the freeway. Based on the final design plans for the I-215 Bi-County HOV Lane Gap Closure Project, no additional widening into Drainage B would be required for the I-215/Barton Interchange Improvement Project; therefore, the I-215/Barton Interchange Improvement Project would not result in permanent impacts to Drainage B. Similarly, the I-215 Bi-County HOV Lane Gap Closure Project will impact Drainage F in order to construct a sound barrier. Because this sound barrier will already be constructed as part of the HOV project, the I-215/Barton Interchange Improvement Project would not permanently impact Drainage F.

As shown in Tables 2.15.E and 2.15.F, and depicted on Figure 2.15.2, Alternative 3 would result in permanent impacts to 0.01 ac of potential USACE nonwetland areas and 0.08 ac of potential CDFW jurisdiction from replacement of the concrete ditch adjacent to the existing northbound off-ramp with an underground pipe. Impacts to potential RWQCB jurisdiction would be the same as impacts to potential USACE jurisdiction.

Although minor, impacts to the jurisdictional areas would require authorization from CDFW and RWQCB prior to construction as specified in Measures WET-1 and WET-2. Because Alternative 3 would impact <0.1 ac of potential USACE jurisdictional waters, postconstruction notification for compliance with the Nationwide Permit Program would be provided to the USACE as specified in Measure WET-3. Compensatory mitigation is not anticipated. With implementation of Measures WET-1 through WET-3, permanent impacts to jurisdictional areas would not be substantial.

Potential indirect impacts to jurisdictional areas include impacts to water quality caused by litter or pollutants in operational storm water runoff and the indirect effect of germination and proliferation of nonnative invasive plant species. Storm water and litter indirect impacts would be avoided through compliance with the California Department of Transportation (Caltrans) Storm Water Management Plan (SWMP) and the Caltrans and City National Pollutant Discharge Elimination System (NPDES) permits and implementation of Project-specific BMPs as required in Measure WQ-2 (Section 2.8). Control of invasive plant species requires revegetation with plant species native to the area, adherence to a weed abatement and control program, and compliance with pollution and litter laws and regulations as specified in Measure INV-1 (Section 2.19). Implementation of these measures would avoid or minimize permanent indirect impacts to jurisdictional areas, and no substantial impacts would occur.

S LA CADENA DR

S IOWA AV

Highgrove Canal

BNSF Railway

Drainage A
(Riverside Canal Aqueduct)

215

Drainage B

Drainage A
(Riverside Canal Aqueduct)

ELDERBERRY ST

Riverside Canal

W MAIN ST

UP Railroad

Drainage A
(Riverside Canal Aqueduct)

Drainage B
(Highgrove Channel)

LEGEND

- Jurisdictional Study Area
- Alternative 3
- Permanent Impact to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictionial Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

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FEET

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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FIGURE 2.15.2
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

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S LA CADENA DR
BNSF Railway
TERRACE AV
BARTON RD
WALNUT AV
BURNS AV
UP Railroad
ELDERBERRY ST
Riverside Canal
GRAND TERRACE RD
LA CROSSE AV
215
VIVIENDA AV
Drainage F
Drainage A
(Riverside Canal Aqueduct)
Drainage B
(Highgrove Channel)

LEGEND

- Jurisdictional Study Area
- Alternative 3
- Permanent Impact to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictionial Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

0 150 300
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SOURCE: Microsoft (5/2010); AECOM (8/2013)

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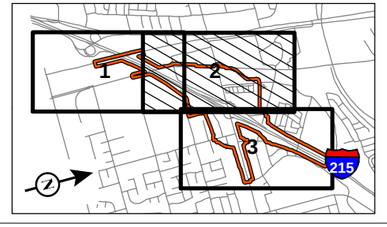

FIGURE 2.15.2
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

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LEGEND

- Jurisdictional Study Area
- Alternative 3
- Permanent Impact to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

0 150 300
FEET

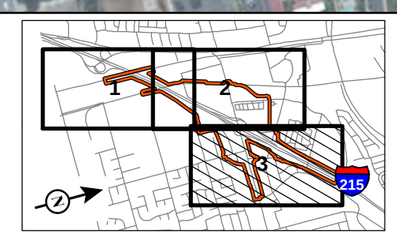

FIGURE 2.15.2
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Alternative 3

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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Alternative 6 (Modified Cloverleaf Interchange)

As shown in Tables 2.15.E and 2.15.F, Alternative 6 would not result in permanent impacts to potential USACE or CDFW jurisdiction, which is the smallest impact of all the Build Alternatives. Impacts to potential RWQCB jurisdiction would be the same as impacts to potential USACE jurisdiction; therefore, Alternative 6 would not result in permanent impacts to RWQCB jurisdiction.

Potential permanent indirect impacts to jurisdictional areas are the same as Alternative 3 and would be avoided or minimized through implementation of Measures WQ-2 and INV-1.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

As shown in Tables 2.15.E and 2.15.F, Modified Alternative 7 would result in permanent impacts to 0.01 ac of potential USACE nonwetland areas and 0.08 ac of potential CDFW jurisdiction. Impacts to RWQCB jurisdiction would be the same as impacts to USACE jurisdiction. Permanent impacts are depicted on Figure 2.15.3.

For Modified Alternative 7, impacts to Drainage C would occur from the replacement of the concrete ditch adjacent to the existing northbound off-ramp with an underground pipe. Impacts to Drainage E would occur from the replacement of a portion of the concrete ditch on the east side of I-215 at Newport Avenue with an underground pipe.

Like Alternative 3, impacts to the jurisdictional areas would require authorization from CDFW and RWQCB prior to construction as specified in Measures WET-1 and WET-2. No mitigation, other than obtaining permits, is required because the drainages are concrete lined and void of vegetation. Because Modified Alternative 7 would impact <0.1 ac of potential USACE jurisdictional waters, postconstruction notification for compliance with the Nationwide Permit Program would be provided to the USACE as specified in Measure WET-3. With implementation of Measures WET-1 through WET-3, permanent impacts to potential jurisdictional areas would not be substantial.

Potential permanent indirect impacts to jurisdictional areas are the same as Alternatives 3 and 6 and would be avoided or minimized through implementation of Measures WQ-2 and INV-1.

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S LA CADENA DR

S IOWA AV

Highgrove Canal

BNSF Railway

Drainage A
(Riverside Canal Aqueduct)

215

Drainage B

Drainage A
(Riverside Canal Aqueduct)

ELDERBERRY ST

Riverside Canal

Drainage A
(Riverside Canal Aqueduct)

Drainage B
(Highgrove Channel)

W MAIN ST

UP Railroad

LEGEND

- Jurisdictional Study Area
- Modified Alternative 7 Layout
- Permanent Impacts to Potential Jurisdictional Areas
- Temporary Impacts to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

0 150 300
FEET

FIGURE 2.15.3
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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S LA CADENA DR
BNSF Railway
TERRACE AV
BARTON RD
WALNUT AV
BURNS AV
UP Railroad
ELDERBERRY ST
Riverside Canal
GRAND TERRACE RD
LA CROSSE AV
215
VIVIENDA AV
Drainage F
Drainage A
(Riverside Canal Aqueduct)
Drainage B
(Highgrove Channel)

LEGEND

- Jurisdictional Study Area
- Modified Alternative 7 Layout
- Permanent Impacts to Potential Jurisdictional Areas
- Temporary Impacts to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

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SOURCE: Microsoft (5/2010); AECOM (8/2013)

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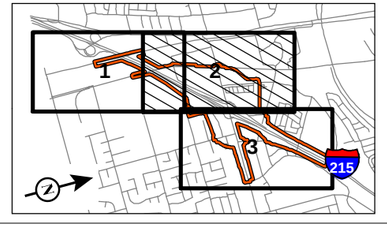

FIGURE 2.15.3
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

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LEGEND

- Jurisdictional Study Area
- Modified Alternative 7 Layout
- Permanent Impacts to Potential Jurisdictional Areas
- Temporary Impacts to Potential Jurisdictional Areas
- I-215 Bi-County HOV Lane Gap Closure Project Impact Area
- CDFW Potential Jurisdictional Waters

USACE Potential Jurisdiction

- Wetland Waters
- Non-Wetland Waters

Non-Jurisdictional

- Non-Jurisdictional Waters

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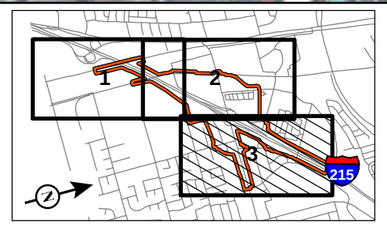

FIGURE 2.15.3
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Jurisdictional Impacts - Modified Alternative 7

SOURCE: Microsoft (5/2010); AECOM (8/2013)

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Alternatives 3, 6, and Modified Alternative 7 Impacts to Functions and Values

The temporary and permanent impacts to drainages described above have the potential to impact the functions and values discussed in Section 2.15.2.4. Drainages B and F are the only earthen channels and have low-to-moderate functions and values for sediment stabilization, sediment/toxicant retention, nutrient removal/transformation, and wildlife habitat and moderate-to-high functions for flood flow alteration, as discussed in Section 2.15.2.4. As discussed above, none of the Build Alternatives would result in temporary or permanent impacts to Drainages B and F; therefore, the Build Alternatives are not expected to impact the functions or values of these drainages.

Alternative 3 and Modified Alternative 7 would result in permanent impacts to Drainage C. In addition, Modified Alternative 7 would result in temporary and permanent impacts to Drainage E. These drainages are concrete-lined channels, which all have low functions and values (for flood flow alteration, sediment/toxicant retention, and nutrient removal/transformation) and no to low functions for the following: groundwater discharge/recharge, sediment stabilization, wildlife habitat, uniqueness/heritage, and recreation. The impacts on the functions and values of the drainages are expected to be minimal due to the minimal activity that would occur within these waterways and because there are little to no functions and values of the concrete-lined drainages.

2.15.4 Avoidance, Minimization, and/or Mitigation Measures

Appropriate BMPs and conditions will be discussed and agreed upon with the resource agencies via the permit processes specified in WET-1, WET-2, and WET-3, listed below.

Potential temporary and permanent indirect impacts to jurisdictional areas would be avoided or minimized through implementation of Measures WQ-1, WQ-2, and INV-1.

WET-1 **Streambed Alteration Agreement.** Prior to construction, a Section 1602 Streambed Alteration Agreement will be obtained from the California Department of Fish and Wildlife (CDFW).

WET-2 **Water Quality Certification.** Prior to construction, a certification of water quality from the Santa Ana Regional Water Quality Control

Board (RWQCB) Region 8, pursuant to Section 401 of the federal Clean Water Act (CWA), will be obtained.

WET-3 **Compliance with the Nationwide Permit Program.** During construction, the Project will comply with the Nationwide Permit Program, pursuant to Section 404 of the federal CWA.

2.16 Plant Species

2.16.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) 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 provided 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 the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species, Section 2.19, in this document for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW 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 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. California Department of Transportation (Caltrans) projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900–1913, and the California Environmental Quality Act (CEQA), CA Public Resources Code, Sections 2100–21177.

2.16.2 Affected Environment

This section is based on the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) prepared for the Project.

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-interest plant species in or within the vicinity of the Biological Study Area (BSA). The results of the literature review indicated the potential occurrence of 24 special-status plant species known from the vicinity of the BSA. A total of 6 of the 24 special-status plant species are federally and/or State-listed endangered or threatened species and are discussed later in Section 2.18, Threatened and Endangered Species. The remaining 18 special-status plant species identified as potentially occurring in the vicinity of the BSA are:

- Chaparral sand-verbena (*Abronia villosa* var. *aurita*)
- Horn's milk-vetch (*Astragalus hornii* var. *hornii*)
- Bristly sedge (*Carex comosa*)
- Smooth tarplant (*Centromadia pungens* ssp. *laevis*)
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*)
- Peruvian dodder (*Cuscuta obtusifolia* var. *glandulosa*)
- Alvin meadow bedstraw (*Galium californicum* ssp. *primum*)
- Los Angeles sunflower (*Helianthus nuttallii* ssp. *parishii*)
- Mesa horkelia (*Horkelia cuneata* ssp. *puberula*)
- Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*)
- Parish's desert thorn (*Lycium parishii*)
- Pringle's monardella (*Monardella pringlei*)
- Parish's gooseberry (*Ribes divericatum* var. *parishii*)
- Brand's phacelia (*Phacelia stellaris;* federal candidate)
- Parish's checkerbloom (*Sidalcea hickmanii* ssp. *parishii*)
- Salt Spring checkerbloom (*Sidalcea neomexicana*)
- Prairie wedge grass (*Sphenopholis obtusata*)
- San Bernardino aster (*Symphyotrichum defoliatum* [*Aster defoliatus*])

In addition to the literature review, reconnaissance-level surveys were conducted on June 20 and November 12, 2008, to characterize the general biological resources and to ascertain the presence or absence of special-status plant species and the likelihood of their occurrence in the BSA. An additional survey was conducted on August 6, 2009, to assess additional Project impact areas resulting from engineering revisions. In addition, reconnaissance surveys were conducted on June 29, 2010, and March 13, 2013, to update existing conditions. No special-status plant species were observed or otherwise detected in the BSA at the time of the site visits.

There is marginal habitat for the nonlisted San Bernardino aster, Salt Spring checkerbloom, and prairie wedge grass, in the riparian habitat (Drainages B and F) in the BSA. The drainages where these species of special concern would be found are highly disturbed, constrained by development, and consist primarily of nonnative species or species commonly found in developed and disturbed areas. Further, these species were not observed during site visits. The remaining 15 special-status plant species are considered absent from the BSA because suitable habitat for these species is not located within the BSA.

2.16.3 Environmental Consequences

2.16.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no temporary impacts to plant species would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

There is a low potential for construction of the Project to affect the San Bernardino aster, Salt Spring checkerbloom, or prairie wedge grass. The drainages where the Salt Spring checkerbloom, prairie wedge grass, and San Bernardino aster would be found are highly disturbed and constrained by development and consist primarily of nonnative species or species commonly found in developed and disturbed areas. Further, the Build Alternatives would not directly affect any riparian habitat and, therefore, would not affect these riparian species. In addition, these nonlisted species were not observed during site visits. Any potential temporary impacts to these species would not be considered substantial because these species are relatively widespread in distribution, are afforded no legal or regulatory protection, and are not State or federally listed as threatened or endangered. Because no other special-status plant species were observed during the reconnaissance-level surveys or are expected to occur in the Project area, no substantial temporary impacts to special-status plant species are expected as a result of the Project.

2.16.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to plant species would occur.

Separately, the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. Because no special-status plant species were observed or otherwise detected in the BSA, it is not expected that the I-215 Bi-County HOV Lane Gap Closure Project will permanently impact special-status plant species, including San Bernardino aster in the Project area.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

There is a low potential for the Project to affect the San Bernardino aster. The drainages where the Salt Spring checkerbloom, prairie wedge grass, and San Bernardino aster would be found are highly disturbed and constrained by development and consist primarily of nonnative species or species commonly found in developed and disturbed areas. Further, the Build Alternatives would not directly affect any riparian habitat and, therefore, would not affect these riparian species. In addition, these nonlisted species were not observed during site visits. Any potential permanent impacts to San Bernardino aster, Salt Spring checkerbloom, or prairie wedge grass would not be considered substantial because these species are relatively widespread in distribution, are afforded no legal or regulatory protection, and are not State or federally listed as threatened or endangered. Since all other special-status plant species are considered absent from the BSA, no other permanent impacts to special-status plant species are expected as a result of the Project.

2.16.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required or proposed.

2.17 Animal Species

2.17.1 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 Wildlife (CDFW) 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 federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.18 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

2.17.2 Affected Environment

This section is based on the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) prepared for the Project and a USFWS updated list of proposed, threatened, or endangered species potentially occurring in the Project vicinity (April 18, 2013).

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special-interest animal species in or within the vicinity of the Biological Study Area (BSA), including the updated USFWS species list. The results of the literature review indicated the potential occurrence of 21 special-status animal species known from the vicinity of the BSA. A total of 7 of the 21 special-status animal species are federally and/or State-listed endangered or

threatened species and are discussed in Section 2.18, Threatened and Endangered Species. The remaining 14 special-status animal species identified as potentially occurring in the BSA are:

- Arroyo chub (*Gila orcuttii*)
- Orange-throated whiptail (*Cnemidophorus hyperythrus beldingi*)
- Red diamond rattlesnake (*Crotalus ruber*)
- Coast horned lizard (*Phrynosoma blainvillii* [*coronatum*])
- Western burrowing owl (burrow sites) (*Athene cunicularia*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis* [nesting])
- Northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*)
- Western mastiff bat (*Eumops perotis*)
- Western yellow bat (*Lasiurus xanthinus*)
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)
- Pocketed free-tailed bat (*Nyctinomops femorasacca*)
- Southern grasshopper mouse (*Onychomys torridus ramona*)
- Los Angeles pocket mouse (*Perognathus longimembris brevinasus*)
- American badger (*Taxidea taxus*)

In addition to the literature review, reconnaissance-level surveys were conducted on June 20 and November 12, 2008, to characterize the general biological resources and to ascertain the presence or absence of special-status animal species and the likelihood of their occurrence in the BSA. An additional survey was conducted on August 6, 2009, to assess additional Project impact areas resulting from engineering revisions. Reconnaissance surveys were conducted on June 29, 2010, and March 13, 2013, to update existing conditions.

No special-status animal species were observed or otherwise detected in the BSA at the time of the site visit. With the exception of the northwestern San Diego pocket mouse, western burrowing owl, and western yellow bat, the special-status animal species listed above are considered absent from the BSA because suitable habitat for these species is not located within the BSA. Potentially suitable habitat for the northwestern San Diego pocket mouse, western yellow bat, and western burrowing owl is present in the BSA, as discussed in further detail below.

However, during field surveys of the vacant field east of Interstate 215 (I-215) south of Barton Road for northwestern San Diego pocket mouse, a nonlisted species of special concern, no habitat for this species was found. This field has been leveled to

bare dirt and is currently being used for equipment storage for the I-215 Bi-County HOV Lane Gap Closure Project. Any impact to this field due to the selected alternative would have no impact because it has been impacted by the I-215 Bi-County HOV Lane Gap Closure Project.

Two drainages (Drainages B and F) contain riparian habitat that could support special-status species associated with riparian areas. The western yellow bat has a potential to occur within riparian trees that are within the BSA.

A habitat suitability assessment was conducted for the western burrowing owl. Where potentially suitable habitat existed for the burrowing owl, a burrow survey was conducted. All burrows observed on site were assessed for indication of burrowing owl presence, activity, or sign. The burrowing owl habitat suitability assessment and burrow surveys for the burrowing owl were conducted on June 20, November 12, 2008; August 6, 2009; June 29, 2010; June 13 and 14, 2011; and March 13, 2013. There is marginal habitat for the western burrowing owl in the vacant field east of I-215 and south of Barton Road. The western burrowing owl was determined to be absent based on results of the burrow surveys. No evidence of potential burrowing owl burrows was observed during the burrow surveys. In addition, the vacant field is currently being used for construction equipment staging for the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project and has been highly disturbed. However, the burrowing owl is a mobile species and may colonize potentially suitable ruderal fields within the BSA prior to the start of construction.

2.17.3 Environmental Consequences

2.17.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no temporary impacts to animal species would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

There is no potential for construction of any of the Build Alternatives to affect the San Diego pocket mouse because there is no habitat present due to construction activities associated with the I-215 Bi-County HOV Lane Gap Closure Project.

There is a low potential for construction of any of the Build Alternatives to affect the western yellow bat. The drainages where the western yellow bat would be found is also highly disturbed and constrained by development and consists primarily of

nonnative species or species commonly found in developed and disturbed areas. Further, the Build Alternatives would not directly affect any riparian habitat and, therefore, would not affect this riparian species. In addition, the western yellow bat was not observed during site visits. Any potential temporary impacts to western yellow bat would not be considered substantial because this species is relatively widespread in distribution, is afforded no legal or regulatory protection, and is not State or federally listed as threatened or endangered. Because no other special-status animal species were observed during the reconnaissance-level surveys or are expected to occur in the Project area, no substantial temporary impacts to special-status animal species are expected.

Vegetation clearing and grading associated with the Project has the potential to disturb vegetation that may provide nesting habitat for migratory birds. Compliance with the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, as specified in Measure AS-1, would be required to avoid potential impacts to migratory birds during construction.

The western burrowing owl was determined to be absent from the BSA. Therefore, construction of the Project is not expected to result in temporary impacts to burrowing owls. However, the burrowing owl is a mobile species and may colonize potentially suitable ruderal fields within the BSA prior to the start of construction. As specified in Measure AS-2, preconstruction surveys would be required prior to construction to ensure that burrowing owls are not occupying potentially suitable ruderal fields. If burrowing owls are present outside the nesting season, they will be relocated. If burrowing owls are present during the nesting season, construction activities within a 300 feet (ft) buffer of the occupied burrow will be prohibited. No substantial impacts would occur.

2.17.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to animal species would occur.

Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Lane Gap

Closure Project includes measures to avoid, minimize, or mitigate impacts to special-status animal species. No substantial impacts will occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

There is a low potential for construction of the Project to affect the San Diego pocket mouse and western yellow bat. There is a low likelihood that the San Diego pocket mouse would be affected because the field where the San Diego pocket mouse would be found is highly disturbed by regular disking and does not consist of native vegetation. In addition, this field is being used for construction equipment staging for the I-215 Bi-County HOV Lane Gap Closure Project. The drainages where the western yellow bat would be found is also highly disturbed and constrained by development and consists primarily of nonnative species or species commonly found in developed and disturbed areas. Further, the Build Alternatives would not directly affect any riparian habitat and, therefore, would not affect this riparian species. In addition, the San Diego pocket mouse and western yellow bat were not observed during site visits. Any potential permanent impacts to San Diego pocket mouse and western yellow bat would not be considered substantial because these species are relatively widespread in distribution, are afforded no legal or regulatory protection, and are not State or federally listed as threatened or endangered.

Implementation of the Build Alternatives would result in the loss of a minor number of nonnative trees and shrubs. However, to the maximum extent feasible, trees and shrubs will be provided in available spaces. Permanent impacts to migratory birds are not considered substantial because of the small area of impact.

The western burrowing owl was determined to be absent from the BSA. Therefore, construction of the Project is not expected to result in permanent impacts to burrowing owls. However, the burrowing owl is a mobile species and may colonize potentially suitable ruderal fields within the BSA prior to the start of construction. As specified in Measure AS-2, preconstruction surveys would be required prior to construction to ensure that burrowing owls are not occupying potentially suitable ruderal fields. If burrowing owls are present outside the nesting season, they will be relocated. Therefore, construction of the Project would not result in the loss of individual burrowing owls. The Project would result in a minor loss of potentially suitable ruderal fields. However, permanent impacts to potential burrowing owl habitat are not considered substantial because of the small area of impact to marginal habitat.

Since all other special-status plant species are considered absent from the BSA, no other permanent impacts to special-status plant species are expected.

2.17.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are required to avoid and/or minimize impacts to western burrowing owl and migratory birds during construction of Alternatives 3, 6, or Modified Alternative 7.

AS-1 **Migratory Bird Treaty Act.** In compliance with the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, during construction, the construction contractor will restrict vegetation clearing to outside the active breeding season (February 15–August 31) for birds. If vegetation clearing is scheduled during the breeding season, a qualified biologist will conduct clearance surveys for active bird nesting immediately prior to any clearing of vegetation. During the clearance surveys, the location of any active bird nests will be mapped by the biologist, and an appropriate buffer (e.g., 250-foot [ft] buffer for raptors) where work will not take place will be established and monitored. The buffer will be delineated by roping or flagging the boundaries and will remain in place until the nest is either abandoned or the young have fledged.

AS-2 **Burrowing Owl Survey Protocol.** Consistent with the *California Department of Fish and Wildlife (CDFW) Burrowing Owl Survey Protocol and Mitigation Guidelines* (prepared by the California Burrowing Owl Consortium, April 1993), a preconstruction survey will be conducted by a qualified biologist within 30 days prior to Project-related ground-disturbing activities to ensure that burrowing owls are not occupying potentially suitable ruderal fields. If owls are determined to be present outside the nesting season (February 15–August 31), coordination with the CDFW will occur to passively relocate the burrowing owls. If nesting burrowing owls are determined to be present during the nesting season, construction activities within a 300 ft buffer of the occupied burrow will be prohibited until the end of nesting season or until it is determined that the owls are not utilizing the burrow as a nest.

2.18 Threatened and Endangered Species

2.18.1 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 Code of Federal Regulations (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 may include a Biological Opinion with an Incidental Take statement, a Letter of Concurrence and/or documentation of a No Effect finding. 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 Wildlife (CDFW) 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 CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the

coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.18.2 Affected Environment

This section is based on the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) prepared for the Project and a USFWS updated list of proposed, threatened, or endangered species list potentially occurring in the Project vicinity (April 18, 2013).

A literature review and records search were conducted to identify the existence or potential occurrence of threatened or endangered species in or within the vicinity of the Biological Study Area (BSA). Threatened or endangered plant species identified as potentially occurring in the vicinity of the BSA are:

- Marsh sandwort (*Arenaria paludicola;* federally endangered/State endangered)
- Nevin's barberry (*Berberis nevinii;* federally endangered/State endangered)
- Salt marsh bird's beak (*Cordylanthus maritimus* spp. *maritimus;* federally endangered/State endangered)
- Slender-horned spineflower (*Dodecahema leptoceras;* federally endangered/State endangered)
- Santa Ana River woolly star (*Eriastrum densifolium* ssp. *sanctorum;* federally endangered/State endangered)
- Gambel's water cress (*Nasturtium gambelii;* federally endangered/State endangered)

The threatened or endangered animal species identified as potentially occurring in the BSA are:

- Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis;* federally endangered)
- Santa Ana sucker (*Catostomus santaanae;* federally threatened)
- Southwestern willow flycatcher (*Empidonax traillii extimus;* federally endangered/State endangered)

- Coastal California gnatcatcher (*Polioptila californica californica;* federally threatened)
- Least Bell's vireo (*Vireo bellii pusillus*; federally endangered/State endangered)
- San Bernardino kangaroo rat (*Dipodomys merriami parvus;* federally endangered)
- Stephens' kangaroo rat (*Dipodomys stephensi;* federally endangered/State endangered)

In addition to the literature review, reconnaissance-level surveys were conducted on June 20 and November 12, 2008, to characterize the general biological resources and to ascertain the presence or absence of threatened or endangered animal species and the likelihood of their occurrence in the BSA. An additional survey was conducted on August 6, 2009, to assess additional Project impact areas resulting from engineering revisions. Reconnaissance surveys were conducted on June 29, 2010, and March 13, 2013, to update existing conditions.

Table 2.18.A provides a list of species observed during the field surveys. No threatened or endangered animal species were observed or otherwise detected in the BSA at the time of the site visit. Two drainages (Drainages B and F) contain riparian habitat that could support special-status species associated with riparian areas. However, the majority of the vegetation in Drainage F consists of nonnative species and does not include suitable breeding habitat for least Bell's vireo. Portions of Drainage B are also vegetated with riparian habitat; however, there is not a dense understory to support least Bell's vireo in this drainage. The BSA does not contain, nor is it adjacent to, suitable habitat for any other threatened or endangered species identified in the literature search. Therefore, the threatened and endangered species listed above are considered absent from the BSA because suitable habitat for these species is not located within the BSA, and these species were not detected during the surveys.

2.18.3 Environmental Consequences

2.18.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to threatened and endangered species would occur.

Table 2.18.A Plant and Animal Species Observed

Scientific Name	Common Name
PLANT SPECIES OBSERVED	
Aizoaceae	**Carpet weed family**
Conicosia pugioniformis (nonnative species)	Narrow-leaved iceplant, roundleaf iceplant
Trianthema portulacastrum	Horse-purslane
Amaranthaceae	**Amaranth family**
Amaranthus albus (nonnative species)	Tumbling pigweed
Asteraceae	**Sunflower family**
Ambrosia cf. confertiflora	Weak-leaved burweed
Conyza bonariensis (nonnative species)	Flax-leaved horseweed
Encelia farinosa	Brittlebush
Lactuca serriola (nonnative species)	Prickly lettuce
Sonchus oleraceus (nonnative species)	Common sow thistle
Ambrosia acanthicarpa	Annual bur-sage
Helianthus annuus	Common sunflower
Boraginaceae	**Borage family**
Heliotropium curassavicum	Salt heliotrope
Brassicaceae	**Mustard family**
Hirschfeldia incana (nonnative species)	Shortpod mustard
Sisymbrium irio (nonnative species)	London rocket
Raphanus sativus (nonnative species)	Wild radish
Caprifoliaceae	**Honeysuckle family**
Sambucus mexicana	Blue elderberry
Chenopodiaceae	**Saltbush family**
Salsola tragus (nonnative species)	Russian thistle
Convolvulaceae	**Morning-glory family**
Ipomoea sp. (nonnative species)	Morning glory
Euphorbiaceae	**Spurge family**
Croton setigerus	Dove weed
Chamaesyce albomarginata	Rattlesnake weed
Ricinus communis (nonnative species)	Castor bean
Juglandaceae	**Walnut family**
Juglans sp.	Walnut
Malvaceae	**Mallow family**
Malva parviflora (nonnative species)	Cheeseweed
Moraceae	**Mulberry family**
Ficus carica (nonnative species)	Edible fig
Myrtaceae	**Myrtle family**
Eucalyptus sp. (nonnative species)	Eucalyptus
Oleaceae	**Olive family**
Olea europaea (nonnative species)	European olive
Onagraceae	**Evening primrose family**
Epilobium ciliatum	Green willow herb
Rosaceae	**Rose family**
Prunus ilicifolia	Hollyleaf cherry
Salicaceae	**Willow family**
Salix gooddingii	Goodding's willow
Salix lasiolepis	Arroyo willow
Simaroubaceae	**Quassia family**
Ailanthus altissima (nonnative species)	Tree of heaven
Solanaceae	**Nightshade family**
Datura sp.	Datura
Ulmaceae	**Elm family**
Ulmus sp.	Elm
Arecaceae	**Palm family**
Washingtonia robusta (nonnative species)	Mexican fan palm

Table 2.18.A Plant and Animal Species Observed (continued)

Scientific Name	Common Name
Cyperaceae	**Sedge family**
Bolboschoenus glaucus	Bulrush
Poaceae	**Grass family**
Avena fatua (nonnative species)	Wild oat
Bromus catharticus (nonnative species)	Rescue grass
Hordeum murinum (nonnative species)	Foxtail barley
Paspalum dilatatum (nonnative species)	Dallis grass
Agrostis viridis (nonnative species)	Water bentgrass
Bromus diandrus (nonnative species)	Ripgut brome
Cynodon dactylon (nonnative species)	Bermuda grass
Leptochloa uninervia	Mexican sprangletop
Pennisetum cf. clandestinum (nonnative species)	Kikuyugrass
Polypogon sp.	
Typhaceae	**Cattail family**
Typha angustifolia	Narrow-leaved cattail
ANIMAL SPECIES OBSERVED	
AVES	**BIRDS**
Charadriidae	**Plovers and Lapwings**
Charadrius vociferus	Killdeer
Columbidae	**Pigeons and Doves**
Zenaida macroura	Mourning dove
Corvidae	**Crows and Ravens**
Corvus brachyrhynchos	American crow
Hirundinidae	**Swallows**
Stelgidopteryx serripennis	Northern rough-winged swallow
Fringillidae	**Finches**
Carpodacus mexicanus	House finch

Source: *Natural Environment Study (Minimal Impacts) (NES[MI])* (October 2013).

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

No threatened or endangered species or their habitats are present within the BSA; therefore, no temporary impacts to threatened or endangered species would occur during construction of the Project.

2.18.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to threatened and endangered species would occur.

Separately, the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. No threatened or endangered species or their habitats are present within the

BSA; therefore, no permanent impacts to threatened or endangered species will occur as a result of the I-215 Bi-County HOV Lane Gap Closure Project.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

No threatened or endangered species or their habitats are present within the BSA; therefore, no permanent impacts to threatened or endangered species would occur as a result of the Project.

2.18.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required or proposed.

2.19 Invasive Species

2.19.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 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 (FHWA) 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 species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.19.2 Affected Environment

This section is based on the *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) prepared for the proposed Project.

The California Invasive Plant Council (Cal-IPC) 2006 Invasive Plant Inventory (including the 2007 update) is based on information submitted by members, land managers, botanists, and researchers throughout the State as well as published sources. The inventory highlights nonnative plants that are serious problems in wildlands (natural areas that support native ecosystems, including national, State, and local parks; ecological reserves; wildlife areas; National Forests; Bureau of Land Management lands; etc.). The inventory categorizes plants as High, Moderate, or Limited based on the species' negative ecological impact in California. Plants categorized as High have severe ecological impacts. Plants categorized as Moderate have substantial and apparent, but not severe, ecological impacts. Plants categorized as Limited are invasive, but their ecological impacts are minor on a statewide level.

As shown in Table 2.19.A, a total of 16 nonnative plant species occurring on the Cal-IPC California Invasive Plant Inventory were identified in the Biological Study Area (BSA). Of these species, there are 10 with a moderate rating, and 6 with a limited rating.

Table 2.19.A Invasive Plant Species in the Biological Study Area

Scientific Name	Common Name	Rating
Aizoaceae	**Carpet weed family**	
Conicosia pugioniformis	Narrow-leaved iceplant, roundleaf iceplant	Limited
Brassicaceae	**Mustard family**	
Hirschfeldia incana	Shortpod mustard	Moderate
Sisymbrium irio	London rocket	Moderate
Raphanus sativus	Wild radish	Limited
Euphorbiaceae	**Spurge family**	
Ricinus communis	Castor bean	Limited
Moraceae	**Mulberry family**	
Ficus carica	Edible fig	Moderate
Myrtaceae	**Myrtle family**	
Eucalyptus sp.	Eucalyptus	Moderate
Oleaceae	**Olive family**	
Olea europaea	European olive	Limited
Simaroubaceae	**Quassia family**	
Ailanthus altissima	Tree of heaven	Moderate
Arecaceae	**Palm family**	
Washingtonia robusta	Mexican fan palm	Moderate
Poaceae	**Grass family**	
Avena fatua	Wild oat	Moderate
Hordeum murinum	Foxtail barley	Moderate
Bromus diandrus	Ripgut brome	Moderate
Cynodon dactylon	Bermuda grass	Moderate
Pennisetum cf. *clandestinum*	Kikuyugrass	Limited
Polypogon sp.		Limited

Sources: *Natural Environment Study (Minimal Impacts)* (NES[MI]) (October 2013) and the California Invasive Plant Council (Cal-IPC) 2006 *Invasive Plant Inventory*.

2.19.3 Environmental Consequences

2.19.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no temporary impacts to invasive species would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Impacts related to invasive species are considered permanent impacts because the introduction of invasive species into previously undisturbed areas would result in permanent impacts to the habitat. Therefore, impacts related to invasive species as a result of construction of the Project are described below under permanent impacts.

2.19.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area; therefore, no permanent impacts to invasive species would occur.

Separately, the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. Implementation of the I-215 Bi-County HOV Lane Gap Closure Project will comply with EO 13112, and no substantial impacts related to invasive species will occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Construction of the Project has the potential to spread invasive species by the entering and exiting of construction equipment contaminated by invasive species, disturbances to soil surfaces, and improper removal and disposal of invasive species that result in the seed being spread along the highway. Invasive species also have the potential to be included in seed mixtures and mulch; however, none of the species on the California list of noxious weeds are currently used by the California Department of Transportation (Caltrans) for erosion control or landscaping. With implementation of Measure INV-1, potential Project-related permanent impacts related to invasive species would not be substantial.

2.19.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure is required for Alternatives 3, 6, and Modified Alternative 7 to avoid Project impacts related to invasive species:

INV-1 **Executive Order 13112.** In compliance with Executive Order (EO) 13112, a weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies will be employed should an invasion occur. At a minimum, this program will include:

a. During construction, the construction contractor will inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.

b. During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible.
c. During construction, the construction contractor will ensure that all active portions of the construction site are watered as needed due to dry or windy conditions to prevent excessive amounts of dust.
d. During construction, the construction contractor will ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust.
e. During construction, soil/gravel/rock will be obtained from weed-free sources.
f. Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control.
g. After construction, affected areas adjacent to native vegetation will be revegetated with plant species native to the vicinity and approved by the California Department of Transportation (Caltrans) District Biologist.
h. After construction, all revegetated areas will avoid the use of species listed in California Invasive Plant Council's (Cal-IPC's) California Invasive Plant Inventory.
i. After construction, erosion control and revegetation sites will be monitored for 2 to 3 years after construction to detect nonnative species prior to the establishment of the native vegetation.
j. Eradication procedures (e.g., spraying and/or hand weeding) will be outlined 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 District Biologist.

2.2 Growth

2.2.1 Regulatory Setting

The Council on Environmental Quality (CEQ) regulations, which established the steps necessary to comply with the National Environmental Policy Act (NEPA) of 1969, require evaluation of the potential environmental effects 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 Code of Federal Regulations [CFR] 1508.8) refer to these consequences as indirect impacts. Indirect 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. The 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…"

2.2.2 First-Cut Screening

The potential growth-related impacts of the proposed Project were considered in the context of the first-cut screening analysis approach to assess the likely growth potential effect of the proposed Project and whether further analysis is necessary, based on consideration of the following:

- How, if at all, does the proposed project potentially change accessibility?
- How, if at all, do the project type, project location, and growth pressure potentially influence growth? Some transportation projects may have very little influence on future growth, whereas other may have a great influence. Some geographic locations are more conducive to influencing growth, whereas others are highly constrained. These differences may result from physical constraints, planning and zoning factors, or local political considerations.
- Is project-related growth reasonably foreseeable as defined in NEPA? Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.
- If there is project-related growth, how, if at all, will it impact resources of concern? Identify which resources of concern are likely to be affected by the foreseeable future growth. If a project is likely to influence future growth, but no

resources of concern will be affected, then state so here and indicate that no further growth analysis is warranted.

The potential for the proposed Project to influence growth based on these considerations is described below.

2.2.2.1 Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Separately, the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The No Build Alternative would not result in growth-related impacts.

2.2.2.2 Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

How, if at all, does the proposed project potentially change accessibility?

The Project would reduce traffic congestion in the Project area, resulting in better operation of the existing interchange and local circulation. In addition, the Project would alleviate existing deficiencies and accommodate projected future (2040) traffic volumes in the traffic study area, consistent with adopted local land use and transportation plans (refer to Section 2.1, Land Use). While the Project includes reconstruction of an existing interchange, it would not provide new transportation facilities or create new access points to areas previously not accessible. Therefore, the Project would not result in changes in accessibility to the transportation system in this area.

How, if at all, do the project type, project location, and growth pressure potentially influence growth?

The I-215/Barton Road interchange is the main access to the City of Grand Terrace and provides an alternative access to the eastern portion of the City of Colton (in addition to the I-215/Mount Vernon/Washington Street interchange). The City of Grand Terrace's Barton Road Specific Plan provides guidance for the development of primarily commercial property along this transportation corridor.

The Project would accommodate approved and planned growth in the area (refer to Table 2.1.A, Planned Projects) because it would add capacity at the interchange,

thereby reducing congestion in this area. Pressure for growth is typically a result of a combination of factors, including economic, market, and land use demands and conditions. Growth in the City of Grand Terrace and the City of Colton is expected to occur with or without the Project. As an interchange improvement, the Project may make growth in the area more attractive; however, as seen in Table 2.1.A (Section 2.1, Land Use), a substantial number of development projects were proposed and approved prior to the initiation of the interchange Project, which indicates that development in the area is not dependent on completion of the interchange improvements. As of August 2012, the Pellissier Ranch Specific Plan has been suspended indefinitely. This area will be studied further to make sure that existing hillsides are preserved.[1] Besides the projects identified in Table 2.1.A, there are not a substantial number of acres available in the study area for new development. Therefore, although the Project would accommodate existing and planned growth, it would not influence growth beyond what is currently planned.

Is project-related growth reasonably foreseeable as defined in NEPA? Under NEPA, indirect impacts need only be evaluated if they are reasonably foreseeable as opposed to remote and speculative.

As discussed above, the Project would not influence growth beyond what is currently planned (refer to Table 2.1.A) and would not change the rate, type, or amount of growth. Therefore, there is no Project-related growth.

If there is project-related growth, how, if at all, will it impact resources of concern?

As discussed above, because the Project would not change the rate, type, or amount of growth, the reasonably foreseeable growth in the Cities of Grand Terrace and Colton is not Project-related.

Based on this “First Cut Screening” analysis, no further analysis is required.

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[1] Mark Tomich, City of Colton, Personal Communication, August 28, 2012, and City of Colton Staff Report: *General Plan Amendment: Resolutions Adopting an Environmental Impact Report and Comprehensive Updates to the Land Use Element, Housing Element, and Circulation ("Mobility") Element of the Generl Plan (file idex no. DAP-001-101); Resolution providing follow-up direction to staff*. August 20, 2013.

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2.20 Climate Change

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 (CO2), 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 CO2, 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.

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[1] http://climatechange.transportation.org/ghg_mitigation/.

2.20.1 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.

Assembly Bill 1493 (AB 1493), Pavley. Vehicular Emissions: Greenhouse Gases (GHGs) (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 (EO) S-3-05: (signed on June 1, 2005, by Governor Arnold Schwarzenegger) the goal of this EO 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.

AB 32 (AB 32), the Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO 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." EO S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the State's Climate Action Team.

EO S-01-07: Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this EO, 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. Neither the U.S. EPA nor Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level greenhouse gas 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.

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 travelled.

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 EO 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

EO 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 (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)--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.

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.[2]

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

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1 http://www.epa.gov/climatechange/endangerment.html.

2 http://epa.gov/otaq/climate/regulations.htm.

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).

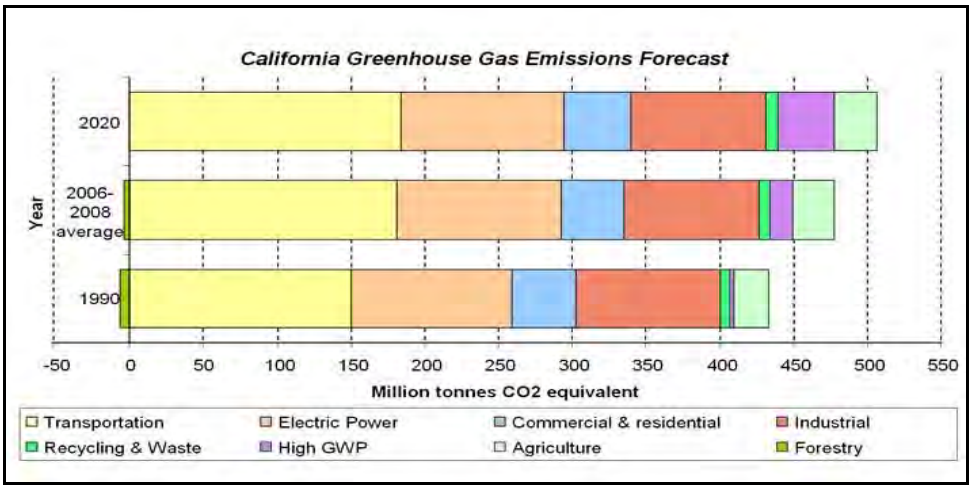
On January 24, 2011, the U.S. EPA along with the U.S. Department of Transportation and the State of California announced a single timeframe for proposing fuel economy and GHG standards for model years 2017-2025 cars and light-trucks. Proposing the new standards in the same timeframe (September 1, 2011) signals continued collaboration that could lead to an extension of the current National Clean Car Program.

2.20.2 Project Analysis

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 California Environmental Quality Act (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, ARB 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.

[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).



Source: http://www.arb.ca.gov/cc/inventory/data/forecast.htm.

Figure 2.20.1 California Greenhouse Gas Forecast

Caltrans and its parent agency, the California State Transportation 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, Caltrans 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 Caltrans Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph; the most severe emissions occur from 0-25 miles per hour (see Figure 2.20.2 below). 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.

The purpose of the proposed project is to alleviate existing and future traffic congestion at the I-215/Barton Road interchange. The proposed project will not generate new vehicular traffic trips since new homes or businesses will not be constructed. However, there is a possibility that some traffic currently utilizing other

[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.

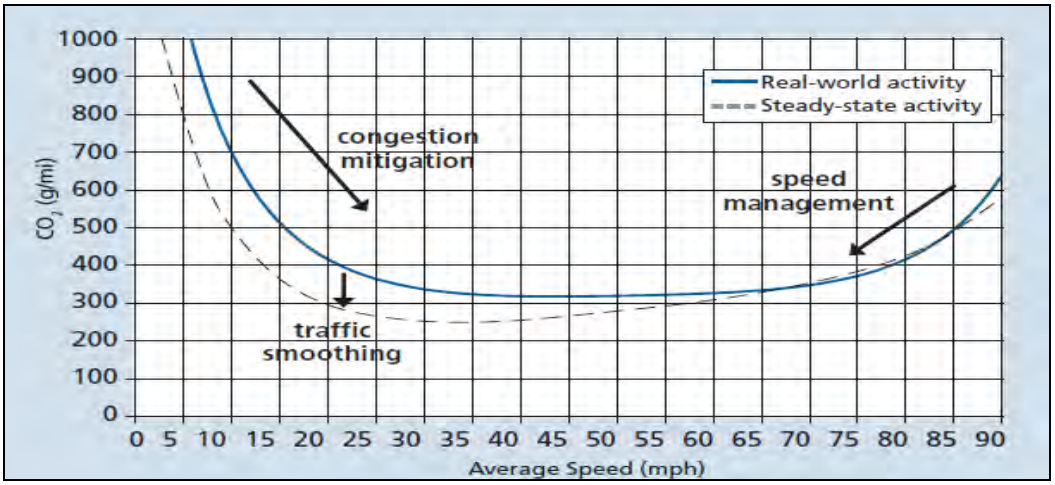


Figure 2.20.2 Possible Effect of Traffic Operation Strategies in Reducing On-Road CO_2 Emission[1]

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 Alternative on GHG emissions was calculated using traffic data for the project region.

The traffic study (December 2011) calculated the VMT and VHT for all of the vehicle trips within the project region (see Table 2.12J). This traffic data, in conjunction with the EMFAC2011 emission model, was used to calculate and compare the CO_2 emissions for the 2009 and 2040 regional conditions.

The results of the modeling were used to calculate the CO_2 emissions listed in Table 2.20.A. The CO_2 emissions numbers listed in Table 2.20.A are only useful for a comparison between project alternatives. The numbers are not necessarily an accurate reflection of what the true CO_2 emissions will 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. As shown in Table 2.20.A, the

[1] Traffic Congestion and Greenhouse Gases: Matthew Barth and Kanok Boriboonsomsin (TR News 268 May-June 2010)<http://onlinepubs.trb.org/onlinepubs/trnews/trnews268.pdf>.

Table 2.20.A Change in Regional CO_2 Emissions (MT/year)

Alternative	Annual CO_2 Emissions (MT/year)	Increase from Existing (MT/year)	Increase from No Project (MT/year)	Percent Increase from No Project
2009 Existing[a]	1,156	-	-	-
2040 No Build[b]	1,549	393	-	-
2040 Alternative 3[b]	1,551	395	2.38	0.15%
2040 Alternative 6[b]	1,552	396	2.78	0.18%
2040 Alternative 7[b]	1,550	394	1.03	0.07%

Source: *Air Quality Analysis* (September 2013).
Mt/yr = metric tons per year
[a] 2009 Existing CO_2 emissions calculated using San Bernardino County specific average EMFAC2011 emission rates in 2009. Does not use Pavely and LCFS rates.
[b] 2040 CO_2 emissions calculated using San Bernardino County specific average EMFAC2011 emission rates in 2035. Uses Pavely and LCFS rates.

proposed project would result in a small increase (less than 1 percent) in CO_2 emissions within the region when compared to the without project conditions.

2.20.3 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. The maximum amount of construction-related GHG emissions during a peak construction day is presented in Table 2.20.B (model data is provided in Appendix D of the Air Quality Analysis). The emissions presented below are based on the best information available at the time of calculations and specify that the schedule for all improvements is anticipated to take approximately 24 months. The project schedule and disturbed area would be the same for all Build Alternatives; therefore, the emissions listed in Table 2.20.B would apply to Alternatives 3, 6, and Modified Alternative 7.

Table 2.20.B Maximum Project Construction Greenhouse Gas Emissions

Project Phases	CO_2 (lb/day)
Grubbing/Land Clearing (lbs/day)	2,685.9
Grading/Excavation (lbs/day)	27,848.4
Drainage/Utilities/Sub-Grade (lbs/day)	10,965.1
Paving (lbs/day)	2,522.1
Maximum (lbs/day)	27,848.4
Total (metric tons/construction project)	**3,956.1**

Source: LSA Associates, Inc. (June 2013).

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 2.20.5, 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.

2.20.4 Limitations and Uncertainties with Modeling

EMFAC

Although EMFAC can calculate CO_2 emissions from mobile sources, the model does have limitations when it comes to accurately reflecting CO_2 emissions. According to the National Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008), studies have revealed that brief but rapid accelerations can contribute significantly to a vehicle's carbon monoxide and hydrocarbon emissions during a typical urban trip. Current emission-factor models are insensitive to the distribution of such modal events (i.e., cruise, acceleration, deceleration, and idle) in the operation of a vehicle and instead estimate emissions by average trip speed. This limitation creates an uncertainty in the model's results when compared to the estimated emissions of the various alternatives with baseline in an attempt to determine impacts. Although work by EPA and the CARB is underway on modal-emission models, neither agency has yet approved a modal emissions model that can be used to conduct this more accurate modeling. In addition, EMFAC does not include speed corrections for most vehicle classes for CO_2 – for most vehicle classes emission factors are held constant which means that EMFAC is not sensitive to the decreased emissions associated with improved traffic flows for most vehicle classes. Therefore, unless a project involves a large number of heavy-duty vehicles, the difference in modeled CO_2 emissions due to speed change will be slight.

CARB is currently not using EMFAC to create its inventory of greenhouse gas emissions. It is unclear why the CARB has made this decision. Their website only states:

> REVISION: Both the EMFAC and OFFROAD Models develop CO_2 and CH_4 [methane] emission estimates; however, they are not currently used as the basis for [CARB's] official [greenhouse gas] inventory which is based on fuel usage information. . . However, ARB is working towards reconciling the emission estimates from the fuel usage approach and the models.

Other Variables

With the current science, project-level analysis of greenhouse gas emissions is limited. Although a greenhouse gas analysis is included for this project, there are numerous key greenhouse gas variables that are likely to change dramatically during the design life of the proposed project and would thus dramatically change the projected CO_2 emissions.

First, vehicle fuel economy is increasing. The EPA's annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2008 (http://www.epa.gov/oms/fetrends.htm)," which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy has improved each year beginning in 2005, and is now the highest since 1993. Most of the increase since 2004 is due to higher fuel economy for light trucks, following a long-term trend of slightly declining overall fuel economy that peaked in 1987. These vehicles also have a slightly lower market share, peaking at 52 percent in 2004 with projections at 48 percent in 2008. Table 2.20.C shows the alternatives for vehicle fuel economy increases studied by the National Highway Traffic Safety Administration in its Final EIS for New Corporate Average Fuel Economy (CAFE) Standards (October 2008).

Table 2.20.C Model Year 2015 Required Miles Per Gallon (mpg) by Alternative

No Action		25% Below Optimized	Optimized (Preferred)	25% Above Optimized	50% Above Optimized	Total Costs Equal Total Benefits	Technology Exhaustion
Cars	27.5	33.9	35.7	37.5	39.5	43.3	52.6
Trucks	23.5	27.5	28.6	29.8	30.9	33.1	34.7

Second, near zero carbon vehicles will come into the market during the design life of this project. According to a March 2008 report released by University of California Davis (UC Davis), Institute of Transportation Studies:

> "Large advancements have occurred in fuel cell vehicle and hydrogen infrastructure technology over the past 15 years. Fuel cell technology has progressed substantially resulting in power density, efficiency, range, cost, and durability all improving each year. In another sign of progress, automotive developers are now demonstrating over 100 fuel cell vehicles (FCVs) in California – several in the hands of the general public – with configurations designed to be attractive to buyers. Cold-weather operation and vehicle range challenges are close to being solved, although vehicle cost and durability improvements are required before a commercial vehicle can be successful without incentives. The pace of development is on track to approach pre-commercialization within the next decade.
>
> "A number of the U.S. DOE 2010 milestones for FCV development and commercialization are expected to be met by 2010. Accounting for a five to six year production development cycle, the scenarios developed by the U.S. DOE suggest that 10,000s of vehicles per year from 2015 to 2017 would be possible in a federal demonstration program, assuming large cost share grants by the government and industry are available to reduce the cost of production vehicles."[1]

Third and as previously stated, California has recently adopted a low-carbon transportation fuel standard. CARB is scheduled to come out with draft regulations for low carbon fuels in late 2008 with implementation of the standard to begin in 2010.

Fourth, driver behavior has been changing as the U.S. economy and oil prices have changed. In its January 2008 report, "Effects of Gasoline Prices on Driving Behavior and Vehicle Market," (http://www.cbo.gov/ftpdocs/88xx/doc8893/01-14-GasolinePrices.pdf) the Congressional Budget Office found the following results based on data collected from California: 1) freeway motorists have adjusted to higher gas prices by making fewer trips and driving more slowly; 2) the market share of sports utility vehicles is declining; and 3) the average prices for larger, less-fuel-efficient models have declined over the past five years as average prices for the most-

[1] Cunningham, Joshua, Sig Cronich, Michael A. Nicholas. March 2008. Why Hydrogen and Fuel Cells are Needed to Support California Climate Policy, UC Davis, Institute of Transportation Studies, pp. 9-10.

fuel-efficient automobiles have risen, showing an increase in demand for the more fuel efficient vehicles.

2.20.5 Limitations and Uncertainties with Impact Assessment

Taken from p. 3-70 of the National Highway Traffic Safety Administration Final EIS for New CAFE Standards (October 2008), Figure 2.20.3 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis:

"Cascade of uncertainties typical in impact assessments showing the "uncertainty explosion" as these ranges are multiplied to encompass a comprehensive range of future consequences, including physical, economic, social, and political impacts and policy responses."

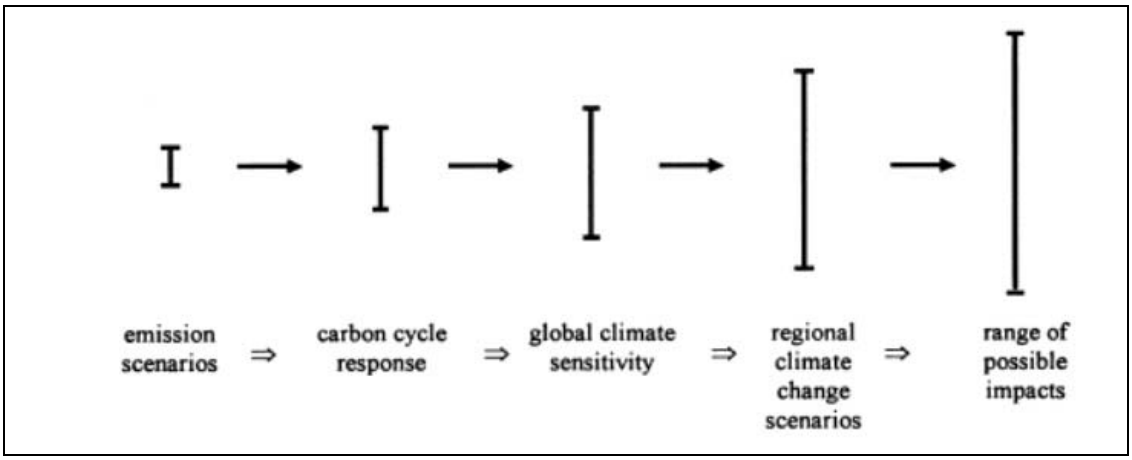


Figure 2.20.3 Cascade of Uncertainties

Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in CO_2 emissions would mean for climate change given the overall California greenhouse gas emissions inventory of approximately 430 million tons of CO_2 equivalent. This uncertainty only increases when viewed globally. The IPCC has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to

reduce greenhouse gas emissions. Non-mitigation IPCC scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons CO2 from 2000 to 2030, which represents an increase of between 25 and 90%.[1]

The assessment is further complicated by the fact that changes in greenhouse gas emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of greenhouse gas emissions, rather than causing "new" greenhouse gas emissions. It is difficult to assess the extent to which any project level increase in CO_2 emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

The complexities and uncertainties associated with project level impact analysis are further borne out in the recently released Final EIS completed by the National Highway Traffic Safety Administration CAFE standards, October 2008. As the text quoted below shows, even when dealing with greenhouse gas emission scenarios on a national scale for the entire passenger car and light truck fleet, the numerical differences among alternatives is very small and well within the error sensitivity of the model.

> "In analyzing across the CAFE 30 alternatives, the mean change in the global mean surface temperature, as a ratio of the increase in warming between the B1 (low) to A1B (medium) scenarios, ranges from 0.5 percent to 1.1 percent. The resulting change in sea level rise (compared to the No Action Alternative) ranges, across the alternatives, from 0.04 centimeter to 0.07 centimeter. In summary, the impacts of the model year 2011-2015 CAFE alternatives on global mean surface temperature, sea level rise, and precipitation are relatively small in the context of the expected changes associated with the emission trajectories. This is due primarily to the global and multi-sectoral nature of the climate problem. Emissions of CO_2, the primary gas driving the climate effects, from the United States automobile and light truck fleet represented about 2.5 percent of total global emissions of all greenhouse gases in the year 2000 (EPA, 2008; CAIT, 2008). While a significant source, this is a still small percentage of global emissions, and the relative contribution of CO_2 emissions from the

[1] Intergovernmental Panel on Climate Change (IPCC). February 2007. Climate Change 2007: The Physical Science Basis: Summary for Policy Makers. http://www.ipcc.ch/SPM2feb07.pdf.

United States light vehicle fleet is expected to decline in the future, due primarily to rapid growth of emissions from developing economies (which are due in part to growth in global transportation sector emissions)." [NHTSA Draft EIS for New CAFE Standards, June 2008, pp.3-77 to 3-78]

2.20.6 CEQA Conclusion

As discussed above, both the future with project and future no build show increases in CO_2 emissions over the existing levels; the future build CO_2 emissions are higher than the future no build emissions. In addition, as discussed above, there are also limitations with EMFAC and with assessing what a given CO_2 emissions increase means for climate change. Therefore, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

2.20.7 Greenhouse Gas Reduction Strategies

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement EOs 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 CO2 reduction goals: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements as depicted in Figure 2.20.4, The Mobility Pyramid.

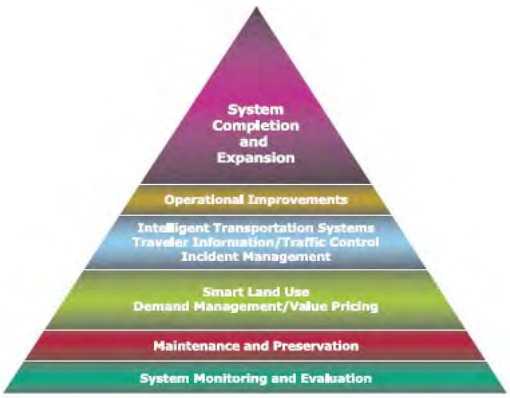


Figure 2.20.4 Mobility Pyramid

Caltrans 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. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans 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; Caltrans 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 ARB. Lastly, the use of alternative fuels is also being considered; Caltrans is participating in funding for alternative fuel research at the UC Davis.

The Department is also working towards enhancing the State's transportation planning process to respond to future challenges. Similar to requirements for regional transportation plans under Senate Bill (SB) 375 (Steinberg 2008), SB 391(Liu 2009) requires the State's long-range transportation plan to meet California's climate change goals under Assembly Bill (AB) 32.

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce greenhouse gas (GHG) emissions. The CTP defines performance-based goals, policies, and strategies to achieve our collective vision for California's future, statewide, integrated, multimodal transportation system.

The purpose of the CTP is to provide a common policy framework that will guide transportation investments and decisions by all levels of government, the private sector, and other transportation stakeholders. Through this policy framework, the CTP 2040 will identify the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the State's transportation needs.

Table 2.20.D summarizes Caltrans and statewide efforts that Caltrans 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 minimization measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

Table 2.20.D Climate Change 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	0.007	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 0.45 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	3.6
Goods Movement	Office of Goods Movement	CalEPA, CARB, BT&H, MPOs		Goods Movement Action Plan	Not Estimated	Not Estimated
Total					**2.66**	**18.67**

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 planting for purposes of minimizing impacts resulting from 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 five to six years, compared to the one-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 ten minutes in each direction. In addition, the contractor must comply with Title 13, California Code of Regulations §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.

2.20.8 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, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from 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 Council on Environmental Quality (CEQ), the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric

[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/.

Administration (NOAA), released its interagency task force progress report on October 28, 2011[1], outlining the federal government's progress in expanding and strengthening the Nation's capacity to better understand, prepare for, and respond to extreme events and other climate change impacts. The report provides an update on actions in key areas of federal adaptation, including: building resilience in local communities, safeguarding critical natural resources such as freshwater, and providing accessible climate information and tools to help decision-makers manage climate risks .

Climate change adaptation 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, then-Governor Arnold 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.

In addition to addressing projected 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)[2], 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 that specifically asked the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. Numerous other state agencies were involved in the creation of the Adaptation Strategy document, including the California Environmental Protection Agency; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The document is broken down into strategies for different sectors that

[1] http://www.whitehouse.gov/administration/eop/ceq/initiatives/adaptation

[2] http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF

include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

The National Academy of Science was directed to prepare a Sea Level Rise Assessment Report[1] to recommend how California should plan for future sea level rise. The report was released in June 2012 and included:

- 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;
- A discussion of future research needs regarding sea level rise.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 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 on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

All projects that have filed a Notice of Preparation as of the date of EO S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines.

[1] *Sea Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012) is available at http://www.nap.edu/catalog.php?record_id=13389.

The Interstate 215 / Barton Road interchange improvement project is currently not scheduled to begin construction until 2016, however, the Project location is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting 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 sea level rise.

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 effects, 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 review its current design standards to determine what changes, if any, may be needed 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 Sea Level Rise Assessment Report.

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2.21 Cumulative Impacts

2.21.1 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.

California Environmental Quality Act (CEQA) Guidelines, Section 15130 describes when a cumulative impact analysis is necessary 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 National Environmental Policy Act (NEPA), can be found in 40 Code of Federal Regulations (CFR), Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

2.21.2 Methodology

The cumulative impact analysis methodology utilized was based upon the eight-step process set forth in the California Department of Transportation (Caltrans) Standard Environmental Reference (SER) Guidance for Preparers of Cumulative Impact Analysis (2005). The eight-step process is as follows:

- Identify resources to be analyzed
- Define the study area for each resource (i.e., Resource Study Area)
- Describe the current health and historical context for each resource
- Identify direct and indirect impacts of the proposed project

- Identify other reasonably foreseeable actions that affect each resource
- Assess potential cumulative impacts
- Report results
- Assess the need for mitigation

2.21.3 Resources Excluded from Cumulative Impacts Analysis

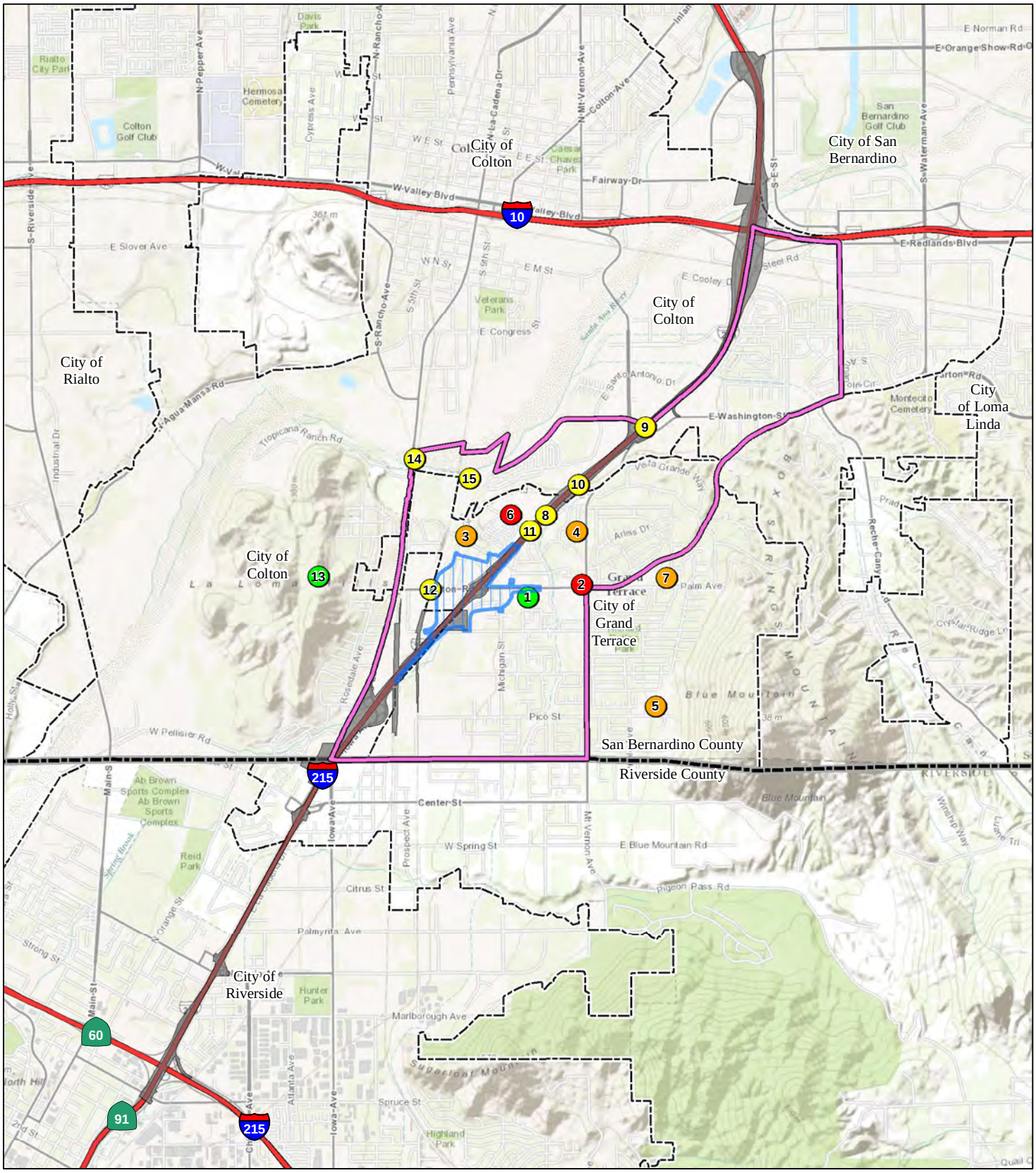
As specified in the Caltrans guidance, if the proposed Project would not result in a direct or indirect impact to a resource, it would not contribute to a cumulative impact on that resource, and need not be evaluated with respect to potential cumulative impacts. This cumulative impact analysis includes resources that would be potentially impacted by the Project and resources that are currently in poor or declining health, or that are at risk even if the Project's impacts to that resource would not be substantial.

The proposed Project will not result in direct or indirect impacts to the following resources and, therefore, no discussion is provided:

- Farmlands or Timberlands
- Cultural Resources
- Floodplains
- Groundwater
- Paleontological Resources
- Natural Communities
- Wetlands
- Plant Species
- Animal Species
- Threatened and Endangered Species

2.21.4 Resources Evaluated for Cumulative Impacts

The following discussion of potential cumulative impacts is presented by environmental resource area. The reasonably foreseeable projects considered in this analysis are presented in Table 2.21.A and Figure 2.21.1. Table 2.21.A includes two commercial projects, four residential projects, one mixed-use project, one industrial project, and seven transportation facility projects. Most of the projects are infill projects, while the transportation projects are all along existing facilities. The following resources are evaluated in this section for cumulative impacts: community, visual/aesthetics, and surface water quality. In the context of the respective Resource Study Areas (RSAs), the three Build Alternatives studied would have a similar potential contribution to cumulative impacts.



LEGEND

- Project Area
- Community Impact RSA
- Visual/Aesthetics RSA
- City Boundaries
- County Boundary

Planned Projects*

- Commercial
- Mixed-Use
- Residential
- Transportation

N

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FEET

FIGURE 2.21.1

I-215/Barton Road Interchange Improvement Project

Resource Study Areas (RSAs)

SOURCE: ESRI (2013); City of Grand Terrace (2013); City of Colton (2013); US Census 2010

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*Note: Locations are approximate.

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Table 2.21.A Planned Projects

Figure 2.1.3 Project ID Number	Project Name/Type	Location	Proposed Use/ Description	Status
City of Grand Terrace				
1	Town Square Master Development Plan	South side of Barton Road between Michigan Street/Gage Canal	209,611 sf over 5 development units; commercial, retail, and restaurant/fast food uses	Development Unit 1 (65,737 sf) approved with 45,000 sf already constructed. Auto Zone is moving one lot east to the Town Square project. An application for a 7,842 sf building has been submitted to the City.
2	Barton Plaza	Northwest corner of Barton Road and Mount Vernon Avenue	40,000 sf commercial	10,000 sf building constructed in Phase 1. Phases 2 and 3 have not started.
3	Techno-dynamics	21910 Vivienda Avenue	Single-family residential, 3 lots	Project approved. Project is not moving forward.
4	Greystone Group	11830 Mount Vernon Avenue	Single-family residential, 35 units	Project approved and map recorded. No construction has started.
5	Karger Pico Tract	North Side of Pico Street, east of Kingfisher Road	Single-family residential, 18 lots	Tentative tract map valid until 8/10/2016
6	SCE Office Building	22200 Newport Avenue (SCE Vista Substation)	12,257 sf office building	Approved 11/7/2013 by the Planning Commission.
7	Residential	12156 Preston Street	12 townhomes	Pending Planning Commission meeting for approval. Anticipate meeting before the end of 2013.
I-215 Freeway Projects				
8	I-215 Bi-County HOV Lane Gap Closure Project (SANBAG/ RCTC/Caltrans)	On I-215 between SR-60 and Orange Show Road	Add HOV lanes in each direction	Under construction. Planned for completion by mid-2015.
9	I-215/Mount Vernon Avenue/Washington Street Interchange Improvement Project (SANBAG/Caltrans)	On I-215 at Mount Vernon Avenue/ Washington Street	Reconstruct interchange and local streets, add auxiliary lanes	Preliminary Engineering in progress. Planned for completion by 2020.
10	I-215 Bi-County Improvement Project (SANBAG/RCTC/ Caltrans)	On I-215 between SR-60 and Orange Show Road	Add one mixed-flow lane in each direction, add auxiliary lanes	Planned for completion prior to 2018.
11	Newport Avenue Overcrossing Over I-215 Reconstruction Project (SANBAG/Caltrans)	Over I-215 at Newport Avenue	Reconstruct overcrossing	Under construction. Planned for completion by mid-2015.
City of Colton				
12	The West Barton Road Connection	West Barton Road Bridge across the UPRR	Connection will provide for the ultimate design width for Barton Road of a 100 ft right-of-way.	Reprogramming funding. Planned for completion by 2015.
13	Pellissier Ranch Specific Plan	Pellissier Ranch Road	1,448 ac; 2,101 units residential, commercial, schools, parks	As of August 2012, this plan has been suspended indefinitely.
14	La Cadena Bridge over Santa Ana River Bridge Replacement Project	La Cadena Drive at the Santa Ana River	Reconstruct bridge	Preliminary Engineering. Planned for completion by 2017.
15	Washington Street Extension to La Cadena Drive Project	On Washington Street	Street extension and bridge over BNSF Railway	Project Study Phase. Planned for completion by 2030.

Sources: Sandra Molina, City of Grand Terrace Planning Manager (October 2013); Victor Ortiz, City of Colton Engineering Manager (July 2013); Mark Tomich, City of Colton Planning Director (October 2013).

2.21.4.1 Community

The RSA for cumulative community impacts consists of Census Tracts 71.06, 71.07, 71.09, and 71.10 within the Cities of Grand Terrace and Colton. Census tracts provide established boundaries for community demographics. As discussed in Section 2.3.1.2 of Section 2.3, Community Impacts, the four census tracts in the RSA are representative of the demographics of both Cities (with the exception of Census Tract 71.10, which represents the most affluent population among the study area census tracts).

The RSA was historically ranchland. The City of Colton was planned in conjunction with construction of the Southern Pacific Railway (currently the Union Pacific Railroad [UPRR]) and the start of industry in the late 19th century. Prior to World War II, the RSA was primarily a citrus-growing region that was transformed primarily to residential subdivisions with supporting retail. [1] Light industrial uses continue to be adjacent to the UPRR and the BNSF Railway. The development of predominantly commercial and industrial uses in the City of Colton resulted in the development of the City of Grand Terrace as a residential community. Currently, the RSA is characterized by residential subdivisions with commercial uses concentrated along Barton Road and the Interstate 215 (I-215) interchange and industrial uses adjacent to the railways.

Character and Cohesion

The RSA is an urban community bisected by I-215. The BNSF Railway and the UPRR provide a physical boundary to the west while the Santa Ana River borders the RSA to the north. Based on the analysis of demographic data and community cohesion indicators included in Section 2.3, Community Impacts, and the mix of land uses, the RSA does not exhibit a pronounced degree of community character and cohesion. In addition, the RSA's character as an urbanized community bisected by an existing regional transportation freeway (I-215) and a key primary arterial (Barton Road) also does not support a pronounced degree of community cohesion.

The Project involves a minor amount of residential and business displacements. The residences that would be potentially displaced are located in the vicinity of the freeway and are not part of a cohesive neighborhood. The businesses that would be potentially displaced are not key to community vitality based on the type of business.

[1] Information was summarized from the *Historical Resources Evaluation Report* for the I-215/ Barton Road Interchange Improvement Project (July 2011), which was based on information from several different sources.

The Build Alternatives would not divide an established community or substantially modify the character of the area. The Project is consistent with the circulation/mobility and land use elements of the City of Grand Terrace and City of Colton General Plans, which are the Cities' visions for the future through the year 2020 and 2030, respectively. Because the RSA is developed for the most part and the Project would not change the fundamental nature of the community, Project contribution of cumulative impacts to community character and cohesion are minimal.

With exception of the Pellissier Ranch Specific Plan, the planned projects shown on Figure 2.21.1 are infill projects surrounded by existing residential and commercial development. Approval of those projects by the respective City would be consistent with the respective City General Plan and vision for development of the area. Therefore, the planned development projects would not divide an existing community and would instead contribute toward improving community establishment and cohesion. The Pellissier Ranch Specific Plan is suspended indefinitely and may involve substantial revisions prior to implementation based on the City of Colton's decision to protect hillside development (refer to Section 2.2 Growth). The Mount Vernon Avenue-Washington Street Interchange Improvement Project and the I-215 Bi-County Improvement Project would displace freeway-adjacent businesses and residences. Although these projects combined would result in impacts to community cohesion, impacts are not anticipated to be substantial based on the nature of the RSA, as described above. The other bridge projects would not impact community cohesion.

Because the RSA does not display a pronounced degree of community cohesion, the planned development projects have the potential to support community character and cohesion, and the planned transportation projects would not divide the community or change community character, cumulative community character and cohesion would not be substantial.

Local Circulation

Because the RSA is bisected by I-215, local streets in vicinity of I-215 are used for access to I-215. This can result in congestion at interchanges during AM and PM peak hours such as the existing lack of available left-turn storage from westbound Barton Road to the southbound I-215 on-ramp. Left-turn queues prevent through traffic from moving through interchanges, and drivers are more likely to seek alternate local routes through neighborhoods. The I-215/Barton Road interchange has

constraints that discourage its use by large trucks; therefore, these trucks utilize other interchanges in the area and local roads to reach their destinations in the Project vicinity. In addition, alternative transportation is limited because many streets near the interchanges in the RSA do not have sidewalks, bicycle lanes, or crosswalks.

The Project would modify the alignment of some local roads in order to accommodate the new on- and off-ramps; however, access would be maintained to properties in the area. The Project would provide a new local access road adjacent to Grand Terrace Fitness Park; however, based on its location, this road would only be used by residents for local access and the road was planned during development of the park. The Project also includes standard sidewalks and bicycle lanes on Barton Road. The Project would also include signalized intersections with crosswalk facilities along Barton Road to eliminate the need for pedestrians to cross unsignalized traffic movements. These features would improve pedestrian access and improve pedestrian safety by reducing pedestrian-vehicular conflicts. Because the Project would improve local circulation and pedestrian and bicycle access, the Project would not contribute to cumulative local circulation impacts to the community.

The cumulative transportation projects would reduce congestion in the RSA along I-215, at the I-215/Mount Vernon Avenue-Washington Street interchange, and on Barton Road at the UPRR. The planned development projects would add or modify the number of trips associated with changes in property use and may require road improvements as part of project approval to support these developments. The *Revised Traffic Operations Analysis* evaluated the Project plus future planned growth in the RSA and concluded that study area intersections would improve in future conditions. Each individual planned development project would be required to mitigate for any local circulation impacts, and each transportation project would be required to maintain local circulation. Therefore, the Project, in combination with other planned projects would not cause a cumulative impact to local circulation in the RSA.

Noise

The primary source of noise in a community adjacent to a freeway is traffic. The sensitive receptors (e.g., residences, mobile home parks, RV park, and schools) along the freeway and primary arterial roads are exposed to the highest noise levels in the RSA. The communities in the RSA have been adjacent to a freeway for over 30 years.

Traffic noise level increases from the Build Alternatives would be minimal when compared to the No Build Alternative, as discussed in Section 2.13, Noise, and would

be reduced at sensitive receptors adjacent to the I-215/Barton Road northbound on-ramp and southbound off-ramp due to the sound barriers being constructed as part of the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, where no sound barriers currently exist. The Project's increase in traffic noise levels at receptors already exposed to traffic noise would be minimal.

Because the planned freeway projects would increase capacity and reduce congestion, they would likely increase traffic noise associated with additional vehicles traveling at faster speeds. The freeway projects would be required to evaluate the reasonability and feasibility of sound barriers to shield sensitive receptors from increased noise levels at locations where the Project would result in noise impacts. The planned residential projects in close proximity to the freeway or local roads would be required to analyze noise impacts and to construct sound barriers to shield the new sensitive receptors from traffic noise if noise levels would exceed local standards. The planned development projects (residential, offices, and retail) are not large noise-generating uses and are not anticipated to contribute to cumulative noise impacts in the RSA. Furthermore, the Project as analyzed in the *Noise Study Report* and the *Supplemental Noise Study Report*, along with planned future traffic volumes, does not cause a substantial noise impact. Therefore, the Project, in combination with other planned projects would not cumulatively alter the noise condition in the community.

Displacements

As discussed above, the RSA is bisected by I-215. Alternative 3 would displace up to 8 residences and 31 businesses, Alternative 6 would displace 2 residences and 19 businesses, and Modified Alternative 7 (the Locally Preferred Alternative) would displace 2 residences and 21 businesses. However, the neighborhood residents do not depend solely on the businesses that would potentially be displaced for essential goods and services because there are similar types of businesses in the Project vicinity. As discussed in Section 2.3.1.3, Community Impacts, there are numerous businesses of similar types to those that would be potentially displaced within close proximity to the Project area. Therefore, there are replacement businesses available to the local community in case the displaced businesses could not be relocated near the interchange area.

There are sufficient properties available for relocation of all but one of the displaced businesses and residents in the Cities of Grand Terrace and Colton. Based on the research conducted for the *Draft Relocation Impact Statement*, the gasoline station, which would only be displaced by Alternative 3, may need to be relocated to the City

of San Bernardino or another adjacent city. Based on the business types that would be displaced by the Project, the majority of the displaced businesses are expected to serve the local as well as adjacent communities and, therefore, would be able to maintain their clientele after relocation.

The health of the RSA is not dependent on the businesses anticipated to be displaced as part of the Project. The community does not rely solely on the businesses potentially being displaced. In addition, the businesses would still be accessible to the community once relocated. Displacement of the businesses would not affect the health of the neighborhood, and no diminishment of the community would result. In addition, a relatively small number of businesses would be displaced, compared to the number of businesses that currently exist within the community. Because the Project would displace a limited number of residents, and would provide adequate relocation resources for displaced businesses, the Project's contribution to cumulative displacement impacts would be minimal.

The planned development projects would add or modify businesses or residences. Other than the I-215 Bi-County Improvement Project and the I-215/Mount Vernon Avenue-Washington Street Interchange Improvement Project, the transportation projects would not displace residents or businesses. Due to the freeway widening associated with the I-215 Bi-County Improvement Project, several businesses and residences directly adjacent to the freeway could be impacted. However, similar to the proposed Project, it is anticipated that the businesses could be relocated to surrounding areas and the residents would be relocated away from a freeway environment. Therefore, the Project, in combination with other planned projects would not result in substantial cumulative impacts with respect to displacements in the community.

2.21.4.2 Visual/Aesthetics

The RSA for visual impacts is the footprint of the I-215 Bi-County HOV Lane Gap Closure Project, because this is the freeway segment that travelers utilize to access the I-215/Barton Road interchange to and from the freeway. The RSA is dominated by the I-215 corridor; including the freeway mainline travel lanes, embankments, I-215 ramps, right-of-way, and adjacent development and roads. Landscaping in the RSA is typical of freeway corridors and includes grasses, low-lying shrubs, and some trees. The existing visual character of the study area is urban. The areas surrounding the I-215 right-of-way are characterized by moderate-density development, infrastructure, and open space/vacant land. Land uses within and surrounding the

RSA are predominantly transportation (roads and railroads), commercial, and residential, with some agricultural uses east of I-215 in the Cities of Riverside and Grand Terrace. Visual resources that can be seen from the RSA include Blue Mountain, the La Loma Hills, and Box Springs Mountain; however, existing views of these resources are limited due to climatic conditions (i.e., smog), development, sound barriers, and/or freeway signs. In addition, they are not City- or State-designated visual resources.

As discussed in Section 2.6, Visual/Aesthetics, Alternatives 3 and 6 would result in a reduction in visual quality; however, this reduction would not be substantial because the views would be consistent with views of and around a freeway. Overall, Modified Alternative 7 would improve the key views. View points within the RSA do not currently have unobstructed views of visual resources such as the La Loma Hills or Blue Mountain. Therefore, implementation of any of the Build Alternatives would have a low-level visual impact due to the existing visual quality, and any impact to visual resources resulting from the proposed Build Alternatives would be minimal.

Caltrans has developed the *I-215 Bi-County Aesthetic Concept* for the I-215 corridor between State Route 60 (SR-60) and Orange Show Road. The purpose of this concept is to provide for consistent landscaping, minimize aesthetic impacts throughout the corridor, and apply the concept to all planned freeway projects in the area including the Project.

The I-215 Bi-County HOV Lane Gap Closure Project includes construction of sound barriers that would obstruct views of I-215, freeway signs, and traffic on I-215. Because of implementation of the *I-215 Bi-County Aesthetic Concept* and the reduction of freeway traffic views for some sensitive viewers in the area, the Project is considered to be potentially providing some net benefit from some views. Although the cumulative transportation projects may include additional sound barriers, due to the existing conditions that obstruct views of the hills and mountains, and the fact that the sound barriers would reduce views of freeway traffic and signs, there would be a net beneficial impact.

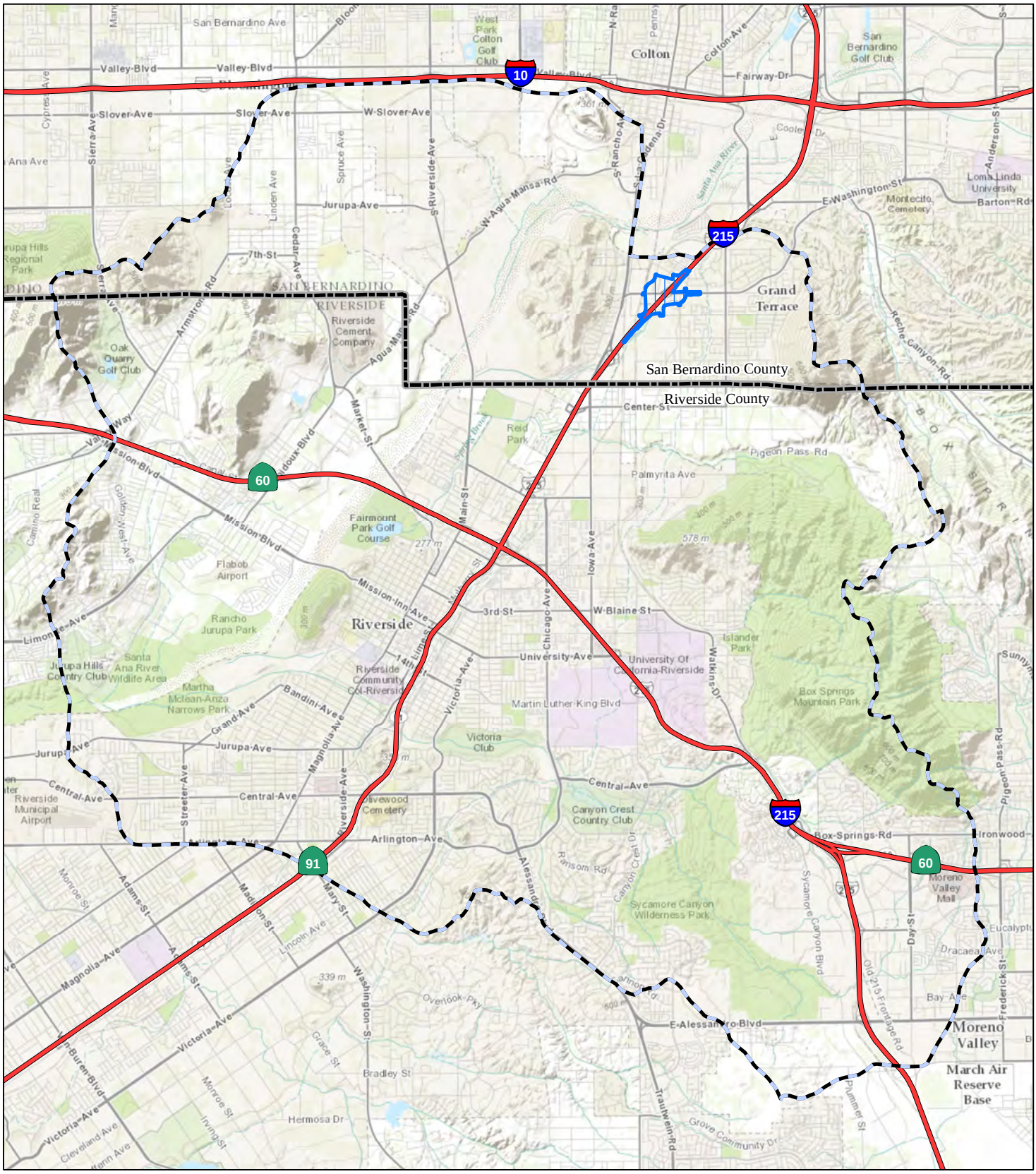
Planned development projects in the I-215 corridor vicinity would replace landscaping and construct sound barriers consistent with local standards. Because the planned development projects are primarily infill projects, and the Cities of Grand Terrace and Colton have aesthetic standards for development, visual/aesthetic impacts associated with the planned development projects would be minimal.

The Project, when combined with the other cumulative projects in the RSA, would provide a net beneficial visual impact from the additional sound barriers and replacement landscaping consistent with Caltrans and local requirements. Therefore, the Project in combination with other planned projects would not result in cumulative visual/aesthetic impacts.

2.21.4.3 Surface Water Quality

The RSA for cumulative impacts to surface water quality is the Riverside subwatershed (hydrologic sub-area) of the Middle Santa Ana River Watershed (hydrologic area) because the Project site is tributary to this watershed. The Riverside subwatershed is generally bound by Interstate 10 (I-10) on the north, the Box Spring Mountains on the east, Arlington Avenue in the City of Riverside on the south, and the Pedley Hills on the west and is shown in Figure 2.21.2. The Santa Ana River is the primary receiving water in the RSA. With exception of the Santa Ana River itself, the RSA is highly urbanized. The existing trend of urbanization in the Santa Ana River Watershed is projected to continue. Conversion of undeveloped land to transportation, commercial/industrial, retail, and residential uses results in hydromodification and increased loading of pollutants into surface waters and indirectly into groundwater. It also introduces new sources of pollutants associated with the new land uses.

As discussed in the *Water Quality Technical Study* (October 2013), the quality of surface water in the Santa Ana River Basin, in general, becomes progressively poorer as water moves along hydraulic flow paths. The highest quality water is typically associated with tributaries flowing from the surrounding mountains. Water quality is altered 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 Santa Ana River Basin. 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 Basin include total dissolved solids (TDS), total inorganic nitrogen levels, contaminant plumes in groundwater, bacterial quality of surface waters, and impacts from confined animal feeding operations. Reach 4 of the Santa Ana River (from Mission Boulevard in Riverside to the San Jacinto Fault in San Bernardino) is listed as impaired for pathogens on the 2010 California 303(d) List of Water Quality Limited Segments.



LEGEND

- Project Area
- County Boundary
- Surface Water Quality RSA

FIGURE 2.21.2

0 0.75 1.5
MILES

SOURCE: ESRI (2013); CalWater (2004)

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I-215/Barton Road
Interchange Improvement Project
Surface Water Quality Resource Study Area

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The Project would impact two concrete channels in the RSA as a result of the extension of existing culverts to accommodate new ramps. The Project would only affect water quality during storm events, because the Project would not generate dry weather discharge or disturb natural drainages. The Project would comply with the requirements of the Construction General Permit, the Caltrans Storm Water Management Plan (SWMP), and Caltrans and City National Pollutant Discharge Elimination System (NPDES) permit requirements. In addition, the Project includes treatment best management practices (BMPs) to target pollutants of concern in storm water runoff. Based on an urbanized RSA, limited impacts, and application of regulatory requirements, the contribution of the Project to cumulative impacts to surface water quality is not considerable.

The I-215 Bi-County HOV Lane Gap Closure Project would also impact concrete channels as well as earthen channels in the Project area through the extension of culverts. The I-215 Bi-County HOV Lane Gap Closure Project, I-215 Bi-County Improvement Project, and the La Cadena Bridge over Santa Ana River Bridge Replacement Project would directly impact the Santa Ana River through replacement of bridge columns in the river. Planned transportation projects in the area are anticipated to impact channels/streams that cross these facilities, and development projects may result in minor impacts to improved channels in order to accommodate changes in drainage patterns.

With the exception of the La Cadena Bridge over Santa Ana River Bridge Replacement Project, the I-215 Bi-County HOV Lane Gap Closure Project, and the I-215 Bi-County Improvement Project, the planned projects would have minimal impacts to the Santa Ana River because they would not directly impact the river. Because of the urban nature of the RSA, impacts to surface waters would mostly occur to engineered flood control channels. The planned projects are also expected to impact only small drainage areas. Each project is responsible for addressing its impacts to surface water quality and must comply with water quality regulations. The NPDES program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Since its introduction in 1972, the NPDES program has been responsible for water quality improvements in the State.[1] The planned projects would be required to comply with NPDES regulations, implement BMPs, and mitigate for direct impacts to surface waters through habitat replacement,

[1] State Water Resources Control Board. National Pollutant Discharge Elimination System (NPDES) (http://www.waterboards.ca.gov/water_issues/programs/npdes/, accessed October 28, 2013).

restoration, or enhancement. Therefore, the Project, in combination with other planned projects would not result in substantial cumulative water quality impacts.

2.21.5 Avoidance, Minimization, and/or Mitigation Measures

No measures beyond those identified in Sections 2.1 through 2.20 are required to address cumulative impacts. Those measures address both temporary and permanent impacts.

2.3 Community Impacts

2.3.1 Community Character and Cohesion

2.3.1.1 Regulatory Setting

The National Environmental Policy Act of 1969 (NEPA), as amended, 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 United States Code [USC] 4331[b][2]). The Federal Highway Administration in its implementation of NEPA (23 United States Code [USC] 109[h]) directs that final decisions on 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 (CEQA), 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.

2.3.1.2 Affected Environment

This section is based on information from the *Community Impact Assessment* (CIA) (November 2013). The study area for community character and cohesion is the community within and surrounding the Project area in which the direct impacts and the indirect impacts of the Project may occur. For this Project, the study area includes the neighborhoods located within and adjacent to the Project design footprint. Community Profile data are collected and organized by city, county, and census tract; therefore, these boundaries are utilized in conjunction with evaluating impacts to the affected environment within the study area.

Data presented in this section is based on the census tracts from the 2010 Census and the 2007–2011 American Community Survey (ACS).[1] Existing data from the 2010

[1] The ACS is an ongoing survey conducted by the United States (U.S.) Census Bureau that provides data every year, giving communities the current information they need to plan investments and services. Information from the survey generates data that help determine how more than $400

Census include the demographics of larger clusters and metropolitan areas, such as counties and large cities; however, information regarding communities and census tracts is also available at the ACS level. The main differences between the 2010 Census and the ACS 2007–2011 surveys are in the sample sizes and in the periods of time in which the samples were taken. Whereas the 2010 Census covers all households and residents and provides general demographic characteristics, the ACS is sample-derived data, and provides detailed information on all levels, including census tracts. The study area includes data from the 2007–2011 ACS and Census 2010 (Census Tracts 71.06, 71.07, 71.09, and 71.10). Census tracts were used because they are the most complete data set for the level of detail required for this analysis. Data boundaries with a finer level of detail, such as census blocks, were not used due to incomplete data in some of the required demographic categories necessary for analysis. Detailed information concerning the affected environment is provided for these census tracts where appropriate. For context and comparison, information is also provided at city and county levels for certain topics.

The Project area is characterized by a mix of residential, commercial, and public uses, with commercial development surrounding the interchange. Existing uses in the northeast quadrant of the interchange include Grand Terrace Elementary School, a few small businesses, and single-family residential properties. The current land uses in the northwest quadrant consist of a few single-family residences, a recreational vehicle (RV) park (Terrace Village RV Park), two mobile home parks (Grand Terrace Mobile Home Park and Grand Royal Mobile Estates), two strip malls, a restaurant (Demetri's Burgers), and an office complex. Existing uses in the southwest quadrant include small businesses, bus storage, industrial businesses, office buildings, and retail stores.

Community cohesion is the degree to which residents have a sense of belonging to their neighborhood; their level of commitment to the community; and/or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Community cohesion can be discussed in the context of specific indicators. These include:

- Ethnicity: Ethnic homogeneity is associated with a higher degree of community cohesion.

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billion in federal and State funds are distributed each year (source: http://www.census.gov/acs/www/about_the_survey/american_community_survey/).

- Household Size: Households of two or more people tend to correlate with a higher degree of community cohesion.
- Housing Tenure: Households that have been part of a community for a longer period of time tend to correlate with a higher degree of community cohesion.
- Age: Communities with a high percentage of elderly residents tend to correlate with a higher degree of community cohesion.

These indicators of community cohesion in the study area and the applicable local jurisdiction are described in more detail below.

Ethnicity

Table 2.3.A shows the racial and ethnic demographics of the population of Grand Terrace and Colton (Cities), San Bernardino County (County), and the study area census tracts. The study area census tracts are shown in Figure 2.3.1.

Table 2.3.A Racial and Ethnic Demographics

Jurisdiction	White	Black	American Indian/ Native Alaskan	Asian	Hawaiian/ Pacific Islanders	Other and Two or More Races	Hispanics
County of San Bernardino	1,153,161 (57%)	181,862 (9%)	22,689 (1%)	128,603 (6%)	6,870 (0.3%)	542,025 (27%)	1,001,145 (49%)
City of Grand Terrace	7,912 (66%)	673 (6%)	120 (1%)	778 (7%)	32 (0.3%)	2,525 (21%)	4,708 (39%)
City of Colton	22,613 (43%)	5,055 (10%)	661 (1%)	2,590 (5%)	176 (0.3%)	21,059 (40%)	37,039 (71%)
Census Tract 71.06 (City of Grand Terrace and City of Colton)	2,523 (64%)	223 (6%)	28 (0.7%)	220 (6%)	16 (0.4%)	933 (24%)	1,616 (41%)
Census Tract 71.07 (City of Grand Terrace and City of Colton)	1,442 (44%)	695 (21%)	39 (1%)	93 (3%)	10 (0.3%)	1,023 (31%)	1,738 (53%)
Census Tract 71.09 (City of Grand Terrace and City of Colton)	2,971 (49%)	1,132 (19%)	67 (1%)	374 (6%)	26 (0.4%)	1,494 (25%)	2,340 (39%)
Census Tract 71.10 (City of Colton and City of San Bernardino)	2,146 (44%)	411 (9%)	26 (0.5%)	1,112 (23%)	14 (0.3%)	1,122 (23%)	1,899 (39%)

Source: U.S. Census Bureau, 2010 Census, Table SF1 DP1.
Note: Percentages do not add up to 100 percent because Hispanics (as an ethnicity), as counted by the Census, may be of any race.

As shown in Table 2.3.A, the racial composition of the study area census tracts, the Cities, and the County varies. In the City of Grand Terrace, the population is predominantly White (66 percent), higher than the County average of 57 percent, whereas the City of Colton's White population percentage (43 percent) is lower than the County's average, but Whites are still the largest racial group in that city.

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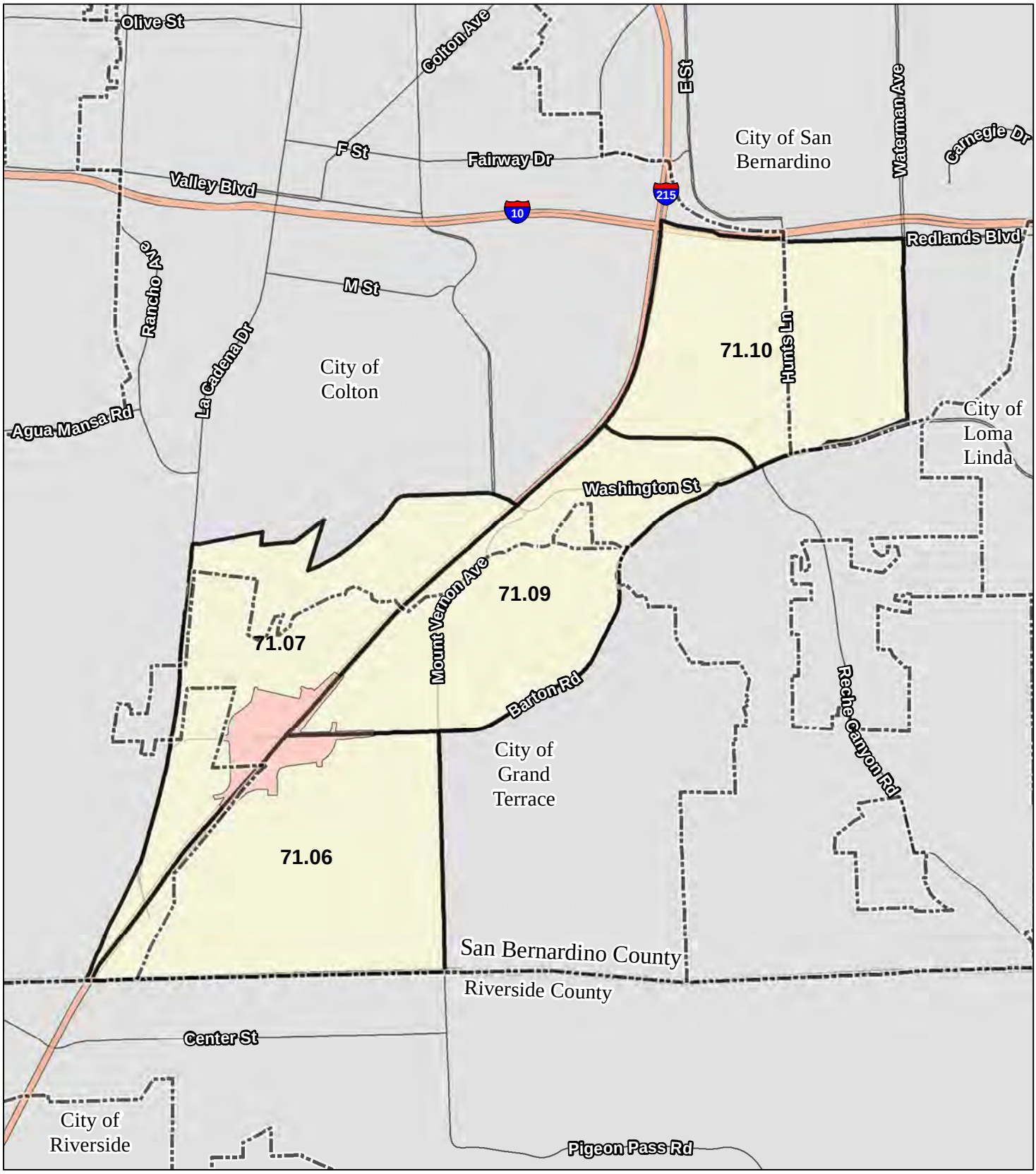

LEGEND

- Project Area
- Study Area Census Tracts
- City Boundary

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SOURCE: ESRI (2008); US Census Bureau (2010)

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FIGURE 2.3.1

I-215 Barton Road Interchange Improvement Project

Census Tracts

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The White population percentage in Census Tract 71.06 is similar to that of the City of Grand Terrace, while the other census tracts' White population percentage is similar to that of the City of Colton. The Black population percentage in Census Tracts 71.07 and 71.09 is approximately twice that of the other census tracts, the cities, and the County. All jurisdictions have similar percentages of individuals of two or more races. There is a relatively high percentage (23 percent) of Asians in Census Tract 71.10.

The County and the study area Cities each contain substantial Hispanic populations, with the largest percentage (71 percent) in the City of Colton. Although all four study area census tracts contain substantial Hispanic populations, only Census Tract 71.07 contains a higher percentage of Hispanics (53 percent) than the County overall (49 percent). The other census tracts' Hispanic population percentages range from 39 to 41 percent. Hispanics can be of one or more races.

Grand Terrace Elementary School is located adjacent to the I-215/Barton Road interchange. The percentage of minority students enrolled in the school is similar to the study area census tracts statistics. The percentage of Hispanics students is larger than the overall percentage of Hispanics in the study area. Specifically, based on the School Enrollment by Ethnicity for 2011-12 for Grand Terrace Elementary School, the percentage of racial minority students (Black, Asian, American Indian, Pacific Islander) is 11 percent, with 70 percent of the students enrolled being Hispanic. The total percentage of minority students in the school follows the demographic trends of the City of Grand Terrace minority populations. However, the percentage of Hispanics students is larger than the percentage of Hispanics in the City of Grand Terrace and the County.

Household Size

According to the 2007-2011 ACS and the 2010 Census, as shown in Table 2.3.F, the typical household size in the County is 3.3 persons, similar to the City of Colton household size (3.7 persons) and higher than the City of Grand Terrace household size (2.8 persons). Most of the census tracts have fairly uniform household sizes with Census Tract 71.06 at 2.9 persons per household, Census Tract 71.07 at 2.7 persons per household, Census Tract 71.09 at 2.7 persons per household, which are less than the County's household size. Census Tract 71.10 has an average of 3.7 persons per household.

Housing Tenure

Table 2.3.B provides data on how long homeowners have been residing in their units, grouped into five- and ten-year intervals, for the study area census tracts, the study area Cities, and the County. With the exception of Census Tract 71.10, the largest group of the population in all the geographic units has lived in their residence less than 10 years. The majority of those living in Census Tract 71.10 (34 percent) moved in between 1990 and 1999. The second highest percentage, with the exception of Census Tract 71.10, falls within the 2000-2004 interval. When combined with those who moved in after 2005, the majority of the population within or near the Project area has lived in their current residence less than 15 years.

Table 2.3.B Housing Tenure

Area	Year Householder Moved Into Unit					
	2005 or later	2000–2004	1990–1999	1980–1989	1970–1979	1969 or earlier
County of San Bernardino	252,152 (42.1%)	137,833 (23.0%)	118,133 (19.7%)	52,473 (8.8%)	24,181 (4.0%)	14,050 (2.3%)
City of Grand Terrace	1,745 (39.2%)	999 (22.5%)	821 (18.5%)	528 (11.9%)	248 (5.6%)	108 (2.4%)
City of Colton	6,598 (43.8%)	3,223 (21.4%)	2,733 (18.1%)	1,181 (7.8%)	504 (3.3%)	837 (5.6%)
Census Tract 71.06 (City of Grand Terrace and City of Colton)	663 (44.8%)	252 (17.0%)	232 (15.7%)	152 (10.3%)	116 (7.8%)	65 (4.4%)
Census Tract 71.07 (City of Grand Terrace and City of Colton)	499 (45.9%)	311 (28.6%)	183 (16.8%)	76 (7.0%)	9 (0.8%)	9 (0.8%)
Census Tract 71.09 (City of Grand Terrace and City of Colton)	1,640 (68.9%)	372 (15.6%)	242 (10.2%)	67 (2.8%)	35 (1.5%)	25 (1.0%)
Census Tract 71.10 (City of Colton and City of San Bernardino)	468 (30.7%)	356 (23.3%)	520 (34.1%)	181 (11.9%)	0 (0.0%)	0 (0.0%)

Source: U.S. Census Bureau, ACS 2007–2011, Table DP04.

Based on the data provided in the 2007–2011 ACS, three of the study area census tracts, the Cities, and the County do not show a long-term housing tenure (i.e., a substantial majority living in their current residence prior to 2000). The longest-term housing tenure is represented by Census Tract 71.10 because it has the highest percentage of residents that have occupied their residences for 11 years or more.

Housing Occupancy

Table 2.3.C shows the occupied housing units and the percentage of owner- and renter-occupied housing units within the study area census tracts, the study area Cities, and the County. The homeownership rate in the City of Grand Terrace is

Table 2.3.C Housing Occupancy

	San Bernardino County	City of Grand Terrace	City of Colton	Census Tract 71.06	Census Tract 71.07	Census Tract 71.09	Census Tract 71.10
Occupied Housing Units	598,822	4,449	15,076	1,480	1,087	2,381	1,525
Owner-occupied	384,624 (64.2%)	2,869 (64.5%)	8,302 (55.1%)	953 (64.4%)	523 (48.1%)	639 (26.8%)	1,202 (78.8%)
Renter-occupied	214,198 (35.8%)	1,580 (35.5%)	6,774 (44.9%)	527 (35.6%)	564 (51.9%)	1,742 (73.2%)	323 (21.2%)

Source: U.S. Census Bureau, 2007–2011 ACS, Table DP04.

similar to that of the County – 64.5 percent of Grand Terrace residents own their homes, which is close to the County's percentage of 64.2.

In the City of Colton, the homeownership rate of 55.1 percent is much lower than the County. With respect to the residents closest to the Project, the numbers vary substantially. In the census tracts directly adjacent to the Project, Census Tracts 71.06, 71.07, and 71.09, the percentage of residents who own their homes is much lower. Although the homeownership percentage in Census Tract 71.06 is similar to that of the County and of Grand Terrace, the percentages in Tracts 71.07 and 71.09, where most of the Project is located, are 48.1 percent and 26.8 percent, respectively.

Age Distribution

The age distribution, including the median age, of the population in the study area Cities and census tracts is shown in Table 2.3.D. The age distribution patterns across the age groups of the studied census tracts, the Cities, and the County are similar. The Cities and affected census tracts reported similar percentages of population between18 and 64. The percentage of the population over age 64 in the study area census tracts ranges between 5 to 11 percent, and is lower than the City of Grand Terrace. The percentages of the population under age 18 in the study area census tracts are also substantially the same and slightly below the percentages in the City of Colton and the County, with exception of Census Tract 71.07, which has a higher population under 18.

Community Cohesion Summary

Some indicators that a community has a high degree of cohesion include a substantial presence of residents with long tenure, households of two or more people, high rates of homeownership, racial and/or ethnic homogeneity, and a high percentage of elderly residents. The Project is primarily within the City of Grand Terrace and only a small portion is within the City of Colton.

Table 2.3.D Age Distribution

Jurisdiction	Median Age	Percent		
		Population < 18	Population 18–64	Population > 64
County of San Bernardino	32	33	58	9
City of Grand Terrace	36	26	62	12
City of Colton	28	35	57	8
Census Tract 71.06 (City of Grand Terrace and City of Colton)	34	27	62	11
Census Tract 71.07 (City of Grand Terrace and City of Colton)	26	37	58	5
Census Tract 71.09 (City of Grand Terrace and City of Colton)	30	28	63	9
Census Tract 71.10 (City of Colton and City of San Bernardino)	34	30	62	8

Source: U.S. Census Bureau, 2010 Census, Table SF1 DP1.

Residents who have lived in the same location for many years typically have a strong attachment to their neighborhood as a result of continued association with their neighbors and local groups and institutions over time. The percentages of the population that moved into their current residences in 2000 or later are 62 percent in the City of Grand Terrace and 65 percent in the City of Colton. These numbers are similar to the percent of County residents (65 percent) who moved into their current residences in 2000 or later. In addition, approximately 18 percent of the residents in the City of Grand Terrace and the City of Colton moved into their current residences between 1990 and 1999. By comparison, approximately 20 percent of the County's residents moved into their current residences between 1990 and 1999. Only 20 percent of the population in the City of Grand Terrace and 17 percent of the population in the City of Colton moved into their current residence prior to 1990, which is higher than the County (15 percent). Because neither of the study area cities nor any of the study area census tracts contain a substantial majority of long-term residents, as shown in Table 2.3.B, the area does not display a high level of community cohesion.

Elderly residents include retirees (65 years of age and older), who typically have more time to engage in neighborhood groups and volunteer in their communities than the working age population, and if long-tenured in the community, often have a greater social connection with the community. The City of Grand Terrace is a predominantly White community characterized by smaller household sizes (2.8 persons per household) than the County as a whole (3.3 persons per household). The percentage of residents 65 years of age or older (12 percent) in the City of Grand Terrace is relatively low compared to the population between the ages of 18 and 64

(62 percent), and the median age of 36 years is only slightly higher than the median age in the County (32 years). The City of Colton has a younger and more ethnically diverse population, and is characterized by a higher number of persons per household (3.7) than the population of the County as a whole. The median age for residents in the City of Colton is 28 years. As no part of the study area, in either city, hosts a high percentage of elderly residents, and both exhibit a relatively young median age, as evidenced by the data in Table 2.3.D, this indicator for potentially high community cohesion is considered to be predominantly absent.

Another indicator of community cohesion is a high rate of homeownership. The homeownership rate in the City of Grand Terrace is similar to that of the County – 64.5 percent of Grand Terrace residents own their home, which is close to the County's percentage of 64.2. In the City of Colton, the homeownership rate of 55.1 percent is much lower than the County. When we look at the residents closest to the Project, the numbers vary substantially. The homeownership rate in the census tracts directly adjacent to the Project, Census Tracts 71.06, 71.07, and 71.09, the percentage of residents who own their homes is much lower. Although the percentage in Census Tract 71.06 is similar to that of the County and of Grand Terrace, the percentages in Tracts 71.07 and 71.09, where most of the Project is located, are 48.1 percent and 26.8 percent, respectively. Accordingly, as evidenced by the aforementioned data, most of the Project area is located in census tracts with a substantially lower rate of homeownership.

In general, indicator values for Census Tract 71.06 are similar to the City of Grand Terrace's cohesion indicator values, while the remaining census tracts reflect the cohesion indicator values in the City of Colton. Based on these indicators, separate from ethnic homogeneity as evidenced by the 66 percent White population in the City of Grand Terrace and 64 percent in Census Tract 71.06, overall the Project area does not evidence a particularly pronounced degree of community cohesion.

Other Demographics

Employment

Table 2.3.E shows employment percentages by economic sectors for the Cities and the County. According to the 2007–2011 ACS, education, health, and social services, and retail were the largest and second largest County industry sectors in terms of employment, comprising approximately 22 and 13 percent, respectively, of the total employed labor force in the County, with manufacturing following at approximately 10 percent. Education, health, and social services was also the largest industry sector

Table 2.3.E Employment Percentages

Economic Sector	City of Grand Terrace	City of Colton	San Bernardino County
Construction	8%	9%	8%
Manufacturing	8%	11%	10%
Retail	13%	13%	13%
Finance and Insurance	5%	4%	6%
Professional and Technical Services	10%	9%	8%
Education, Health, and Social Services	23%	21%	22%
Lodging and Foodservice	7%	9%	9%
All Other Sectors	26%	24%	24%

Source: U.S. Census Bureau, 2007–2011 ACS, Table DP03.

in Grand Terrace and Colton, at 23 and 21 percent, respectively, of the employed labor force in the respective Cities, followed by retail at approximately 13 percent in both cities.

The 2007–2011 ACS found that there were 949,657 persons in the County of San Bernardino civilian labor force. According to the California Employment Development Department, the unemployment rate in the County of San Bernardino was 11 percent as of April 2013. At that time, the Cities of Grand Terrace and Colton had a higher percentage of employed civilians, and the City of Grand Terrace had slightly lower unemployment rates than the County. According to the California Employment Development Department, as of June 2013, the unemployment rate in the City of Grand Terrace was 5.3 percent, while the unemployment rate in Colton was 11.2 percent, indicating that the local economy is consistent with the national economic downturn.

Table 2.3.F provides other demographic characteristics for the Cities and County, as reported in the 2007–2011 ACS and 2010 Census. As seen in Table 2.3.F, all study area census tracts (with exception of Census Tract 71.07) have a slightly higher percentage of employed labor force than the respective Cities and the County, with Census Tract 71.09 having the highest percentage of employed civilians at 68 percent. Census Tract 71.07 reported the lowest percentage of employment civilians at 48 percent.

Income and Poverty Status

There are two slightly different versions of how the federal government measures poverty: Poverty thresholds and poverty guidelines. Poverty thresholds are the original version of the federal poverty measure, originally developed by the Social Security Administration, used mainly for statistical purposes – to estimate the number

Table 2.3.F Local, County, Regional, and State Demographic Summaries

Jurisdiction	Total Population[1]	Median Household Income[2]	Persons below Poverty[2]	High School Graduate or Higher (over Age 25)[2]	College Graduate or Higher (over Age 25)[2]	Employed Civilian Labor Force[2]	Persons Per Household[1]
County of San Bernardino	2,035,210	$55,853	16%	79%	18%	54%	3.3
City of Grand Terrace	12,040	$64,337	6%	89%	23%	62%	2.7
City of Colton	52,154	$41,788	22%	69%	13%	56%	3.5
Census Tract 71.06 (City of Grand Terrace and City of Colton)	3,943	$68,446	10%	86%	28%	64%	2.9
Census Tract 71.07 (City of Grand Terrace and City of Colton)	3,302	$32,637	39%	79%	5%	48%	2.9
Census Tract 71.09 (City of Grand Terrace and City of Colton)	6,064	$38,684	18%	87%	24%	68%	2.5
Census Tract 71.10 (City of Colton and City of San Bernardino)	4,831	$81,206	4%	89%	30%	64%	3.3

Source: U.S. Census Bureau, 2007–2011, 2010 Census.
Note: Persons living in the poverty percentile, which is based on U.S. Census Bureau thresholds, not United States Department of Health and Human Services guidelines. For 2010, the poverty threshold for a family of four was $22,314.
[1] From 2010 Census, Table SF1 DP1.
[2] From 2007–2011 ACS, Tables DP02 and DP03.

of Americans living in poverty. Poverty guidelines on the other hand are used for administrative purposes, namely to determine financial eligibility for certain federal programs.[1] Poverty thresholds are updated every year by the Census Bureau and estimates provided through ACS reports. The official poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. To determine the income and poverty characteristics for the study area, data were obtained from the 2007–2011 ACS for the County, the Cities, and the census tracts. Table 2.3.F provides income and poverty level characteristics for the census tracts, Cities, and County, as reported in the 2007–2011 ACS and the 2010 Census. The poverty level is defined annually by the United States Department of Health and Human Services, and was $22,050 for a family of four in 2010. For 2010, the poverty threshold used by the U.S. Census Bureau for a family of four was $22,314.

As shown in Table 2.3.F, the City of Grand Terrace is characterized by more affluent residents, with a higher median household income and fewer persons living below the

[1] http://www.census.gov/hhes/www/poverty/methods/definitions.html

poverty level than the City of Colton and County averages. The study area census tracts' median income ranges between $32,637 (below the median for the Cities) and $81,206 (above the Cities of Colton, Grand Terrace, and County of San Bernardino medians). In the study area census tracts, Census Tract 71.10 has the fewest residents living below the poverty level, while Census Tract 71.07 has the highest percentage of residents living below the poverty level. Census Tract 71.10 has the highest median household income compared to other census tracts, the Cities, and the County averages. Census Tract 71.07 reported the lowest median household income and the highest percentage of individuals (39 percent) living below the poverty level compared to the averages for the other study area census tracts, the Cities, and the County.

Commuter Travel

I-215 passes through the western part of the City of Grand Terrace in a generally northeast-southwest direction. Table 2.3.G summarizes commuter travel patterns within the study area census tracts, the Cities, and the County based on the 2007–2011 ACS.

As shown in Table 2.3.G, the majority of residents in the Cities of Grand Terrace and Colton, the County, and the study area census tracts work in the County. However, most study area residents work in a different city than their city of residence. Approximately 74 percent of all study area census tract residents have an average commute time of less than 30 minutes, while approximately 13 percent have an average commute of 30 to 44 minutes. The data indicates that this 13 percent of study area residents commute to cities outside of the study area for employment.

Since the Barton Road interchange is a primary access to the I-215 in the City of Grand Terrace, it is a key feature for commuters to utilize to travel to work between cities and counties.

The existing I-215/Barton Road interchange provides regional access to the City of Grand Terrace, with secondary access available at La Cadena Drive. According to the City of Grand Terrace General Plan, Circulation Element, Barton Road is the principal major highway in the City. It provides direct access to the commercial corridor that runs along its length through the City of Grand Terrace. Barton Road currently provides two lanes of travel within 80 ft of right-of-way and one lane of travel in each direction on the Barton Road overcrossing, with sidewalk on one side

Table 2.3.G Commuter Travel

	San Bernardino County	City of Grand Terrace	City of Colton	Census Tract 71.06	Census Tract 71.07	Census Tract 71.09	Census Tract 71.10
Work in County of Residence	562,603 (71%)	4,052 (69%)	14,399 (71%)	1,276 (63%)	786 (77%)	2,022 (65%)	1,776 (70%)
Work Outside County of Residence	234,575 (29%)	1,813 (31%)	5,837 (29%)	740 (37%)	241 (23%)	1,090 (35%)	751 (30%)
Work in City of Residence	205,539 (27%)	435 (7%)	3,128 (15%)	140 (7%)	244 (24%)	241 (8%)	392 (16%)
Work Outside City of Residence	551,758 (73%)	5,448 (93%)	17,137 (85%)	1,883 (93%)	783 (76%)	2,886 (92%)	2,135 (84%)
Travel Time to Work							
< 30 minutes	60%	73%	70%	78%	70%	73%	76%
30–44 minutes	18%	12%	15%	14%	13%	13%	13%
45–59 minutes	8%	4%	4%	2%	5%	6%	6%
> 60 minutes	14%	11%	11%	6%	12%	9%	5%

Source: U.S. Census Bureau, 2007–2011 ACS, Tables B08007, B08008, and B08303.

and no bicycle lanes. Barton Road presently has a continuous left-turn lane in the eastern part of the City. The City of Grand Terrace General Plan Circulation Element(2010) plans for Barton Road to provide four lanes within 100 ft of right-of-way, with sidewalk and bicycle lanes on both sides.

The Cities of Grand Terrace and Colton depend on the distribution of jobs within and outside their borders. Both Cities share Barton Road and La Cadena Drive and both utilize the I-215/Barton Road interchange. The I-215/Barton Road interchange is considered the main access point to the relatively small City of Grand Terrace; the City of Colton is large and has several major access points to the regional freeway system along I-10 and I-215.

2.3.1.3 Environmental Consequences

Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in temporary impacts to community character and cohesion.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Construction activities associated with implementation of the Project would result in temporary impacts to residences and businesses adjacent to the I-215/Barton Road interchange, including construction equipment noise and emissions, access restrictions, and detours.

Road detours would result in some traffic delays for local residents, businesses, and commuters. However, continuous access for uses adjacent to the Project area would be provided and therefore no substantial disruptions to the local community are anticipated. During final design, a TMP will be prepared in order to address potential detours.

Appropriate detour signage would be developed for the proposed Project. Extensive ramp closures are not anticipated; however, travel times could temporarily increase due to the closure of lanes. During ramp closures at Barton Road, the I-215/Iowa Avenue/La Cadena Drive and I-215/Mount Vernon Avenue-Washington Street interchanges would be available as alternate access points to and from I-215. La Cadena Drive and Mount Vernon Avenue would provide north-south access to Barton Road in the Project vicinity.

Construction impacts would be minimized through compliance with California Department of Transportation (Caltrans) standards for noise, emissions, and temporary construction easements (TCEs), and the City of Grand Terrace and City of Colton standards for construction noise (for work within local jurisdictional boundaries), as well as implementation of a comprehensive TMP and public outreach program. No substantial impacts are anticipated.

The number of potential construction jobs created by a project is based on total construction costs. Alternative 3 is the most expensive (Table 1.J); this alternative would generate an estimated 1,364 construction jobs. Alternative 6 would generate an estimated 822 construction jobs. Modified Alternative 7 would generate an estimated 812 construction jobs. The above estimated construction jobs for the three respective Build Alternatives would generate temporary employment and revenue for both the local and regional economies.[1]

Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in permanent impacts to community character and cohesion.

Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project does not include changes to local circulation and would not displace residents or businesses; therefore no community character or cohesion impacts would occur. However, congestion in the I-215/Barton Road interchange area would increase. The I-215 Bi-County HOV Lane Gap Closure Project will construct two sound barriers that will separate Grand Terrace Elementary School and the Grand Royal Mobile Estates from I-215. This is considered a beneficial impact.

Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would require the full acquisition of 8 single-family dwellings that are interspersed in a commercial area. Residents living in properties adjacent to I-215 that would be acquired would have an opportunity to relocate to other residential areas away from a freeway. Due to the fragmented nature of the residential community, and

[1] Employment impacts vary over time. Based on the latest data provided by FHWA, $1 billion in investments supports approximately 13,000 construction jobs, with approximately 50 percent each for direct and indirect jobs. http://www.fhwa.dot.gov/policy/otps/pubs/impacts/index.htm (April 5, 2012).

the limited cohesion indicated by the existing demographic profile, the residential acquisitions under Alternative 3 would not divide an existing neighborhood or fragment a cohesive neighborhood.

Alternative 3 would result in 31 business displacements. The businesses that would be displaced are listed by business name, based on a review by City of Grand Terrace staff, and are shown in Table 2.3.H.

Table 2.3.H Alternative 3 Business Displacements

Business Name	Type of Business	Service Area	City
Genesis Hair	Hair Salon	Local	Grand Terrace
All TV VCR	Electronics Repair	Local/Regional	Grand Terrace
Empire Cash Register	Cash Register Sales and Repair	Regional	Grand Terrace
Animal Emergency Clinic	Pet Clinic	Local/Regional	Grand Terrace
Diane Johnson (enrolled agent)	Taxes	Local	Grand Terrace
Auto Diagnostic Service aka Automotive Network Solutions	Auto Repair	Local	Grand Terrace
The Paragon Tattoo and Gallery	Tattoo	Local	Grand Terrace
Soft Touch Poodle Palace	Pet Grooming	Local	Grand Terrace
Mori Hokana Smile Solutions	Dental Lab	Local/Regional	Grand Terrace
Vintage Boutique	Clothing Sales	Local	Grand Terrace
The Rec Center	Business Services	Local	Grand Terrace
Terra Loma Real Estate, Inc.	Real Estate	Local/Regional	Grand Terrace
Ornell Fire Sprinklers	Sprinklers	Local/Regional	Grand Terrace
Financial Solutions	Financial Planning/Taxes	Local\Regional	Grand Terrace
Demetri's Burgers	Restaurant	Local	Grand Terrace
On Point Tax Services	Taxes	Local\Regional	Grand Terrace
PDS Transportation	Freight moving company	Regional	Grand Terrace
Loan Savings/American Professional Group	Loans	Local\Regional	Grand Terrace
Shell Station aka Keromina Market Place/Circle K Convenience Store	Gas station and food mart	Local	Grand Terrace
Auto Zone	Auto Parts and Accessories	Local	Grand Terrace
Blue Mountain Collision Center	Auto Repair/Restoration	Local	Colton
WinBath & Kitchen Showroom/ DarCrest Vehicle Storage	Bath and Kitchen Furniture Sales/Vehicle Storage	Local/Regional	Colton
Orkin	Pest Control Services	Local/Regional	Colton
Hose-Man	Hydraulic/Industrial Hose Sales and Service	Local/Regional	Colton
Cal Skate	Recreation	Local\Regional	Grand Terrace
Quick Stop (Arco Station)	Gas Station and food mart	Local	Grand Terrace
Roblee's Carpet & Flooring	Tile and carpet sales, carpet cleaning	Local	Grand Terrace
Superior Pool Products	Wholesale distributor of swimming pool supplies	Regional	Grand Terrace
Winnelson Wholesale Plumbing	Wholesale plumbing	Regional	Grand Terrace
Essco	Wholesale Electric	Regional	Grand Terrace
Miguel's Jr.	Restaurant	Local	Grand Terrace

Source: Email from Richard Shields, City of Grand Terrace Public Works Director (June 11, 2013).

Based on communication with City of Grand Terrace staff, it was determined that many businesses to be displaced under Alternative 3 cater to local as well as regional

clientele; however, there are several that likely serve mostly local clientele.[1] For purposes of this table, "local" refers to the surrounding neighborhood, as well as adjacent communities such as Highgrove (less than a 2-mile [mi] radius from the Project area), and "regional" would generally be areas north of I-10, west of the Santa Ana River, east of the Grand Terrace city boundary and south of the Highgrove community. Businesses catering to regional clientele and pass-through traffic, such as the gasoline stations, are typically less affected by relocation than those that serve only local clientele that has been built up over many years.

Furthermore, as detailed on the City of Grand Terrace's website, there are 9 registered auto-repair-related businesses, 1 pet grooming service, 7 tax companies, 13 beauty and hair salons, 3 dental labs, and 12 restaurants within a 2 mi radius of the interchange. In addition, as of August 2013, an internet search found 9 pet clinics within a 5 mi radius of the interchange, and 2 tattoo studios are located within approximately 5 mi. Therefore, the neighborhood residents do not depend on the businesses to be displaced for essential goods and services. For these reasons, it is not expected that displacements under Alternative 3 would result in substantial impacts to neighborhoods. In addition, based on the *Draft Relocation Impact Statement* (DRIS) results, there are replacement properties available within the City of Grand Terrace that could accommodate relocated businesses. Additional replacement properties are available in the City of Colton. Refer to Section 2.3.3 Relocations and Real Property Acquisitions.

The sound barriers that will be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project adjacent to Grand Terrace Elementary School along the northbound I-215 on-ramp and adjacent to the Grand Royal Mobile Estates will reduce traffic noise associated with the proposed Project. The I-215 Bi-County HOV Lane Gap Closure Project sound barriers are anticipated to be completed by late 2014.

A portion of the sound barrier that will be constructed adjacent to the Grand Royal Mobile Estates as part of the I-215 Bi-County HOV Lane Gap Closure Project would be removed (approximately 650 feet [ft] of the barrier) to allow for reconstruction of the I-215 southbound off-ramp and the new southbound loop on-ramp that are part of Alternative 3. The removed portion of the sound barrier would be reconstructed along the proposed State right-of-way line for Alternative 3.

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[1] Telephone conversation with Sandra Molina, Planning Department, City of Grand Terrace (August 23, 2012).

As discussed in Section 2.13, Noise, other sound barriers were modeled for Alternative 3. Only the sound barriers that met the Caltrans *Traffic Noise Analysis Protocol for New Highway Construction Reconstruction Projects* (May 2011) (Noise Protocol) requirements and that are not already included as part of the I-215 Bi-County HOV Lane Gap Closure Project are proposed for each Build Alternative. For Alternative 3, no additional sound barriers are proposed.

As shown in Figure 1.5, local streets in the neighborhoods would be modified, which would change the circulation pattern in these areas. For instance, on the west side of I-215, a new east-west road would be constructed between Grand Terrace Mobile Home Park and the single-family residential area that connects to Vivienda Avenue and Grand Terrace Road. This would provide an alternative route to this area, since La Crosse Avenue in the northwest quadrant would be removed as a result of the new southbound I-215 freeway ramps. In addition, Grand Terrace Road would be realigned and would connect with the extension of De Berry Street at Barton Road. This would provide an alternative route to this area, since La Crosse Avenue in the southwest quadrant would be removed as a result of the new southbound I-215 freeway on-ramp. Because the circulation changes would maintain access to area properties, no substantial circulation impacts would occur.

Alternative 3 would improve operations and levels of service (LOS) at the interchange. Bicycle lanes and sidewalks would be constructed consistent with the City of Grand Terrace Circulation Element (2010).

Traffic noise level increases would be minimal and will be reduced adjacent to sensitive receptors through construction of sound barriers to be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project.

As seen on Figure 1.5, as part of this alternative, the new southbound I-215 ramps would remove the existing commercial and retail buildings. As a result, the ramps would be directly adjacent to the Terrace Village RV Park and Grand Terrace Mobile Home Park. However, as discussed in Sections 2.12, Air Quality, and 2.13, Noise, these areas would not be substantially impacted by noise or vehicle emissions.

The I-215/Barton Road interchange is an existing facility and therefore Alternative 3 would not divide or create a barrier to the surrounding neighborhoods. Although the proposed Project would convert freeway- adjacent properties from nonresidential and residential uses to transportation uses, Alternative 3 would not appreciably change the

cohesion and character of the community, and impacts to community character and cohesion are not anticipated to be substantial.

Alternative 6 (Modified Cloverleaf Interchange)

Alternative 6 would displace 2 single-family dwellings that are directly adjacent to I-215. Like Alternative 3, these residences are interspersed in a commercial area. Due to the fragmented nature of the residential community, and the limited cohesion indicated by the existing demographic profile, the residential acquisitions under Alternative 6 would not divide an existing neighborhood or fragment a cohesive neighborhood.

Alternative 6 would result in 19 business displacements; none of the displacements would be in addition to those identified for Alternative 3. The businesses that would be displaced are listed by business name, based on a review by City of Grand Terrace staff, and are shown in Table 2.3.I.

Table 2.3.I Alternative 6 Business Displacements

Business Name	Type of Business	Service Area	City
Genesis Hair	Hair Salon	Local	Grand Terrace
All TV VCR	Electronics Repair	Local/Regional	Grand Terrace
Empire Cash Register	Cash Register Sales and Repair	Regional	Grand Terrace
Animal Emergency Clinic	Pet Clinic	Local/Regional	Grand Terrace
Diane Johnson (enrolled agent)	Taxes	Local	Grand Terrace
Auto Diagnostic Service aka Automotive Network Solutions	Auto Repair	Local	Grand Terrace
The Paragon Tattoo and Gallery	Tattoo	Local	Grand Terrace
Soft Touch Poodle Palace	Pet Grooming	Local	Grand Terrace
Mori Hokana Smile Solutions	Dental Lab	Local/Regional	Grand Terrace
Vintage Boutique	Clothing Sales	Local	Grand Terrace
The Rec Center	Business Services	Local	Grand Terrace
Terra Loma Real Estate, Inc.	Real Estate	Local/Regional	Grand Terrace
Ornell Fire Sprinklers	Sprinklers	Local/Regional	Grand Terrace
Financial Solutions	Financial Planning/Taxes	Local/Regional	Grand Terrace
Demetri's Burgers	Restaurant	Local	Grand Terrace
On Point Tax Services	Taxes	Local/Regional	Grand Terrace
PDS Transportation	Freight moving company	Regional	Grand Terrace
Loan Savings/American Professional Group	Loans	Local/Regional	Grand Terrace
Auto Zone	Auto Parts and Accessories	Local	Grand Terrace

Source: Email from Richard Shields, City of Grand Terrace Public Works Director (June 11, 2013).

Like those under Alternative 3, the new southbound I-215 ramps would be placed adjacent to Terrace Village RV Park and Grand Terrace Mobile Home Park, but the ramps would not be as close to the parcels as they would be under Alternative 3.

Like Alternative 3, a portion of the sound barrier that will be constructed adjacent to Grand Royal Mobile Estates along the southbound I-215 off-ramp as part of the approved I-215 Bi-County HOV Lane Gap Closure Project would be removed (approximately 250 linear ft of the barrier) to allow for reconstruction of the I-215 southbound off-ramp and the new southbound on-ramp that are part of Alternative 6.

The removed portion of the sound barrier would be reconstructed along the proposed State right-of-way line for Alternative 6.

Like Alternative 3, the sound barriers that will be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project adjacent to Grand Terrace Elementary School along the northbound I-215 on-ramp and adjacent to the Grand Royal Mobile Estates will reduce traffic noise associated with the proposed Project.

As discussed in Section 2.13, Noise, other sound barriers were modeled for Alternative 6. Only the sound barriers that met the Caltrans Noise Protocol requirements and that are not already included as part of the I-215 Bi-County HOV Lane Gap Closure Project, are proposed for each Build Alternative. For Alternative 6, there is the potential for a sound barrier to be constructed adjacent to Grand Terrace Mobile Home Park and Terrace Village RV Park; however, construction of this barrier is dependent on surveys of property owners and final design.

Like Alternative 3, on the west side of I-215, a new east-west road would be constructed between Grand Terrace Mobile Home Park and the single-family residential area that connects to Vivienda Avenue and Grand Terrace Road. This would provide an alternative route to this area, since La Crosse Avenue in the northwest quadrant would be removed as a result of the new freeway ramps. Because this circulation change would maintain access to area properties, no substantial impacts would occur.

Alternative 6 would improve operations and LOS at the interchange. Bicycle lanes and sidewalks would be constructed consistent with the City of Grand Terrace Circulation Element (2010).

Traffic noise level increases would be minimal and will be reduced adjacent to sensitive receptors through construction of sound barriers to be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project.

By converting freeway- adjacent properties from nonresidential and residential uses to transportation uses, Alternative 6 would not appreciably change the cohesion and character of the community. For the reasons outlined above, impacts to community character and cohesion would not be substantial.

Modified Alternative 7 (Modified Cloverleaf/ Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 would displace the same two single-family dwellings as Alternative 6 that are directly adjacent to I-215. Like Alternatives 3 and 6, these residences are interspersed in a commercial area. Due to the fragmented nature of the residential community, and the limited cohesion indicated by the existing demographic profile, the residential acquisitions under Modified Alternative 7 would not divide an existing neighborhood or fragment a cohesive neighborhood.

Modified Alternative 7 would result in 21 business displacements; none of the displacements would be in addition to those identified for Alternative 3. The businesses that would be displaced are listed by business name, based on a review by City of Grand Terrace staff, and are shown in Table 2.3.J.

A portion of the sound barrier that will be constructed adjacent to Grand Royal Mobile Estates along the southbound I-215 off-ramp as part of the approved I-215 Bi-County HOV Lane Gap Closure Project would be removed (approximately 285 ft of the barrier) to allow for reconstruction of the I-215 southbound off-ramp and the new southbound on-ramp that are part of Modified Alternative 7. The removed portion of the sound barrier would be reconstructed along the proposed State right-of-way line for Modified Alternative 7.

The sound barriers that will be constructed as part of the I-215 Bi-County HOV Lane Gap Closure Project adjacent to Grand Terrace Elementary School along the northbound I-215 on-ramp and adjacent to the Grand Royal Mobile Estates will reduce traffic noise associated with the proposed Project.

As discussed in Section 2.13, Noise, other sound barriers were modeled for Modified Alternative 7. Only the sound barriers that met the Caltrans Noise Protocol requirements and that are not already included has part of the I-215 Bi-County HOV

Table 2.3.J: Modified Alternative 7 Business Displacements

Business Name	Type of Business	Service Area	City
Genesis Hair	Hair Salon	Local	Grand Terrace
All TV VCR	Electronics Repair	Local/Regional	Grand Terrace
Empire Cash Register	Cash Register Sales and Repair	Regional	Grand Terrace
Animal Emergency Clinic	Pet Clinic	Local/Regional	Grand Terrace
Diane Johnson (enrolled agent)	Taxes	Local	Grand Terrace
Auto Diagnostic Service aka Automotive Network Solutions	Auto Repair	Local	Grand Terrace
The Paragon Tattoo and Gallery	Tattoo	Local	Grand Terrace
Soft Touch Poodle Palace	Pet Grooming	Local	Grand Terrace
Mori Hokana Smile Solutions	Dental Lab	Local/Regional	Grand Terrace
Vintage Boutique	Clothing Sales	Local	Grand Terrace
The Rec Center	Business Services	Local	Grand Terrace
Terra Loma Real Estate, Inc.	Real Estate	Local/Regional	Grand Terrace
Ornell Fire Sprinklers	Sprinklers	Local/Regional	Grand Terrace
Financial Solutions	Financial Planning/Taxes	Local\Regional	Grand Terrace
Demetri's Burgers	Restaurant	Local	Grand Terrace
On Point Tax Services	Taxes	Local\Regional	Grand Terrace
PDS Transportation	Freight moving company	Regional	Grand Terrace
Loan Savings/American Professional Group	Loans	Local\Regional	Grand Terrace
Auto Zone	Auto Parts and Accessories	Local	Grand Terrace
Superior Pool Products	Wholesale distributor of swimming pool supplies	Regional	Grand Terrace
Winnelson Wholesale Plumbing	Wholesale plumbing	Regional	Grand Terrace

Source: Email from Richard Shields, City of Grand Terrace Public Works Director (June 11, 2013).

Lane Gap Closure Project, are proposed for each Build Alternative. For Modified Alternative 7, no additional sound barriers are proposed, other than the modified section at the I-215 southbound off-ramp described above.

Like Alternatives 3 and 6, on the west side of I-215, a new east-west road would be constructed between Grand Terrace Mobile Home Park and the single-family residential area, which connects to Vivienda Avenue and Grand Terrace Road. This would provide an alternative route to this area, since La Crosse Avenue in the northwest quadrant would be removed as a result of the new southbound I-215 ramps. Because this circulation change would maintain access to area properties, no substantial impacts would occur. Like Alternatives 3 and 6, Modified Alternative 7 would reduce congestion at the interchange, thereby improving circulation for local businesses and residents. Since the residences and businesses that would remain are already located adjacent to an existing interchange, the overall character of the community as freeway- and interchange-adjacent would not change.

By converting freeway-adjacent properties from nonresidential and residential uses to transportation uses, Modified Alternative 7 would not appreciably change the

cohesion and character of the community. For the reasons outlined above, impacts to community character and cohesion would not be substantial.

2.3.1.4 Avoidance, Minimization, and/or Mitigation Measures

The following Avoidance and Minimization Measures would be implemented to minimize impacts to existing neighborhoods and businesses. Measure TR-1, Section 2.5 (implementation of a TMP), would also minimize temporary impacts to community character and cohesion.

CI-1 **Community Outreach Program.** During Final Design, the Project team will develop and implement a community outreach and public involvement program to inform the community including Grand Terrace Elementary School about Project construction activities**.**

CI-2 **Construction Management Program.** The Project team will develop and implement a construction management program that maintains access to and from the Project area through signage, detours, and flag persons.

2.3.2 Relocations and Real Property Acquisition

2.3.2.1 Regulatory Setting

Caltrans Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act 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 United States Code [USC] 2000d, et seq.). Please see Appendix C for a copy of the Caltrans Title VI Policy Statement.

2.3.2.2 Affected Environment

This section is based on information regarding relocations and displacement impacts from the CIA (November 2013) and DRIS (September 2013) prepared for this Project.

The assessment of relocation impacts includes the Cities of Grand Terrace and Colton. This is the replacement area for the displaced residential and nonresidential uses, chosen for its resemblance to the land uses within the Project area—a mix of residential, commercial, industrial, public, and open space.

2.3.2.3 Environmental Consequences

Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area and would, therefore, not require temporary construction easements.

Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would require TCEs from approximately 18 parcels for the purpose of construction vehicle, equipment, or personnel access and staging of construction materials. In addition, Alternative 3 would require TCEs on a number of properties where partial acquisitions would occur (refer to Figure 2.3.2 for the location of all TCEs required under Alternative 3). TCEs would be required from Grand Terrace Elementary School in order to construct retaining walls and make roadway improvements. The retaining walls would be constructed within State right-of-way, adjacent to the northbound I-215 on-ramp (Figure 2.3.2). The TCE would be needed to provide enough room for workers to construct the walls. The chain-link fence along the school's border would be removed, and temporary fencing would be installed. After construction, the chain-link fencing would be replaced and the area landscaped. In addition, a TCE is needed from the school at the northwest corner of Barton Road and Vivienda Avenue for access purposes to reconstruct this intersection. Therefore, existing pedestrian and vehicular access to Grand Terrace Elementary School provided via Barton Road would be temporarily impacted during construction of the Alternative 3. Vehicular, pedestrian, and bicycle access to the school during construction would be addressed in the TMP.

After construction, all of the TCEs would be restored to their original pre-Project conditions. TCEs would not require businesses, employees, or residents to relocate. Owners of the parcels affected by TCEs would be compensated for temporary use of their property during construction. For these reasons, temporary right-of-way acquisition impacts are not anticipated to be substantial.

LEGEND

- Alternative 3 Layout
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

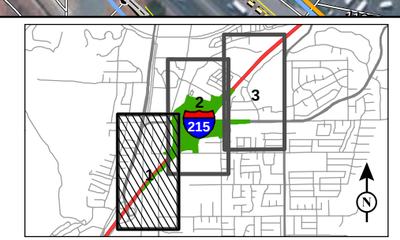

FIGURE 2.3.2
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 3

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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LEGEND

- Alternative 3 Layout
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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FIGURE 2.3.2
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 3

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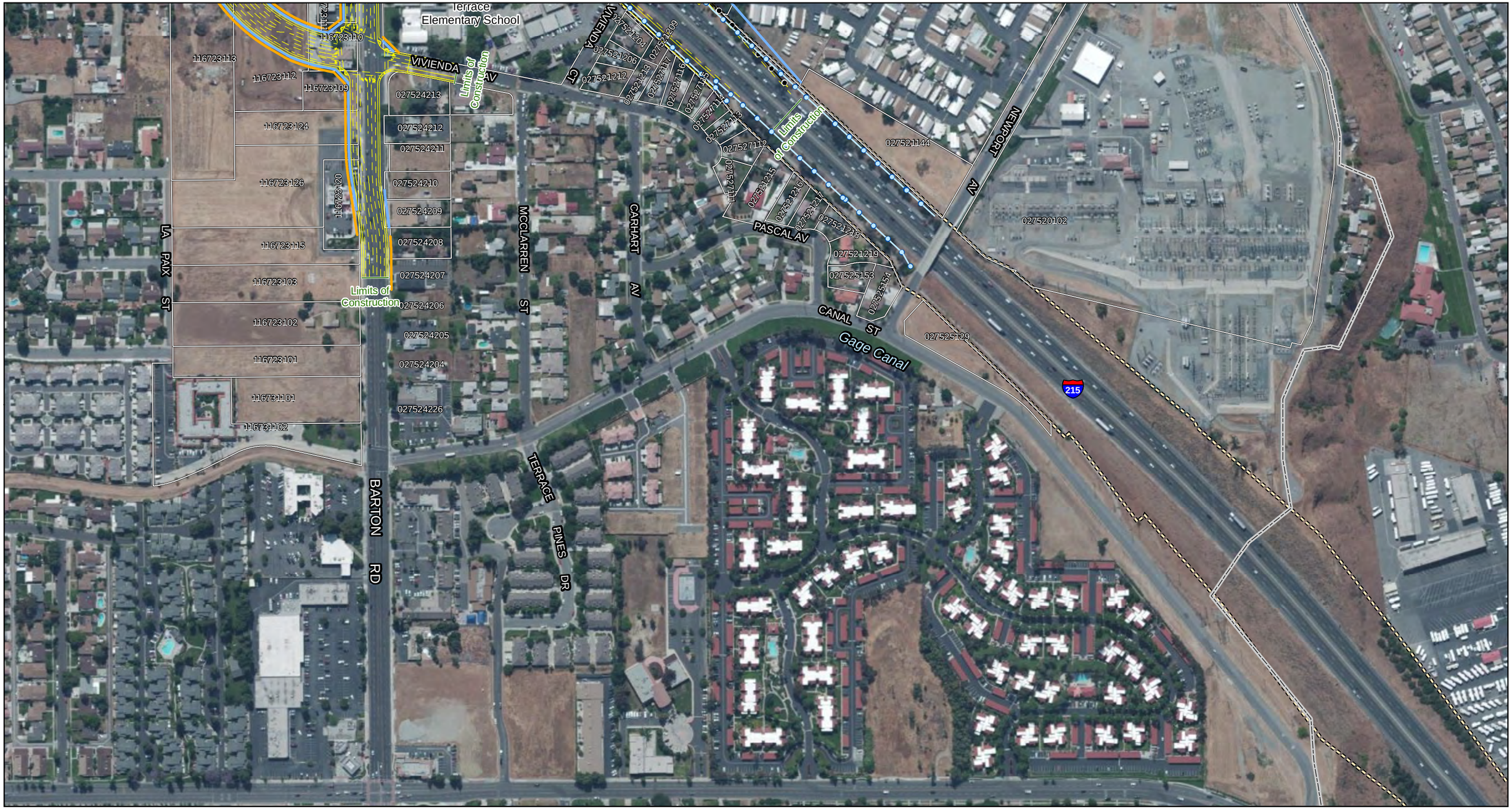

LEGEND

- Alternative 3 Layout
- Proposed Right of Way
- Temporary Construction Limit
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

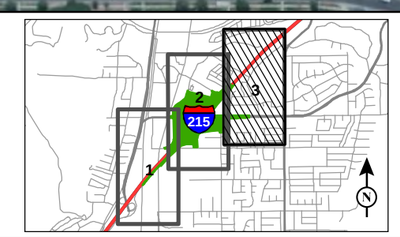

FIGURE 2.3.2
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 3

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (5/2011); OPC (7/1/2013)

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Alternative 6 (Modified Cloverleaf Interchange)

Alternative 6 would require TCEs from approximately 15 parcels. In addition, Alternative 6 would require TCEs on a number of properties where partial acquisitions would occur (refer to Figure 2.3.3 for the location of all TCEs required under Alternative 6). Alternative 6 would require the same TCE from Grand Terrace Elementary School as Alternative 3 and Modified Alternative 7 for the retaining walls and for the northwest corner of Barton Road and Vivienda Avenue (Figure 2.3.3). In addition, Alternative 6 would require a TCE from the school along Barton Road in order to widen the roadway. This TCE would not affect access to the school, and fencing would be placed to separate the construction area from the playfield.

After construction, all of the TCEs would be restored to their original pre-Project condition. No displacements would occur. Therefore, temporary property acquisition impacts are not anticipated to be substantial.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Modified Alternative 7 would require TCEs from approximately 3 parcels. In addition, Modified Alternative 7 would require TCEs on a number of properties where partial acquisitions would occur (refer to Figure 2.3.4 for the location of all TCEs required under Modified Alternative 7). Modified Alternative 7 would require the same TCE from Grand Terrace Elementary School as Alternative 3 and 6 for the retaining walls and for the northwest corner of Barton Road and Vivienda Avenue (refer to Figure 1.7, Sheet 2). In addition, Modified Alternative 7 would require the same TCE as Alternative 6 along Barton Road.

After construction, all of the TCEs would be restored to their original pre-Project condition. No displacements would occur. Therefore, temporary property acquisition impacts are not anticipated to be substantial.

Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area and would, therefore, not require any property acquisitions.

Separately, the I-215 Bi-County HOV Lane Gap Closure Project would also not permanently acquire right-of-way within the Project area that would result in displacements.

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LEGEND

- Alternative 6 Layout
- Proposed Right of Way; 31 Ease Lines
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
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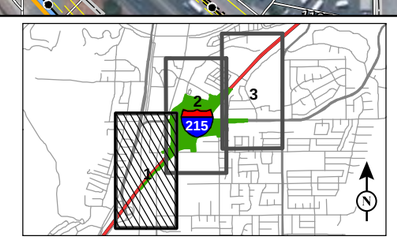

FIGURE 2.3.3
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 6

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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LEGEND

- Alternative 6 Layout
- Proposed Right of Way; 31 Ease Lines
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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FIGURE 2.3.3
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 6

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LEGEND

- Alternative 6 Layout
- Proposed Right of Way; 31 Ease Lines
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Potential Sound Barrier
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE: Microsoft (5/2010); San Bernardino Cnty. (3/08, 9/2013); AECOM (11/2011); OPC (7/1/2013)

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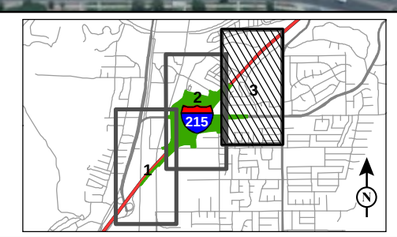

FIGURE 2.3.3
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Alternative 6

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LEGEND

- Modified Alternative 7 Layout
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

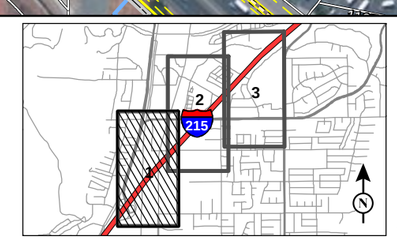

FIGURE 2.3.4
Sheet 1 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Modified Alternative 7

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013); OPC (7/1/2013)

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LEGEND

- Modified Alternative 7 Layout
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

0 150 300
FEET

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013); OPC (7/1/2013)

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FIGURE 2.3.4
Sheet 2 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Modified Alternative 7

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Terrace Elementary School
VIVIENDA AV
VIVIENDA CT
Limits of Construction
LA PAIX ST
MCCLAREN ST
CARHART AV
PASCAL AV
NEWPORT AV
CANAL ST
Gage Canal
215
BARTON RD
TERRACE PINES DR
116723113
116723112
116723109
116723110
116723124
116723126
116723120
116723115
116723103
116723102
116723101
116731101
116731102
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027524210
027524209
027524208
027524207
027524206
027524205
027524204
027524226
027521212
027521204
027521206
027521208
027521209
027521117
027521116
027521115
027521114
027521113
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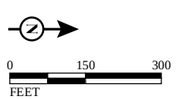

LEGEND

- Modified Alternative 7 Layout
- Proposed Right of Way
- Temporary Construction Easement
- Limits of Construction
- City Boundary
- Grand Terrace Fitness Park
- Proposed Retaining Wall
- Proposed Sound Barrier
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Existing Caltrans Right of Way

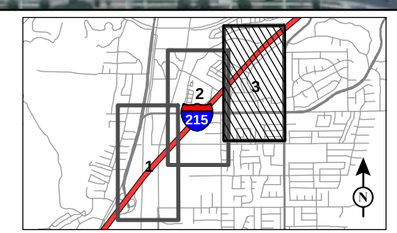

FIGURE 2.3.4
Sheet 3 of 3

I-215/Barton Road Interchange Improvement Project

Potential Property Acquisitions - Modified Alternative 7

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013); AECOM (4/2013); OPC (7/1/2013)

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Alternative 3 (Partial Cloverleaf Interchange)

As shown in Table 2.3.K, it is anticipated that Alternative 3 would potentially result in 30 full acquisitions. A total of 8 single-family residences and 31 businesses would be displaced. A total of 28 potential full acquisitions are expected in the City of Grand Terrace, and 2 potential full acquisitions are expected in the City of Colton.

As shown in Table 2.3.L, it is anticipated that Alternative 3 would potentially result in 42 partial acquisitions. The partial acquisition at Assessor's Parcel Number (APN) 0275-231-69 would require reconstruction of the clubhouse at the Terrace Village RV Park. Figure 2.3.2 shows Alternative 3, based on preliminary engineering efforts to-date, existing right of way limits, and the anticipated future right of way limits if Alternative 3 were constructed.

Table 2.3.M shows the service area of the businesses in the vicinity of the interchange that will be displaced by Alternatives 3, 6, and/or Modified Alternative 7. Based on communication with City of Grand Terrace staff, it was determined that the majority of businesses cater to local as well as regional clientele.[1] For purposes of this table, "local" refers to the surrounding neighborhood, as well as adjacent communities such as Highgrove (less than a 2 mi radius from the Project area), and "regional" would generally be areas north of I-10, west of the Santa Ana River, east of the Grand Terrace city boundary and south of the Highgrove community. Businesses catering to regional clientele and pass-through traffic are typically less affected by relocation than those that serve only local clientele that has been built up over many years.

Based on the type of businesses listed in Table 2.3.M, the majority of the displaced businesses are expected to serve the local community (City of Grand Terrace and southeastern portion of the city of Colton) as well as adjacent communities, and therefore, could maintain their clientele after relocation, although there would be a loss of revenue between the closing of the old business and the establishment of the business at the new location. Businesses to be displaced include an electronics repair shop, a kitchen showroom, a dental lab, a flooring supply store, rollerskating rink, a wholesale plumbing supply company, a company specializing in hose sales and service, a wholesale pool products distributor, a pest control services vendor, a wholesale electric supply company, real estate, tax, and loan services, a cash register sales and supply company, and an emergency pet clinic. These types of businesses are

[1] Telephone conversation with Sandra Molina, Planning Department, City of Grand Terrace, August 23, 2012.

Table 2.3.K Potential Full Acquisitions Anticipated Under Alternative 3

APN	Property Type	Present Use	Business Names	Sales or Service[1]	City
0275-211-17	Residential	SFR	N/A	N/A	Grand Terrace
0275-211-43	Vacant	Residential Yard	N/A	N/A	Grand Terrace
0275-223-59	Residential	SFR	N/A	N/A	Grand Terrace
0275-231-25	Residential	SFR	N/A	N/A	Grand Terrace
0275-223-12	Residential	SFR	N/A	N/A	Grand Terrace
0275-223-16	Commercial	Business Offices (Vacant)	N/A	N/A	Grand Terrace
0275-223-60	Residential	SFR/Storage	N/A	N/A	Grand Terrace
0275-231-46	Commercial	Retail Strip	Genesis Hair	Sales/Service	Grand Terrace
			All TV VCR	Service	Grand Terrace
			Empire Cash Register	Service	
			Mori Hokana Smile Solutions	Sales/Service	
			Animal Emergency Clinic	Service	
			Diane Johnson (enrolled agent)	Sales/Service	
			Auto Diagnostic Service aka Automotive Network Solutions	Sales	
			The Paragon Tattoo and Gallery	Service	
			Vintage Boutique	Service	
			The Rec Center	Sales	
			Terra Loma Real Estate, Inc.	Service	
			Ornell Fire Sprinklers	Sales	
			Financial Solutions	Service	
			Soft Touch Poodle Palace (Pet Salon)	Sales/Service	
0275-231-68	Commercial	Offices/ Restaurant	Demetri's Burgers	Sales	Grand Terrace
			On Point Tax Services	Service	
			PDS Transportation	Service	
			Loan Savings/American Professional Group	Service	
0275-232-05	Residential	SFR	N/A	N/A	Grand Terrace
0275-232-10	Residential	SFR	N/A	N/A	Grand Terrace
0275-232-09	Residential	SFR	N/A	N/A	Grand Terrace
1167-121-01	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-121-10	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-121-11	Commercial	Auto Repair	Blue Mountain Collision Center	Service	Grand Terrace
1167-131-01	Commercial	Stores	WinBath & Kitchen Showroom/DarCrest Vehicle Storage	Sales/Service	Colton
1167-131-02	Commercial	Stores	Orkin	Sales/Service	Colton
			Hose-Man	Sales/Service	
1167-131-12	Vacant	Transmission Lines	N/A	N/A	Grand Terrace
1167-141-01	Commercial	Service Station	Shell Station aka Keromina Market Place/Circle K Convenience Store	Sales	Grand Terrace
1167-141-02	Commercial	Service Station	Quick Stop (Arco Station)	Sales	Grand Terrace
1167-141-04	Commercial	Recreational	Cal Skate	Sales/Service	Grand Terrace
1167-141-05	Commercial	Office Building	N/A	N/A	Grand Terrace
1167-141-08	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-141-09	Commercial	Retail	Roblee's Carpet & Flooring	Sales/Service	Grand Terrace
1167-141-10	Commercial	Service/Retail	Superior Pool Products	Sales/Service	Grand Terrace
1167-141-11	Commercial	Service/Retail	Winnelson Wholesale Plumbing	Sales/Service	Grand Terrace
1167-141-12	Commercial	Service/Office	Essco	Sales/Service	Grand Terrace
1167-151-08	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-231-10	Commercial	Service/Retail	Auto Zone	Sales	Grand Terrace
1167-231-20	Commercial	Fast Food	Miguel's Jr.	Sales	Grand Terrace

Source: OPC (2013).

[1] Based on the business type, a determination was made regarding whether or not the business likely collected sales taxes.

Table 2.3.L Potential Partial Acquisitions Anticipated Under Alternative 3

APN	Property Type	City
0275-211-16	Residential	Grand Terrace
0275-211-53	Residential	Grand Terrace
0275-223-22	Railroad	Grand Terrace
0275-223-27	Residential	Grand Terrace
0275-223-51	Residential	Grand Terrace
0275-223-55	Residential	Grand Terrace
0275-231-11	Residential	Grand Terrace
0275-231-12	Residential	Grand Terrace
0275-231-28	Residential	Grand Terrace
0275-231-47	Vacant	Grand Terrace
0275-231-57	Vacant	Grand Terrace
0275-231-58	Vacant	Grand Terrace
0275-231-59	Vacant	Grand Terrace
0275-231-60	Vacant	Grand Terrace
0275-231-61	Vacant	Grand Terrace
0275-231-62	Vacant	Grand Terrace
0275-231-63	Vacant	Grand Terrace
0275-231-64	Vacant	Grand Terrace
0275-231-65	Vacant	Grand Terrace
0275-231-66	Vacant	Grand Terrace
0275-231-69	Commercial	Grand Terrace
0275-232-04	Public Land	Grand Terrace
0275-242-09	Residential	Grand Terrace
0275-242-10	Public Land	Grand Terrace
1167-121-02	Industrial	Grand Terrace
1167-121-03	Industrial	Grand Terrace
1167-121-04	Industrial	Colton
1167-121-09	Commercial	Colton
1167-131-05	Commercial	Colton
1167-131-06	Commercial	Colton
1167-151-01	Vacant	Grand Terrace
1167-151-09	Vacant	Grand Terrace
1167-151-14	Vacant	Riverside
1167-161-01	Vacant	Grand Terrace
1167-161-02	Vacant	Grand Terrace
1167-161-03	Residential	Grand Terrace
1167-231-11	Commercial	Grand Terrace
1167-231-22	Commercial	Grand Terrace
1167-231-23	Commercial	Grand Terrace
1167-231-24	Commercial	Grand Terrace
1167-231-25	Commercial	Grand Terrace
1167-231-26	Commercial	Grand Terrace

Source: County of San Bernardino Assessor's Data (2013); OPC (2013).

Table 2.3.M Business Service Area

Business Name	Type of Business	Customers Locations	City
Genesis Hair	Hair Salon	Local	Grand Terrace
All TV VCR	Electronics Repair	Local/Regional	Grand Terrace
Empire Cash Register	Cash Register Sales and Repair	Regional	Grand Terrace
Animal Emergency Clinic	Pet Clinic	Local/Regional	Grand Terrace
Diane Johnson (enrolled agent)	Taxes	Local	Grand Terrace
Auto Diagnostic Service aka Automotive Network Solutions	Auto Repair	Local	Grand Terrace
The Paragon Tattoo and Gallery	Tattoo	Local	Grand Terrace
Soft Touch Poodle Palace	Pet Grooming	Local	Grand Terrace
Mori Hokana Smile Solutions	Dental Lab	Local/Regional	Grand Terrace
Vintage Boutique	Clothing Sales	Local	Grand Terrace
The Rec Center	Business Services	Local	Grand Terrace
Terra Loma Real Estate, Inc.	Real Estate	Local/Regional	Grand Terrace
Ornell Fire Sprinklers	Sprinklers	Local/Regional	Grand Terrace
Financial Solutions	Financial Planning/Taxes	Local/Regional	Grand Terrace
Demetri's Burgers	Restaurant	Local	Grand Terrace
On Point Tax Services	Taxes	Local/Regional	Grand Terrace
PDS Transportation	Freight Moving Company	Regional	Grand Terrace
Loan Savings/American Professional Group	Loans	Local/Regional	Grand Terrace
Shell Station aka Keromina Market Place/Circle K Convenience Store	Gas Station and Food Mart	Local	Grand Terrace
Auto Zone	Auto Parts and Accessories	Local	Grand Terrace
Blue Mountain Collision Center	Auto Repair/Restoration	Local	Colton
WinBath & Kitchen Showroom/DarCrest Vehicle Storage	Bath and Kitchen Furniture Sales/Vehicle Storage	Local/Regional	Colton
Orkin	Pest Control Services	Local/Regional	Colton
Hose-Man	Hydraulic/Industrial Hose Sales and Service	Local/Regional	Colton
Cal Skate	Recreation	Local/Regional	Grand Terrace
Quick Stop (Arco Station)	Gas Station and Food Mart	Local	Grand Terrace
Roblee's Carpet & Flooring	Tile and Carpet Sales, Carpet Cleaning	Local	Grand Terrace
Superior Pool Products	Wholesale Distributor of Swimming Pool Supplies	Regional	Grand Terrace
Winnelson Wholesale Plumbing	Wholesale Plumbing	Regional	Grand Terrace
Essco	Wholesale Electric	Regional	Grand Terrace
Miguel's Jr.	Restaurant	Local	Grand Terrace

specialty businesses that can draw customers from a larger area than local neighborhoods. Due to their nature and location, few businesses would substantially rely on the local clientele. These businesses include: Soft Touch Poodle Palace, Miguel's Junior, and Demetri's Burgers. None of these businesses are major employment centers for the local population and thus Build Alternatives would not substantially affect the community.

The search for similar services was conducted to identify businesses that could substitute the relocated businesses in servicing local clientele. As detailed on the City

of Grand Terrace's website,[1] there are 9 registered auto-repair-related businesses, 1 pet grooming service, 7 tax companies, 13 beauty and hair salons, 3 dental labs, and 12 restaurants within a 2 mi radius of the I-215/Barton Road interchange. In addition, an internet search[2] found 9 pet clinics within a 5 mi radius of the interchange, and 2 tattoo studios are located within approximately 5 mi. Because there are other businesses that can deliver the same services as the affected businesses the neighborhood residents would not be substantially impacted if the relocated businesses move outside of the neighborhood. In addition, according to DRIS results there are available replacement properties in the City of Grand Terrace and Colton for these relocated businesses to reestablish. In case of businesses that cater to regional customers like auto care, financial institutions, and service stores, the neighborhood residents do not depend on their services for essential goods and services. The gasoline stations would service local neighborhoods as well as pass-through traffic on Barton Road and I-215. The restaurants would serve both local residents/employees as well as people from the surrounding area. There would be no relocation of other neighborhood-serving businesses/facilities such as churches or grocery stores.

With exception of the gasoline stations, which serve pass-through traffic and rely on good visibility from surrounding roadways, the remaining businesses are not in high visibility locations and do not display elevated signs. The gasoline stations would need to be relocated to suitable areas based on visibility, appropriate subsurface conditions, and appropriate geographic distance between nearby stations. Because the majority of the businesses are not expected to be directly dependent on the local neighborhoods for survival and do not rely on high visibility from roadways, no substantial impacts are anticipated.

Alternative 3 would displace 28 businesses in the City of Grand Terrace and 3 businesses in the City of Colton. Business displacements under Alternative 3, would potentially impact 131-321 employees. Alternative 3 would potentially impact approximately 2.1-5.0 percent of the City of Grand Terrace's labor force and approximately 0.03-0.1 percent of the City of Colton's labor force. However, based on the DRIS, it is anticipated that all of the businesses except for one gasoline station could be relocated within the City of Grand Terrace. Replacement businesses also exist within the City of Colton. Additional replacement properties may become available prior to construction of the Project.

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1 http://www.cityofgrandterrace.org/index.aspx?NID=503 (accessed February 21, 2012).
2 Accessed February 21, 2012.

Property Tax Loss

Acquisitions under Alternative 3 would result in losses of property revenue to the local jurisdictions. Table 2.3.N presents impacts on local property taxes under Alternative 3.

Table 2.3.N Estimated Annual Property Tax Loss Under Alternative 3

Jurisdiction	Property Tax Revenue Loss	Total Annual City/ County Property Tax Revenue[1]	Percent of Total Annual Property Tax Revenue Loss
City of Grand Terrace	$147,793	$7,572,296	2.00%
City of Colton	$7,190	$25,565,795	0.03%
Total	**$154,983**	**—**	**—**

Source: San Bernardino County Office of Tax Collector, www.mytaxcollector.com (accessed February 2012 and August 2013).

[1] Total City tax revenue was obtained from the Auditor's Controller's Office and is based on tax rolls obtained from the Cities in 2011. Email correspondence with San Bernardino County Auditor-Controller-Recorder, Franciliza Zyss, Accountant III (February 2012).

As shown in Table 2.3.N, Alternative 3 would result in the loss of an estimated $154,983 in annual property tax revenue. The City of Grand Terrace would lose 2.0 percent of the City's total property annual tax revenue. Alternative 3 would acquire two parcels in the City of Colton, which equates to an estimated 0.03 percent in property tax loss.

Sales Tax Loss

The property acquisitions associated with Alternative 3 would result in the displacement of a number of sales-tax-generating businesses, which could potentially result in losses of sales tax revenue to the local jurisdictions. In the event that all businesses from one city relocate within the same city boundary, there would be no net loss of sales tax revenue to that city. However, relocation outside a particular city would result in a net loss of sales tax revenue to the city that the business is leaving. The displacement of businesses that provide services as opposed to sales would not result in the loss of sales tax.

The potential annual sales tax revenue losses to the City of Grand Terrace and the County of San Bernardino resulting from the displacement of businesses from the City of Grand Terrace under Alternative 3 are shown in Table 2.3.O. If all 16 sales tax-generating businesses to be potentially displaced under Alternative 3 were relocated outside the City of Grand Terrace, the potential annual sales tax loss for the City of Grand Terrace would be an estimated $51,423, which would be an 8.2 percent loss.

Table 2.3.O Estimated Annual Sales Tax Revenue Loss to the City of Grand Terrace Under Alternative 3

Jurisdiction	Tax Rate	Taxable Sales (2011)	Total Sales Tax Revenue	Average Sales Tax/ Business	Sales Tax Revenue Loss[1]	Percent of Total Annual Sales Tax Revenue Loss
City of Grand Terrace	0.75%	$83,563,000	$626,723	$3,214	$51,423	8.2%
County of San Bernardino Transportation Fund	0.25%	—	$208,908	$1,071	$17,141[2]	—
County of San Bernardino (Measure I)	0.50%	—	$417,815	$2,143	$34,282[2]	—

Source: Taxable Sales in California (Sales and Use Tax) Report 2011 (http://www.boe.ca.gov/news/tsalescont11.htm; accessed August 11, 2013).

[1] Assumes displacement of 16 sales tax-generating businesses.

[2] Represents the maximum sales tax loss that could occur if displaced businesses were relocated outside of San Bernardino County.

The potential annual sales tax revenue losses to the City of Colton and the County of San Bernardino resulting from the displacement of businesses from the City of Colton under Alternative 3 are shown in Table 2.3.P. If all three of the sales tax-generating businesses to be potentially displaced under Alternative 3 were relocated outside the City of Colton, the potential annual sales tax loss for the City of Colton would be an estimated $13,483, which would be a 0.35 percent loss.

Table 2.3.P Potential Annual Sales Tax Revenue Losses Related to Business Displacements in the City of Colton Under Alternative 3

Jurisdiction	Tax Rate	Taxable Sales (2011)	Total Sales Tax Revenue	Average Sales Tax/ Business	Sales Tax Revenue Loss[1]	Percent of Total Annual Sales Tax Revenue Loss
City of Colton	0.75%	$513,554,000	$3,851,655	$4,494	$13,483	0.35%
County of San Bernardino Transportation Fund	0.25%	—	$1,283,885	$1,498	$4,494[2]	—
County of San Bernardino (Measure I)	0.50%	—	$2,567,770	$2,996	$8,989[2]	—

Source: Taxable Sales in California (Sales and Use Tax) Report 2011 (http://www.boe.ca.gov/news/tsalescont11.htm; accessed August 11, 2013).

[1] Assumes displacement of 3 sales tax-generating businesses.

[2] Represents the maximum sales tax loss that could occur if displaced businesses were relocated outside of San Bernardino County.

According to the DRIS, it is anticipated that displaced businesses would be relocated within San Bernardino County. Under this scenario, there would be no loss of Measure I funding, which is administered by the San Bernardino

Association of Governments (SANBAG), nor any loss of sales tax revenue to the San Bernardino County Transportation Fund. Nevertheless, Tables 2.3.O and 2.3.P show the estimated maximum annual sales tax loss if all of the businesses were relocated outside of San Bernardino County.

Although Alternative 3 would fully acquire 30 properties and displace several residents and businesses, the DRIS determined that there is a sufficient supply of replacement properties within the two affected Cities. The highest tax loss would be in the City of Grand Terrace, with an estimated loss of 8.2 percent of sales taxes; however, these taxes would be recovered for relocations that occur within the City of Grand Terrace. Similarly, it is anticipated that all potentially displaced employees would be employed at the relocated businesses. Based on the discussion above, the property acquisitions and associated displacements for Alternative 3 are not anticipated to result in substantial impacts.

Alternative 6 (Modified Cloverleaf Interchange)

As shown in Table 2.3.Q, Alternative 6 would result in 10 full acquisitions, including 2 residential, 4 nonresidential, and 4 vacant parcels. A total of 2 single-family residences and 19 businesses would be displaced. All full acquisitions would occur in the City of Grand Terrace.

As shown in Table 2.3.R, Alternative 6 would result in 43 partial acquisitions. The partial acquisition at APN 0275-231-69 would require reconstruction of the clubhouse at the Terrace Village RV Park.

Figure 2.3.3 shows Alternative 6, based on preliminary engineering efforts to-date, existing right of way limits, and the anticipated future right of way limits if Alternative 6 were constructed. Business impacts would be fewer than those identified for Alternative 3. Based on the type of businesses listed in Table 2.3.Q, the majority of the displaced businesses are expected to serve the local as well as adjacent communities and therefore could maintain their clientele after relocation, although there would be a loss of revenue between the closing of the old business and the establishment of the business at the new location. With exception of the gasoline station, which serves pass-through traffic and relies on good visibility from surrounding roadways, the remaining businesses are not in high visibility locations and do not display elevated signs. The gasoline station would need to be relocated to a suitable area based on visibility,

Table 2.3.Q Potential Full Acquisitions Anticipated Under Alternative 6

APN	Property Type	Present Use	Business Names	Sales or Service[1]	City
0275-231-46	Commercial	Retail Strip	Genesis Hair	Sales/Service	Grand Terrace
			All TV VCR	Service	
			Empire Cash Register	Service	
			Mori Hokana Smile Solutions	Sales/Service	
			Animal Emergency Clinic	Service	
			Diane Johnson (enrolled agent)	Sales/Service	
			Auto Diagnostic Service aka Automotive Network Solutions	Sales	
			The Paragon Tattoo and Gallery	Service	
			Vintage Boutique	Service	
			The Rec Center	Sales	
			Terra Loma Real Estate, Inc.	Service	
			Ornell Fire Sprinklers	Sales	
			Financial Solutions	Service	
			Soft Touch Poodle Palace (Pet Salon)	Sales/Service	
0275-231-68	Commercial	Offices/ Restaurant	Demetri's Burgers	Sales	Grand Terrace
			On Point Tax Services	Service	
			PDS Transportation	Service	
			Loan Savings/American Professional Group	Service	
0275-231-25	Residential	SFR	N/A	N/A	Grand Terrace
1167-141-05	Commercial	Office Building	N/A	N/A	Grand Terrace
1167-151-01	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-161-01	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-161-02	Vacant	Vacant Lot	N/A	N/A	Grand Terrace
1167-231-10	Commercial	Service/Retail	Auto Zone	Sales	Grand Terrace
0275-232-05	Residential	SFR	N/A	N/A	Grand Terrace
1167-151-08	Vacant	Vacant Lot	N/A	N/A	Grand Terrace

Source: OPC (2013).

[1] Based on the business type, a determination was made regarding whether or not the business likely collected sales taxes.

Table 2.3.R Potential Partial Acquisitions Anticipated Under Alternative 6

APN	Property Type	City
0275-231-11	Residential	Grand Terrace
0275-231-12	Residential	Grand Terrace
0275-231-47	Vacant	Grand Terrace
0275-231-57	Vacant	Grand Terrace
0275-231-58	Vacant	Grand Terrace
0275-231-59	Vacant	Grand Terrace
0275-231-60	Vacant	Grand Terrace
0275-231-61	Vacant	Grand Terrace
0275-231-62	Vacant	Grand Terrace
0275-231-63	Vacant	Grand Terrace
0275-231-64	Vacant	Grand Terrace
0275-231-65	Vacant	Grand Terrace
0275-231-66	Vacant	Grand Terrace
0275-231-69	Commercial	Grand Terrace
0275-232-10	Residential	Grand Terrace
1167-121-01	Vacant	Grand Terrace
1167-121-02	Industrial	Grand Terrace
1167-121-09	Commercial	Colton
1167-141-01	Commercial	Grand Terrace
1167-141-02	Commercial	Grand Terrace
1167-141-04	Commercial	Grand Terrace
1167-141-03	Commercial	Grand Terrace
1167-141-08	Vacant	Grand Terrace
1167-141-09	Commercial	Grand Terrace
1167-141-10	Commercial	Grand Terrace
1167-141-11	Commercial	Grand Terrace
1167-141-12	Commercial	Grand Terrace
1167-151-09	Vacant	Grand Terrace
1167-151-14	Vacant	Grand Terrace
1167-161-03	Residential	Grand Terrace
1167-161-06	Commercial	Grand Terrace
1167-231-11	Commercial	Grand Terrace
1167-231-20	Commercial	Grand Terrace
1167-231-22	Commercial	Grand Terrace
1167-231-23	Commercial	Grand Terrace
1167-231-24	Commercial	Grand Terrace
1167-231-25	Commercial	Grand Terrace
1167-231-26	Commercial	Grand Terrace
1167-231-28	Commercial	Grand Terrace
0275-232-04	Public Land	Grand Terrace
0275-242-09	Residential	Grand Terrace
0275-242-10	Public Land	Grand Terrace
0275-242-12	Commercial	Grand Terrace

Source: County of San Bernardino Assessor's Data (2013); OPC (2013).

appropriate subsurface conditions, and appropriate geographic distance between nearby stations. Because the majority of the businesses are not expected to be directly dependent on the local neighborhoods for survival and do not rely on high visibility from roadways, no substantial impacts are anticipated.

Alternative 6 would potentially impact 40-102 employees. Alternative 6 would result in the lowest impacts related to employee displacement in the City of Grand Terrace (0.7-1.7 percent) among the Build Alternatives and would result in no employee displacement impacts in the City of Colton.

Property Tax Loss

Table 2.3.S presents impacts on local property taxes under Alternative 6. Alternative 6 would fully acquire 10 parcels in the City of Grand Terrace, resulting in a loss of $49,087 in property taxes, which constitutes 0.6 percent of the City's total annual property tax revenue. No parcels from the City of Colton would be fully acquired under Alternative 6, and no property tax loss would occur.

Table 2.3.S Estimated Annual Property Tax Loss Under Alternative 6

Jurisdiction	Property Tax Revenue Loss	Total Annual City/County Property Tax Revenue[1]	Percent of Total Annual Property Tax Revenue Loss
City of Grand Terrace	$49,087	$7,572,296	0.6%
City of Colton	$0	$25,565,795	0.0%
Total	**$49,087**	**—**	**—**

Source: San Bernardino County Office of Tax Collector (www.mytaxcollector.com, accessed February 2012 and August 2013).

[1] Total City tax revenue was obtained from the Auditor's Controller's Office and is based on tax rolls obtained from the Cities in 2011. Email correspondence with San Bernardino County Auditor-Controller-Recorder, Franciliza Zyss, Accountant III (February 2012).

Sales Tax Loss

The potential annual sales tax revenue losses to the City of Grand Terrace and the County of San Bernardino resulting from the displacement of businesses from the City of Grand Terrace under Alternative 6 are shown in Table 2.3.T. If all 9 sales tax-generating businesses to be potentially displaced under Alternative 6 were relocated outside the City of Grand Terrace, the potential annual sales tax loss for the City of Grand Terrace would be an estimated $28,926, which would be a 4.5 percent loss. Because Alternative 6 would not relocate businesses from the City of Colton it would not result in sales tax losses to the City of Colton.

Table 2.3.T Estimated Annual Sales Tax Revenue Loss to the City of Grand Terrace Under Alternative 6

Jurisdiction	Tax Rate	Taxable Sales (2011)	Total Sales Tax Revenue	Average Sales Tax/ Business	Sales Tax Revenue Loss[1]	Percent of Total Annual Sales Tax Revenue Loss
City of Grand Terrace	0.75%	$83,563,000	$626,723	$3,214	$28,926	4.5%
County of San Bernardino Transportation Fund	0.25%	—	$208,908	$1,071	$9,642[2]	—
County of San Bernardino (Measure I)	0.5%	—	$417,815	$2,143	$19,284[2]	—

Source: Taxable Sales in California (Sales and Use Tax) Report 2011 (http://www.boe.ca.gov/news/tsalescont11.htm; accessed August 11, 2013).

[1] Assumes displacement of 9 sales tax-generating businesses.

[2] Represents the maximum sales tax loss that could occur if displaced businesses were relocated outside of San Bernardino County.

Alternative 6 would fully acquire 10 properties and displace several residents and businesses. The highest tax loss would be in the City of Grand Terrace, with an estimated loss of 4.5 percent of sales taxes; however, these taxes would be recovered for relocations that occur within the City of Grand Terrace, which is the intention of Caltrans relocation program. Similarly, it is anticipated that the same number of displaced employees would gain employment at the relocated businesses. Relocation impacts under Alternative 6 would be less than those for Alternative 3. For the reasons described in detail above, relocation and real property acquisition impacts are not considered substantial.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

As shown in Table 2.3.U, Modified Alternative 7 would result in 8 full acquisitions, including 2 residential and 6 nonresidential parcels. A total of 21 businesses and 2 residences would be displaced. All full acquisitions would occur in the City of Grand Terrace.

As shown in Table 2.3.V, Modified Alternative 7 would result in 41 partial acquisitions. The partial acquisition at APN 0275-231-69 would require reconstruction of the clubhouse at the Terrace Village RV Park.

Figure 2.3.4 shows Modified Alternative 7, based on preliminary engineering efforts to-date, existing right of way limits, and the anticipated future right of way limits if Modified Alternative 7 were constructed.

Table 2.3.U Potential Full Acquisitions Anticipated Under Modified Alternative 7

APN	Property Type	Present Use	Business Names	Sales or Service[1]	City
0275-231-46	Commercial	Retail Strip	Genesis Hair	Sales/Service	Grand Terrace
			All TV VCR	Service	
			Empire Cash Register	Service	
			Mori Hokana Smile Solutions	Sales/Service	
			Animal Emergency Clinic	Service	
			Diane Johnson (enrolled agent)	Sales/Service	
			Auto Diagnostic Service aka Automotive Network Solutions	Sales	
			The Paragon Tattoo and Gallery	Service	
			Vintage Boutique	Service	
			The Rec Center	Sales	
			Terra Loma Real Estate, Inc.	Service	
			Ornell Fire Sprinklers	Sales	
			Financial Solutions	Service	
			Soft Touch Poodle Palace (Pet Salon)	Sales/Service	
0275-231-68	Commercial	Office/ Restaurant	Demetri's Burgers	Sales	Grand Terrace
			On Point Tax Services	Service	
			PDS Transportation	Service	
			Loan Savings/American Professional Group	Service	
0275-231-25	Residential	SFR	N/A	N/A	Grand Terrace
1167-141-05	Commercial	Office Building	N/A	N/A	Grand Terrace
0275-232-05	Residential	SFR	N/A	N/A	Grand Terrace
1167-141-10	Commercial	Service/Retail	Superior Pool Produce	Sale	Grand Terrace
1167-141-11	Commercial	Service/Retail	Winnelson Wholesale Plumbing	Sale/Service	Grand Terrace
1167-231-10	Commercial	Service/Retail	Auto Zone	Sale/Service	Grand Terrace

Source: OPC (2013).

[1] Based on the business type, a determination was made regarding whether or not the business likely collected sales taxes.

Table 2.3.V Potential Partial Acquisitions Anticipated Under Modified Alternative 7

APN	Property Type	City
0275-223-27	Residential	Grand Terrace
0275-231-11	Residential	Grand Terrace
0275-231-12	Residential	Grand Terrace
0275-231-28	Residential	Grand Terrace
0275-231-47	Vacant	Grand Terrace
0275-231-57	Vacant	Grand Terrace
0275-231-58	Vacant	Grand Terrace
0275-231-59	Vacant	Grand Terrace
0275-231-60	Vacant	Grand Terrace
0275-231-61	Vacant	Grand Terrace
0275-231-62	Vacant	Grand Terrace
0275-231-63	Vacant	Grand Terrace
0275-231-64	Vacant	Grand Terrace
0275-231-65	Vacant	Grand Terrace
0275-231-66	Vacant	Grand Terrace
0275-231-69	Commercial	Grand Terrace
0275-232-04	Public Land	Grand Terrace
0275-232-09	Residential	Grand Terrace
0275-232-10	Residential	Grand Terrace
0275-242-09	Residential	Grand Terrace
0275-242-10	Public Land	Grand Terrace
1167-121-01	Vacant	Grand Terrace
1167-121-02	Industrial	Grand Terrace
1167-121-08	Public Land	Grand Terrace
1167-121-09	Commercial	Colton
1167-141-01	Commercial	Grand Terrace
1167-141-02	Commercial	Grand Terrace
1167-141-03	Commercial	Grand Terrace
1167-141-04	Commercial	Grand Terrace
1167-141-08	Vacant	Grand Terrace
1167-141-09	Commercial	Grand Terrace
1167-141-12	Commercial	Grand Terrace
1167-151-01	Vacant	Grand Terrace
1167-161-01	Vacant	Grand Terrace
1167-231-11	Commercial	Grand Terrace
1167-231-20	Commercial	Grand Terrace
1167-231-22	Commercial	Grand Terrace
1167-231-23	Commercial	Grand Terrace
1167-231-24	Commercial	Grand Terrace
1167-231-25	Commercial	Grand Terrace
1167-231-26	Commercial	Grand Terrace

Source: County of San Bernardino Assessor's Data (2013); OPC (2013).

Business impacts would be fewer than those identified for Alternative 3. Based on the type of businesses listed in Table 2.3.U, the majority of the displaced businesses are expected to serve the local as well as adjacent communities and, therefore, could maintain their clientele after relocation, although there would be a loss of revenue between the closing of the old business and the establishment of the business at the new location. With exception of the gasoline station, which serves pass-through

traffic and relies on good visibility from surrounding roadways, the remaining businesses are not readily visible from I-215 and do not display signs visible from the freeway. The gasoline station would need to be relocated to a suitable area based on visibility, appropriate subsurface conditions, and zoning designation. Because the majority of the businesses are not expected to be directly dependent on the local neighborhoods for survival and do not rely on visibility from roadways, no substantial impacts are anticipated.

Modified Alternative 7 would potentially impact 60-140 employees, and would potentially impact 1.0-2.3 percent of the labor force in the City of Grand Terrace. Modified Alternative 7 would not acquire any properties in the City of Colton and thus would not result in labor force displacements.

Property Tax Loss

Table 2.3.W presents impacts on local property taxes under Modified Alternative 7. As shown in Table 2.3.W, Modified Alternative 7 would result in a loss of $42,127 in property taxes, which constitutes 0.6 percent of the City of Grand Terrace's total annual property tax revenue. No parcels from the City of Colton would be fully acquired under Modified Alternative 7, and no property tax loss would occur.

Table 2.3.W Estimated Annual Property Tax Loss Under Modified Alternative 7

Jurisdiction	Property Tax Revenue Loss	Total Annual City/County Property Tax Revenue[1]	Percent of Total Annual Property Tax Revenue Loss
City of Grand Terrace	$42,127	$7,572,296	0.6%
City of Colton	$0	$25,565,795	0.0%
Total	**$42,127**	**—**	**—**

Source: San Bernardino County Office of Tax Collector (www.mytaxcollector.com, accessed February 2012 and August 2013).

[1] Total City tax revenue was obtained from the Auditor's Controller's Office and is based on tax rolls obtained from the Cities in 2011. Email correspondence with San Bernardino County Auditor-Controller-Recorder, Franciliza Zyss, Accountant III (February 2012).

Sales Tax Loss

The potential annual sales tax revenue losses to the City of Grand Terrace and the County of San Bernardino resulting from the displacement of businesses from the City of Grand Terrace under Modified Alternative 7 are shown in Table 2.3.X. Because no parcels would be acquired within the City of Colton, there would be no sales tax loss for Colton under Modified Alternative 7. Based on the

Table 2.3.X Estimated Annual Sales Tax Revenue Loss to the City of Grand Terrace Under Modified Alternative 7

Jurisdiction	Tax Rate	Taxable Sales (2011)	Total Sales Tax Revenue	Average Sales Tax/ Business	Sales Tax Revenue Loss[1]	Percent of Total Annual Sales Tax Revenue Loss
City of Grand Terrace	0.75%	$83,563,000	$626,723	$3,214	$35,354	5.6%
County of San Bernardino Transportation Fund	0.25%	—	$208,908	$1,071	$11,785[2]	—
County of San Bernardino (Measure I)	0.50%	—	$417,815	$2,143	$23,569[2]	—

Source: Taxable Sales in California (Sales and Use Tax) Report 2011 (http://www.boe.ca.gov/news/tsalescont11.htm; accessed August 11, 2013).

[1] Assumes displacement of 11 sales tax-generating businesses.

[2] Represents the maximum sales tax loss that could occur if displaced businesses were relocated outside of San Bernardino County.

displacement of 11 sales tax-generating businesses within the City of Grand Terrace, if all 11 sales tax-generating businesses to be potentially displaced under Modified Alternative 7 were relocated outside the City of Grand Terrace, the potential annual sales tax loss for the City of Grand Terrace would be an estimated $35,354, which would be a 5.6 percent loss. Because Modified Alternative 7 would not relocate businesses from the City of Colton, it would not result in sales tax losses to the City of Colton.

Modified Alternative 7 would fully acquire 8 properties and displace several residents and businesses. The highest tax loss would be in the City of Grand Terrace, with an estimated loss of 5.6 percent of sales taxes; however, these taxes would be recovered for relocations that occur within the City of Grand Terrace, which is the intention of the Caltrans relocation program. Similarly, it is anticipated that the same number of displaced employees would gain employment at the relocated businesses. Relocation impacts under Modified Alternative 7 would be less than those for Alternative 3 and would be slightly more than those for Alternative 6. For the reasons described in detail above, relocation and real property acquisition impacts are not considered substantial.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Availability of Replacement Housing

All relocation impacts would occur in the Cities of Grand Terrace and Colton. The replacement area for the households potentially displaced by the Project is anticipated

to be the Cities of Grand Terrace and Colton. As of June 2013, residences available for purchase and rent in these Cities are summarized in Table 2.3.Y.

Table 2.3.Y Residential Units Available for Rent and Sale in the Study Area Cities

Relocation Resource	For Rent	For Sale	Total Units
Multifamily residences	3	9	12
Two-bedroom houses	9	32	41
Three- and four-bedroom houses	6	56	62
Mobile homes	0	12	12

Sources: www.immobel.com and www.realtor.com (accessed June 7, 2013).

As shown in Table 2.3.Y, there are sufficient residential resources available for the residents displaced by the Build Alternatives within the Cities of Grand Terrace and Colton. During the time of the survey, 3 multifamily dwelling units with two to three bedrooms were available for rent for $689–$1,000 per month; and 6 three-to-four-bedroom multifamily dwelling units were available for sale for $65,000–$102,600.[1] Six three-bedroom houses were available for rent for $1,100–$2,299 per month, and 56 were available for sale for $37,850–$520,000.[2] A total of four mobile homes priced from $19,900–$45,000 were also available for sale.[3]

Based on the number of available replacement properties in the Cities of Grand Terrace and Colton and rental vacancy rates at 7.0 percent and 9.2 percent, all residential displacements can be accommodated within the two Cities. However, if comparable replacement housing cannot be found in the Cities of Grand Terrace and Colton for displaced residential uses, the following options are available:

- Expand the potential relocation area to include additional cities in the region
- Provide funds to residents in displaced households to enable them to purchase affordable housing in the surrounding area
- Implement the Last Resort Housing Program to retrofit/modify existing housing and/or construct new housing

[1] www.immobel.com and www.realtor.com, accessed June 7, 2013.

[2] Ibid.

[3] Ibid.

Availability of Nonresidential Properties

Table 2.3.Z identifies available business properties for sale and rent in the Cities of Grand Terrace and Colton as of June 2013.

Table 2.3.Z Availability of Businesses for Rent and Sale in the Replacement Area

Relocation Resource	For Rent – Appropriate Zoning and Site Requirements	For Sale – Appropriate Zoning and Site Requirements	Total Units
Office complex	23	7	30
Industrial complex	30	8	38
Commercial operation	29	7	36

Sources: LoopNet.com (http://www.loopnet.com/; www.CIMLS.com; [accessed June 7, 2013]).

During the time of the survey, approximately 7 office complexes were offered for sale at $420,789 to $1,150,000; 8 industrial complex units were offered for sale for $239,000 to $1,650,000; and 7 commercial units ranging from $189,000 to $1,750,000 were available for sale within the Cities of Grand Terrace and Colton, which would provide adequate relocation resources for the displaced nonresidential uses. The average monthly rent for the 23 office complexes available was $4.80 to $24/square foot (sf), and the average monthly rent for the 30 industrial complexes available was $0.65 to $24.82/sf. The average monthly rent for the 29 commercial units available was $0.65 to $30/sf.

Based on the current availability of industrial/commercial properties for lease or sale in the Cities of Grand Terrace and Colton and current high vacancy rates for office (20.4 percent in Inland Empire area) and industrial properties (5.6 percent in Inland Empire area), a sufficient number of replacement properties similar to the displaced properties, with exception of a second gasoline station (for Alternative 3), are available on the market in the two cities. One gasoline station is currently available for sale within the City of Grand Terrace. A recent search indicates that several gasoline stations valued at $129,900 to $6,999,995 are available for sale in the City of San Bernardino. Based on the discussion above adequate relocation resources are anticipated to be available for nonresidential displacees.

If comparable properties are not available for the potentially displaced businesses in the Cities of Grand Terrace and Colton, opportunities for relocation would be pursued outside of these communities, in nearby cities with available and similarly General Plan designated and zoned properties. This could include the Cities of Riverside and

San Bernardino. An estimate of the business costs will be determined between the implementing agency and each business owner regarding just compensation for the business.

The following measures will be implemented to minimize relocations and displacement impacts.

REL-1 **The Uniform Act.** All affected property owners will be provided with a copy of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (Public Law 91-646, 84 Statutes 1894). The San Bernardino Association of Governments (SANBAG) will comply with the Uniform Act.

The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies.

REL-2 **Replacement Housing.** Where acquisition and relocation are unavoidable, the provisions of the Uniform Act would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made.

The Uniform Act requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means be made available before that person may be displaced. In the event that such replacement housing is not available for persons displaced by the Project within the statutory limits for replacement housing payments, last resort housing may be provided in a number of prescribed ways.

2.3.3 Environmental Justice

2.3.3.1 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 William J. Clinton on February 11, 1994. This EO 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 2010, this was $22,050 for a family of four.

The U.S. Census Bureau uses a slightly different measure than the United States Department of Health and Human Services to determine who is living in poverty. Poverty thresholds, as calculated by the Census Bureau, are the original version of the federal poverty measure, originally developed by the Social Security Administration, used mainly for statistical purposes – to estimate the number of Americans living in poverty. Poverty guidelines on the other hand are used for administrative purposes, namely to determine financial eligibility for certain federal programs.[1] Poverty thresholds are updated every year by the Census Bureau and estimates provided through ACS reports. Poverty thresholds do not vary geographically, but they are updated for inflation using the Consumer Price Index. For 2010 (the year of the Census data utilized for this analysis), the poverty threshold used by the U.S. Census Bureau for a family of four was $22,314.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this Project. Caltrans commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

2.3.3.2 Affected Environment

This section is based on information from the CIA (November 2013). The study area for environmental justice is the community within and surrounding the Project area in which the direct impacts and the indirect impacts of the Project may occur. For this Project, the study area includes the neighborhoods located within and adjacent to the Project design footprint. Community Profile data are collected and organized by city, county, and census tract; therefore, these boundaries are utilized in conjunction with evaluating impacts to the affected environment within the study area.

The environmental justice analysis for the proposed Project describes: (1) the presence of racial minority, Hispanic, and low-income population groups in the study area; (2) potential substantial effects and measures to avoid or minimize those effects

[1] http://www.census.gov/hhes/www/poverty/methods/definitions.html

for all study area population groups, including racial minority, Hispanic, and low-income population groups; and (3) potential disproportionately high and substantial effects on racial minority, Hispanic, and low-income population groups.

The percentage of the racial minority, Hispanic, and low-income populations for each affected census tract, the Cities, and the County is shown in Table 2.3.AA. As identified in Table 2.3.AA, Census Tracts 71.07, 71.09, and 71.10 have the highest percentages of racial minorities in the study area; these percentages are twice as large as the percentages in the Cities of Grand Terrace and Colton as a whole.

Table 2.3.AA Minority and Low-Income Demographics

Area	Percent			Median Household Income[2]
	Racial Minorities[1]	Hispanics[1]	Below Poverty Level[2]	
County of San Bernardino	16	49	16	$55,853
City of Grand Terrace	14	39	6	$64,337
City of Colton	16	71	22	$41,788
Census Tract 71.06 (City of Grand Terrace and City of Colton)	13	41	10	$68,446
Census Tract 71.07 (City of Grand Terrace and City of Colton)	25	53	39	$32,637
Census Tract 71.09 (City of Grand Terrace and City of Colton)	26	39	18	$38,684
Census Tract 71.10 (City of Colton and City of San Bernardino)	32	39	4	$81,206

Source: U.S. Census Bureau, American FactFinder (http://factfinder2.census.gov, (site accessed December 5, 2011).

Note: Persons living in the poverty percentile, which is based on U.S. Census Bureau thresholds, not United States Department of Health and Human Services guidelines. For 2010, the poverty threshold for a family of four was $22,314.

[1] From the 2010 Census, Table SF1 DP1. Racial minorities include individuals who identify themselves as Black/African-American, Asian, Native Hawaiian/Pacific Islander, Native American/Native Alaskan (one race only) on the U.S. Census. The Hispanic population is not considered a race but rather an ethnicity; therefore, Hispanics can be of any race.

[2] 2007-2011 ACS, Table DP03.

The majority population in Census Tract 71.07 and the City of Colton is a racial or ethnic minority (Hispanic). Census Tract 71.06 has a substantially lower percentage of racial minorities in the study area (13 percent) which is consistent with the City of Grand Terrace percentage. Census Tracts 71.06, 71.09, 71.10, and the City of Grand Terrace reported the lowest percentages of Hispanics, whereas Census Tract 71.07 reported the highest percentage of Hispanics (53 percent), which is also higher than the County's percentage (49 percent). Overall, the City of Colton has the highest percentage (71 percent) of Hispanics in the study area.

The percentage of persons living below the poverty level varies in the study area census tracts. Census Tract 71.07 has the largest percentage of persons living below the poverty level, whereas Census Tract 71.10 has the lowest percentage of such individuals. The percentage of persons living below the poverty level in Census Tracts 71.07 and 71.09 is higher than the County percentage.

Census Tract 71.07 represents the least affluent population, with a relatively low median household income, well below that of the County. This census tract is west of I-215 between the Riverside County line and the Santa Ana River. In addition, the median household income for the City of Colton is lower than the median household income for the County. Census Tract 71.10 represents the most affluent population among the study area census tracts. This census tract is in the northern portion of Grand Terrace between Washington Street and I-10.

Based on environmental justice indicators, portions of the Project area appear to contain environmental justice populations. All census tracts except Census Tract 71.06 have a racial minority population that is higher than the County, the City of Grand Terrace, and the City of Colton averages. This census tract is located in the southwest portion of the Project area between Barton Road and the Riverside County line. Overall, Census Tract 71.06 and the City of Grand Terrace have lower percentages of racial minorities, Hispanics, and persons living below the poverty level than the County. The City of Grand Terrace has a primarily White population (66 percent) and a relatively low percentage of persons living below the poverty level (6 percent). Census Tract 71.07 has higher percentages of racial minorities, Hispanics, and persons living below the poverty level than the County.

The City of Colton is generally characterized by higher percentages of racial minorities, Hispanics, and persons living below the poverty level. Although certain portions of the study area contain environmental justice populations (Census Tracts 71.07, 71.09, and 71.10), the Project is primarily within the City of Grand Terrace, with only a small portion within the City of Colton. All of the residential properties in the Project area and vicinity are within the City of Grand Terrace, which, as described above, does not contain a substantial environmental justice population.

2.3.3.3 Environmental Consequences

Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any modifications to the I-215/Barton Road interchange, and there are no planned road modification/maintenance projects on local roadways within the interchange area; therefore, the No Build Alternative would not result in temporary impacts to environmental justice populations.

Separately, neighborhoods adjacent to the freeway will be temporarily impacted by ramp closures at I-215/Barton Road, detours, and closure of the Newport Avenue overcrossing associated with the I-215 Bi-County HOV Lane Gap Closure Project. Avoidance, minimization and/or mitigation measures, including the requirement for a TMP, have been included in the approved environmental documentation for this Project, and no substantial impacts were identified.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Based on the criteria used as the basis for evaluating environmental justice (minority groups, median household income, and poverty level), the Build Alternatives could impact minority and low-income populations with regards to temporary noise, dust, and traffic congestion/detours impacts. However, since all interchange users (not just minority and low-income populations) would be subjected to traffic congestion and detours during construction, all neighboring uses (including both environmental justice and non-environmental justice populations) would experience temporary noise and dust impacts during construction of the Project. These impacts would be comparable for all affected populations in proximity to the Project and would not be appreciably more severe or greater in magnitude in a particular area. Furthermore, all of the residential properties in the Project area and vicinity are within the City of Grand Terrace, which does not contain substantial minority or low-income populations. Therefore, the Project would not cause disproportionately high and adverse temporary effects on minority or low-income populations.

The Build Alternatives would not result in disproportionate temporary impacts to environmental justice populations due to the demographics of the affected census tracts when compared to the County and Cities as a whole. In addition, as described above, all interchange users would be subjected to traffic congestion and detours during construction, and all neighboring uses would experience temporary noise and dust impacts during construction,

Residents in the vicinity of the interchange would be temporarily impacted by ramp closures, detours, dust, and noise during construction activities, and these impacts would be minimized through compliance with Caltrans standards; additional local, State, and federal regulations; and avoidance, minimization, and/or mitigation measures.

Permanent Impacts

The determination of whether or not the effects of a project are disproportionately high and substantial depends on whether (1) the effects of the project are predominantly borne by a minority or low-income population, or (2) the effects of the project are appreciably more severe or greater in magnitude on minority or low-income populations compared to the effects on nonminority or non-low-income populations.

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the I-215/Barton Road interchange, and there are no planned road modification/maintenance projects on local roadways within the interchange area. Therefore, this alternative would not result in permanent impacts to the environmental justice population.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Alternative 3 would result in eight residential displacements, and Alternatives 6 and Modified Alternative 7 would result in two residential displacements from Census Tract 71.07 within the City of Grand Terrace. Census Tract 71.07 has an ethnically diverse population, with a large Hispanic minority group, a higher poverty level, a lower median household income, and a lower median household income than the County average; however, the City of Grand Terrace, overall, has a lower minority population, a lower poverty level, and a higher median household income than the County average. Due to the demographic differences between the City of Grand Terrace as a whole and Census Tract 71.07, it cannot be concluded that the residential displacements as a result of the Project would impact low-income or minority populations.

Based on the criteria used as the basis for evaluating environmental justice (minority groups, median household income, and poverty level), the Build Alternatives could impact minority and low-income populations with regards to changes to community character and visual quality due to ramp realignments and loss of businesses.

However, since all residents and workers in the vicinity of the Project (regardless of their minority status or income level) would experience changes to community character, visual quality, and the loss of businesses following the completion of the Project, these impacts would be comparable for all affected populations in proximity to the Project and would not be appreciably more severe or greater in magnitude in a particular area. Residents that are displaced would be relocated consistent with Caltrans requirements. In addition, the Build Alternatives would improve interchange operations that would benefit all local populations. Furthermore, all of the residential properties in the Project area and vicinity are within the City of Grand Terrace, which does not contain substantial minority or low-income populations.

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have been included in the proposed Project. Based on the current proportion of minority residents, and residents below poverty, median household incomes, and expected displacements in the study area census tracts, disproportionate impacts to environmental justice populations are not anticipated as a result of the proposed Project.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Based on the above discussion and analysis, Alternatives 1, 3, 6, and Modified Alternative 7 will not cause disproportionately high and adverse effects on any minority or low-income populations per EO 12898 regarding environmental justice. No avoidance, minimization, and/or mitigation measures are required or proposed.

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2.4 Utilities and Emergency Services

2.4.1 Affected Environment

This section is based on the information from the *Community Impact Assessment* (November 2013) and the *Draft Project Report* (November 2013).

2.4.1.1 Utilities

Utility providers in the Cities of Grand Terrace and Colton are summarized in Table 2.4.A.

Table 2.4.A Utility Service Providers

Utility Category	Utility Provider	
	City of Grand Terrace	City of Colton
Water	Riverside Highland Water Company	Colton Public Utilities
Wastewater	City of Grand Terrace	Colton Public Utilities
Gas	Southern California Gas Company	Southern California Gas Company
Electricity	Southern California Edison	Colton Public Utilities
Cable Television	Time Warner	Time Warner
Telecommunication	AT&T	SBC
	Verizon	

Sources: City of Colton, http://www.ci.colton.ca.us/;
City of Grand Terrace, http://www.cityofgrandterrace.org/index.aspx?nid=8.

2.4.1.2 Fire Protection

The City of Grand Terrace contracts with the San Bernardino County Fire Department for fire and rescue services. Fire Station 23 at 22582 Center City Court in Grand Terrace has both paid and volunteer staff, including a fire chief, a battalion chief, and a division chief. There are 2 paid employees per shift and 15 paid call employees. The station is approximately 0.7 mile (mi) from the Interstate 215 (I-215)/ Barton Road interchange.

The City of Colton has its own fire department staffed with 46 personnel at four fire stations. The City of Colton Fire Department offers a wide range of services, including but not limited to: fire suppression, emergency medical services, light and heavy rescue, and hazardous materials mitigation. Stations 213 and 214 are the stations closest to the I-215/Barton Road interchange.

Station 213 is at 1100 South La Cadena, Colton, approximately 2 mi from the Project site. This station is staffed with three personnel (a captain, an engineer, and a firefighter/paramedic) and is also home to the Heavy Rescue Unit.

Station 214 is at 1151 South Meadow Lane, approximately 2 mi from the Project site, and is also staffed with three personnel (a captain, an engineer, and a firefighter/ paramedic).

2.4.1.3 Law Enforcement

The City of Grand Terrace contracts with the San Bernardino County Sheriff's Department (SBSD) for full-service law enforcement, traffic services, investigations, and a wide variety of safety services. The sheriff's station responsible for servicing the City of Grand Terrace is located at 655 East Third Street in San Bernardino.

The City of Colton has its own police department that enforces law within the City. The nearest City of Colton police station is at 650 North La Cadena Drive, approximately 4 mi north of the I-215/Barton Road interchange.

The California Highway Patrol (CHP) has jurisdiction on freeways in the State of California, including the I-215. The nearest CHP office is the Inland Communications Center at 847 East Brier Drive, San Bernardino, approximately 5.5 mi from the I-215/ Barton Road interchange.

2.4.1.4 Hospitals

There are no hospitals in the immediate vicinity of the Project intersection. The closest hospital is Arrowhead Regional Medical Center, located at 400 North Pepper Avenue in Colton, which is located within 5 mi of the I-215/Barton Road interchange.

2.4.2 Environmental Consequences

2.4.2.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in temporary impacts to utilities or emergency services.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

The Build Alternatives would impact various underground and overhead utilities, which would require protection in place, removal, replacement, or relocation. Utilities that would be impacted during construction by the Build Alternatives are listed in Table 2.4.B. Alternative 3 is the only alternative that would potentially relocate cable television lines owned by AT&T, Time Warner, and Charter Communications. For Alternative 6 and Modified Alternative 7, a bridge will be placed over the Riverside

Table 2.4.B Anticipated Utility Relocations During Project Construction

Utility	Owner	Alternative 3	Alternative 6	Modified Alternative 7
Sewer	City of Grand Terrace	✓	✓	✓
Water Line	Riverside Highland Water, Elsinore Valley Municipal Water District	✓	✓	✓
Gas Line	Southern California Gas Company	✓	✓	✓
Electrical-underground	Southern California Edison	✓	✓	✓
Utility Poles	Southern California Edison	✓	✓	✓
Electrical-overhead	Southern California Edison	✓	✓	✓
Telecom	AT&T, Time Warner	✓	✓	✓
Cable Television	AT&T, Time Warner, Charter Communications	✓		
Riverside Canal Aqueduct	City of Riverside		✓	✓

Source: *Draft Project Report* (November 2013).

Canal Aqueduct to avoid impacts since this facility has been found to be eligible for the National Register of Historic Places.

Utilities that would require relocation under Alternatives 3, 6, and Modified Alternative 7 are shown in Figures 2.4.1, 2.4.2, and 2.4.3, respectively.

Final determinations of impacts to utilities and relocation requirements, if any, will be completed during the initial design portion of the design-build phase of the Project. An updated utility search would be conducted during final design to confirm all utility conflicts that require protection in place or relocation are addressed. Utility companies typically do not approve such relocations until the final design phase of the Project, and there is the potential that relocations and resulting impacts could vary. If the ultimate utility relocations would create additional environmental impacts beyond those identified in this analysis, then additional environmental analysis would be required. The current analysis is based upon preliminary engineering efforts to-date.

All utility relocations would be coordinated with the affected utility agencies, as specified in Measures UES-1 and UES-2. Road detours and access restrictions due to construction would result in some traffic delays. Extensive ramp closures are not anticipated; however, travel times could temporarily increase due to the closure of lanes. Therefore, during construction, some impairment to the delivery of services, including fire and police response times, may occur. These temporary impacts would

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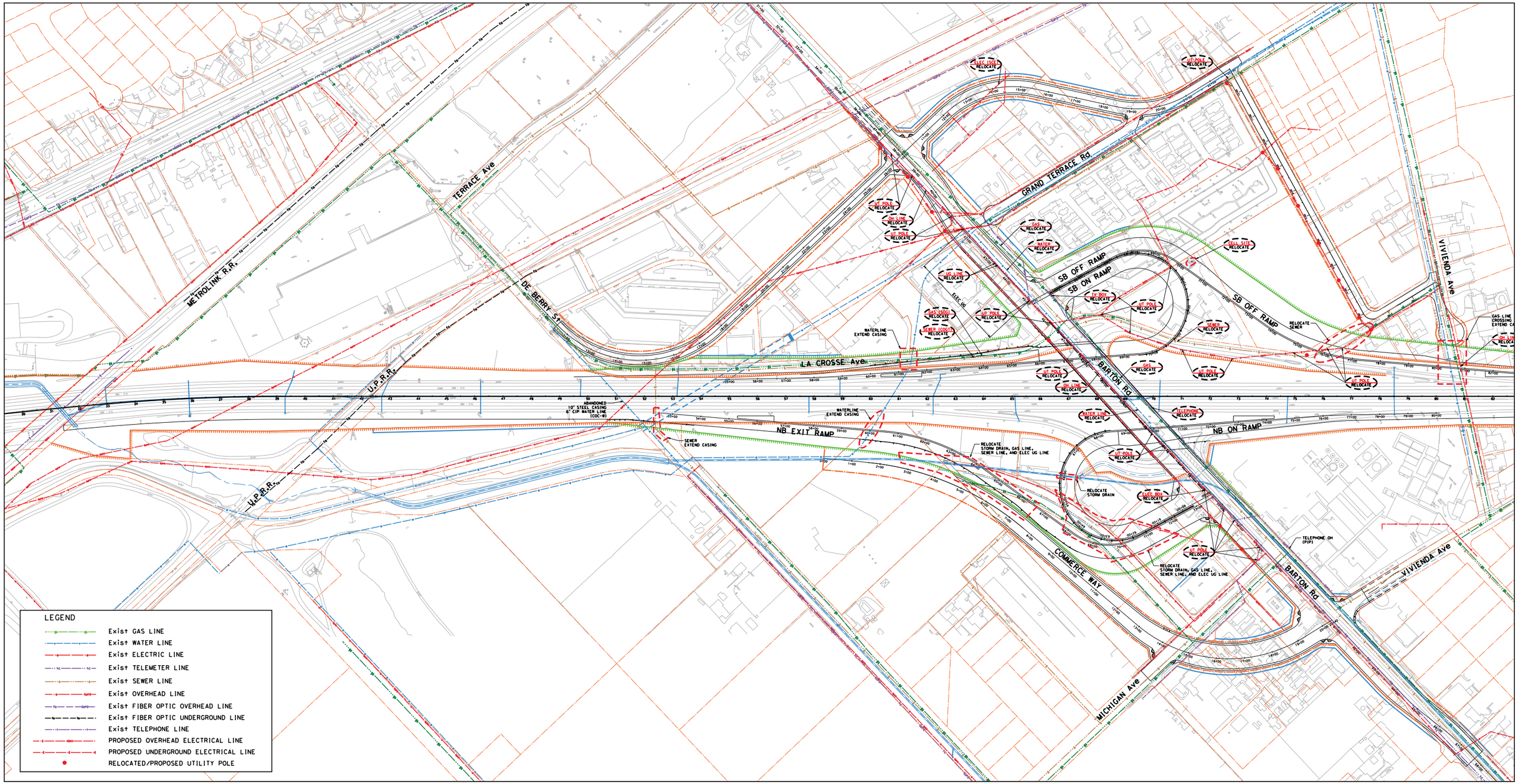

FIGURE 2.4.1
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Alternative 3 Utility Relocation

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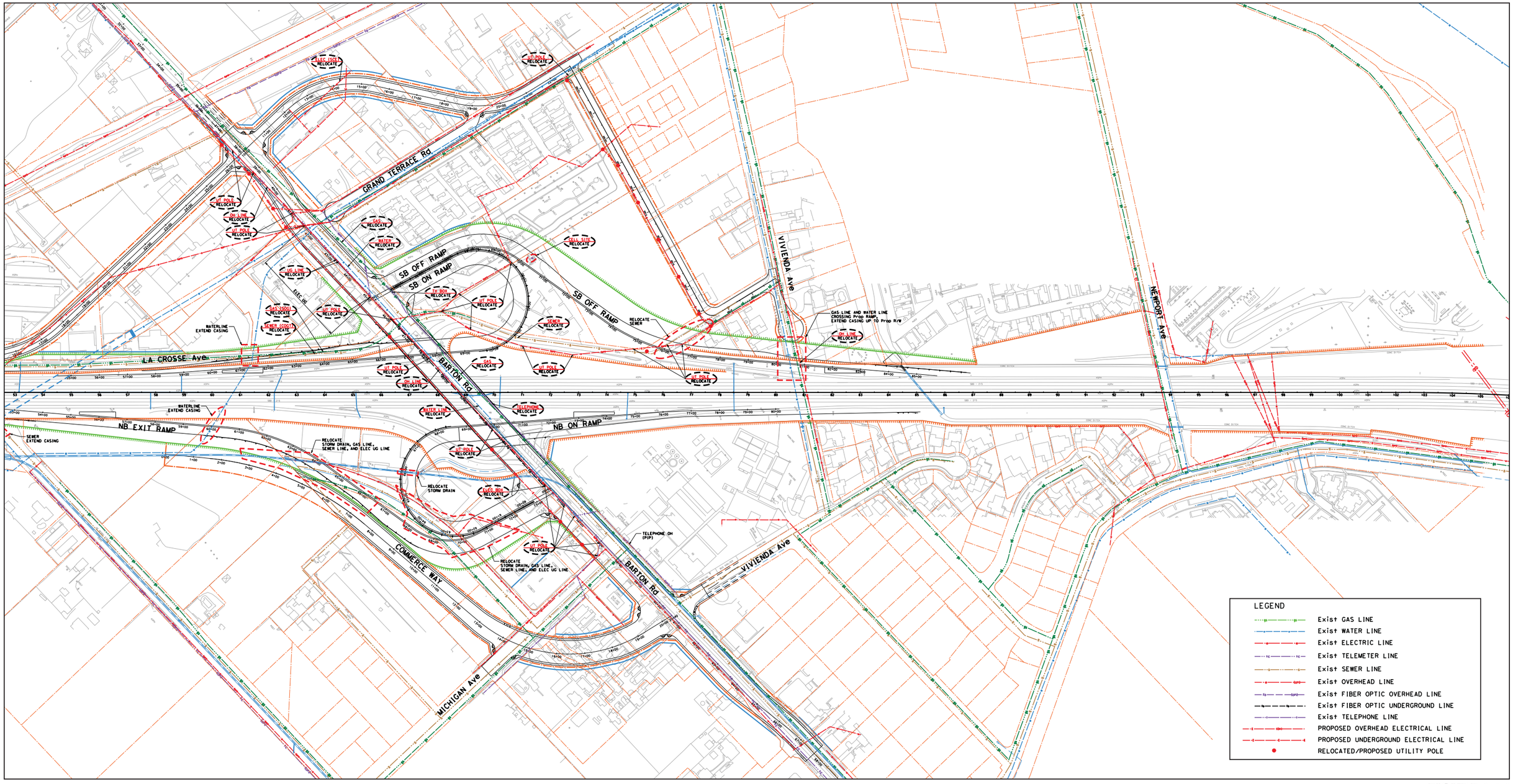

FIGURE 2.4.1
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Alternative 3 Utility Relocation

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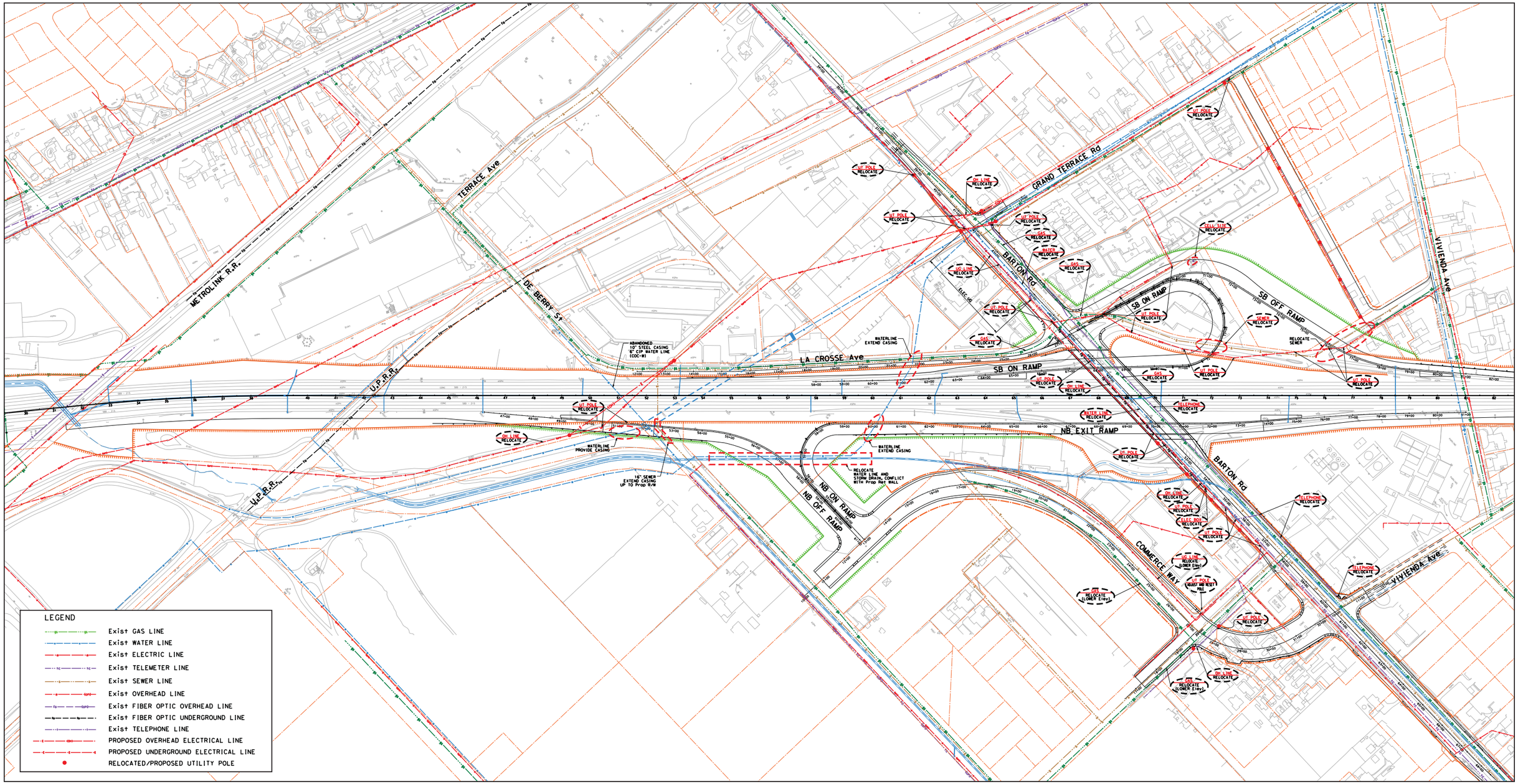

FIGURE 2.4.2
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Alternative 6 Utility Relocation

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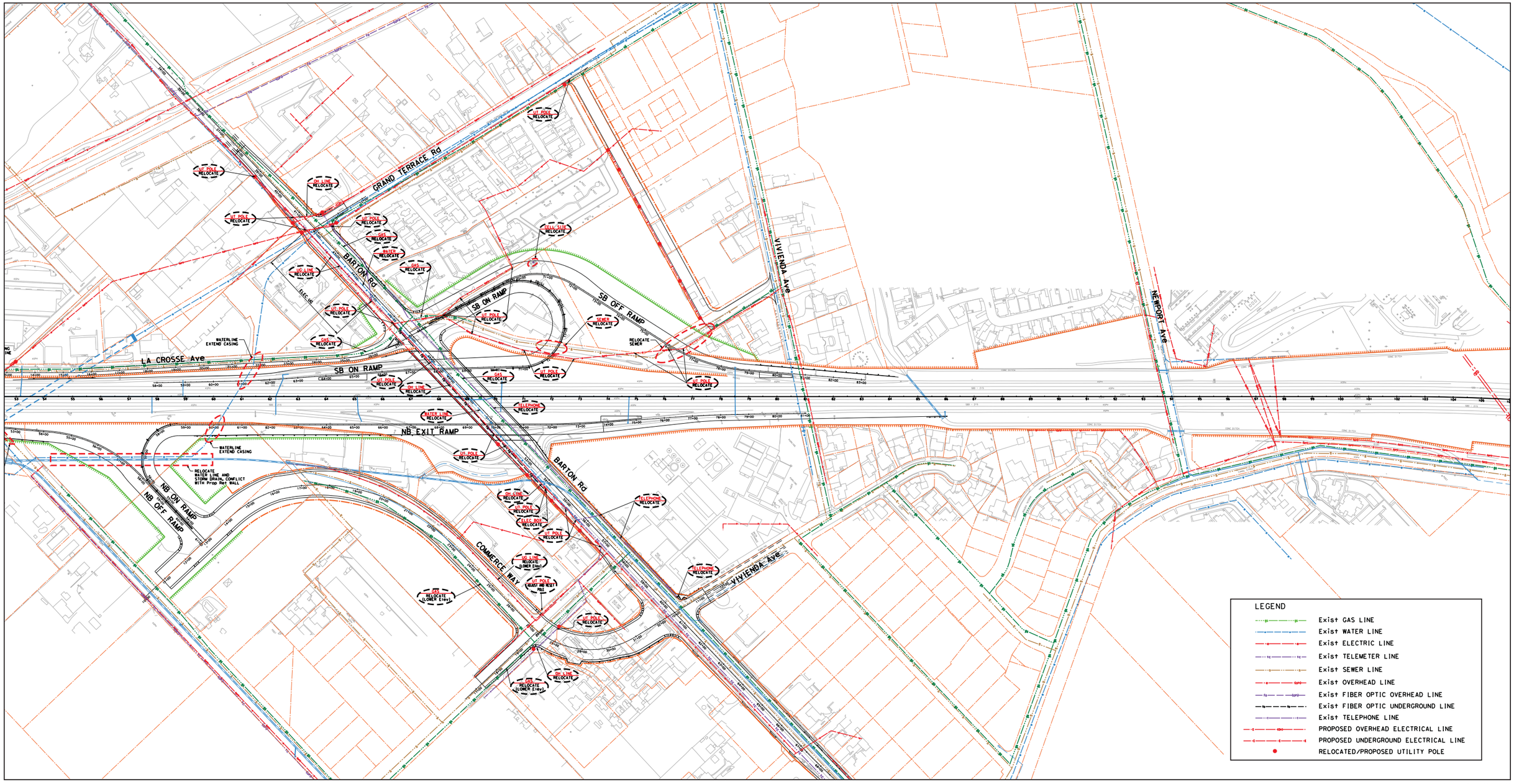

FIGURE 2.4.2
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Alternative 6 Utility Relocation

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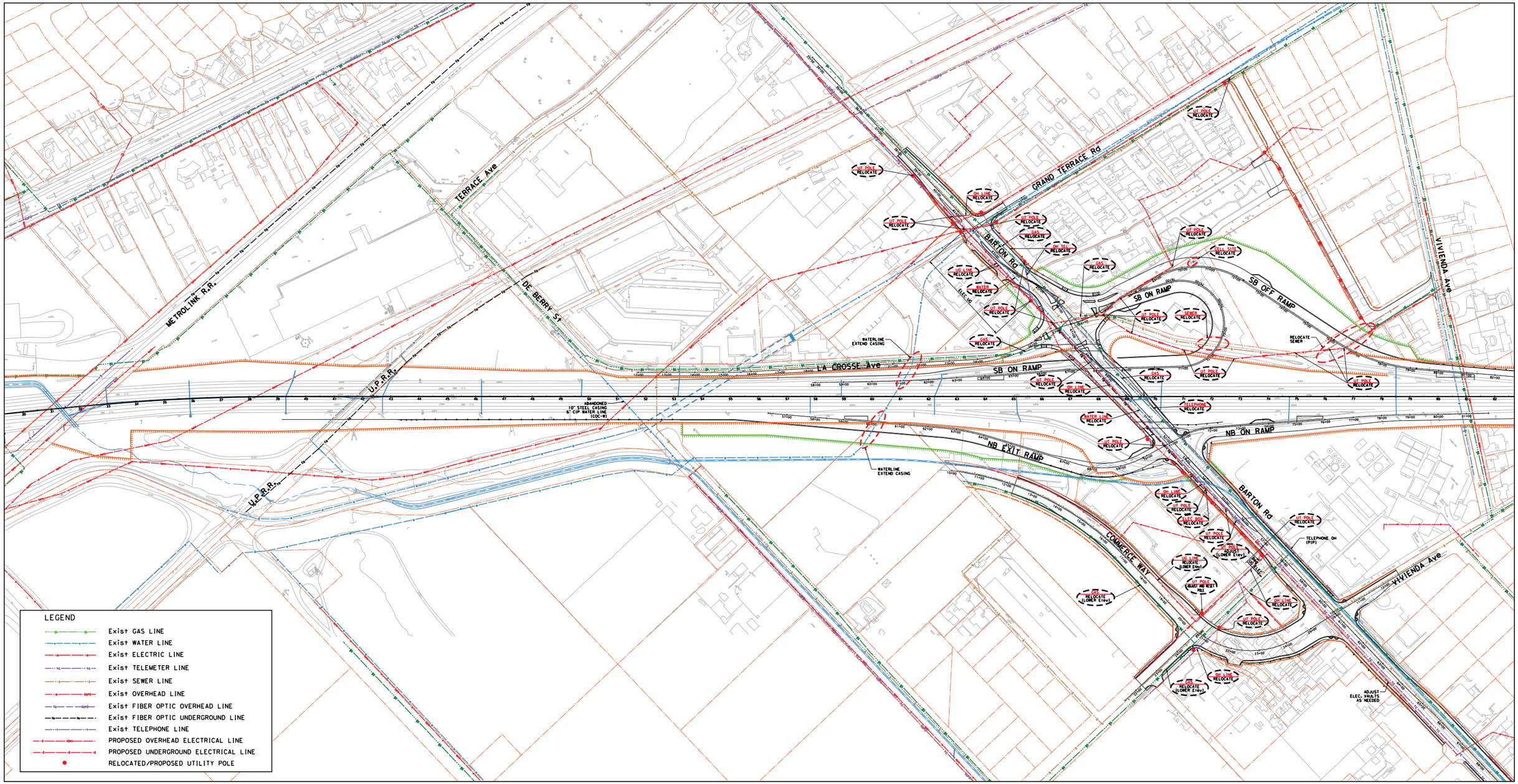

FIGURE 2.4.3
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7 Utility Relocation

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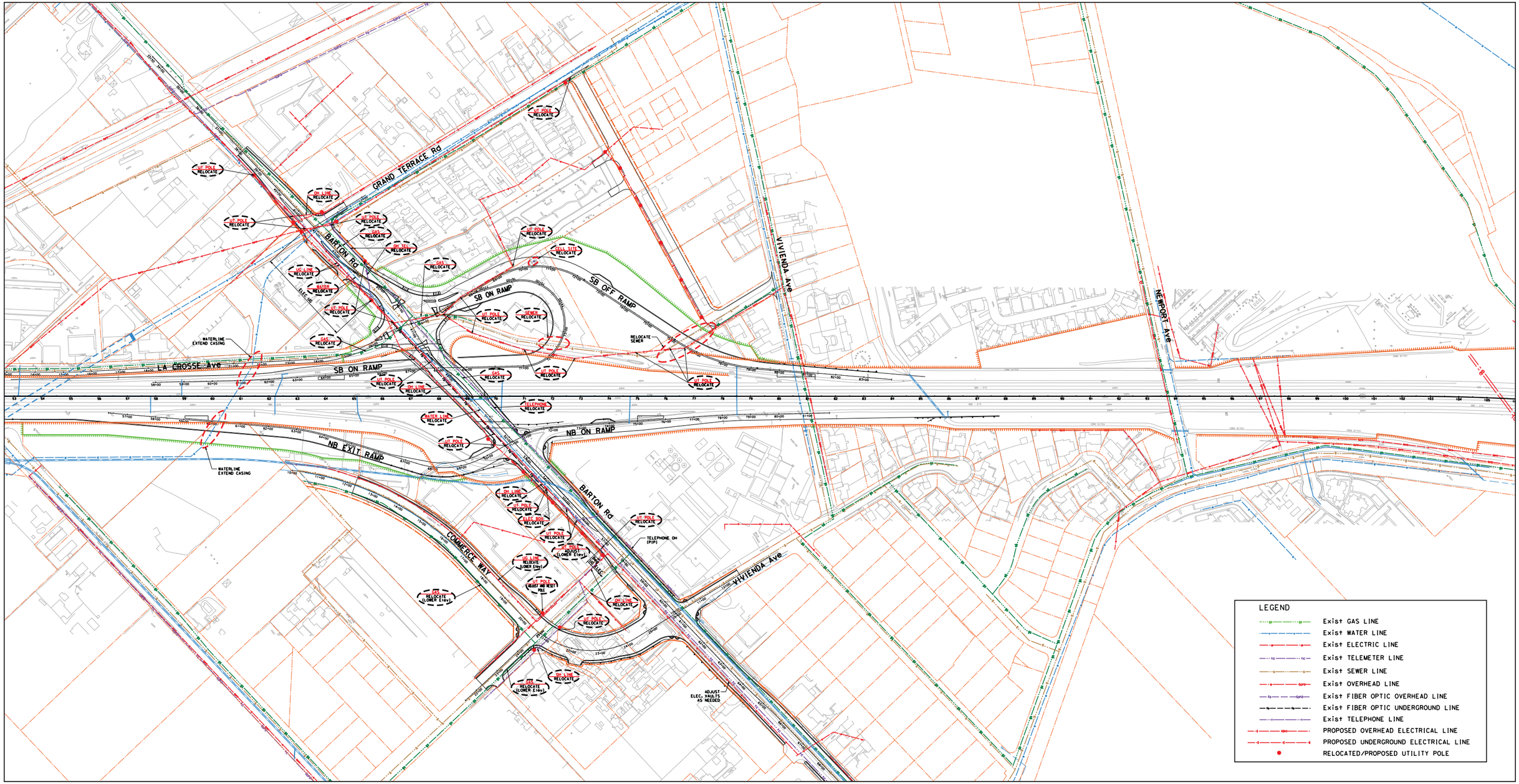

FIGURE 2.4.3
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SOURCE: AECOM (11/2013)

I-215/Barton Road Interchange Improvement Project

Modified Alternative 7 Utility Relocation

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be substantially minimized through implementation of a Transportation Management Plan (TMP), as specified in Measure TR-1.

2.4.2.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in permanent utility impacts. Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Gap Closure Project will require relocation of various underground and overhead utilities in the Project area; however, any relocated utility services will be permanently maintained.

The No Build Alternative would not reduce congestion.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Relocation of utilities as a result of the Build Alternatives would occur during the final design or construction phase such that all utility services are permanently maintained. In addition, the Project would not increase the need for domestic water services, wastewater facilities, or solid waste disposal. Therefore, no permanent impacts to utilities would occur. As discussed in Section 2.5, Traffic and Transportation/ Pedestrian and Bicycle Facilities, the Build Alternatives would improve level of service (LOS) at the study area intersections. As a result, implementation of the Project would improve access to the City of Grand Terrace and the City of Colton.

Several Southern California Edison (SCE) facilities would be relocated under each of the Build Alternatives. Common to each of the Build Alternatives, the following facilities would be relocated:

- Pole line along the south side of Barton Road—poles from west of Grand Terrace Road to I-215—would be relocated along the south side of proposed Barton Road. An existing underground portion of the facility within this reach may require relocation depending upon proposed conflicts with the line.
- Overhead service connections to parcels north of Barton Road between Grand Terrace Road and I-215 would be relocated. The new service could be supplied by a new pole line on the newly proposed local street between Grand Terrace Road and Vivienda Avenue.

- Electrical lines would be placed within large cells in the new overcrossing structure. An overhead electrical shoofly may be needed near the bridge site to provide adequate clearance during construction of the new bridge.
- Pole line along south side of Barton Road east of I-215 would be relocated south of proposed Barton Road.
- SCE underground facilities east of existing Michigan Street would be relocated to the south if conflicts arise between the proposed design and existing facilities.
- Existing poles along Michigan Street would be adjusted to account for the proposed lower street profile proposed for Commerce Way east of Michigan Street.
- Underground lines within Commerce Way would be lowered to accommodate the proposed lower street profile. Electrical facilities affected by Alternative 3 would be relocated south to the new alignment of Commerce Way.
- Poles supporting SCE's high voltage crossing near the intersection of Barton Road/Grand Terrace would be relocated to clear the proposed Barton Road widening.
- Poles would be placed within the street right-of-way.
- A few telephone lines and poles that are on poles not owned by SCE would be relocated.

All of the work associated with relocating these facilities is located within the Project area. New facilities will be located within City right-of-way and would be similar to the existing facilities. The disturbance associated with relocating these facilities has been analyzed in each of the technical sections contained in this document, and no impacts were identified.

2.4.3 Avoidance, Minimization, and/or Mitigation Measures

Implementation of a TMP, as discussed in detail in Section 2.5, Traffic and Transportation, would minimize temporary construction-related impacts to emergency services.

The following measures would minimize temporary construction-related impacts to utilities:

UES-1 **Utility Protection in Place.** Prior to commencement of construction, all affected utility providers will be contacted to establish exact procedures and specifications for all facilities to be protected in place

or relocated during construction to ensure that utility services are not disrupted.

UES-2 **Utility Relocation.** Prior to commencement of construction, the utility providers for utilities requiring relocation will be contacted to inform the utility users in advance about the date and timing of service disruptions.

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2.5 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.5.1 Regulatory Setting

Caltrans, as assigned by 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 Code of Federal Regulations [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 regulation (49 CFR Part 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [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.

2.5.2 Affected Environment

This section is primarily based on the *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011). The Traffic Operations Analysis studied existing traffic conditions (2009), traffic conditions for 2016, traffic conditions for 2040 (the design horizon year for the proposed Project), and assessed the impact of the proposed Project on traffic conditions. This section is also based on the *Barton Road Interchange Improvement Project: Roundabout Analyses* (August 2013), prepared specifically for Modified Alternative 7. Additionally, the *Traffic Volume Comparison Memorandum* (November 2013) prepared for the proposed Project, is referenced.

The traffic study area for the Interstate 215 (I-215)/Barton Road Interchange Improvement Project includes the freeway mainline, ramps, and several intersections along Barton Road in the vicinity of the interchange as well as adjacent interchanges. In the Project area, I-215 has three mixed-flow lanes in each direction, separated by a

median with a concrete barrier. The existing I-215/Barton Road interchange is a compact diamond interchange with one-lane on- and off-ramps.

Sidewalks are provided along the north side of Barton Road, ending approximately 225 feet (ft) west of the southbound ramps in the Project area. In order to safely traverse the entire east-west length of the Project area along Barton Road, pedestrians currently must follow the existing sidewalks along the north side of Barton Road, crossing two unsignalized "T" intersections (Barton Road/Vivienda Avenue and Barton Road/Grand Terrace Road), which lack crosswalk facilities. Pedestrians must also cross the Barton Road/I-215 ramp intersections. The Barton Road/I-215 northbound on-ramp is not signalized, and the Barton Road/I-215 southbound off-ramp is partially signalized. There are no sidewalks on La Crosse Avenue, Grand Terrace Road, or Vivienda Avenue in the Project area. Michigan Street and La Cadena Drive have sidewalks in some areas, but the sidewalks are not continuous through the Project area.

An existing Class II bicycle lane is located on the eastbound side of Barton Road, east of Michigan Street. The City of Grand Terrace General Plan shows a planned bicycle lane on Barton Road from west of Michigan Street to the western city limit as shown on Figure 2.5.1.

Arterial roadways in the study area include:

- Barton Road
- La Cadena Drive
- Grand Terrace Road
- La Crosse Avenue
- Michigan Street
- Vivienda Avenue
- Commerce Way
- Terrace Avenue

Intersections in the study area include:

- Barton Road/La Cadena Drive.
- Barton Road/Grand Terrace Road. This intersection would be modified under Alternative 3.

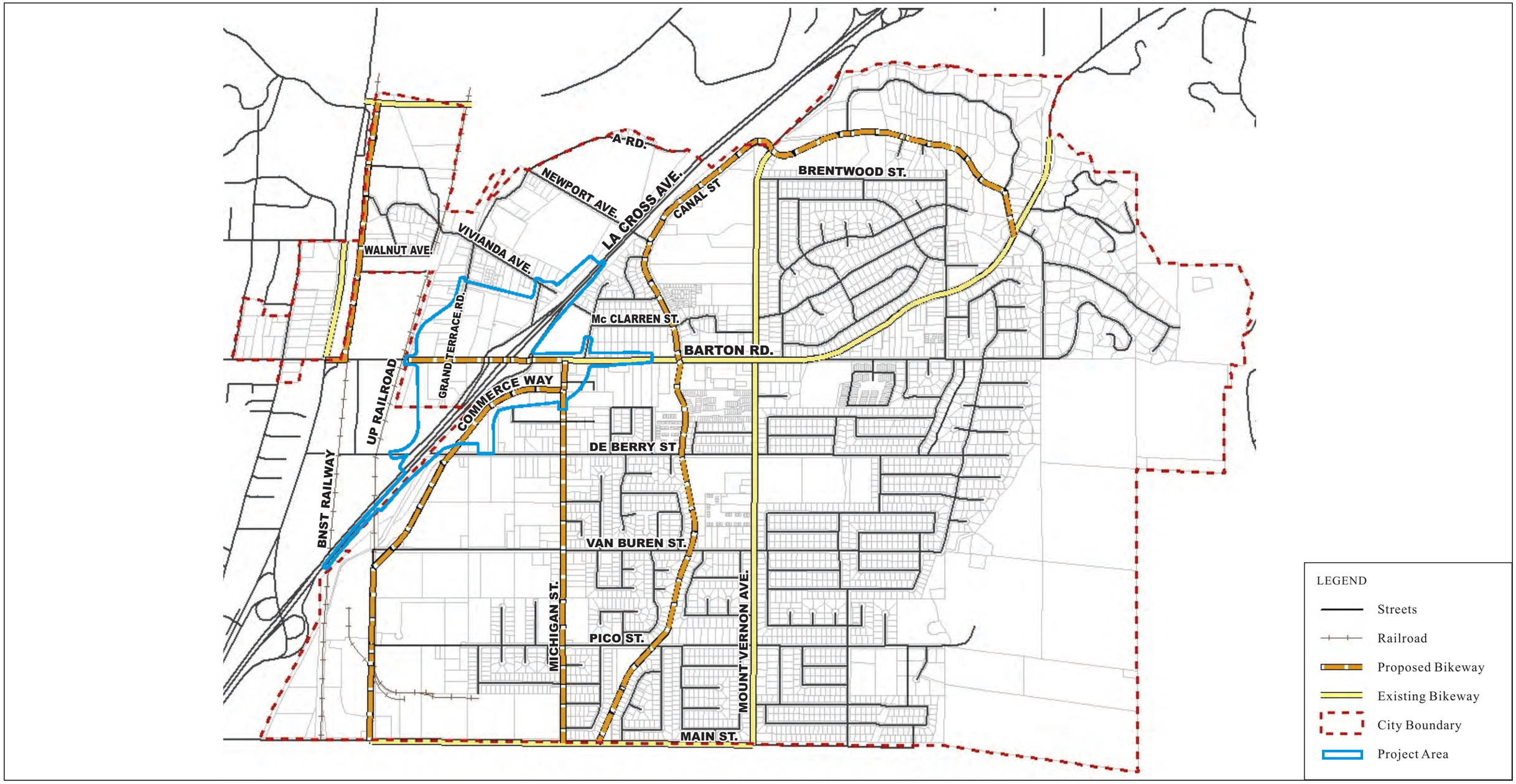

FIGURE 2.5.1

N

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SOURCE: City of Grand Terrace General Plan, 2010

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I-215/Barton Road Interchange Improvement Project

City of Grand Terrace Existing and Proposed Bikeway Plan

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- Barton Road/La Crosse Avenue. This intersection would be eliminated under Alternative 3. The Barton Road intersection with the northern segment of La Crosse Avenue would be eliminated under Alternative 6 and Modified Alternative 7.
- Barton Road/I-215 Southbound On-Ramp. This ramp would become a modified cloverleaf for all Build Alternatives.
- Barton Road/I-215 Southbound Off-Ramp. This ramp would be constructed on the outside of the modified cloverleaf on-ramp for all Build Alternatives.
- Barton Road/I-215 Northbound On-Ramp. This ramp would become a modified cloverleaf for Alternative 3, and would undergo a minor alignment change for Alternative 6 and Modified Alternative 7.
- Barton Road/I-215 Northbound Off-Ramp. This ramp would be constructed on the outside of the modified cloverleaf on-ramp for Alternative 3. This ramp would intersect with a realigned Commerce Way for Alternative 6. This ramp would be realigned for Modified Alternative 7.
- Barton Road/Michigan Street. This intersection would be eliminated for all Build Alternatives. Commerce Way would be realigned to intersect with Barton Road for all Build Alternatives.
- Barton Road/Vivienda Avenue.
- Barton Road/Terrace Avenue. This intersection was analyzed for Alternative 6 in 2016, because the southern segment of La Crosse Avenue would intersect with Barton Road in a right-in/right-out configuration. Therefore, vehicles would need to use Barton Road, Terrace Avenue, and De Berry Street to access I-215 to and from properties on the southern segment of La Crosse Avenue. The southern segment of La Crosse Avenue would be removed by the I-215 Bi-County Widening Project, so this intersection was not analyzed in the 2040 condition.

Freeway segments in the study area include:

- Northbound I-215 Iowa Avenue on-ramp to Barton Road off-ramp
- Northbound I-215 Barton Road off-ramp to Barton Road on-ramp
- Northbound I-215 Barton Road on-ramp to Washington Street off-ramp
- Southbound I-215 Washington Street on-ramp to Barton Road off-ramp
- Southbound I-215 Barton Road off-ramp to Barton Road on-ramp
- Southbound I-215 Barton Road on-ramp to La Cadena Drive off-ramp

2.5.2.1 Level of Service Standards

Because there are three other planned freeway projects in the vicinity of the proposed Project that are multijurisdictional and that could influence traffic results for 2016 and/or for 2040, the Project Development Team (PDT) agreed on a common set of analysis parameters for the traffic operations analysis. Those level of service (LOS) parameters and LOS standards are:

- Capacity of a Mixed-Flow Lane: 2,300 vehicles per hour
- Capacity of a High-Occupancy Vehicle Lane: 1,600 vehicles per hour
- Lost Time per Signal Phase: 2 seconds
- Minimum Green Time per Signal Phase: 7 seconds
- Minimum LOS Standard for Freeways: LOS E
- Minimum LOS Standard for Intersections: LOS D

Based on vehicle classification counts conducted at the I-215/Barton Road interchange, the following truck percentages on I-215 were used in the LOS analysis:

- Percentage of trucks during the AM peak hour: 7 percent
- Percentage of trucks during the PM peak hour: 4 percent

2.5.2.2 Existing (2009) Traffic Conditions

Table 2.5.A shows the existing mainline traffic volumes, densities, and LOS during the AM and PM peak hours in the Project area. Traffic counts were recorded for passenger cars, two-axle trucks, three-axle trucks, and four-axle trucks. The trucks were factored into Passenger Car Equivalents (PCEs) that convert traffic volumes to an equivalent number of passenger car volumes based on the types of trucks. As seen in Table 2.5.A, all freeway mainline segments in the Project area currently operate at an acceptable LOS (LOS E or better).

Table 2.5.B shows the existing LOS and delay in seconds at the study area intersections during the AM and PM peak hours. As seen in Table 2.5.B, all study area intersections currently operate at a satisfactory LOS B or C.

Table 2.5.C shows the existing vehicle queue lengths on Barton Road at the left-turn lanes for the southbound and northbound ramps onto I-215. For westbound traffic on Barton Road, the left-turn lane at the southbound ramps has inadequate queuing length during both the AM and PM peak hours. Long queues result in long delays for through and left-turning traffic traveling through the interchange.

Table 2.5.A Existing (2009) Mainline LOS

Freeway Segment	AM Peak Hour			PM Peak Hour		
	V	Density	LOS	V	Density	LOS
Northbound						
Iowa Avenue On-Ramp to Barton Road Off-Ramp	4,876	29.6	D	5,685	35.4	E
Barton Road Off-Ramp to Barton Road On-Ramp	4,511	27.3	D	5,271	31.9	D
Barton Road On-Ramp to Washington Street Off-Ramp	4,881	29.7	D	5,677	35.4	E
Southbound						
Washington Street On-Ramp to Barton Road Off-Ramp	6,069	40.9	E	5,276	31.9	D
Barton Road Off-Ramp to Barton Road On-Ramp	5,736	36.8	E	4,915	29.4	D
Barton Road On-Ramp to La Cadena Drive Off-Ramp	6,198	42.8	E	5,346	32.5	D

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).
Note: LOS criteria are provided in the HCM, and are based on density, i.e., the quantity of vehicles within a freeway segment.

Table 2.5.B Existing (2009) Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay	V/C	LOS	Delay	V/C
Barton Road/La Cadena Drive	B	14.0	0.35	B	16.0	0.53
Barton Road/Grand Terrace Road[1]	B	14.8	-	C	15.8	-
Barton Road/La Crosse Avenue[1]	B	13.1	-	B	14.5	-
Barton Road/I-215 SB Ramps	B	15.1	0.66	C	25.0	0.82
Barton Road/I-215 NB Ramps	B	12.9	0.52	B	11.8	0.52
Barton Road/Michigan Street	B	12.5	0.52	B	10.0	0.50
Barton Road/Vivienda Avenue[1]	B	14.0	-	B	14.5	-

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).
[1] V/C is not applicable for intersections with a stop sign instead of a traffic signal.
Note: Delay = Average Vehicle Delay (seconds)
V/C = Volume-to-Capacity Ratio

Table 2.5.C Existing (2009) Intersection Queue Lengths

Intersection	Available Storage (ft)	95th Percentile Queue (ft)		Queue Exceeds Available Storage?
		AM Peak Hour	PM Peak Hour	
Barton Road/I-215 SB Ramps: WB left-turn lane	120	213	297	Yes
Barton Road/I-215 NB Ramps: EB left-turn lane	150	76	89	No

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Existing AM and PM peak-hour LOS for the Barton Road/I-215 interchange and adjacent interchange ramp influence areas are summarized in Table 2.5.D. As seen in Table 2.5.D, all freeway ramp junctions currently operate at a satisfactory LOS (E or better), with the exception of the I-215 southbound Washington Street off-ramp in the AM peak hour, which is operating at LOS F.

Table 2.5.D Existing (2009) Freeway Ramp LOS

Location	AM Peak Hour				PM Peak Hour			
	Ramp Volume	Speed[1] (mph)	Density (pc/mi/ln)	LOS	Ramp Volume	Speed[1] (mph)	Density (pc/mi/ln)	LOS
Northbound								
Iowa Avenue Off-Ramp	241	54.6	27.1	C	289	54.5	31.4	D
Iowa Avenue On-Ramp	1,004	55.0	29.3	D	909	54.0	32.7	D
Barton Road Off-Ramp	365	54.3	31.0	D	414	54.2	34.0	D
Barton Road On-Ramp	370	56.0	27.5	C	406	55.0	30.9	D
Mt. Vernon Avenue On-Ramp	663	55.0	29.8	D	653	53.0	33.1	D
Mt. Vernon Avenue Off-Ramp	847	53.2	31.9	D	826	53.3	34.8	D
Southbound								
Washington Street Off-Ramp	1,018	52.9	38.6	F	1,316	52.2	35.6	E
Washington Street On-Ramp	613	53.0	34.2	D	973	55.0	30.8	D
Barton Road Off-Ramp	333	54.4	36.1	E	361	54.4	32.8	D
Barton Road On-Ramp	462	52.0	34.4	D	431	55.0	29.6	D
La Cadena Drive Off-Ramp	188	54.7	36.2	E	291	54.5	31.1	D
La Cadena Drive On-Ramp	354	52.0	34.8	D	285	56.0	27.4	C

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).
[1] Speed in ramp influence area. All ramps are a single lane at the gore point (where the ramp meets the mainline).
Bold indicates unsatisfactory LOS.

2.5.3 Environmental Consequences

2.5.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in temporary impacts related to traffic, transportation, or bicycle and pedestrian facilities.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Traffic delays are expected during construction of the new ramps and Barton Road overcrossing, as well as realignment of local streets, and modifications to local intersections. Construction of the Project would result in temporary delays on Barton Road, La Crosse Avenue, Grand Terrace Road, Commerce Way, Vivienda Avenue, Michigan Street, the I-215 mainline, and the I-215 on- and off-ramps. No extended ramp closures and no full local road closures are anticipated.

Because the Barton Road overcrossing would stay at its existing alignment, it is proposed that the new structure be built in two stages. The first stage would include:

- Demolition of half of the existing structure
- Construction of half of the new structure while maintaining one lane of traffic in each direction on the remaining half of the existing structure
- Construction of the ramps, northbound auxiliary lane, and retaining walls
- Improvements to local streets

The second stage would include:

- Demolition of the second half of the overcrossing structure
- Construction of the remaining half of the overcrossing structure
- Traffic signal work
- Intersection modifications/improvements
- Completion of the reconstructed bridge connection to each end of Barton Road

During each stage, a single 5 ft wide sidewalk would be provided for temporary access on Barton Road.

Construction would be limited to off-peak hours to minimize impacts to the I-215 mainline and interchange area during ongoing construction, if necessary. Temporary nighttime closures of mainline lanes and ramps may be required during construction. During ramp closures at Barton Road, the I-215/Iowa Avenue/La Cadena Drive and I-215/Mount Vernon Avenue/Washington Street interchanges would be available as alternate access points to and from the I-215 mainline. La Cadena Drive and Mount Vernon Avenue would provide north-south access to Barton Road in the Project vicinity.

A Transportation Management Plan (TMP) with traffic control plans and related specifications for the Project is necessary to avoid and/or minimize circulation and delay impacts. These details are specified later in this section in Measure TR-1. With implementation of Measure TR-1, temporary transportation-related construction impacts of the Build Alternatives would not be substantial.

2.5.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

Analysis for 2016

A *Traffic Volume Comparison Memorandum* (November 2013) was prepared to address whether the previously approved 2016 traffic volumes (in conjunction with

when 2016 was the planned Opening Year for the Project) remain applicable for use as the basis for traffic analysis with the proposed Project's planned opening year changed to 2018. The conclusion in this regard, included in the memorandum:

> Based on the traffic count comparison conducted in June of 2012, traffic volumes were slightly lower than those collected in 2009. The decrease in the existing volumes would be offset by the Project's revised opening year of 2018. Therefore, the "opening" year 2016 volumes in the Traffic Operations Analysis are appropriate to use as the updated 2018 opening year volumes.

The *Traffic Volume Comparison Memorandum* (November 2013) received concurrence on November 22, 2013.

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Section 1.1.2 of this Environmental Document, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Lane Gap Closure Project includes one HOV lane in each direction within the Project area, which increases the capacity of I-215.

Table 2.5.E shows the 2016 AM and PM peak-hour traffic volumes, density, and LOS for the I-215 mainline under Alternative 1 (No Build Alternative). As shown in Table 2.5.E, all freeway segments in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours under the No Build Alternative.

The 2016 AM and PM peak-hour LOS for the study area intersections under Alternative 1 (No Build Alternative) are summarized in Table 2.5.F. All study area intersections are projected to operate at satisfactory LOS with the exception of the Barton Road/Grand Terrace Road intersection in the AM and PM peak hours and the Barton Road/I-215 southbound ramps intersection in the PM peak hour.

Table 2.5.G shows the projected 2016 AM and PM peak-hour queue lengths for Alternative 1 (No Build) conditions. Under the 2016 No Build condition, the queue length for the westbound left-turn lane at the Barton Road/I-215 southbound ramps intersection would exceed the length of the queue pocket. Long queues will cause long delays for both through traffic and left-turning traffic traveling through the interchange.

Table 2.5.E Alternative 1 2016 Freeway Mainline LOS

Mainline Segments	AM Peak Hour					PM Peak Hour				
	HOV Vol	MF Vol	Mixed Flow			HOV Vol	MF Vol	Mixed Flow		
			Speed[1]	Density (pc/mi/ln)	LOS			Speed[1]	Density (pc/mi/ln)	LOS
Northbound										
Iowa Avenue On-Ramp to Barton Road Off-Ramp	737	5,250	59.0	32.3	D	881	6,098	54.5	40.0	E
Barton Road Off-Ramp to Barton Road On-Ramp	782	4,764	59.9	28.9	D	874	5,552	58.1	34.2	D
Barton Road On-Ramp to Washington Street Off-Ramp	782	5,308	58.8	32.8	D	874	6,101	54.5	40.1	E
Southbound										
Washington Street On-Ramp to Barton Road Off-Ramp	935	5,990	54.7	39.8	E	794	5,577	58.0	34.4	D
Barton Road Off-Ramp to Barton Road On-Ramp	1,003	5,502	58.0	34.5	D	909	4,960	59.8	29.7	D
Barton Road On-Ramp to La Cadena Dr. Off-Ramp	1,003	6,140	53.2	41.9	E	909	5,578	58.0	34.4	D

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

[1] Average passenger-car speed.

Note: LOS criteria are based on density.

Table 2.5.F Alternative 1 2016 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	B	11.4	0.52	C	24.3	0.86
2. Barton Road/Grand Terrace Road[1]	F	69.1	-	F	54.4	-
3. Barton Road/La Crosse Avenue[1]	B	13.9	-	C	18.7	-
4. Barton Road/I-215 SB Ramps	C	26.8	0.83	F	98.9	1.02
5. Barton Road/I-215 NB Ramps	B	15.1	0.65	C	28.4	0.86
6. Barton Road/Michigan Street	B	14.6	0.59	B	17.2	0.69
7. Barton Road/Vivienda Avenue[1]	C	19.1	-	C	18.1	-
8. Barton Road/Terrace Avenue[1]	C	16.5	-	C	17.2	-

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

[1] Delay for stop-controlled approach; v/c not applicable

[2] Per the CMP, V/C > 1 is considered LOS F regardless of delay.

Table 2.5.G Alternative 1 2016 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 SB Ramps: WB left-turn lane	120	478	120	378
Barton Road/I-215 NB Ramps: EB left-turn lane	150	77	150	83

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

Table 2.5.H summarizes the projected 2016 AM and PM peak-hour LOS for the I-215/Barton Road interchange freeway ramp junction influence areas under Alternative 1 (No Build). All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS.

Table 2.5.H Alternative 1 2016 Freeway Ramp LOS

Location	AM Peak Hour				PM Peak Hour			
	Ramp Volume	Speed[1] (mph)	Density (pc/mi/ln)	LOS	Ramp Volume	Speed[1] (mph)	Density (pc/mi/ln)	LOS
Northbound								
Iowa Avenue Off-Ramp	349	54.4	29.1	D	380	54.3	32.6	D
Iowa Avenue On-Ramp	1074	54.3	31.4	D	1100	51.5	35.3	E
Barton Road Off-Ramp	442	54.2	32.8	D	553	53.9	36.1	E
Barton Road On-Ramp	544	55.0	30.1	D	549	53.0	33.7	D
Mt. Vernon Avenue Off-Ramp	1047	52.8	34.1	D	954	53.0	36.7	E
Mt. Vernon Avenue On-Ramp	670	55.6	28.7	D	655	53.8	32.3	D
Southbound								
Washington Street Off-Ramp	1,062	52.8	37.7	E	1,415	52.0	36.2	E
Washington Street On-Ramp	686	52.7	34.0	D	1,077	53.5	32.6	D
Barton Road Off-Ramp	421	54.2	35.8	E	503	54.0	33.9	D
Barton Road On-Ramp	639	52.2	34.6	D	618	54.5	31.3	D
La Cadena Drive Off-Ramp	410	54.2	36.4	E	583	53.9	34.0	D
La Cadena Drive On-Ramp	531	52.1	34.9	D	438	55.1	30.1	D

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).
[1] Speed in ramp influence area. All ramps are a single lane at the gore point.

Analysis for 2040

Table 2.5.I summarizes the projected 2040 (the design horizon year for the proposed Project) AM and PM peak-hour LOS for the No Build Alternative for the study area freeway segments. As discussed in Chapter 1, for 2040, the No Build Alternative includes the I-215 Bi-County Improvement Project, the I-215/Mount Vernon/ Washington Street Interchange Improvement Project, and the I-215 Bi-County HOV Lane Gap Closure Project. Table 2.5.I shows that all freeway segments in the study area are projected to operate at satisfactory LOS in 2040 with the exception of the northbound segment on northbound I-215 from the Barton Road off-ramp to the Barton Road on-ramp.

Table 2.5.J shows that all study area intersections for 2040 under the No Build Alternative are projected to operate at unsatisfactory LOS F for both the AM and PM peak hours, with the exception of Barton Road/La Cadena Drive, which is projected to operate at satisfactory LOS in the AM peak hour. Essentially, all but one of the intersections would be at complete failure.

Table 2.5.I Alternative 1 2040 Freeway Mainline LOS

Mainline Segments	AM Peak Hour					PM Peak Hour				
	HOV Vol	MF Vol	Mixed Flow			HOV Vol	MF Vol	Mixed Flow		
			Speed[1]	Density (pc/mi/ln)	LOS			Speed[2]	Density (pc/mi/ln)	LOS
Northbound										
Iowa Avenue On-Ramp to Barton Road Off-Ramp[3]	1,381	8,417	59.5	30.8	D	1,553	9,863	55.9	37.9	E
Barton Road Off-Ramp to Barton Road On-Ramp	1,381	7,711	56.3	37.3	E	1,553	8,928	-	-	F[3]
Barton Road On-Ramp to Washington Street Off-Ramp	1,528	8,660	59.1	31.9	D	1,710	9,692	56.6	36.7	E
Southbound										
Washington Street On-Ramp to Barton Road Off-Ramp	1,521	8,342	59.6	30.5	D	1,568	8,560	59.5	30.9	D
Barton Road Off-Ramp to Barton Road On-Ramp	1,521	7,639	56.6	36.7	E	1,568	7,670	57.0	36.1	E
Barton Road On-Ramp to La Cadena Drive Off-Ramp	1,531	8,676	59.1	32.0	D	1,518	8,604	59.4	31.1	D

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

1 Average passenger-car-speed.

2 Freeway is over capacity during peak 15-minute period. Based on a peak-hour factor of 0.98 and a capacity of 2,350 vehicles per hour for a mixed-flow lane (per HCM), the LOS for this freeway segment will be E.

3 This segment is a weaving segment in Alternative 6.

Table 2.5.J Alternative 1 2040 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	C	31.4	0.94	F	169.3	1.51
2. Barton Road/Grand Terrace Road[1]	F	>500	N/A	F	>500	N/A
3. Barton Road/La Crosse Avenue[1]	F	223.4	N/A	F	>500	N/A
4. Barton Road/I-215 Southbound Ramps	F	184.8	1.4	F	290.6	1.7
5. Barton Road/I-215 Northbound Ramps	F	99.7	1.31	F	251.3	1.66
6. Barton Road/Michigan Street	F	101.7	1.2	F	135.7	1.32
7. Barton Road/Vivienda Avenue[1]	F	434.9	N/A	F	>500	N/A

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

1 Delay for stop-controlled approach; v/c not applicable

Table 2.5.K shows the projected 2040 intersection queue lengths for the No Build Alternative. Under the No Build Alternative, the westbound left-turn lane at the intersection of Barton Road and the I-215 southbound ramps would continue to have inadequate queuing distances for both the AM and PM peak hours. These long queues in 2040 would increase delays for both through traffic and left-turning traffic traveling through the interchange.

Table 2.5.K Alternative 1 2040 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 SB Ramps: WB left-turn lane	120	491	120	252
Barton Road/I-215 NB Ramps: EB left-turn lane	150	102	150	89

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

Table 2.5.L shows the projected 2040 freeway ramp AM and PM peak-hour LOS under the No Build Alternative for the I-215/Barton Road interchange and adjacent interchange ramp influence areas. The I-215 Bi-County Improvement Project would improve the ramp merge/diverge areas, and all freeway ramp junctions are projected to operate at satisfactory LOS.

Table 2.5.L Alternative 1 2040 Freeway Ramp LOS

Location	AM Peak Hour				PM Peak Hour			
	Ramp Volume	V/C	Density (pc/mi/ln)	LOS	Ramp Volume	V/C	Density (pc/mi/ln)	LOS
Northbound								
Iowa Avenue Off-Ramp	720	0.17	6.9	A	692	0.16	6.5	A
Iowa Avenue On-Ramp	1,312	0.62	25.1	C	1,754	0.82	33.0	D
Barton Road Off-Ramp	706	0.17	6.8	A	935	0.22	8.8	A
Barton Road On-Ramp	1,095	0.52	21.0	C	922	0.43	17.3	B
Washington Street Off-Ramp	1,731	0.41	16.6	B	1,391	0.32	13.1	B
Washington Street On-Ramp	1,678	0.80	32.1	D	1,338	0.62	25.1	C
Southbound								
Washington Street Off-Ramp	1,212	0.29	11.6	B	1,755	0.41	16.5	B
Washington Street On-Ramp	935	0.45	17.9	B	1,432	0.67	26.9	C
Barton Road Off-Ramp	703	0.17	6.7	A	890	0.21	8.4	A
Barton Road On-Ramp	1,047	0.50	20.1	C	883	0.41	16.6	B
La Cadena Drive Off-Ramp	1,169	0.28	11.2	B	1,582	0.37	14.9	B
La Cadena Drive On-Ramp	1,136	0.54	21.8	C	964	0.45	18.1	B

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).

Alternative 3 (Partial Cloverleaf Interchange)

Analysis for 2016

Alternative 3 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project. As a result, the freeway LOS for 2016 under Alternative 3 would be the same as those shown earlier in Table 2.5.E for the No Build Alternative (Alternative 1). All freeway segments in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours for 2016.

Table 2.5.M shows the projected 2016 AM and PM peak-hour intersection LOS for Alternative 3. All study area intersections are projected to operate at satisfactory LOS in both the AM and PM peak hours.

Table 2.5.M Alternative 3 2016 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	B	12.1	0.51	C	20.8	0.87
2. Barton Road/Grand Terrace Road	A	6.0	0.33	A	2.9	0.30
3. Barton Road/La Crosse Avenue	Does not Exist[1]					
4. Barton Road/I-215 SB Ramps	A	6.4	0.35	A	6.8	0.33
5. Barton Road/I-215 NB Ramps	A	6.7	0.38	A	8.9	0.46
6. Barton Road/Michigan Street	Does not Exist[2]					
7. Barton Road/Vivienda Avenue	B	15.2	0.52	B	13.9	0.51

Source: *Interstate 215/Barton Road Revised Traffic Operations Analysis* (December 2011).
[1] This intersection is eliminated with Alternative 3.
[2] This intersection is replaced by the new Commerce Way/Barton Road intersection.

Table 2.5.N shows the projected 2016 intersection queue lengths for the AM and PM peak hours for Alternative 3 for the I-215/Barton Road interchange southbound and northbound ramps. The queue length would not exceed the available storage for either the northbound or the southbound I-215 ramps.

Table 2.5.N Alternative 3 2016 Intersection Queue Lengths

Intersection	Available Storage (ft)	95th Percentile Queue (ft)		Queue Exceed Available Storage?
		AM Peak Hour	PM Peak Hour	
Barton Road/I-215 SB Ramps: EB left-turn lanes	220	20	41	No
Barton Road/I-215 NB Ramps: WB left-turn lanes	220	58	125	No

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

The ramp merge/diverge areas are similar in each of the alternatives, except for the Barton Road northbound off-ramp. Under the Build Alternatives, a second lane would be added to the Barton Road northbound off-ramp. Therefore, the ramp LOS for 2016 under Alternative 3 would be the same as shown in Table 2.5.H for the No Build Alternative except for the Barton Road northbound off-ramp, which would operate at LOS B in both peak hours. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS for 2016.

The freeway mainline traffic operations are similar in each of the alternatives, except for the northbound I-215 segment between the Iowa Avenue on-ramp and Barton Road off- ramp. Under the Build Alternatives, an auxiliary lane would be added to this segment, which improves the LOS from D to C for 2016.

Analysis for 2040

Alternative 3 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project and the I-215 Bi-County Improvement Project. As a result, the freeway LOS for 2040 under Alternative 3 would be the same as shown in Table 2.5.I for the No Build Alternative. All freeway segments in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours in 2040 with the exception of northbound I-215 between the Barton Road off-ramp and the Barton Road on-ramp. The northbound section of the I-215 from the Barton Road off-ramp to the Barton Road on-ramp is projected to operate at unsatisfactory LOS in the PM peak hour.

Table 2.5.O summarizes the projected 2040 AM and PM peak-hour LOS for the study area intersections under Alternative 3. As shown in Table 2.5.O, all intersections in the Project area are projected to operate at satisfactory LOS, with the exception of Barton Road/La Cadena Drive, which is projected to operate at unsatisfactory LOS in the PM peak hour. This deficiency is not a result of the proposed Project however, as this intersection also operates at unsatisfactory LOS in the PM peak hour for 2040 in the No Build Condition. Alternative 3 would reduce the delay at that intersection slightly compared to the No Build Alternative. To achieve a satisfactory LOS at this intersection located in the City of Colton, La Cadena Drive would need to be widened to six lanes. The City would need to conduct widening of La Cadena Drive as a separate project.

Table 2.5.P shows the projected 2040 intersection queue lengths for Alternative 3 for the I-215/Barton Road interchange southbound and northbound ramps. The queue lengths would not exceed the available storage for the northbound or southbound ramps.

The ramp merge/diverge areas are similar in each of the Build Alternatives, and the ramp LOS for 2040 under Alternative 3 would be the same as shown earlier in Table 2.5.L for the No Build Alternative. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS in 2040.

Table 2.5.O Alternative 3 2040 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	D	35.5	0.97	F	163.7	1.49
2. Barton Road/Grand Terrace Road	A	6.3	0.60	A	5.4	0.60
3. Barton Road/La Crosse Avenue	Does not Exist[1]					
4. Barton Road/I-215 SB Ramps	B	14.6	0.68	B	12.9	0.61
5. Barton Road/I-215 NB Ramps	A	9.5	0.71	B	13.7	0.83
6. Barton Road/Michigan Street	Does not Exist[2]					
7. Barton Road/Vivienda Avenue	D	45.7	0.91	D	38.8	0.90

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

[1] The southern segment of La Crosse Avenue would be removed by the I-215 Bi-County Improvement Project.

[2] This intersection is replaced by the new Commerce Way/Barton Road intersection.

Table 2.5.P Alternative 3 2040 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 SB Ramps: EB left-turn lane	220	53	220	85
Barton Road/I-215 NB Ramps: WB left-turn lane	220	156	220	181

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations* Analysis (December 2011).

Alternative 6 (Modified Cloverleaf Interchange)

Analysis for 2016

Similar to Alternative 3, Alternative 6 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project. Accordingly, the freeway LOS for 2016 under Alternative 6 would be the same as shown earlier in Table 2.5.E for the No Build Alternative. All freeway segments in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours.

Table 2.5.Q summarizes the projected 2016 AM and PM peak-hour LOS for Alternative 6 for the study area intersections. All intersections in the study area are projected to operate at satisfactory LOS.

Table 2.5.R shows the projected 2016 AM and PM peak-hour queue lengths for the I-215/Barton Road interchange northbound and southbound ramp intersections for Alternative 6. The queue lengths would not exceed the available storage and are adequate for both the northbound and the southbound I-215 ramps.

Table 2.5.Q Alternative 6 2016 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	B	11.8	0.51	C	22.4	0.88
2. Barton Road/Grand Terrace Road	A	6.4	0.31	A	3.2	0.50
3. Barton Road/La Crosse Avenue	Does Not Exist[1]					
4. Barton Road/I-215 SB Ramps	B	14.1	0.39	C	21.2	0.39
5. Commerce Way/I-215 NB Ramps	B	12.7	0.39	B	12.8	0.44
6. Barton Road/Michigan Street	Does Not Exist[2]					
7. Barton Road/Vivienda Avenue	B	19.9	0.50	B	19.2	0.55
8. Barton Road/Terrace Avenue	C	18.9	-[3]	C	20.9	-

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

[1] This intersection would be modified such that only the southern segment of La Crosse Avenue would remain.

[2] This intersection is replaced by the new Commerce Way/Barton Road intersection.

[3] Delay for stop-controlled approach; v/c not applicable.

Table 2.5.R Alternative 6 2016 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 SB Ramps: EB left-turn lane	250	85	250	183
Commerce Way/I-215 NB Ramps: NB left-turn lane	410	87	410	64

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

The ramp merge/diverge areas are similar in each of the alternatives except for the Barton Road northbound off-ramp, which is different in the No Build condition, as a second lane would be added to the Barton Road northbound off-ramp in all the Build Alternatives. Therefore, the ramp LOS for 2016 under Alternative 6 would be the same as shown in Table 2.5.H for the No Build Alternative except that the Barton Road northbound off-ramp would operate at LOS B under Alternative 6 and the other Build Alternatives in both peak hours. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS for 2016.

Analysis for 2040

Similar to Alternative 3, Alternative 6 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project and the I-215 Bi-County Improvement Project. Therefore again, as a result, the freeway LOS for 2040 under Alternative 6 would be the same as shown in

Table 2.5.I for the No Build Alternative. All freeway segments in both the AM and PM peak hours are projected to operate at satisfactory LOS for 2040 with the exception of northbound I-215 between the Barton Road off-ramp and the Barton Road on-ramp in the PM peak hour.

Table 2.5.S summarizes the projected 2040 Alternative 6 AM and PM peak-hour LOS for the study area intersections. All intersections in the study area are projected to operate at LOS D or better for 2040 under Alternative 6, with the exception of Barton Road/La Cadena Drive, which would operate at unsatisfactory LOS in the PM peak hour. This deficiency is not a result of the Project however, as this intersection operates at unsatisfactory LOS in the PM peak hour for 2040 in the No Build Condition. Alternative 6 would reduce the delay at that intersection slightly, when compared to the No Build Alternative. To achieve a satisfactory LOS at this intersection located in the City of Colton, La Cadena Drive would need to be widened to six lanes. The City would need to conduct widening of La Cadena Drive as a separate project.

Table 2.5.S Alternative 6 2040 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
1. Barton Road/La Cadena Drive	D	39.0	0.96	F	165.7	1.49
2. Barton Road/Grand Terrace Road	A	7.5	0.61	A	6.3	0.58
3. Barton Road/La Crosse Avenue	Does not Exist[1]					
4. Barton Road/I-215 SB Ramps	B	20.3	0.68	B	16.3	0.63
5. Barton Road/I-215 NB Ramps	C	23.3	0.90	B	19.1	0.83
6. Barton Road/Michigan Street	Does not Exist[2]					
7. Barton Road/Vivienda Avenue	D	50.7	0.93	D	50.0	0.95

Source: *Interstate 215 Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

[1] The southern segment of La Crosse Avenue would be removed by the I-215 Bi-County Widening Project.

[2] This intersection is replaced by the new Commerce Way/Barton Road intersection.

Table 2.5.T shows the projected 2040 AM and PM peak-hour queue lengths for the I-215/Barton Road interchange northbound and southbound ramp intersections for Alternative 6. The queue lengths would not exceed the available storage for both the northbound and the southbound I-215 ramps.

The ramp merge/diverge areas are similar in each of the alternatives, and the ramp LOS for 2040 under Alternative 6 would be the same as shown earlier in Table 2.5.L for the No Build Alternative. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS for 2040.

Table 2.5.T Alternative 6 2040 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 SB Ramps: EB left-turn lane	250	130	250	191
Commerce Way/I-215 NB Ramps: NB left-turn lane	410	390	410	198

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Analysis for 2016

Similar to Build Alternatives 3 and 6, Modified Alternative 7 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project. Therefore, the freeway LOS for 2016 under Modified Alternative 7 would be the same as shown earlier in Table 2.5.E for the No Build Alternative. All freeway segments in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours for 2016.

Table 2.5.U summarizes the projected 2016 AM and PM peak-hour LOS for Modified Alternative 7 for the study area intersections. All intersections in the study area are projected to operate at satisfactory LOS during the AM and PM peak hours.

Table 2.5.U Modified Alternative 7 2016 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
Barton Road/La Cadena Drive	B	13.2	0.51	C	23.8	0.85
Barton Road/Grand Terrace Road	A	9.1	0.43	A	2.6	0.53
Barton Road/I-215 SB Ramps/La Crosse Avenue[1]	B	11.5	-	B	14.9	-
Barton Road/I-215 NB Ramps	B	10.5	0.40	B	12.6	0.42
Barton Road/Michigan Street	Does Not Exist[1]					
Barton Road/Vivienda Avenue	B	19.4	0.50	B	13.1	0.47

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); *Barton Road Interchange Improvement Project Roundabout Analyses* (August 2013).

[1] This intersection is replaced by the new Commerce Way/Barton Road intersection.

Table 2.5.V shows the projected 2016 AM and PM peak-hour queue lengths for the I-215/Barton Road interchange northbound on-ramp intersection for Modified

Table 2.5.V Modified Alternative 7 2016 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 NB Ramps: EB left-turn lanes	435	114	435	141

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

Alternative 7. The queue lengths would not exceed the available storage for the I-215 northbound on-ramp. No left-turn lanes would be provided at the I-215 southbound ramps because there would be a roundabout constructed at this location.

The ramp merge/diverge areas are similar in each of the alternatives, except for the Barton Road northbound off-ramp, which is different in the No Build condition, as a second lane would be added to the Barton Road northbound off-ramp in all the Build Alternatives. Accordingly, the ramp LOS for 2016 under Modified Alternative 7 would be the same as shown in Table 2.5.H for the No Build Alternative except that the Barton Road northbound off-ramp would operate at LOS B under Modified Alternative 7 and the other Build Alternatives in both peak hours. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS.

Analysis for 2040

Similar to Alternatives 3 and 6, Modified Alternative 7 would not add additional capacity to the freeway mainline beyond that added by the I-215 Bi-County HOV Lane Gap Closure Project and the I-215 Bi-County Improvement Project. Therefore, the freeway LOS for 2040 under Modified Alternative 7 would be the same as shown earlier in Table 2.5.I for the No Build Alternative. All freeway segments in both the AM and PM peak hours are projected to operate at satisfactory LOS with the exception of northbound I-215 between the Barton Road off-ramp and the Barton Road on-ramp in the PM peak hour.

Table 2.5.W summarizes the projected 2040 Modified Alternative 7 AM and PM peak-hour LOS for the study area intersections. All intersections in the study area are projected to operate at satisfactory LOS with the exception of Barton Road/La Cadena Drive, which would operate at unsatisfactory LOS F in the PM peak hour. This deficiency is not a result of the proposed Project however, as this intersection operates at unsatisfactory LOS in the PM peak hour for 2040 in the No Build

Table 2.5.W Modified Alternative 7 2040 Intersection LOS

Intersection	AM Peak Hour			PM Peak Hour		
	LOS	Delay (Seconds)	V/C	LOS	Delay (Seconds)	V/C
Barton Road/La Cadena Drive	D	42.3	0.97	F	168.9	1.49
Barton Road/Grand Terrace Road	B	10.2	0.62	A	5.4	0.58
Barton Road/La Crosse Avenue	Does Not Exist[1]					
Barton Road/I-215 SB Ramps/La Crosse Avenue[2]	B	13.6	-	A	5.2	-
Barton Road/I-215 NB Ramps	B	14.0	0.70	C	30.5	0.95
Barton Road/Michigan Street	Does Not Exist[2]					
Barton Road/Vivienda Avenue	D	51.8	0.90	D	45.2	0.97

Sources: *Interstate 215 Barton Road Interchange Improvement Revised Traffic Operations Analysis* (December 2011); *Barton Road Interchange Improvement Project: Roundabout Analyses* (August 2013).
[1] The southern segment of La Crosse Avenue would be removed by the I-215 Bi-County Widening Project.
[2] This intersection is replaced by the new Commerce Way/Barton Road intersection.

Condition. Modified Alternative 7 would reduce the delay at that intersection slightly when compared to the No Build Alternative. To achieve a satisfactory LOS at this intersection located in the City of Colton, La Cadena Drive would need to be widened to six lanes. The City would need to conduct widening of La Cadena Drive as a separate project.

Table 2.5.X shows the projected 2040 AM and PM peak-hour queue lengths for the I-215/Barton Road interchange northbound on-ramp intersection for Modified Alternative 7. The queue lengths would not exceed the available storage for the I-215 northbound on-ramp. No left-turn lane would be provided at the I-215 southbound on-ramp since there would be a roundabout constructed at this location.

Table 2.5.X Modified Alternative 7 2040 Intersection Queue Lengths

Intersection	AM Peak Hour		PM Peak Hour	
	Space Provided (ft)	Queue Length 95th Percentile (ft)	Space Provided (ft)	Queue Length 95th Percentile (ft)
Barton Road/I-215 NB Ramps: EB left-turn lanes	435	211	435	296

Source: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011).

The ramp merge/diverge areas are similar in each of the Build Alternatives, and the ramp LOS for 2040 under Modified Alternative 7 would be the same as those shown in Table 2.5.L for the No Build Alternative. All freeway ramp junctions in both the AM and PM peak hours are projected to operate at satisfactory LOS for 2040.

Summary

Analysis for 2016

The Build Alternatives would provide adequate queuing distance at the westbound left-turn lane at the I-215/Barton Road interchange southbound ramps when comparing 2016 to the Existing Condition.

Table 2.5.Y provides a comparison of the projected LOS under the No Build Alternative and the projected LOS under the Build Alternatives for 2016, for the mainline segments, intersections, and ramps. Under all alternatives, all freeway segments are projected to operate at satisfactory LOS during the AM and PM peak hours.

For Alternatives 3 and Modified Alternative 7, the segment between the ramps at the I-215/Iowa Avenue interchange and the ramps at the I-215/Barton Road interchange is not a weaving segment since the length of the segment is greater than the standard 2,500 ft in the northbound and southbound directions. A northbound weaving analysis was conducted for Alternative 6 because the distance between the I-215/Iowa Avenue interchange on-ramp and the I-215/Barton Road interchange off-ramp in the northbound direction would be approximately 1,490 ft (less than 2,500 ft). The weaving analysis results showed that this northbound freeway weaving segment is projected to operate at satisfactory LOS in the AM and PM peak hours. The same freeway segment in the southbound direction is not a weaving segment because the distance is greater than 2,500 ft.

Table 2.5.Y shows that for 2016, under the No Build Alternative, Barton Road/Grand Terrace Road is projected to operate at unsatisfactory LOS in the AM and PM peak hours. All study area intersections are projected to operate at satisfactory LOS under the Build Alternatives.

Under the No Build Alternative, for 2016 the westbound left-turn lane at I-215/Barton Road interchange southbound ramps would have inadequate queuing distance during both the AM and PM peak hours. Under the Build Alternatives, the eastbound and westbound left-turn lanes onto the I-215 ramps have adequate queuing distance during both the AM and PM peak hours.

Under all alternatives, for 2016 all freeway ramp junctions are projected to operate at satisfactory LOS during the AM and PM peak hours. A second lane would be added to the Barton Road northbound off-ramp under all the Build Alternatives, which would improve LOS at this location.

Table 2.5.Y 2016 LOS Comparison by Alternative

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
I-215 Mainline Segment LOS NB								
Iowa Avenue On-Ramp to Barton Road Off-Ramp	D	E	C	D	C	D	C	D
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	D	D	D	D	D	D
Barton Road On-Ramp to Washington Street Off-Ramp	D	E	D	E	D	E	D	E
I-215 Mainline Segment LOS SB								
Washington On-Ramp to Barton Road Off-Ramp	E	D	E	D	E	D	E	D
Barton Road Off-Ramp to Barton Road On-Ramp	D	D	D	D	D	D	D	D
Barton Road On-Ramp to La Cadena Drive Off-Ramp	E	D	E	D	E	D	E	D
Intersection LOS								
Barton Road/La Cadena Drive	B	C	B	C	B	C	B	C
Barton Road/Grand Terrace Road	F	F	A	A	A	A	A	A
Barton Road/La Crosse Avenue	B	C	N/A	N/A	N/A	N/A	N/A	N/A
Barton Road/I-215 Southbound Ramps[1]	C	E	A	A	B	C	B	B
Barton Road/I-215 Northbound Ramps	B	B	A	A	N/A	B	B	B
Barton Road/Michigan Street	B	B	N/A	N/A	N/A	N/A	N/A	N/A
Barton Road/Vivienda Avenue	C	C	B	B	B	B	B	B
Barton Road/Terrace Avenue	C	C	N/A	N/A	C	C	C	C
Ramp LOS NB								
Iowa Avenue Off-Ramp	D	D	D	D	D	D	D	D
Iowa Avenue On-Ramp	D	E	D	E	D	E	D	E
Barton Road Off-Ramp	D	E	B	B	B	B	B	B
Barton Road On-Ramp	D	D	D	D	D	D	D	D
Mt. Vernon Avenue (Washington Street) Off-Ramp	D	E	D	E	D	E	D	E
Mt. Vernon Avenue (Washington Street) On-Ramp	D	D	D	D	D	D	D	D

Table 2.5.Y 2016 LOS Comparison by Alternative (Continued)

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS	AM Peak Hour LOS	PM Peak Hour LOS
Ramp LOS SB								
Washington Street Off-Ramp	E	E	E	E	E	E	E	E
Washington Street On-Ramp	D	D	D	D	D	D	D	D
Barton Road Off-Ramp	E	D	E	D	E	D	E	D
Barton Road On-Ramp	D	D	D	D	D	D	D	D
La Cadena Drive Off-Ramp	E	D	E	D	E	D	E	D
La Cadena Drive On-Ramp	D	D	D	D	D	D	D	D

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); *Barton Road Interchange Improvement Project: Roundabout Analyses* (August 2013); *Draft Project Report* (November 2013).

[1] Modified Alternative 7 includes a roundabout at the Barton Road/I-215 SB Ramps/La Crosse Avenue intersection.

Note: N/A = Not Applicable. Intersection does not exist under this Build Alternative, or was not analyzed.

When compared to the No Build Alternative, the Build Alternatives would provide satisfactory LOS at the study area intersections and would provide adequate queueing distance at the westbound left-turn lane at I-215/Barton Road interchange southbound ramps. The proposed Project build alternatives would improve traffic circulation at the interchange.

Analysis for 2040

The Build Alternatives would provide adequate queuing distance at the westbound left-turn lane at the I-215/Barton Road interchange southbound ramps when comparing 2040 to the Existing Condition.

Table 2.5.Z provides a comparison of the projected LOS under the No Build and the projected LOS under the Build Alternatives for the 2040 mainline segments, intersections, and ramp junctions. Under all alternatives, all freeway segments are projected to operate at satisfactory LOS during both the AM and PM peak hours, with the exception of the northbound I-215 between the Barton Road off-ramp and the Barton Road on-ramp, which would operate at unsatisfactory LOS in the PM peak hour during the peak 15-minute period. This is a function of the I-215 mainline being at overcapacity.

Under all alternatives, for 2040 all freeway ramp junctions are projected to operate at satisfactory LOS during the AM and PM peak hours. LOS improves in 2040 due to construction of the future I-215 Bi-County Improvement Project.

All study area intersections for 2040 are projected to operate at unsatisfactory LOS under the No Build Alternative, with one exception: Barton Road/La Cadena Drive is projected to operate at satisfactory LOS during the AM peak hour. Under the Build Alternatives, all study area intersections are projected to operate at satisfactory LOS with one exception: Barton Road/La Cadena Drive is projected to operate at unsatisfactory LOS in the PM peak hour. This deficiency is not a result of the proposed Project however, as this intersection operates at unsatisfactory LOS in the PM peak hour for 2040 in the No Build Condition. In fact, each Build Alternative would reduce the delay slightly. In order to achieve a satisfactory LOS for 2040 at Barton Road/La Cadena Drive, which is located in the City of Colton, La Cadena Drive would need to be widened to six lanes. This would need to be conducted as a separate project by the City of Colton.

When compared to the No Build Alternative, the Build Alternatives would provide satisfactory LOS at all the study area intersections but one (which would fail under

Table 2.5.Z 2040 LOS Comparison by Alternative

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
I-215 Mainline Segment LOS NB								
Iowa Avenue On-Ramp to Barton Road Off-Ramp	D	E	D	E	D	E	D	E
Barton Road Off-Ramp to Barton Road On-Ramp	E	F	E	F	E	F	E	F
Barton Road On-Ramp to Washington Street Off-Ramp	D	E	D	E	D	E	D	E
I-215 Mainline Segment LOS SB								
Washington On-Ramp to Barton Road Off-Ramp	D	D	D	D	D	D	D	D
Barton Road Off-Ramp to Barton Road On-Ramp	E	E	E	E	E	E	E	E
Barton Road On-Ramp to La Cadena Drive Off-Ramp	D	D	D	D	D	D	D	D
Intersection LOS								
Barton Road/La Cadena Drive	C	F	D	F	D	F	D	F
Barton Road/Grand Terrace Road	F	F	A	A	A	A	A	B
Barton Road/La Crosse Avenue	F	F	N/A	N/A	N/A	N/A	N/A	N/A
Barton Road/I-215 SB Ramps[1]	F	F	B	B	B	B	B	A
Barton Road/I-215 NB Ramps	F	F	A	B	C	B	B	C
Barton Road/Michigan Street	F	F	N/A	N/A	N/A	N/A	N/A	N/A
Barton Road/Vivienda Avenue	F	F	D	D	D	D	D	D
Ramp LOS NB								
Iowa Avenue Off-Ramp	A	A	A	A	A	A	A	A
Iowa Avenue On-Ramp	C	D	C	D	C	D	C	D
Barton Road Off-Ramp	A	A	A	A	A	A	A	A
Barton Road On-Ramp	C	B	C	B	C	B	C	B
Washington Street Off-Ramp	B	B	B	B	B	B	B	B
Washington Street On-Ramp	D	C	D	C	D	C	D	C

Table 2.5.Z 2040 LOS Comparison by Alternative (Continued)

Intersection	No Build Alternative LOS		Build Alternatives LOS					
			Alternative 3		Alternative 6		Modified Alternative 7	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Ramp LOS SB								
Washington Street Off-Ramp	B	B	B	B	B	B	B	B
Washington Street On-Ramp	B	C	B	C	B	C	B	C
Barton Road Off-Ramp	A	A	A	A	A	A	A	A
Barton Road On-Ramp	C	B	C	B	C	B	C	B
La Cadena Drive Off-Ramp	B	B	B	B	B	B	B	B
La Cadena Drive On-Ramp	C	B	C	B	C	B	C	B

Sources: *Interstate 215/Barton Road Interchange Improvement Project Revised Traffic Operations Analysis* (December 2011); *Barton Road Interchange Improvement Project Roundabout Analyses* (August 2013); *Draft Project Report* (November 2013)

[1] Modified Alternative 7 includes a roundabout at the Barton Road/I-215 SB Ramps/La Crosse Avenue intersection.

Note: N/A = not applicable. Intersection does not exist under this Build Alternative.

the No Build Alternative as well) and would provide adequate queueing distance at the westbound left-turn lane at I-215/Barton Road interchange southbound ramps. Based on the results of analysis performed, the proposed Project would improve traffic circulation at the interchange through 2040, the design horizon year.

Pedestrian Access

Within the Project limits, existing nonstandard curb ramps would be upgraded to conform to ADA requirements. New curb ramps would meet ADA requirements. In addition, minimum 5 ft wide sidewalks have been incorporated into the design in order to provide ADA-required access. Alternatives 3, 6, and Modified Alternative 7 would provide standard sidewalks on both sides of Barton Road, which currently has sidewalks on only the north side of the street from the eastern edge of the Project site to a point approximately 225 ft west of the I-215 southbound ramps. Alternative 3 would include four signalized intersections with crosswalk facilities along Barton Road to eliminate the need for pedestrians to cross unsignalized traffic movements, which would improve pedestrian safety and access by reducing pedestrian-vehicular conflicts. Alternative 6 and Modified Alternative 7 would also eliminate unsignalized pedestrian crossings along Barton Road; however, it would do so by consolidating the number of signalized intersections along Barton Road to three, which would result in additional pedestrian safety access and safety improvements when compared to Alternative 3. These features would improve pedestrian access in the Project area; therefore, no impacts would occur.

Bicycle Facilities

Alternatives 3, 6, and Modified Alternative 7 would provide a standard Class II (on-road striped) bicycle lane on both sides of Barton Road, which would tie into the existing Class II bicycle lane located on the eastbound side of Barton Road, east of Michigan Street. These features would improve access for bicyclists in the Project area; therefore, no impacts would occur.

2.5.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Measure TR-1 would minimize potential traffic impacts to motorists, bicyclists, and pedestrians traveling through the Project area during Project construction.

TR-1 **Transportation Management Plan.** A detailed Transportation Management Plan (TMP) will be prepared during the final design phase of the proposed Project. The objective of the TMP is to

minimize the potential impacts that construction activities may have on the traveling public and emergency services providers. Preparation of the TMP will be coordinated with the emergency services providers in the Project vicinity to minimize response delays resulting from traffic delays, temporary ramp and lane closures, and detours during Project construction.

The TMP for the proposed Project will include the following elements and strategies:

a. During construction, the contractor will be required to coordinate all temporary ramp closures and detour plans with the Colton Joint Unified School District, as well as with applicable fire, emergency, medical, and law enforcement providers, to minimize temporary delays in school trips and provider response times.
b. The TMP will include construction staging, detours, and road closures, as applicable.
c. The proposed Project will provide access to the parking area and gate for Grand Terrace Fitness Park at all times from Grand Terrace Road.
d. Traffic control plans and related specifications, to be completed during final design of the proposed Project, will be developed in accordance with the Work Area Traffic Control Handbook (also referred to as the WATCH manual), Section 5 of the California Department of Transportation (Caltrans) Traffic Manual, Caltrans Standard Plans, and applicable city requirements. These plans and specifications will include elements such as: advance roadside signs and portable changeable message signs (CMSs); traffic surveillance; lane/shoulder closures; and temporary signing/ striping on local streets, the Interstate 215 (I-215) ramps, and the I-215 mainline. Temporary overnight lane closures of I-215 are anticipated during construction. Lane closures along the mainline, which will be limited to nighttime and will maintain at least one lane in each direction, will be coordinated with Caltrans.
e. The proposed Project will implement a Construction Zone Enhanced Enforcement Program (COZEEP) and use California Highway Patrol (CHP) officers to enforce lane closures and provide a visual deterrent to errant/speeding vehicles.

f. The proposed Project will implement a Public Awareness Campaign (PAC). Although any lane closures will occur at night, there will still be a potential temporary impact to vehicles traveling through the construction zone. The purpose of this PAC is to keep the surrounding community abreast of the proposed Project's progress and construction activities that could affect the public's travel plans, as well as to minimize delays or confusion to the motoring public during construction activities. Mailers/flyers and local newspaper advertising will be used to disseminate this information.

g. The proposed Project will implement a Construction Freeway Service Patrol (CFSP) program. The CFSP will provide tow truck service to aid stranded motorists and remove disabled vehicles from the traveled way or shoulders.

h. The proposed Project will implement the following construction strategies to minimize construction-related impacts:
   i. Perform major construction activities at off-peak hours, such as at night or during the weekends, when feasible and reasonable.
   ii. Finalize ramp closure charts during the final design phase. During final design, the proposed lane and ramp closures will be presented to the Caltrans Lane Closures Review Committee (LCRC) for approval.
   iii. Coordinate construction with adjacent projects. Coordination is important to address possible temporary increases in traffic due to detours from adjacent projects. Construction of the adjacent projects is anticipated to be completed prior to construction of the proposed Project.
   iv. All ramp reconstruction and local street widening will be constructed in stages to minimize disruption.

i. The proposed Project will include provisions for maintaining pedestrian and bicycle access at all times during construction.

j. The proposed Project will include contingency plans that specify the actions that will be taken in the event that something unexpected occurs with respect to construction activities or traffic operations. The contractor will review these plans and incorporate them into the contractor's contingency plan.

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2.6 Visual/Aesthetics

2.6.1 Regulatory Setting

The National Environmental Policy Act of 1969 as amended (NEPA) 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 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on 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.

The California Environmental Quality Act (CEQA) 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 [PRC] Section 21001[b]).

2.6.2 Affected Environment

This section is based on the *Visual Impact Assessment* (VIA) (November 2013). The study area for visual resources includes the area of Project improvements, including potential sound barriers on private property lines, as well as an approximate 500-foot (ft) wide area around those improvements. The additional 500 ft added to the maximum footprint of disturbance boundary is included in the study area because permanent changes associated with each Build Alternative would result in visual resource impacts that are not limited to the Project area. Sensitive viewers within 500 ft of the Project site are most likely to experience the greatest sensitivity to changes in visual resources as a result of the Project. Therefore, a 500 ft wide area is sufficient to determine how a viewshed would be impacted by the Project.

2.6.2.1 Visual Setting

The study area is located primarily in the City of Grand Terrace, with a small portion south of Barton Road and west of Interstate 215 (I-215) in the City of Colton. The City of Grand Terrace is located in the flatlands of the San Bernardino Valley and extends onto the slopes of Blue Mountain to the east and the La Loma Hills to the west. The City of Grand Terrace's terrain is diverse, ranging in elevation from a low of 920 ft above sea level (asl) to a high of 2,428 ft asl (Blue Mountain). Blue Mountain is the City of Grand Terrace's dominant landform and, as such, is also the

dominant component of a scenic vista available to a large number of observers at downslope locations to its west and northwest.

The community's western edge is bisected by I-215, which travels through the valley in a north-south direction. Two major rail corridors (BNSF Railway and Union Pacific Railroad [UPRR]) cross the western edge of the City of Grand Terrace. Although some large areas of open agricultural lands and hillside grasslands remain, much of the City of Grand Terrace and eastern Colton has been built out with a low-density pattern of urbanization. In the corridor along the freeway and railroad lines in the western side of the City of Grand Terrace, industrial and warehouse uses predominate. Large warehouse buildings and large paved areas associated with the industrial uses are a prominent part of the visual environment in this area. The portions of the City of Grand Terrace to the west and east of this corridor are characterized by neighborhoods of primarily single-family homes from which there are scenic views of nearby hills and the valley to the north of the City of Grand Terrace, as well as more distant mountain ridges.

2.6.2.2 Landscape Unit

A landscape unit is a portion 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. Blue Mountain is the primary landscape unit in the Project vicinity.

There are no historic districts or landscapes within the study area and no State or locally designated landmarks. In addition, neither I-215 nor Barton Road is designated a scenic highway.

2.6.2.3 Viewshed

A viewshed is a subset of a landscape unit and comprises all the surface areas visible from an observer's view point. The limits of a viewshed are defined as the visual limits of the views located from the proposed Project. The viewshed also includes the locations of viewers likely to be affected by visual changes brought about by Project features.

The viewshed for this Project is the landscape that is visible from I-215 within the Project limits. At the southwestern end of the Project limits, the viewshed of the surrounding area is limited because there are large berms on both sides of the freeway that shield views of the surrounding area. The most dominant view from I-215 is

facing north toward the San Bernardino Mountains. However, the views may be limited due to climate conditions (i.e., smog) and freeway signs.

Heading north through the Project limits, the berms on both sides of the freeway taper off, and views of Blue Mountain to the east and the La Loma Hills to the west become visible. However, these views are intermittently obstructed by landscape features and/or the commercial and residential properties located adjacent to I-215.

There are several existing retaining and sound barriers within the Project area. The existing sound barriers are primarily located adjacent to sensitive receivers (residences). The existing walls vary in size from 5 ft to 12.6 ft high.

2.6.2.4 Visual Character

Visual character definitions establish an existing condition that can be discussed in general terms and then compared to the postproject development visual character categories, with any differences identified. The study area is dominated by the I-215/ Barton Road interchange, including the freeway mainline travel lanes, embankments, I-215 ramps, and adjacent development and roads. Landscaping in the study area is typical of freeway corridors and includes grasses, low-lying shrubs, and a few trees. The I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project is currently under construction and all trees within State right of way in the interchange area have now been removed. The areas surrounding the I-215/Barton Road interchange are characterized by moderate-density development and infrastructure and open space/vacant land. Land uses within and surrounding the Project site are predominantly commercial, industrial, residential, and educational (Grand Terrace Elementary School).

2.6.2.5 Visual Quality

The visual quality of an area is evaluated by identifying the vividness, intactness, and unity present in the study area viewsheds. These identifying characteristics can be defined as follows:

- Vividness is the visual power or memorability of landscape components as they combine in distinctive visual patterns.
- Intactness is the visual integrity of the natural and man-built landscape and its freedom from encroaching elements. It can be present in well-kept urban and rural landscapes, as well as in natural settings.

- 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.

Features considered encroachment elements in the assessment of the study area's intactness include human-built structures such as features of I-215 (e.g., freeway signs, sound barriers, overcrossings, utility lines and poles, yellow crash barrels, and k-rails) that encroach into the views within the Project viewshed. Encroaching features are dominant features that are easily noticeable and juxtaposed against natural elements (e.g., mature trees). Features contributing to the unity of the landscape include the general commercial, residential, and educational uses surrounding the study area. Development of commercial, residential, and educational uses are subject to the City's design review process and must adhere to zoning code design standards established to maintain unity in development. However, these land uses vary in design character depending on the period of development and degree of upkeep. Sound barriers can occasionally provide unity, particularly if they are textured or include a themed aesthetic treatment.

2.6.2.6 Sensitive Viewer Groups

The primary sensitive viewer groups in the study area include motorists traveling along I-215, Barton Road, Vivienda Avenue, Commerce Way, La Crosse Avenue, Grand Terrace Road, and Michigan Avenue. Other viewers likely to be affected by visual changes brought about by Project features include those from Grand Terrace Elementary School, residential properties adjacent to I-215 and surrounding areas, and commercial businesses within the Project limits.

2.6.2.7 Viewer Sensitivity

Viewer sensitivity is defined both as the viewers' concern for scenic quality and the viewers' response to change in the visual resources that make up the view. Local values and goals may confer visual significance on landscape components and areas that would otherwise appear unexceptional in a visual resources analysis. Even when the existing appearance of a project site is uninspiring, a community may still object to projects that fall short of its visual goals.

A viewer traveling along I-215 and/or Barton Road has intermittent views of scenic elements such as Blue Mountain and the La Loma Hills; however, each of these scenic elements is obstructed by the existing development and vegetation located within the study area. Therefore, views from I-215 and Barton Road are not

panoramic views, and the sensitivity of a viewer traveling along I-215 and/or Barton Road would not be considered high. Additionally, the study area is not defined as a scenic highway by State or local governments.

Viewers at public educational uses have a higher concern for scenic quality because public educational facilities include recreational uses (e.g., elementary school playgrounds). Viewers at residential land uses have a higher concern for scenic quality because they have an investment in the overall quality of their property and often spend the majority of their time at their place of residence. The sensitivity of viewers from educational and residential uses within the viewshed of the Project would be considered high because these land uses are places of relaxation, education, and recreation.

2.6.2.8 Viewer Exposure and Response

Viewer exposure is typically assessed by measuring the number of viewers exposed to the resource change, the type of viewer activity, the duration of the view, the speed at which the viewer moves, and the position of the viewer.

Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the public might react to visual changes brought about by a project.

Motorists traveling along I-215 and/or Barton Road would be considered to have a low exposure to the visual changes because the change in view from the road would not be substantial and the duration of the view would be brief as the viewer travels through the study area. The residential and educational uses adjacent to the Project would be considered to have a medium to high viewer exposure because the viewers would be stationary and would generally have a longer level of exposure to the changes in views, and because activities at these uses are considered sensitive in nature.

2.6.2.9 Key Views

Because it is not feasible to analyze all the views in which the proposed Project would be seen, it is necessary to select a number of key view points that would most clearly display the visual effects of the Project. Key views also represent the primary viewer groups that would potentially be affected by the Project.

To evaluate the visual effects created by the proposed Project, specific views have been identified to represent the visual resources, the quality of typical existing viewsheds from the perspective of sensitive viewers in the study area, and the

sensitive viewer's perspective. Nonsensitive viewers surround the majority of the study area (i.e., commercial, light industrial, and transportation uses). Key views were selected that most clearly display the visual effects of the Project from the perspective of a sensitive viewer with a higher exposure to the Project changes and that represent the primary viewer groups potentially affected by the Project. The key views represent the visual quality of typical existing viewsheds in the study area that would be modified by the Project.

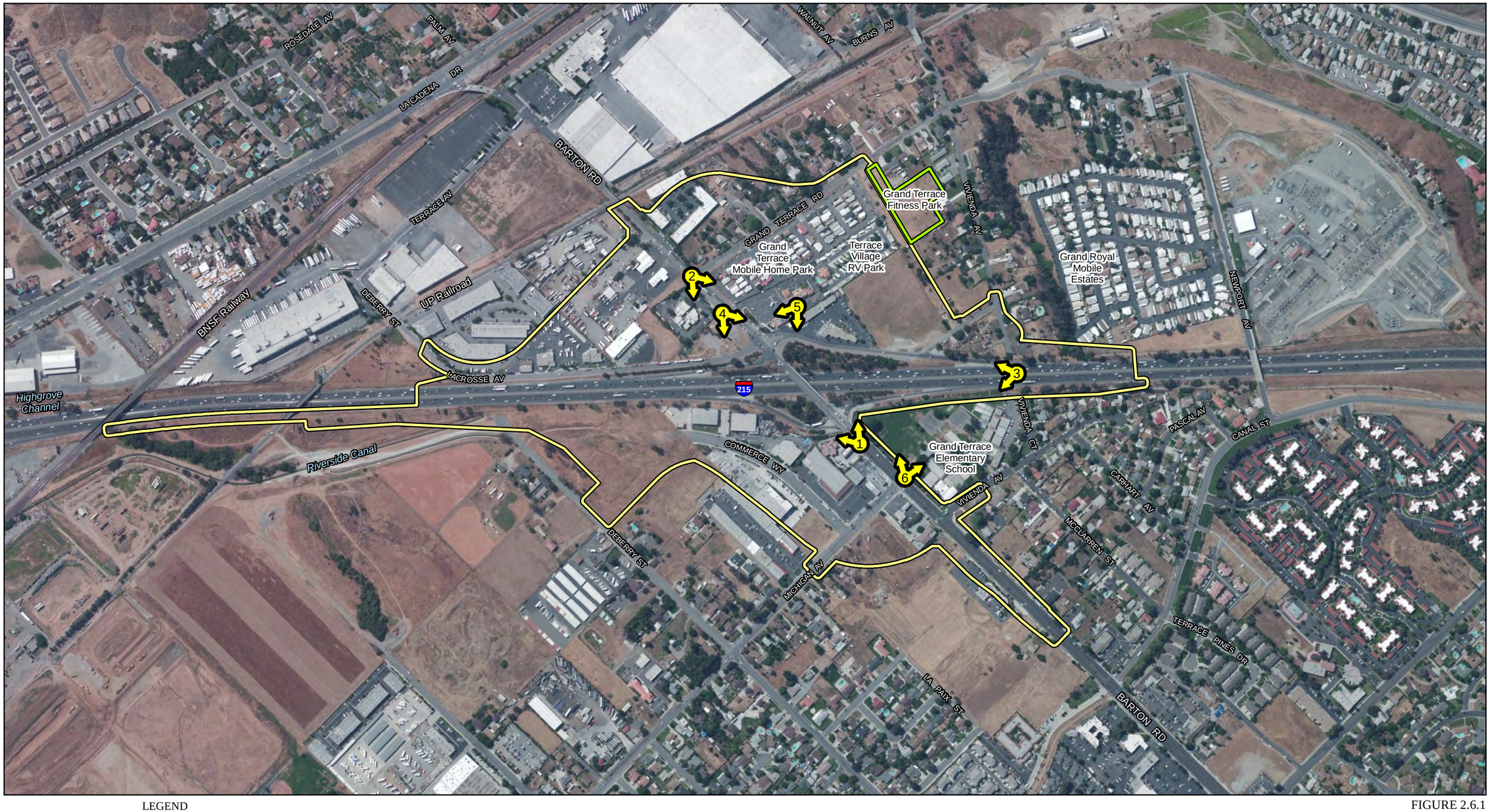
The location and direction for each of the key views are shown on an aerial photograph on Figure 2.6.1, and the existing key views and view simulations are shown later in Section 2.6.3, Environmental Consequences, on Figures 2.6.2 through 2.6.10. Descriptions of the existing key views are provided below along with a numerical evaluation of the existing visual quality.

Key View 1

Key View 1 (Figure 2.6.2 shown later in Section 2.6.3, Environmental Consequences) is an existing view from the view point of a motorist traveling west on Barton Road approximately 150 ft east of the Barton Road/I-215 overcrossing. The foreground of the view includes Barton Road and ornamental vegetation within a landscaped median. Middleground views include Barton Road, landscaped median, ornamental vegetation, the I-215 northbound on-ramp, trees, a brick wall, and roadway signage. Background views include Barton Road, the overcrossing, fencing, traffic signals, utility poles and lines, trees, the La Loma Hills, vehicles, and sky. There are no designated visual resources within the existing view of Key View 1. This view represents typical views from a motorist traveling on Barton Road in the vicinity of I-215.

The existing viewer sensitivity from Key View 1 would be considered low because of the obstructed views of scenic elements. In this location, views from the road and Grand Terrace Elementary School are of Barton Road, ornamental landscaping, and a narrow view of La Loma Hills. There are a high number of motorists traveling on Barton Road at the I-215 interchange; however, because of the viewer activity, duration, speed, and position of motorists, the existing viewer exposure would be considered medium from Key View 1.

The overall existing visual quality of Key View 1 is 3.3 (i.e., moderately low) due to the presence of Barton Road, the I-215 on-ramp, roadway signage, and associated vehicles, as listed in Table 2.6.A.



LEGEND

Study Area

Key View Location

0 250 500
FEET

SOURCE: Microsoft (5/2010)

I:\SBA330\Barton_I-215\GIS\ISEA\KeyViewIndex.mxd (10/17/2013)

FIGURE 2.6.1

I-215/Barton Road Interchange Improvement Project

Key View Index Map

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Table 2.6.A Key Views Existing Visual Quality

Key View	Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
	Features	Rating	Encroachment	Rating	Elements	Rating	([V+I+U]/3)
1	Moderate level of vividness with the presence of mature landscaping; however, lacking striking features.	4	Integrity of natural features impacted by the presence of road, on- and off-ramps, and overcrossing.	3	Roadway, traffic signals, and signs contribute to a lack of visual harmony.	3	3.3
2	Moderate level of vividness with roadway, landscaping, and sky features.	4	Road, utility lines, and residential uses contribute to the lack of integrity.	3	Relatively low elevation of buildings and lack of distinctive natural features result in low disruption to harmony.	3	3.3
3	Lack of striking features and roadway contribute to a moderately low level of vividness.	3	I-215 and vehicular traffic contribute to the lack of integrity.	3	Roadway and signage contribute to the lack of harmony.	3	3
4	Moderate level of vividness with roadway, landscaping, and sky features.	4	Roadway, utility lines, commercial uses, and construction activity contribute to the lack of integrity.	3	Relatively low elevation of buildings and lack of distinctive natural features result in low disruption to harmony.	3	3.3
5	Moderate level of vividness with roadway, mountain, and sky features.	4	Roadway, utility lines, traffic signals, and construction activity contribute to the lack of integrity.	3	Roadway, poles, construction activity disrupt harmony.	2	3.0
6	Playground and landscaping are vivid striking features.	5	Integrity negatively impacted by presence of I-215.	3	Unity negatively impacted by presence of I-215.	4	4

Source: VIA (November 2013).

Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Key View 2

Key View 2 (Figure 2.6.3 shown later in Section 2.6.3 Environmental Consequences) is an existing view from the view point of a motorist traveling east on Barton Road approximately 480 ft west of the Barton Road/I-215 overcrossing. The foreground of the view includes Barton Road. Middleground views include Barton Road, ornamental vegetation, utility poles and lines, a wrought iron fence, and mobile homes. Background views include Barton Road, vehicles, utility poles and lines,

mobile homes, trees, Blue Mountain hills, and sky. In this location, the Grand Terrace Mobile Home Park view includes Barton Road, commercial buildings on the road, and I-215 in the background. There are no designated visual resources within the existing view of Key View 2.

The existing viewer sensitivity from Key View 2 would be considered low because of the obstructed views of scenic elements. There are a high number of motorists traveling on Barton Road at the I-215 interchange; however, because of viewer activity, duration, speed, and position of motorists, the existing viewer exposure would be considered medium from Key View 2.

The overall existing visual quality of Key View 2 is 3.3 (i.e., moderately low) due to the presence of the Barton Road, utility poles and lines, the wrought iron fence, mobile homes, and vehicles, as listed in Table 2.6.A.

Key View 3

Key View 3 (Figure 2.6.4 shown later in Section 2.6.3 Environmental Consequences) is an existing view from the view point of a motorist traveling south on I-215 approximately 960 ft north of the Barton Road overcrossing. The foreground of the view includes I-215, and a cement center divider. Middleground views include I-215, vehicles, and a cement center divider. In this location, residences on Vivienda Avenue and Vivienda Court, west and east of I-215, respectively, have a view of I-215. Background views include the Barton Road overcrossing, trees, hills, and sky. While this view location provides views of the horizon, these views are obstructed by I-215 and associated vehicles. This view represents a typical view from a motorist traveling on I-215 in the vicinity of Barton Road.

The existing viewer sensitivity from Key View 3 would be considered medium because of the lack of scenic elements within this view. There are a high number of motorists traveling on I-215 at the Barton Road Interchange; however, because of the viewer activity, duration, speed, and position of motorists, the existing viewer exposure would be considered low from Key View 3.

The overall existing visual quality of Key View 3 is 3 (i.e., moderately low) due to the presence of I-215 and associated vehicles, as listed in Table 2.6.A.

Key View 4

Key View 4 (Figure 2.6.6 shown later in Section 2.6.3, Environmental Consequences) is an existing view from the view point of a motorist traveling east on Barton Road

approximately 200 ft west of the Barton Road/I-215 overcrossing. The foreground of the view includes Barton Road. Middleground views include Barton Road, ornamental vegetation, utility poles and lines, Demetri's Restaurant on the left side, and construction activity associated with the I-215 Bi-County HOV Lane Gap Closure Project on the right side. Background views include Barton Road, vehicles, utility poles and lines, trees, Blue Mountain hills, and sky. There are no designated visual resources within the existing view of Key View 4.

The existing viewer sensitivity from Key View 4 would be considered low because of the obstructed views of scenic elements. There are a high number of motorists traveling on Barton Road at the I-215 Interchange; however, because of the viewer activity, duration, speed, and position of motorists, the existing viewer exposure would be considered medium from Key View 4.

The overall existing visual quality of Key View 4 is 3.3 (i.e., moderately low), due to the presence of Barton Road, utility poles and lines, signs, and vehicles, as listed in Table 2.6.A.

Key View 5

Key View 5 (Figure 2.6.8 shown later in Section 2.6.3, Environmental Consequences) is an existing view from the view point of a motorist traveling south on the southbound off-ramp towards the roundabout. The foreground of the view includes the I-215 off-ramp at Barton Road. Middleground views include Barton Road, traffic signal poles, utility poles and lines, and construction activity associated with the I-215 Bi-County HOV Lane Gap Closure Project. Background views include an industrial building, trees, Blue Mountain hills, and sky. Blue Mountain is a designated visual resource within the existing view of Key View 5.

The existing viewer sensitivity from Key View 5 would be considered low because of the obstructed views of scenic elements. There are a high number of motorists traveling on Barton Road at the I-215 Interchange; however, because of the viewer activity, duration, speed, and position of motorists, the existing viewer exposure would be considered medium from Key View 5.

The overall existing visual quality of Key View 5 is 3.0 (i.e., moderately low), due to the presence of ramps, Barton Road, traffic signal poles, utility poles and lines, and vehicles as listed in Table 2.6.A.

Key View 6

Key View 6 (Figure 2.6.10 shown later in Section 2.6.3 Environmental Consequences) provides an existing view from the playground at Grand Terrace Elementary School in the City of Grand Terrace. Key View 6 faces northwest on Barton Road. Grass, trees, playground fencing, and equipment are located in the foreground. Middleground views include a playground ball field, playground equipment, fencing, grass, and trees. Background views include trees, fencing, I-215, vehicles, an obstructed view of the La Loma Hills, and sky. There are no designated visual resources within the existing view of Key View 6.

The existing viewer sensitivity from Key View 6 would be considered high because of the playground activity that takes place at Key View 6. There are a moderate number of viewers utilizing this playground (i.e., school children and instructors). The viewer activity is recreational, occurring over a period of time several times a day, and the stationary views and existing viewer exposure would be considered high from Key View 6.

The overall existing visual quality of Key View 6 is moderate (i.e., 4), due to the grass and trees, views of the La Loma Hills, and views of I-215, as shown in Table 2.6.A.

2.6.3 Environmental Consequences

2.6.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, the No Build Alternative would not result in temporary visual impacts.

Alternative 3 (Partial Cloverleaf Interchange)

Temporary visual impacts during construction, such as from construction activity, staging sites, truck hauling, excavation activity, and detour signage, are anticipated under Alternative 3. Alternative 3 would require temporary construction easements (TCEs) from private property owners for access and staging purposes. Impacts would be minimized through compliance with the California Department of Transportation (Caltrans) Standard Construction Specifications.

Alternative 6 (Modified Cloverleaf Interchange)

Temporary visual impacts of Alternative 6 would be the same as those discussed above for Alternative 3.

Modified Alternative 7 (Modified Cloverleaf/Diamond) (Locally Preferred Alternative)

Temporary visual impacts of Modified Alternative 7 would be the same as those discussed above for Alternative 3.

2.6.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Lane Gap Closure Project is currently under construction within the Project area, and trees have been removed within State right of way adjacent to the existing interchange ramps. As a result, the visual quality of the Project area is moderately low under Alternative 1.

Alternative 3 (Cloverleaf Interchange)

As discussed below, permanent impacts of Alternative 3 are analyzed from Key Views 1 and 2. Key View 6 is applicable for all Build Alternatives and is discussed at the end of this section.

Key View 1

As shown on Figure 2.6.2, the proposed northbound on-ramp would be visible from Barton Road east of I-215. The proposed views would include Barton Road and ornamental vegetation in the foreground. The median and associated landscaping within the City limits would be removed to allow for the turn lane onto the I-215 northbound on-ramp and from the I-215 northbound off-ramp. Middleground views would include Barton Road, vehicles, a landscaped median, ornamental vegetation, a brick wall, and the I-215 Bi-County HOV Lane Gap Closure sound barrier along the I-215 northbound on-ramp. Some trees would be removed to accommodate the new I-215 northbound loop on-ramp. Background views would include Barton Road, the overcrossing, fencing, traffic signals, the La Loma Hills, vehicles, and sky. Some trees would be removed to accommodate the new I-215 southbound loop on-ramp. Changes to this viewscape represent the typical changes to views from Barton Road resulting from Alternative 3.

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Existing Key View 1 from Barton Road, east of I-215, facing west.

Key View 1 View Simulation of Alternative 3.

FIGURE 2.6.2

I-215/Barton Road Interchange Improvement Project

Key View 1

SOURCE: SoftMirage

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As shown in Table 2.6.B, the overall proposed visual quality of the proposed Key View 1 is moderately low (i.e., 3) due to removal of trees and ornamental landscaping and the widening of the Barton Road overcrossing. However, with the removal of trees, the La Loma Hills, located west of the Project area, would become partially visible from Barton Road. Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and measure VIS-2 includes aesthetic elements for hardscape such as sound barriers. Therefore, implementation of Alternative 3 would have a low-level visual impact on the visual quality of Key View 1.

Table 2.6.B Key View 1, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Moderate level of vividness with the presence of mature landscaping; however, lacking striking features.	4	Integrity of natural features impacted by the presence of road, on- and off-ramps, and overcrossing.	3	Roadway, traffic signals, and signs contribute to a lack of visual harmony.	3	3.3
Proposed View						
Improvements remove mature vegetation and reduce the distinctiveness of view.	3	Removal of mature landscaping provides views of natural features beyond.	3	Roadway and traffic signals would continue to contribute to a lack of harmony; however, removal of mature landscaping would provide views of hillsides beyond.	3	3
Difference from Existing Visual Quality						**-0.3**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Because Alternative 3 would have a low-level visual impact on Key View 1, and because viewer sensitivity is low and viewer exposure is medium at Key View 1, it is anticipated that the viewer response would be considered low from the view point of a motorist at Key View 1. Therefore, visual impacts of Alternative 3 at Key View 1 would not be substantial.

Key View 2

As shown on Figure 2.6.3, the proposed Alternative 3 southbound off-ramp would be visible from Barton Road west of I-215. The proposed views would include Barton Road and vehicles in the foreground. The grass turf on the south side of Barton Road

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Existing Key View 2 from Barton Road, west of I-215, facing east.

Key View 2 View Simulation of Alternative 3.

FIGURE 2.6.3

I-215/Barton Road Interchange Improvement Project

Key View 2

SOURCE: SoftMirage

I:\SBA330\Barton_I-215\G\IS-EA\Key View 2.cdr (8/28/13)

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would be removed to accommodate the road widening. Middleground views include Barton Road, vehicles, ornamental vegetation/landscaping, utility poles and lines, and a sound barrier. Background views include Barton Road, overcrossing, fencing, traffic signals, the Barton Road southbound off-ramp, Blue Mountain, vehicles, and sky.

Changes to this viewscape represent the typical changes to views from Barton Road resulting from Alternative 3. Alternative 3 would require partial acquisition of the Grand Terrace Mobile Home Park located in the near left of the view and full acquisition of the commercial parcel located on the far left of the view to accommodate the proposed southbound off-ramp and the Barton Road widening.

Additionally, Alternative 3 would require partial acquisition of the commercial parcel on the near right of Key View 2 and full acquisition of the commercial parcel on the far right of Key View 2 to accommodate the proposed intersection, Barton Road widening, and the southbound on-ramp and off-ramp. Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers.

As shown in Table 2.6.C, the overall proposed visual quality of Key View 2 is low (i.e., 2.6) due to the removal of trees and ornamental landscaping and the widening of Barton Road. Implementation of Alternative 3 would have a low-level visual impact on the visual quality of Key View 2.

Table 2.6.C Key View 2, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Moderate level of vividness with roadway, landscaping, and sky features.	4	Road, utility lines, and residential uses contribute to the lack of integrity.	3	Relatively low elevation of buildings and lack of distinctive natural features result in low disruption to harmony.	3	3.3
Proposed View						
Vividness decreases with the increase in humanmade features.	3	Additional encroachments are present with the proposed view.	2	Addition of the sound barrier provides coherence to the roadway view.	3	2.6
Difference from Existing Visual Quality						**-0.7**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Because Alternative 3 would have a low-level visual impact on Key View 2, and because viewer sensitivity is low and viewer exposure is medium at Key View 2, it is anticipated that the viewer response would be considered low from the view point of a motorist at Key View 2. Therefore, visual impacts of Alternative 3 at Key View 2 would not be substantial.

Alternative 6 (Modified Cloverleaf Interchange)

Permanent impacts of Alternative 6 are analyzed from Key View 3. Key View 6 is applicable for all Build Alternatives and is discussed at the end of this section.

Key View 3

As shown on Figure 2.6.4, the proposed Alternative 6 southbound on- and off-ramps and the widened Barton Road overcrossing would be visible from I-215 north of Barton Road. The proposed views would include I-215, vehicles, and a cement center divider in the foreground. Middleground views would include I-215, the I-215/Barton Road southbound off-ramp, vehicles, a cement center divider, and the I-215 Bi-County HOV Lane Gap Closure Project sound barrier as well as a potential sound barrier adjacent to the southbound off-ramp. In this location, residences on Vivienda Avenue and Vivienda Court would have a view of sound barriers that would separate the residential properties from I-215. Background views would include the Barton Road overcrossing, the I-215/Barton Road southbound on-ramp, hills, and sky. Alternative 6 would require partial acquisition of the residential parcel located on the near right, adjacent to the existing off-ramp, and full acquisition of the commercial parcel located on the far right, adjacent to the existing off-ramp, to accommodate the proposed southbound on- and off-ramps. Changes to this viewscape represent the typical changes to views from I-215 resulting from Alternative 6.

As shown in Table 2.6.D, the overall visual quality of the proposed Key View 3 is low (i.e., 2), due to encroachment of the on- and off-ramps and removal of ornamental vegetation and trees. Implementation of Alternative 6 would have a low-level visual impact on Key View 3 due to the existing low visual quality. Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers.

Existing Key View 3 from I-215 south, north of Barton Road.

Key View 3 View Simulation of Alternative 6.

FIGURE 2.6.4

I-215/Barton Road Interchange Improvement Project

Key View 3

SOURCE: SoftMirage

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Table 2.6.D Key View 3, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Lack of striking features and roadway contribute to a moderately low level of vividness.	3	I-215 and vehicular traffic contribute to the lack of integrity.	3	Roadway and signage contribute to the lack of harmony.	3	3
Proposed View						
Removal of mature landscaping and addition of a sound barrier will reduce the level of vividness.	2	Additional roadway and sound barrier contributes to the lack of integrity and encroachments.	2	Additional roadway and sound barrier will reduce the harmony.	2	2
Difference from Existing Visual Quality						**-1**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Because Alternative 6 would have a low-level visual impact on Key View 3, and because viewer sensitivity is medium and viewer exposure is low at Key View 3, it is anticipated that the viewer response would be considered low from the view point of a motorist at Key View 3.

Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Permanent impacts of Modified Alternative 7 are analyzed from Key View 1, 4, and 5. Key View 6 is applicable for all Build Alternatives and is discussed at the end of this section.

Key View 1

As shown on Figure 2.6.5, the Modified Alternative 7 northbound on-ramp would be visible from Barton Road east of I-215. The proposed views would include Barton Road, ornamental vegetation, and a landscaped median in the foreground.

Middleground views would include Barton Road, vehicles, a landscaped median, ornamental vegetation, a brick wall, and a sound barrier. The median would be reconstructed, requiring removal of the existing median landscaping. Trees would be removed to accommodate the new I-215 northbound on-ramp. Background views would include Barton Road, the Barton Road overcrossing, overcrossing fencing, traffic signals, the La Loma Hills, vehicles, and sky. Some trees would be removed to

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Existing Key View 1 from Barton Road, east of I-215, facing west.

Key View 1 View Simulation of Modified Alternative 7.

FIGURE 2.6.5

I-215/Barton Road Interchange Improvement Project

Key View 1

SOURCE: SoftMirage

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accommodate the new I-215 southbound loop on-ramp. As shown in Key View 1, the I-215 Bi-County HOV Lane Gap Closure Project will construct a sound barrier along the I-215 northbound on-ramp to reduce traffic noise at Grand Terrace Elementary School and residences adjacent to northbound I-215. Changes to this viewscape represent the typical changes to views from Barton Road resulting from Modified Alternative 7.

As shown in Table 2.6.E, the overall proposed visual quality of the proposed Key View 1 is moderately low (i.e., 3) due to removal of street trees and ornamental landscaping and the widening of the Barton Road overcrossing. However, with the removal of additional trees, the La Loma Hills would become partially visible from Barton Road. Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers. Therefore, implementation of Modified Alternative 7 would have a low-level visual impact on the visual quality of Key View 1.

Table 2.6.E Key View 1, Existing and Proposed Visual Quality

Vividness (V)		**Intactness (I)**		**Unity (U)**		**Overall Visual Quality**
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Same as Key View 1 for Alternative 3						
Proposed View						
Improvements remove mature vegetation and reduce the distinctiveness of view.	3	Removal of mature landscaping provides views of natural features beyond.	3	Roadway and traffic signals would continue to contribute to a lack of harmony; however, removal of mature landscaping would provide views of hillsides beyond.	3	3
Difference from Existing Visual Quality						**-0.3**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Because Modified Alternative 7 would have a low-level visual impact on Key View 1, and because viewer sensitivity is low and viewer exposure is medium at Key View 1, it is anticipated that the viewer response would be considered low from the view point of a motorist at Key View 1. Therefore, visual impacts of Modified Alternative 7 at Key View 1 would not be substantial.

Key View 4

As shown on Figure 2.6.6, the proposed roundabout would be visible from Barton Road west of I-215. The proposed views would include Barton Road and vehicles in the foreground. The grass turf on the south side of Barton Road would be removed to accommodate the road widening. Landscaping would be provided within and along the edges of the roundabout. Middleground views include Barton Road, vehicles, ornamental landscaping, and utility poles and lines. Background views include Barton Road, trees, and sky.

Changes to this viewscape represent the typical changes to views from Barton Road resulting from Modified Alternative 7, which would require full acquisition of the commercial parcel that contains Demetri's Restaurant to accommodate the proposed southbound off-ramp, roundabout, and Barton Road widening.

The close-up view of Key View 4 (Figure 2.6.7) shows that the roadway features would be improved with the addition of a landscaped roundabout with an architectural feature and pedestrian crosswalk.

Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers. As shown in Table 2.6.F, the overall proposed visual quality of the proposed Key View 4 is low (i.e., 3.2) due to the removal of trees and ornamental landscaping and the widening of Barton Road. Implementation of Modified Alternative 7 would have a very low-level visual impact on the visual quality of Key View 4.

Because Modified Alternative 7 would have a low-level visual impact on Key View 4, and because viewer sensitivity is low and viewer exposure is medium at Key View 4, it is anticipated that the viewer response would be considered low from the view point of a motorist at Key View 4. Therefore, visual impacts of Modified Alternative 7 at Key View 4 would not be substantial.

Key View 5

As shown on Figure 2.6.8, the proposed views would include the I-215 southbound off-ramp and vehicles in the foreground. Middleground views include the roundabout, landscaping, and Barton Road. Background views include utility poles and lines, trees, Blue Mountain and sky.

Existing Key View 4 from Barton Road, west of I-215, facing east.

Key View 4 View Simulation of Modified Alternative 7.

FIGURE 2.6.6

I-215/Barton Road Interchange Improvement Project

Key View 4

SOURCE: Focus 360

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Key View 4 View Simulation of Modified Alternative 7.

FIGURE 2.6.7

I-215/Barton Road Interchange Improvement Project

Key View 4 Close-up

SOURCE: Focus 360

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Existing Key View 5 from La Crosse Avenue, west of I-215, facing southeast.

Key View 5 View Simulation of Modified Alternative 7.

FIGURE 2.6.8

I-215/Barton Road Interchange Improvement Project

Key View 5

SOURCE: Focus 360

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Table 2.6.F Key View 4, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Moderate level of vividness with roadway, landscaping, and sky features.	4	Roadway, utility lines, commercial uses, and construction activity contribute to the lack of integrity.	3	Relatively low elevation of buildings and lack of distinctive natural features result in low disruption to harmony.	3	3.3
Proposed View						
Vividness decreases with the increase in manmade features.	3.5	Additional encroachments are present with the proposed view.	2.5	Addition of the roundabout provides coherence to the roadway view.	3.5	3.2
Difference from Existing Visual Quality						**-0.1**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

Changes to this viewscape represent the typical changes to views from one of the I-215 southbound ramps towards Barton Road. Modified Alternative 7 would require full acquisition of the commercial parcel that contains Demetri's Restaurant to accommodate the proposed southbound off-ramp, roundabout, and Barton Road widening.

The close-up view of Key View 5 (Figure 2.6.9) shows that the roadway features would be improved with the addition of a landscaped roundabout with an architectural feature and pedestrian crosswalks.

Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers. As shown in Table 2.6.G, the overall proposed visual quality of the proposed Key View 5 is moderate (i.e., 4.2), but it is an improvement compared to the existing condition. Implementation of Modified Alternative 7 would improve the visual quality of Key View 5.

Because Modified Alternative 7 would improve the visual environment in Key View 5, and because viewer sensitivity is low and viewer exposure is medium at Key View 5, it is anticipated that the viewer response would be positive from the view point of a motorist at Key View 5. Therefore, visual impacts of Modified Alternative 7 at Key View 5 would not be substantial.

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Key View 5 close-up view simulation of Modified Alternative 7 roundabout.

FIGURE 2.6.9

I-215/Barton Road Interchange Improvement Project

Key View 5 Close-up

SOURCE: Focus 360

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Table 2.6.G Key View 5, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Moderate level of vividness with roadway, mountain, and sky features.	4	Roadway, utility lines, traffic signals, and construction activity contribute to the lack of integrity.	3	Roadway, poles, construction activity disrupt harmony.	2	3.0
Proposed View						
Vividness increases with landscaping	4.5	Encroachments are reduced with the proposed view.	4	Addition of the roundabout provides coherence to the roadway view.	4	4.2
Difference from Existing Visual Quality						**+1.2**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

All Build Alternatives

The analysis of permanent impacts from Key View 6 is applicable for Alternatives 3, 6, and Modified Alternative 7.

Key View 6

The I-215 Bi-County HOV Lane Gap Closure Project will construct a sound barrier along the I-215 northbound on-ramp adjacent to Grand Terrace Elementary School. The proposed views would include grass, trees, and playground fencing and equipment in the foreground. Middleground views would include a playground ball field, playground equipment, fencing, grass, and trees. Background views would include trees, the sound barrier, obstructed views of the La Loma Hills, and sky. As seen in Key View 6 (Figure 2.6.10), construction of the sound barrier would remove trees, fencing, I-215, and vehicles from the view. Removal of the mature trees associated with the I-215/Barton Road Interchange Project would provide a broader view of La Loma Hills.

Measure VIS-1 requires implementation of a Landscape Plan that would minimize impacts related to the removal of landscaping, and Measure VIS-2 includes aesthetic elements for hardscape such as sound barriers. As shown in Table 2.6.H, the overall proposed visual quality of Key View 6 is moderate (i.e., 4.3 for Alternative 3 and Modified Alternative 7 and 4.0 for Alternative 6) due to the grass, trees, and enclosed

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Existing Key View 6 from Grand Terrace Elementary School playground facing northwest.

Key View 6 simulation of Alternative 3, 6, or Modified Alternative 7.

FIGURE 2.6.10

SOURCE: SoftMirage, 11/2010

I-215/Barton Road Interchange Improvement Project

Key View 6

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Table 2.6.H Key View 6, Existing and Proposed Visual Quality

Vividness (V)		Intactness (I)		Unity (U)		Overall Visual Quality
Features	**Rating**	**Encroachment**	**Rating**	**Elements**	**Rating**	**([V+I+U]/3)**
Existing View						
Playground and landscaping are vivid striking features.	5	Integrity negatively impacted by presence of I-215.	3	Unity negatively impacted by presence of I-215.	4	4
Proposed View-Alternative 3						
Improvements eliminate view of I-215 and mature landscaping.	5	Sound barrier removes view of I-215.	4	Sound barrier provides unity of the space.	4	4.3
Difference from Existing Visual Quality						**+0.3**
Proposed View-Alternative 6						
Improvements eliminate view of I-215 and mature landscaping.	5	Sound barrier removes view of I-215.	3	Sound barrier provides unity of the space.	4	4
Difference from Existing Visual Quality						**0**
Proposed View- Modified Alternative 7						
Improvements eliminate view of I-215 and mature landscaping.	5	Sound barrier removes view of I-215.	4	Sound barrier provides unity of the space.	4	4.3
Difference from Existing Visual Quality						**+0.3**

Source: VIA (November 2013).
Rating Scale: 1–7 (1 = very low, 2 = low, 3 = moderately low, 4 = moderate, 5 = moderately high, 6 = high, 7 = very high)

playground separated from I-215. It is anticipated that the viewer response to the proposed changes would be positive, as the potential sound barrier would not obstruct views of any substantial scenic resources and would provide the school with a visual sense of unity by separating it from I-215. Therefore, visual impacts of Alternatives 3, 6, and Modified Alternative 7 at Key View 5 would not be substantial.

Visual Impact Summary

As discussed above, the visual quality of Key View 1 would be reduced by 0.3, the visual quality of Key View 2 would be reduced by 0.7, and the visual quality of Key View 3 would be reduced by 1.0. The visual quality of Key View 4 would be reduced by 0.1 and the visual quality of Key View 5 would be improved by 1.2. Key View 6 would increase by 0.3 for Alternative 3 and Modified Alternative 7 and by 0 for Alternative 6. Although Alternatives 3 and 6 would result in a reduction in visual quality for most of the key views, this reduction would not be substantial. Although the visual quality of most of the key views would be reduced, the key views would be consistent with views of and around a freeway. Overall, Modified Alternative 7 would improve the key views. Implementation of any of the Build Alternatives would be consistent with the *I-215 Bi-County Aesthetic Concept* as discussed in Minimization Measures VIS-1 and VIS-2. None of the view points currently have

unobstructed views of visual resources such as the La Loma Hills or Blue Mountain. Therefore, implementation of any of the alternatives would have a low-level visual impact on the Project area due to the low-level existing visual quality, and any impact to visual resources resulting from the proposed alternatives would not be considered substantial. Thus, no specific mitigation is required.

Light and Glare

The study area receives light at night from traffic, street lighting, and lighted parking lots; signalization at the intersections and freeway on- and off-ramps; and commercial zone and limited light sources from residential development. Existing lighting on the streets and along the ramps would be replaced as a part of Alternatives 3, 6, and Modified Alternative 7. Minimization Measure VIS-3 would minimize potential impacts regarding light and glare. Therefore, impacts related to light and glare would not be substantial.

Compatibility with Visual Resource Policies

While the La Loma Hills and Blue Mountain are located within the viewshed of the study area, distant views of the La Loma Hills and/or Blue Mountain are obstructed by existing development. Because of the visual obstructions, there are no outstanding scenic vistas and/or visual features that would potentially be impacted by any of the proposed alternatives. Construction of the alternatives will require removal of trees. Any tree removal on public land beyond the Project right of way must comply with City landscaping policies, as provided in Measure VIS-1. Therefore, the proposed Project would not conflict with any local plans, policies, goals, or Municipal Code regulations of the City of Grand Terrace.

2.6.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are required to minimize permanent visual impacts of Alternatives 3, 6, and Modified Alternative 7.

VIS-1 **Landscape Plan.** A landscape plan will be prepared that identifies all opportunities to use areas within the State right of way for full landscaping consistent with the *Interstate 215 (I-215) Bi-County Aesthetic Concept*. This will include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of new Project structures (ramps, sound barriers, and retaining walls) to the extent feasible. This plan will incorporate all applicable procedures and requirements detailed in the California Department of

Transportation (Caltrans) *Highway Design Manual*, Section 902.1, Planting Guidelines (November 2001), and individual local policies as applicable.

VIS-2 **Hardscape Plan.** A Hardscape Plan with aesthetic enhancements of retaining and sound barriers, bridges, and other hardscape will be incorporated into the final design of the Project consistent with the *I-215 Bi-County Aesthetic Concept* and applicable goals and policies in the affected City General Plan. The design of all hardscape features is required to comply with Caltrans standards for sound attenuation (where the walls/barriers provide that function), safety requirements, and other pertinent standards. The design of sound barriers requires compliance with the Caltrans *Highway Design Manual* Standards, and aesthetic treatments will be reviewed and approved by the Caltrans District 8 Landscape Architect. The sound barriers should include the following features:

a. Aesthetic treatments will be incorporated into barrier designs to increase the visual quality of the area and to provide an expression of the regional "sense of place."
b. To the maximum extent feasible, trees and shrubs will be provided in available spaces, and textured walls and vines will be used on barriers to soften the appearance of the wall and deter graffiti.

VIS-3 **Lighting.** The lighting fixtures will be selected and installed to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with nonglare hoods and focused within the Project right-of-way. The lighting plan will be reviewed and approved by the Caltrans District 8 Landscape Architect prior to construction to ensure compliance with these criteria.

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2.7 Cultural Resources

2.7.1 Regulatory Setting

The term "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 (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic 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 Code of Federal Regulations [CFR] 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) between the Advisory Council, the Federal Highway Administration (FHWA), State Historic Preservation Officer (SHPO), and Caltrans went into effect for Caltrans 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 Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Pilot Program (23 United Stated Code [USC] 327).

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.

Historical resources are considered under the California Environmental Quality Act (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 the National Register of Historic Places listing criteria. It further specifically requires Caltrans to inventory state-owned structures in its rights-of-way.

2.7.2 Affected Environment

This section is based on the *Historic Property Survey Report* (July 2011), *Archaeological Survey Report* (July 2011), and *Historical Resources Evaluation Report* (July 2011). The *Historic Property Survey Report* (November 2010) and the *Historical Resources Evaluation Report* (July 2011) prepared for the Interstate 215 (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project were also utilized in the analysis contained in this section.

An Area of Potential Effects (APE) was developed for the Project that includes the limits of proposed construction and staging areas for Alternatives 3, 6, and Modified Alternative 7, as well as parcels containing built environment that could be subject to indirect effects. The Project APE is generally characterized by suburban development in the cities of Colton and Grand Terrace and includes a mix of historic-period and modern multifamily and single-family residences, commercial businesses, and manufacturing businesses; two mobile home parks; and undeveloped land; as well as segments of I-215 and of the BNSF Railway and the Union Pacific Railroad (UPRR).

The archaeological study area (ASA) is within the APE and includes all areas within the construction limits, including areas that will be used for temporary staging and signage.

2.7.2.1 Records Search

On April 17, 2008, a records search was conducted by personnel at the San Bernardino Archaeological Information Center (SBAIC) of the California Historical Resources Information System (CHRIS) located at the San Bernardino County Museum in Redlands, California. It included a review of all recorded historic and prehistoric archaeological sites within a 0.5 mile (mi) radius of the APE, as well as a review of known cultural resource survey and excavation reports. In addition, the following inventories were examined:

- National Register of Historical Resources (National Register)
- California Register of Historical Resources (California Register)
- California Historical Landmarks
- California Points of Historical Interest
- California Department of Transportation (Caltrans) Historic Highway Bridge Inventory

In addition, background research was conducted for the APE using published literature in local and regional history, online resources regarding the history and

development of the City of Grand Terrace, and historic aerial photographs and maps of the Project vicinity. The repositories and resources that were contacted to access historical information pertinent to the parcels within the Project APE and the Project vicinity are discussed in further detail in Chapter 3, Comments and Coordination.

2.7.2.2 Field Survey

On June 26 and November 5, 2008, and May 19, 2009, archaeological surveys of the ASA were conducted for the proposed Project. Only part of the ASA consisting of undeveloped parcels contained bare ground that could be systematically surveyed. Those parts of the ASA were systematically surveyed by intensively examining the ground surface at a maximum transect width of 30 feet (ft). Ground surface visibility was excellent, and no archaeological cultural material was observed. The ground surface of the ASA contained abundant modern concrete and asphalt rubble and other modern trash. The remainder of the ASA was examined wherever ground visibility permitted, such as road shoulders. The only archaeological resource identified within the ASA is a small concrete slab foundation with no associated artifacts.

On May 18, June 20, June 26, July 8, November 4 and 5, 2008, and May 19 and 28, and July 14, 2009, surveys of the Project APE were conducted for architectural resources. Each building in the APE was observed from the public right-of-way and in some cases from private driveways. During the surveys, notations regarding the apparent age and integrity of each building were made on field maps. In addition, notations 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.

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) in the Caltrans Section 106 PA and, therefore, were not further documented. Most of the buildings that were found to be exempt are modern, substantially altered, or mobile homes.

Intensive field surveys of the remaining buildings and features were conducted on July 8 and November 4, 2008, and on May 28, and July 14, 2009. During these surveys, architectural historians walked along the public right-of-way and photographed and made detailed notations of the structural and architectural characteristics, current conditions, settings, and associated features of each building.

2.7.2.3 Native American Consultation

On April 8, 2008, a letter was sent to the Native American Heritage Commission (NAHC) requesting a search of the Sacred Lands File in order to identify areas of religious or cultural significance to Native Americans. The NAHC responded on April 10, 2008, to say that the Sacred Lands File search was negative for the immediate APE.

In addition, a letter (dated May 9, 2008) that discussed the Project and requested information on cultural resources in the area that may be significant to their communities was sent via certified mail to the following:

- Cahuilla Band of Indians: Anthony Madrigal, Jr., Chairperson
- Ti'At Society: Cindi Alvitre
- Gabrieleno/Tongva Indians: Anthony Morales, Chairperson
- Ramona Band of Mission Indians: Joseph Hamilton, Vice Chairman
- Gabrielino/Tongva Council/Gabrielino Tongva Nation: Sam Dunlap, Tribal Secretary
- San Manuel Band of Mission Indians: John Ramos, Chairperson
- Gabrielino Band of Mission Indians of California: Susan Frank
- Morongo Band of Mission Indians: Michael Contreras, Cultural Resources
- San Manuel Band of Mission Indians: Ann Brierty, Environmental Department
- Serrano Nation of Indians: Goldie Walker

Responses from and consultation with the Native American representatives are discussed in more detail in Chapter 3.0, Comments and Coordination. Of the Native Americans reached, Mr. Morales and a relative of Ms. Walker stated they would like to be notified of any cultural resources discoveries. No responses were received from any of the other Native Americans contacted, although follow-up calls were made between May 27 and June 24, 2008.

2.7.2.4 Cultural Resources within the APE

The records search revealed that 24 cultural resources studies have previously been conducted and 10 historic sites have been recorded within the 0.5-mile (mi) radius of the APE. Seven of these previously conducted studies covered portions of the APE, resulting in the entire APE having been previously surveyed. These previous studies resulted in the recordation of the following eight historic-period resources within or adjacent to the APE: CA-SBR-6101H (UPRR); CA-SBR-6847H (BNSF Railway; formerly the Atchison, Topeka, and Santa Fe Railroad); 36-021705, 36-021706, 36-

021707, and 36-021708 (single-family residences); CA-SBR-4787H/7169H (Riverside Warm Creek Canal); and CA-SBR-7168H (Gage Canal). As discussed below, none of these resources appear eligible for listing in the National Register.

Of the eight previously evaluated resources, six were evaluated as part of the I-215 Bi-County HOV Lane Gap Closure project. These included the two railroad segments and four single-family residences. The segments of the UPRR and the BNSF Railway that are within the APE were evaluated in 2009 and concurred with by the SHPO in 2010 as not eligible for listing in the National Register either individually or as contributing segments to the overall alignments. The four single-family residences were evaluated in 2008 and 2009 and concurred with by the SHPO in 2010 as not eligible for listing in the National Register.

The two remaining previously evaluated properties (the Riverside Warm Creek Canal and the Gage Canal) were determined not to be within the vertical APE and are, therefore, outside the Project APE. Riverside Canal would be avoided by Alternative 3 and would be bridged by Alternatives 6 and Modified Alternative 7. Gage Canal is below the ground surface in the Project area and would not be impacted by the Build Alternatives. Therefore, these properties were not evaluated for eligibility for listing in the National Register.

In addition to the six previously evaluated properties discussed above, an additional eight historic-period built environment resources were identified and evaluated. These resources are related to the themes of residential and commercial architecture and include a Ranch-style service station constructed sometime between 1959 and 1966; a vernacular multitenant commercial center with Modern elements constructed between 1959 and 1966; and 1 duplex and 5 single-family residences constructed from the 1940s through the 1960s in the Minimal Traditional and California Ranch styles. None appear to be eligible for listing in the National Register, and none appear to qualify as historical resources as defined by CEQA.

Five State agency bridges were within the APE. State agency bridges 540518 (BNSF Railway bridge), 540519 (UPRR bridge), 540527 (Iowa Avenue Overcrossing), 540528 (Barton Road Overcrossing), and 540529 (Newport Avenue Overcrossing) were all constructed in 1959. With the exception of bridges 540518 and 540519, they are listed in the California Historical Significance State Agency Bridge List of August 2010 as Category 5 Bridges and are not eligible for the National Register. Bridges 540518 and 540519 are railroad bridges that were recently (2009) evaluated as part of

the I-215 Bi-County HOV Lane Gap Closure Project and concurred with by SHPO in 2010 as not eligible for the National Register. Therefore, none of the bridges are subject to evaluation. The UPRR bridge and the Newport Overcrossing have since been removed as part of the I-215 Bi-County HOV Lane Gap Closure Project.

Two local agency bridges were within the APE. Local agency bridge No. 54C0001 was constructed in 1936, and local agency bridge No. 54C0379 was constructed in 1929 and widened in 1941. The bridges are listed in the California Historical Significance Local Agency Bridge List of August 2010 as Category 5 Bridges and are not eligible for the National Register. Therefore, these bridges are also not subject to evaluation.

The remaining cultural resources that were identified within the APE are Property Types 2–4 and 6 under the Caltrans Section 106 PA and were therefore exempt from evaluation.

2.7.3 Environmental Consequences

2.7.3.1 Temporary Impacts

Alternatives 1, 3, 6, and Modified Alternative 7

Any impacts to buried resources as a result of the No Build Alternative or the proposed Project would be considered permanent; therefore, an analysis of temporary impacts is not applicable.

2.7.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative would not result in ground disturbance or excavation; therefore, no impacts to cultural resources would occur. Separately, the I-215 Bi-County HOV Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Lane Gap Closure Project involves ground disturbance and excavation within the Project area. This approved Project includes measures to avoid impacts to cultural resources, and no impacts will occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Based on the findings reported in the *Historic Property Survey Report*, there are no Section 106 Historic Properties or CEQA Historical Resources within the APE. All cultural resources that required evaluation were determined to be ineligible for the

National Register of Historic Places (National Register) through consultation with SHPO. On September 9, 2011, SHPO concurred with Caltrans' determination that the eight properties that were evaluated as part of this study were not eligible for the National Register. Therefore, Caltrans determined that, pursuant to Stipulation IX.A of the Section 106 PA, a finding of No Historic Properties Affected is appropriate for this undertaking. Similarly, Caltrans has determined that a finding of No Impact is appropriate pursuant to CEQA Guidelines Section 15064.5(b)(3) because there are no Historical Resources within the Project area limits.

Although considered unlikely, there is the potential to encounter unknown buried cultural materials or human remains within the APE during construction of the Project. In the event that previously unknown buried cultural materials or human remains are encountered during construction, compliance with standard Measures CR-1 and CR-2, provided below, would avoid and/or minimize potential impacts to previously unknown cultural resources or human remains.

There are no National Register listed or eligible resources in the Project area that would trigger the requirements for protection under Section 4(f).

2.7.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below are required to avoid the potential Project impacts related to the discovery of previously unknown cultural materials and human remains during construction:

CR-1 **Cultural Materials.** If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

CR-2 **Human Remains.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County of San Bernardino Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the California Department of Transportation District 8 Environmental Branch Chief

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.

PHYSICAL ENVIRONMENT

2.8 Water Quality and Storm Water Runoff

2.8.1 Regulatory Setting

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[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act 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. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that 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 United States. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

The USACE issues two types of 404 permits: General and Standard permits. There are two types of General permits, Regional permits and Nationwide permits. Regional

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

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 allow 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 the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with United States Environmental Protection Agency (EPA) Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [CFR] 40 Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the EPA in conjunction with the 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 the 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. According to the 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[1] 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.

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

[1] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

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 about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters 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 or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, nonpoint, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. 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 Pollutant 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 discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined 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 is designed or used for collecting or conveying storm water." The SWRCB has identified the California Department of Transportation (Caltrans) as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all Caltrans 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.

Caltrans' MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and nonstorm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans 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 Caltrans 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 Caltrans uses to reduce pollutants in storm water and nonstorm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of Best Management Practices (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 that 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 result 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 Caltrans Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Municipal NPDES Permit

The Cities of Colton and Grand Terrace are co-permittees under the NPDES Permit and Waste Discharge Requirements for the San Bernardino County Flood Control District, the County of San Bernardino, and the Incorporated Cities of San Bernardino County within the Santa Ana Region, Order No. R8-2010-0036 (NPDES No. CAS618036). The NPDES permit prohibits discharges, sets limits on pollutants being discharged into receiving waters, and requires implementation of technology-based standards.

Under the NPDES permit, the Cities as co-permittees are responsible for the management of storm drain systems within their jurisdictions. The Cities are required to implement management programs, monitoring programs, implementation plans, and all BMPs outlined in the Municipal Storm Water Management Program (MSWMP) (previously identified as the Drainage Area Management Plan [DAMP] in the County’s two prior NPDES permits) and to take any other actions as may be necessary to protect water quality to the Maximum Extent Practicable (MEP). In

addition, each city is required to implement a MSWMP and develop a long-term assessment strategy for effectiveness of the MSWMP.

Category Projects within the Cities are required to develop and implement Water Quality Management Plans (WQMPs) to reduce pollutants and maintain and reduce downstream erosion and stream habitat from all new development and significant redevelopment projects that fall into one of the categories of priority projects. The co-permittees must ensure that a Category Project meets WQMP requirements. Category Projects include significant redevelopment projects that create 5,000 square feet (sf) or more of impervious surface, home subdivisions of 10 units or more, industrial/ commercial developments of 100,000 sf or more, automotive repair shops, restaurants of 5,000 sf or more, hillside developments of 10,000 sf or more, developments of 2,500 sf of impervious surface or more adjacent to or discharging directly into environmentally sensitive areas, or parking lots of 5,000 sf or more. In addition, Non-Category Projects that have a precise plan of development (e.g., all commercial or industrial projects, residential projects <10 dwelling units, and all other land development projects with potential for significant adverse water quality impacts) or subdivision of land must prepare and implement a WQMP. San Bernardino County has prepared a Model Water Quality Management Plan Guidance document for preparation of project-specific WQMPs. The Model Water Quality Management Plan Guidance document was approved by the Santa Ana RWQCB on April 30, 2004, and updated on June 9, 2005.

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 the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the 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 (Porter-Cologne Act) 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.

2.8.2 Affected Environment

This section is based on the *Water Quality Technical Study* (October 2013) prepared for the proposed Project.

2.8.2.1 Surface Water

The Project area is within the Riverside subwatershed of the Middle Santa Ana River Watershed. The Santa Ana River, Reach 4 (from Mission Boulevard in Riverside to the San Jacinto Fault in San Bernardino), runs almost parallel to Interstate 215 (I-215) to the west and northwest. The Santa Ana River, Reach 4, is approximately 0.75 mile (mi) south of the Project site and is a receiving water for runoff from the Project Site. The Riverside Canal is in the Project area and crosses Barton Road at Grand Terrace Road. The Gage Channel is east of the Project area and crosses Barton Road halfway between Michigan Avenue and Mount Vernon Avenue. The Highgrove Channel is almost parallel to the Riverside Canal in the southern part of the Project area. In addition, there are three small unnamed concrete-lined channels and one earthen unnamed channel in the northern part of the Project area.

The following beneficial uses are identified in the Santa Ana RWQCB's Basin Plan (*Santa Ana River Basin Water Quality Control Plan*, updated February 2008) for Reach 4 of the Santa Ana River:

- 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
- SPWN: Spawning, reproduction, and development habitat for fish and wildlife

Primary water quality concerns in the Middle Santa Ana River Basin (Basin) include total dissolved solids (TDS), total inorganic nitrogen levels, contaminant plumes in groundwater, bacterial quality of surface waters, and impacts from confined animal feeding operations.

The SWRCB approved the 2010 Integrated Report (CWA Section 303(d) List/305(b) Report) on August 4, 2010. On November 12, 2010, the EPA approved the 2010 California 303(d) List of Water Quality Limited Segments. Reach 4 of the Santa Ana

River is listed as impaired for pathogens on the 2010 California 303(d) List of Water Quality Limited Segments. The potential source of the pathogen impairment is listed as a nonpoint source. The proposed TMDL completion date is January 1, 2019.

2.8.2.2 Groundwater

As designated by the Santa Ana RWQCB (Region 8), the Project area is within the Riverside-F Groundwater Management Zone.

Groundwater in the Riverside-F Groundwater Management Zone is found primarily in alluvial deposits and is replenished by infiltration from Santa Ana River flow, underflow past the Rialto-Colton Fault, intermittent underflow from the Chino Subbasin, return irrigation flow, and deep percolation of precipitation.

Depth to groundwater in the Project area is anticipated to be greater than 30 feet (ft) below ground surface (bgs).

The following beneficial uses are identified in the Basin Plan for the Riverside-F Groundwater Management Zone:

- GWR: Groundwater Recharge
- AGR: Agricultural Supply
- IND: Industrial Service Supply
- PROC: Industrial Process Supply

Groundwater in the basin is predominantly calcium-sodium bicarbonate-based. TDS range from 320 to 756 milligrams per liter (mg/L). According to the Basin Plan, the current ambient nitrate level in the Riverside-F Groundwater Management Zone is 9.5 mg/L, which is the same as the Basin Plan Water Quality Objectives.

The Project area is not 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.

2.8.3 Environmental Consequences

2.8.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative does not include ground disturbance activities; therefore, no temporary impacts to water quality would occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Pollutants of concern during construction of the Build Alternatives include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Each of these pollutants on its own or in combination with other pollutants can have a detrimental effect on surface water or groundwater quality.

During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction of Alternatives 3, 6, and Modified Alternative 7 with the potential to be transported via storm runoff into receiving waters. During construction, the total disturbed area under Alternative 3 would be approximately 40.4 acres (ac); under Alternative 6, it would be approximately 33.6 ac; and under Modified Alternative 7, it would be approximately 29.5 ac. Therefore, Modified Alternative 7 would have the lowest potential to impact water quality based on soil erosion. Dewatering is not anticipated during construction of the Project.

Facility improvements would occur in the vicinity of the drainages within the Project limits. In addition, drainage improvements, discussed in detail in Chapter 1, would be constructed. During construction of these improvements, chemicals, liquid products, petroleum products, and concrete-related waste spills would have a higher potential to impact water quality due to the proximity of these surface waters to Project construction activities.

Under the Construction General Permit, the Project would be required to prepare a SWPPP and implement construction BMPs detailed in the SWPPP during construction activities. Construction BMPs would be designed to minimize erosion and prevent spills. The SWPPP would be developed and construction BMPs selected and implemented to target pollutants of concern during construction such that storm water discharges and authorized nonstorm water discharges would not cause or contribute to any violations of applicable water quality standards or objectives or substantially impact human health or the environment. When construction BMPs are properly designed, implemented, and maintained to address pollutants of concern, as described in Measure WQ-1, no substantial surface water or groundwater quality impacts would occur during construction of the Project.

2.8.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. Therefore, no permanent impacts to water quality will occur. However, runoff from the interchange would remain untreated.

Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will convert a portion of freeway-adjacent properties to transportation land uses within the Project area. The I-215 Bi-County HOV Lane Gap Closure Project will increase impervious area in the Project area, resulting in an increase in long-term pollutant loading. Measures to minimize water quality impacts associated with the I-215 Bi-County HOV Lane Gap Closure Project are being implemented, and no substantial impacts will occur.

Alternative 3 (Partial Cloverleaf Interchange)

Alternative 3 would result in a permanent decrease in impervious surface area of 5.9 ac compared to the footprint of the existing interchange, which would result in a decrease in runoff and pollutant loading in the interchange area. The reason for the decrease in impervious area is because Alternative 3 would fully acquire many developed properties, the remainder of which would be converted to undeveloped/landscaped land. Because the impervious area would decrease, Treatment BMPs are not required to be considered for this Alternative.

Currently, runoff from I-215/Barton Road in the Project limits is untreated. Although not required, operational BMPs would be implemented to target constituents of concern in runoff from the Project area (Measure WQ-2). Proposed Treatment BMPs include biofiltration swales (bioswales). 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 total suspended solids, nutrients, metals, turbidity, and oil and grease. Potential locations for the Treatment BMPs include areas adjacent to ramps and the I-215 mainline.

The Treatment BMPs would target constituents of concern from transportation facilities (total suspended solids, nutrients, metals, turbidity, and oil and grease). Reach 4 of the Santa Ana River is listed as impaired for pathogens on the 2010 California 303(d) List of Water Quality Limited Segments. Highway facilities do not appear to be a substantial source of pathogens in urban drainage, and pathogens are

not among Caltrans Target Design Constituents. Although the biofiltration swales would not specifically target pathogens, they would reduce pathogen levels by collecting pathogens adsorbed onto sediments. Therefore, Alternative 3 would not be a substantial source of pathogens or contribute to the existing impairment.

Because treatment BMPs would treat pollutants of concern from runoff from the Project area, Alternative 3 would not impact downstream receiving waters or cause or contribute to a violation of water quality standards or objectives. In addition, because the proposed BMPs would remove pollutants of concern from storm water, runoff from Alternative 3 would not contain pollutants in quantities that would create a condition of nuisance or substantially affect beneficial uses of waters of the State. Therefore, Alternative 3 would not result in substantial impacts to surface water or groundwater quality.

Alternative 6 (Modified Cloverleaf Interchange) and Modified Alternative 7 (Modified Cloverleaf/Diamond Interchange) (Locally Preferred Alternative)

Alternative 6 would increase the impervious surface area by 3.2 ac compared to existing conditions, which is the greatest increase of all Build Alternatives. Modified Alternative 7 would increase the impervious surface area by 1.2 ac. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Compared to existing conditions, runoff under Alternative 6 and Modified Alternative 7 would be expected to contain higher concentrations of sediments, trash, petroleum products, metals, and chemicals, which are pollutants associated with road runoff.

Currently, runoff from I-215/Barton Road in the Project limits is untreated. As part of Alternative 6 and Modified Alternative 7, operational BMPs would be implemented to target constituents of concern in runoff from the Project area. Proposed Treatment BMPs include biofiltration swales (bioswales) in areas adjacent to ramps and the I-215 mainline.

The Treatment BMPs would target constituents of concern from transportation facilities (total suspended solids, nutrients, metals, turbidity, and oil and grease). Reach 4 of the Santa Ana River is listed as impaired for pathogens on the 2010 California 303(d) List of Water Quality Limited Segments. Highway facilities do not appear to be a substantial source of pathogens in urban drainage, and pathogens are not among Caltrans Target Design Constituents. Although the biofiltration swales

would not specifically target pathogens, they would reduce pathogen levels by collecting pathogens adsorbed onto sediments. Therefore, Alternatives 6 and Modified Alternative 7would not be a substantial source of pathogens or contribute to the existing impairment.

Because treatment BMPs would treat pollutants of concern from runoff from the Project area, Alternative 6 and Modified Alterative 7 would not impact downstream receiving waters or cause or contribute to a violation of water quality standards or objectives. In addition, because the proposed BMPs would remove pollutants of concern from storm water, runoff from Alternative 6 and Modified Alternative 7 would not contain pollutants in quantities that would create a condition of nuisance or substantially affect beneficial uses of waters of the State. Therefore, when BMPs are implemented in accordance with NPDES permit requirements as stipulated in Measure WQ-2, Alternative 6 and Modified Alternative 7 would not result in substantial impacts to surface water or groundwater quality.

Comparison of Build Alternatives

The water quality impacts of the Build Alternatives are summarized in Table 2.8.A.

Table 2.8.A Water Quality Impacts Comparison for Build Alternatives

Build Alternative	Disturbed Soil Area (acre)	Increase in Impervious Surface Area (acre)	Proposed Treatment/Operational BMPs
Alternative 3 (Cloverleaf Interchange)	40.4	-5.9	Biofiltration swales
Alternative 6 (Modified Cloverleaf Interchange)	33.6	+3.2	Biofiltration swales
Modified Alternative 7 (Modified Cloverleaf/ Diamond) (Locally Preferred Alternative)	29.5	+1.2	Biofiltration swales

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

The measures below will be implemented for each of the Build Alternatives to minimize impacts.

WQ-1 **General Permit (Construction).** Construction will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water 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. This will include submission of

the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) at least 14 days prior to the start of construction. The SWPPP will meet the requirements of the Construction General Permit, which includes identifying potential pollutant sources associated with construction activities; identifying nonstorm water discharges; developing a water quality monitoring and sampling plan; and identifying, implementing, and maintaining Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during Project construction. A Notice of Termination (NOT) will be submitted to the SWRCB upon completion of construction and stabilization of the site.

WQ-2 **Stormwater Management and NPDES Permits.** Caltrans and City/County NPDES permit requirements will be followed for the operation of Post-Construction Treatment BMPs for the Project. This will include coordination with the Santa Ana Regional Water Quality Control Board (RWQCB) with respect to feasibility, maintenance, and monitoring of Treatment BMPs.

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2.9 Geology/Soils/Seismic/Topography

2.9.1 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 (CEQA).

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 California Department of Transportation (Caltrans) Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using Caltrans' Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans' Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

2.9.2 Affected Environment

The section is based on the *Revised Preliminary Geotechnical Report/Structures Design Report* (March 2009), the *Revised Addendum to Structure Preliminary Geotechnical Report* (June 2011), and the *Structure Preliminary Geotechnical Report* (June 2012).

2.9.2.1 Topography

The alignments of existing Interstate 215 (I-215) and Barton Road are relatively flat, ranging from approximately 940 to 1,020 feet (ft) above mean sea level in elevation.

2.9.2.2 Geology

The Project site is within California's Peninsular Ranges Geomorphic Province. The Province is characterized by a complex series of north-west oriented mountain ranges separated by similarly trending faults that extend 125 miles (mi) from the Transverse Ranges and the Los Angeles Basin south to the Mexican border and beyond. The Peninsular Ranges contain extensive Cretaceous plutonic rocks intruded into older metamorphic rocks and deep alluvial-filled valleys. The Project site is situated near the southeastern edge of the upper Santa Ana River Valley. This area is a broad

alluvial-filled basin bounded on the north by the San Gabriel Mountains, on the south by the Jurupa and La Sierra Hills, on the southwest by the Puente and Chino Hills, and on the east by the San Jacinto fault.

Regional geologic maps for the area indicate that the Project site is underlain by Pleistocene alluvial fan deposits. The alluvial fan deposits are derived from the surrounding mountains. Based on available literature, the thickness of alluvium and depth to bedrock in the area is estimated to be on the order of 500 ft. However, granitic bedrock is exposed in the outcrop on the freeway cut slope several hundred feet to the north of the I-215/Barton Road interchange, indicating that bedrock is likely shallower beneath the site. Depth to bedrock beneath the Project site is unknown, but is likely deeper than 50 ft.

2.9.2.3 Soils

The Natural Resources Conservation Service (NRCS) Report and General Soil Map for San Bernardino County describes the soils expected to be found in the study area. The on-site surficial soils within the Project limits are comprised of a variety of sandy loams, including Greenfield sand loam (2–9 percent slopes), Hanford coarse sandy loam (2–9 percent slopes), Monserate loamy sand (2–9 percent slopes), and Saugus sandy loam (30–50 percent slopes). The majority of the soil units have a medium runoff classification, with erosion potential ranging from slight to moderate if the soil is unprotected.

The subsurface conditions at the Project site consist of alternating layers of loose to dense sand, silty sand, sandy silt, and gravel to a depth of approximately 40 ft below the existing grade. Although not documented on the as-built plans for the existing interchange, fill materials appear to have been placed during construction of the embankments and ramps for the bridges. The depth to bedrock is unknown.

Depth to groundwater is anticipated to be greater than 30 ft below ground surface (bgs).

2.9.2.4 Faulting and Seismicity

The Project site is located in the highly seismic Southern California region, within the influence of several fault systems that are considered to be active or sufficiently active with well-defined faults. However, no active or potentially active faults have been identified on the Project site. In addition, the site is not located within a designated Alquist-Priolo Earthquake Fault Zone.

The closest active fault to the site is the San Bernardino Section of the San Jacinto fault, located northeast approximately 1.6 mi from the Project site. Numerous other faults may also represent significant hazards. However, the San Bernardino Section of the San Jacinto fault is considered the governing fault for deterministic seismic hazard analysis. The San Bernardino Section of the San Jacinto fault is capable of generating earthquakes with a maximum magnitude (M_{max}) magnitude of 7.5.

Peak ground acceleration (PGA) is a measurement of earthquake acceleration in a particular area and is an important factor for structural engineering against earthquake damage for things such as roads, bridges, and buildings. It can be thought of as how hard the ground may shake in a given geographic area based on several factors such as the distance from an active fault, the maximum expected earthquake from that fault and the underlying geologic units. The PGA at the Project site from the San Bernardino Section of the San Jacinto fault is estimated to be 0.61g.[1]

Figure 2.9.1 illustrates the major fault zones and PBA in the Project area.

2.9.3 Environmental Consequences

2.9.3.1 Temporary Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative does not result in soil disturbance in the Project area and would, therefore, not result in temporary impacts related to geology and soils.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Construction activities for the Project, such as grading and cut-and-fill slopes, would disturb soil and alter existing landforms. Temporary impacts would include soil compaction and an increased possibility of soil erosion. Exposed soils would be particularly prone to erosion during construction of the Project, especially during heavy rains. The proposed Project would be constructed consistent with the specifications in the *Structure Foundation Report* (SFR) and a *Geotechnical Design Report* (GDR) specified in Measure GEO-1. Erosion impacts related to water quality

[1] "g" is a common value of acceleration equal to 32 feet/second^2 (ft/sec^2).

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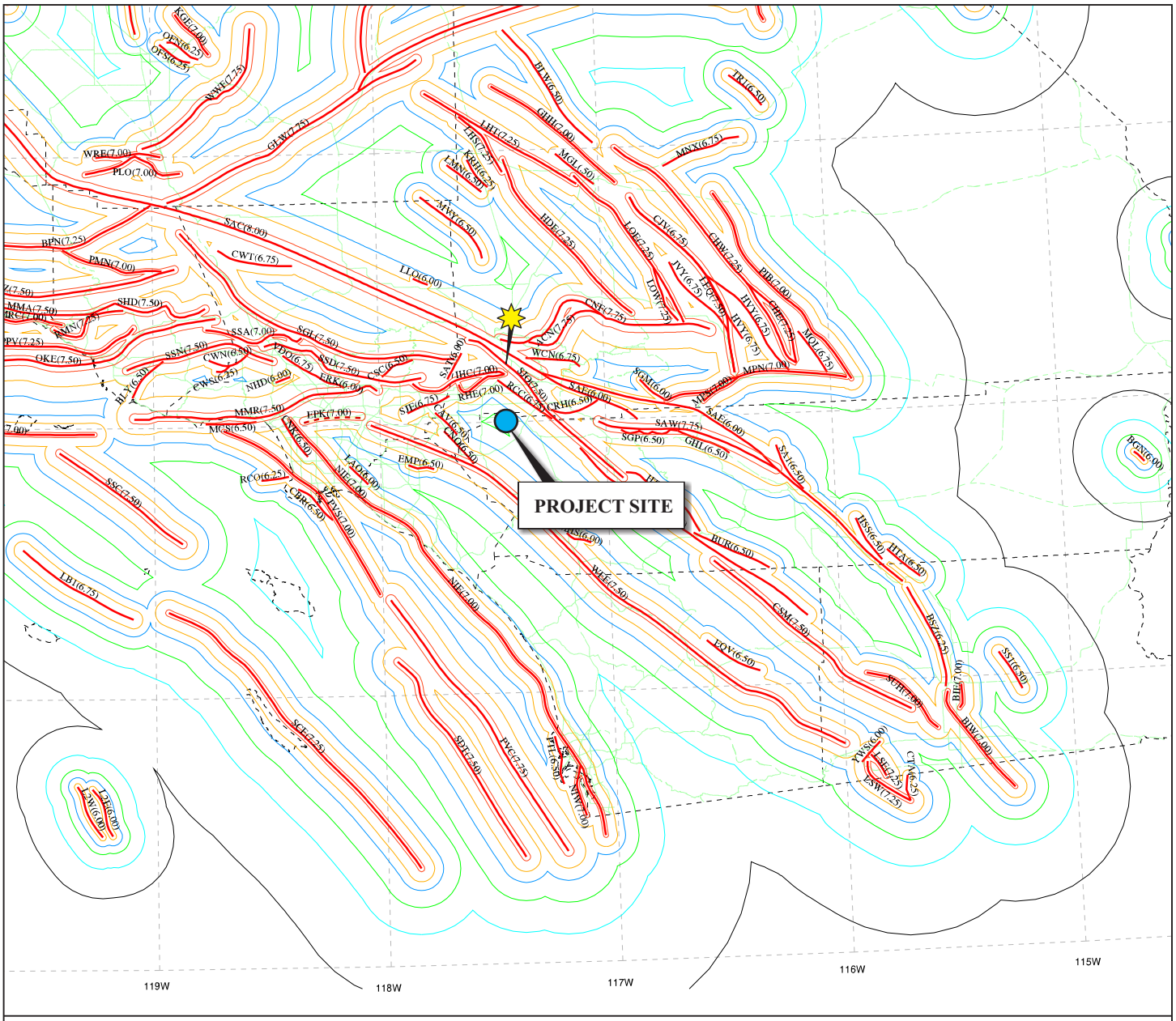

LEGEND

Peak Bedrock Acceleration (PBA)

- 0.7g Peak Acceleration Contour
- 0.6g Peak Acceleration Contour
- 0.5g Peak Acceleration Contour
- 0.4g Peak Acceleration Contour
- 0.3g Peak Acceleration Contour
- 0.2g Peak Acceleration Contour
- 0.1g Peak Acceleration Contour

- Special Seismic Source (SSS)
- Faults with Fault Codes (MCE)
- State Highways
- County Boundary
- Latitude & Longitude

- San Jacinto (SJO) - 1.6 miles from Project Site

FIGURE 2.9.1

N

0 25 50 Miles

SOURCE: Based on California Seismic Hazard map
& Maximum Credible Earthquakes (MCE), dated 1996

I-215/Barton Road Interchange Improvement Project

Fault Zones and Peak Bedrock Acceleration

I:\SBA330\Barton_I-215\G\IS-EA\Fault Zones.cdr (11/1/13)

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are evaluated in Section 2.9, Water Quality and Storm Water Runoff. No substantial impacts are anticipated.

2.9.3.2 Permanent Impacts

Alternative 1 (No Build Alternative)

The No Build Alternative does not include any improvements to the interchange or local roads in the Project area. The No Build Alternative would not change the topography in the Project area; therefore, no permanent impacts related to geology and soils would occur.

Separately, the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, discussed in Chapter 1.0, Section 1.1.2, will change the topography in the Project area. Measures to minimize topography impacts associated with the I-215 Bi-County HOV Lane Gap Closure Project are being implemented, and no substantial impacts will occur.

Alternatives 3, 6, and Modified Alternative 7 (Build Alternatives)

Fault-Induced Ground Rupture

As discussed above, no active or potentially active faults have been identified on the Project site. In addition, the site is not located within a designated Alquist-Priolo Earthquake Fault Zone. No known active fault traces the Project toward or across the Project site, and the potential for ground surface rupture is considered to be low.

Seismic Ground Shaking

As discussed above, the Project site is located in the highly seismic Southern California region within the influence areas of several fault systems. These fault systems are considered active and well defined and are capable of producing potentially damaging seismic ground shaking. It is recognized that the Project site could periodically experience ground acceleration as the result of moderate to large seismic events.

The structures (e.g., bridges, culverts) constructed for the Project could be potentially subject to substantial impacts related to seismic ground shaking. The proposed Project would be designed in accordance with the requirements of Caltrans Seismic Design Criteria and the American Association of State Highway and Transportation Official’s Load and Resistance Factor Design (AASHTO LRFD) Bridge Design Specifications and California Amendments in order to minimize ground shaking impacts.

Secondary Effects of Seismic Shaking

Secondary effects of seismic shaking are nontectonic processes that are directly related to strong seismic shaking. Ground deformation, including fissures, settlement, displacement, and loss of bearing strength are common expressions of these processes and are among the leading causes of damage to structures during moderate to large earthquakes. Secondary effects leading to ground deformation include liquefaction, settlement, and landsliding. Other hazards indirectly related to seismic shaking are inundation, tsunamis, and seiches. These potential secondary effects of seismic shaking on the Project are discussed below.

Liquefaction

Liquefaction is a phenomenon in which saturated, cohesionless soils lose their strength due to the build-up of excess water pressure during cyclic loading such as that induced by earthquakes. The primary factors affecting the liquefaction potential of a soil deposit are: (1) intensity and duration of earthquake shaking; (2) soil type and relative density; (3) overburden pressures; and (4) depth to groundwater. Soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands and nonplastic silts that are saturated. Silty sands, under certain site conditions, may also be susceptible to liquefaction.

The potential impacts of liquefaction to the site may include: (1) settlement of the ground surface; (2) lateral spreading of the ground; (3) additional downdrag forces on foundation piles as a result of soil settlement above the liquefied layers; and (4) reduction of the shear strength of the liquefied soil, resulting in reduced load-carrying capacity.

Due to the depth to groundwater, which is anticipated to be greater than 30 ft bgs, and based on a preliminary screening-level liquefaction analysis, the site has a low-to-moderate liquefaction potential. However, as detailed in Measure GEO-1, the potential for liquefaction effects on the structures constructed for the Project would be further investigated during final design. If recommended by the geotechnical investigation, final design will include design features related to liquefiable soils. Therefore, no substantial liquefaction impacts would occur.

Collapsible Soils

A collapsible soil is generally defined as a soil that will undergo a sudden decrease in volume when its internal structural support is lost. Soils found to be most susceptible to collapse include loess (fine-grained, wind-deposited

soil) deposits, valley alluvium deposited within a semiarid to arid climate, and residual soil deposits. The Project site is located in a geological area prone to collapsible soil conditions. However, as detailed in Measure GEO-1, the collapse potential of the subsurface soils will be further investigated during final design. If recommended by the geotechnical investigation, final design will include design features related to collapsible soils. Therefore, impacts related to collapsible soils would not be substantial.

Seismically Induced Landslides

Marginally stable slopes may be subject to landsliding caused by seismic shaking. In most cases, this is limited to relatively shallow soil failures on steeper natural slopes, although deep-seated failures of oversteepened, engineered slopes are also possible. There are no natural slopes within the Project limits; therefore, there is no potential for landsliding of natural slopes. The only slopes within the Project area are graded cut-and-fill slopes constructed for the existing mainline and interchange ramps. As detailed in Measure GEO-1, the stability of future cut-and-fill slopes under static gravitational forces and pseudostatic loading conditions will be further evaluated during final design. If recommended by the geotechnical investigation, final design will include design features related to slope instability. Therefore, no substantial impacts related to slope instability would occur.

Seismically Induced Inundation

Strong seismic ground motion can cause dams and levees to fail, resulting in damage to structures and properties located downstream of those water retention facilities. There are no dams or substantial bodies of water on, in the immediate vicinity of, or immediately upstream of the Project site. The Project site is not within an inundation zone of a dam. Therefore, the Project would not be substantially impacted by seismically induced inundation.

Tsunamis and Seiches

A tsunami, or seismically generated sea wave, is generally created by a large, distant earthquake occurring near a deep ocean trough. A seiche is an earthquake-induced wave in a confined body of water such as a lake or reservoir. Damage from tsunamis is typically confined to coastal areas that are 20 ft or less above mean sea level. The Project site is not near the coast or any confined bodies of water. Therefore, the Project is not at risk of inundation from a tsunami or seiche.

Corrosive Soils

Corrosive soils contain constituents or physical characteristics that react with concrete (water-soluble sulfates) or ferrous metals (chlorides, low percentage of hydrogen levels, and low electrical resistivity). Fine-grained soils (predominantly clays) are the typical soil types responsible for corrosive site conditions. No subsurface investigation or laboratory testing has been conducted during the preliminary engineering phase of this Project to date. However, as detailed in Measure GEO-1, the potential for soil corrosion effects on the Project structures will be investigated during final design. If recommended by the geotechnical investigation to be prepared during Plans, Specifications and Estimates (PS&E), final design will include design features related to corrosive soils.

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

The minimization measure below is required to reduce the potential impacts associated with geotechnical and soil conditions on structures constructed under Alternatives 3, 6, and Modified Alternative 7:

GEO-1 **Geotechnical Investigation.** During the Plans, Specifications, and Estimates (PS&E) phase, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the Project area. The geotechnical investigation will include exploratory borings to investigate site-specific soils and conditions and to collect samples of subsurface soils for laboratory testing. Those soil samples will be tested to evaluate liquefaction potential, collapsibility potential, stability, and corrosion potential. The Project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report (SFR) and a Geotechnical Design Report (GDR) to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the selected Build Alternative.

Chapter 3 Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or 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 Project Development Team (PDT) meetings, interagency coordination meetings, and consultation with interested parties. This chapter summarizes the results of the California Department of Transportation (Caltrans) efforts to fully identify, address, and resolve Project-related issues through early and continuing coordination.

3.1 Interagency Coordination and Consultation

The formulation of Project alternatives has been carried out through a cooperative dialogue among representatives of the following agencies or organizations:

- Riverside County Transportation Commission (RCTC)
- City of Colton
- City of Grand Terrace
- Native American representatives
- Historical groups
- State Historic Preservation Officer (SHPO)
- Southern California Association of Governments (SCAG) Transportation Conformity Working Group (TCWG)
- United States Fish and Wildlife Service (USFWS)
- United States Army Corps of Engineers (USACE)
- Colton Joint Unified School District (CJUSD)

The following sections summarize the results of the efforts of both Caltrans and SANBAG to fully identify, address, and resolve Project-related issues through early and continuing coordination.

3.1.1 Native American Consultation

Consultation with the Native American Heritage Commission (NAHC) and Native American representatives is summarized in Table 3.1.

3.1.2 Historical Consultation

Consultation with agencies and interested parties regarding historical resources is summarized below**:**

- Grand Terrace Historical and Cultural Activities Committee, letter sent November 25, 2008. No response received.
- Personal communication with Sandra Molina, Grand Terrace Senior Planner, historical districts and landmarks, May 16, 2008.
- Personal communication with staff from the Grand Terrace City Clerk's office regarding persons knowledgeable in local history, May 16, 2008. Left contact information twice for Paulene Grant and Anne Peta, both members of the Grand Terrace Historical Society. No response received.
- Personal communication with Carla Rosenkild, San Bernardino County Museum, on June 19, 2008.
- Personal communication with Rex Edmundson, longtime area resident, June 2008.
- Personal communication with Grand Terrace Reference Librarian regarding local historical societies and/or groups, May 2008.
- Telephone conversation with Larry Sheffield, Colton Historical Society/Author, December 5, 2008, regarding history of school.
- Email communication with Joan Hall, local Riverside author and historian, May 16 and June 19, 2008.
- Email communication with Diana Fraser, Principal Librarian, Colton Public Library, December 5, 2008, regarding history of school. No response received.
- Email communication with Linda Gallardo, San Bernardino County Economic Development and Public Services Group, December 5, 2008, regarding building history. No response received.
- Email communication with Michele Nielsen, Curator of History/Archives, San Bernardino County Museum, June 26 and 27, 2008.
- Email communication with Syed Hyder, Grand Terrace Elementary School Principal, on December 5, 2008, regarding history of the school. Email response received on December 9, 2008, from Cynthia Coello, Grand Terrace Elementary School Principal, who had no information about the school's history.
- Email communication with Mary Helen Mills, Grand Terrace Elementary School Office Manager, on December 5, 2008, regarding history of the school. No response received.

Table 3.1 Native American Consultation

Agency	Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
Native American Heritage Commission (NAHC)	Dave Singleton, Program Analyst	April 8, 2008	April 10, 2009	Formal letter	**April 8, 2008:** A letter was sent to the NAHC requesting a search of the Sacred Lands File in order to identify areas of religious or cultural significance to Native Americans. The NAHC request letter is included at the end of this chapter. **April 10, 2008:** The NAHC responded on April 10, 2008, to say that the Sacred Lands File search was negative for the immediate Area of Potential Effects (APE). The NAHC response also contained a list of 12 tribes, groups, and individuals that might have knowledge of cultural resources in the APE. The NAHC list contained Serrano, Cahuilla, Gabrielino, and Luiseño contacts. The NAHC response letter is included at the end of this chapter.
Cahuilla Band of Indians	Anthony Madrigal, Jr., Chairperson	May 9, 2008	None	June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **June 24, 2008:** An administrator directed calls to Mary Jupp in Cultural Resources. She took a message for Ms. Jupp and stated that the call would be returned if the Tribe has concerns about the Project impacting cultural resources
Ti'At Society	Cindi Alvitre	May 9, 2008	None	May 27, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 27, 2008:** A voice mail was left for Ms. Alvitre. **June 24, 2008:** A voice mail was left for Ms. Alvitre requesting that she return the call if she has concerns about the Project impacting cultural resources.

Table 3.1 Native American Consultation (Continued)

Agency	Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
Gabrieleno/Tongva Indians	Anthony Morales, Chairperson	May 9, 2008	None	May 22, 2008; May 27, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 22, 2008:** A voice mail was left for Mr. Morales. **May 27, 2008:** A voice mail was left for Mr. Morales. **May 27, 2008:** Mr. Morales returned the call to state that the Tribe has no concerns about the Project impacting cultural resources due to the developed nature of the Project area. However, he would like to be informed immediately of any cultural resources discoveries.
Ramona Band of Mission Indians	Joseph Hamilton, Vice Chairman	May 9, 2008	None	May 27, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 27, 2008:** A voice mail was left for Mr. Hamilton. **June 24, 2008:** Mr. Hamilton requested that the information be sent by email to John Gomez in Cultural Resources. An email was sent to Mr. Gomez on June 25, 2008. Please see attached email.
Gabrielino/Tongva Council/Gabrielino Tongva Nation	Sam Dunlap, Tribal Secretary	May 9, 2008	None	June 10, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **June 10, 2008:** A voice mail was left for Mr. Dunlap. **June 24, 2008:** A voice mail was left for Mr. Dunlap requesting that he return the call if he has concerns about the Project impacting cultural resources.
San Manuel Band of Mission Indians	John Ramos, Chairperson	May 9, 2008	None	May 27, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail.

Table 3.1 Native American Consultation (Continued)

Agency	Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
Gabrielino Band of Mission Indians of California	Susan Frank	May 9, 2008	None	May 27, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 27, 2008:** A voice mail was left for Ms. Frank. **June 24, 2008:** A voice mail was left for Ms. Frank, requesting that she return the call if she has concerns about the Project impacting cultural resources.
Morongo Band of Mission Indians	Michael Contreras, Cultural Resources	May 9, 2008	None	May 27, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 27, 2008:** A voice mail was left for Mr. Contreras. **June 24, 2008:** A voice mail was left for Mr. Contreras requesting that he return the call if he has concerns about the Project impacting cultural resources.
San Manuel Band of Mission Indian	Ann Brierty, Environmental Department	May 9, 2008	None	May 27, 2008; June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **May 27, 2008:** A voice mail was left for Ms. Brierty. **June 24, 2008:** A voice mail was left for Ms. Brierty requesting that she return the call if she has concerns about the Project impacting cultural resources.
Serrano Nation of Indians	Goldie Walker	May 9, 2008	None	June 24, 2008	**May 9, 2008:** A letter that discussed the Project and requested information on cultural resources in the area that may be significant was sent via certified mail. **June 24, 2008:** A message was left with a person in Ms. Walker's household. The person stated that Ms. Walker would return the call if she had concerns with the Project impacting cultural resources. The person also stated that generally speaking, Ms. Walker would like to be notified

Table 3.1 Native American Consultation (Continued)

Agency	Agency Representative	Date of First Contact (Formal Letter)	Date of Reply	Date of Follow-up Contact (Phone Call)	Consultation Topic
					of any cultural resources discoveries that occur as a result of Project construction.
Pechanga Band of Mission Indians	Paul Macarro, Cultural Resources Center Luiseño	Not consulted per California Department of Transportation (Caltrans) recommendation.	Not applicable	Not applicable	Caltrans District 8 Cultural Resources staff recommended that the Pechanga Band of Mission Indians not be contacted because the Luiseño contacts are not applicable to the Project area.
Soboba Band of Luiseño Indians	Harold Arres, Cultural Resources Manager Luiseño	Not consulted per Caltrans recommendation.	Not applicable	Not applicable	Caltrans District 8 Cultural Resources staff recommended that the Soboba Band of Luiseño Indians not be contacted because the Luiseño contacts are not applicable to the Project area.

Source**:** *Archaeological Survey Report* (July 2011).

- Email communication with Katie Orloff, Grand Terrace Elementary School, on December 5, 2008, regarding history of the school. No response received.
- Email communication with Laura Klure, local historian and author, on July 14, 2009. Oral interview with Ms. Klure on July 17, 2009, regarding the California Electric Highgrove Steam-Electric Generating Plant.
- Email communications with Robert Worl (Siting Program Manager) and Beverly Bastian (Planner II – Cultural Resources), California Energy Commission, on July 21, 2009, regarding the Highgrove Steam-Electric Generating Plant.

3.1.3 State Historic Preservation Officer

As assigned by the Federal Highway Administration (FHWA), Caltrans has determined that there are properties evaluated as a result of the Project that are not eligible for inclusion in the National Register of Historic Places within the Project area of potential effect (APE). Under Section 106 Programmatic Agreement (PA) Stipulation VIII.C, Caltrans requested the SHPO's concurrence in this determination on August 4, 2011. SHPO concurrence was received on September 9, 2011. The SHPO correspondence letters are included at the end of this chapter.

3.1.4 SCAG Transportation Conformity Working Group

The Project-level particulate matter hot-spot analysis was presented to the SCAG TCWG for discussion and review on August 25, 2009. Per Caltrans Headquarters policy, all nonexempt projects need to go through review by the TCWG. This Project was approved and concurred upon by Interagency Consultation at the TCWG meeting as a project not having adverse impacts on air quality, and it meets the requirements of the Clean Air Act (CAA) and 40 Code of Federal Regulations (CFR) 93.116. On May 28, 2013, the TCWG confirmed that the addition of Modified Alternative 7 would not change the Project's determination. A copy of the TCWG determination is included at the end of this chapter.

3.1.5 United States Fish and Wildlife Service

On April 18, 2013, the USFWS provided the Proposed, Threatened, or Endangered Species List for species potentially occurring in the vicinity of the proposed Project. This letter is included at the end of this chapter.

3.1.6 United States Army Corps of Engineers

An on-site field meeting with the USACE was held on May 5, 2009, to discuss jurisdictional waters at the Project site. The following personnel attended the

meeting**:** Veronica Chan (USACE), Scott Quinnell (Caltrans), Wendy Walters (consulting biologist), and Sarah Barrera (consulting biologist).

3.1.7 Colton Joint Unified School District

SANBAG and City of Grand Terrace staff held three meetings with the CJUSD to discuss the potential impacts to Grand Terrace Elementary School resulting from the proposed Build Alternatives. At the initial meeting on December 6, 2007, the possible relocation of Grand Terrace Elementary School to accommodate Alternatives 2 and 4 was discussed. At a follow-up meeting on January 16, 2008, it was decided that, due to the cost and schedule for school relocation, additional Build Alternatives would be developed to avoid full acquisition of the school property. The PDT made a decision to drop Alternatives 2 and 4 from further consideration on March 18, 2008.

Alternatives 3, 5, and 6 were developed, which minimized impacts related to the school. School operations/activities and measures to avoid adverse impacts to the school during construction of the Interstate 215 (I-215)/Barton Road Interchange Improvement Project and the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project were discussed at the last meeting on May 10, 2010.

3.2 Community Outreach and Public Involvement

An English-Spanish toll-free helpline (1-888-4-215-TALK) was established in June 2008 for questions about: the I-215/Barton Road Interchange Improvement Project, the I-215 Bi-County HOV Lane Gap Closure Project, and the I-215/ Washington Street/Mount Vernon Avenue Interchange Improvement Project. Calls received included concerns regarding existing noise levels, property acquisition, road closures during construction, left-turn movement at La Crosse Avenue, locations of soil sampling, the alternative to be selected, and requests for additional information on the Project.

Fact sheets describing the alternatives being studied through the Project development process, as well as the Project schedule, were originally prepared in 2008. The purpose of the fact sheets is to provide the public with a general description and layouts of the Build Alternatives. These fact sheets are available for viewing on SANBAG's website. The fact sheets have been updated on a regular basis and will continue to be updated through construction completion.

Alternatives 3, 5, and 6 were presented to the Grand Terrace City Council at its regular meeting on January 13, 2009. The Project need, purpose, history, goals, and

costs were also presented. Based on the meeting minutes, Caltrans staff stated they would continue to keep the City of Grand Terrace updated as the environmental process progresses.

SANBAG presented Alternatives 3, 5, 6, and 7 to the Grand Terrace City Council at its regular meeting on October 12, 2010. The purpose of the presentation was to show the current Build Alternatives being considered for the Project.

At the February 21, 2012, PDT meeting, Richard Shields, Community Development Director at the City of Grand Terrace, and Victor Ortiz, Engineering Manager at the City of Colton, indicated that they have been getting calls from property owners with properties along the southern leg of La Crosse Avenue. The property owners were concerned about how Alternative 7 would impact the access for delivery trucks. SANBAG provided the cities with preliminary plans of the Build Alternatives so that they could be referenced when fielding questions.

Based on the concerns regarding the changes to the La Crosse Avenue/Barton Road intersection under Alternatives 6 and 7, SANBAG determined that a meeting would be held with the concerned property owners. The City of Grand Terrace held the meeting on April 23, 2012, to provide additional information regarding the preliminary design. In addition to the business owners, the City of Grand Terrace, SANBAG, and Caltrans staff attended the meeting. The property owners provided a written statement that the loss of a left turn from westbound Barton Road to La Crosse Avenue "would cripple the existing properties and businesses and severely restrict any future development."[1]

SANBAG and Caltrans presented Alternatives 3, 6, and 7, along with an updated Project schedule, to the Grand Terrace City Council on May 8, 2012. A member of the public mentioned that there was a meeting held a few weeks prior in which some of the business owners on the southwest corner of the I-215/Barton Road Interchange expressed their concern with the property acquisitions and the right-in/right-out access on La Crosse Avenue.

In August 2012, after consultation with Caltrans and FHWA staff, it was determined that a modification to Alternative 7 would be studied that included a roundabout design, so that access to the southern segment of La Crosse Avenue would be maintained.

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[1] Written statement and sign-in sheet, April 23, 2012.

SANBAG presented Alternatives 3, 6, and Modified Alternative 7 to the Grand Terrace City Council on April 23, 2013. The purpose of the presentation was to show the current Build Alternatives being considered for the Project. The City Council, support staff, and approximately 100 citizens were in attendance. The presentation lasted about 15 minutes. The only question during session concerned the roundabout and how it would function. The City Council was anxious to get the Project started.

After the meeting, several citizens requested points of contact to address questions. Two people remarked that they like Modified Alternative 7 because access is permitted to the businesses located on the southern segment of La Crosse Avenue. One citizen liked Alternative 6 because it permitted access to his property off De Berry Street.[1]

At its September 10, 2013, regular meeting, the City Council unanimously identified Modified Alternative 7 as its Locally Preferred Alternative.

3.3 Agency Coordination Documentation

The following documentation of coordination with the following agencies is provided at the end of this chapter:

- SHPO
- TCWG
- USFWS

[1] Email correspondence with Mary Brown, SANBAG Project Manager, April 25, 2013.

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
ENVIRONMENTAL PLANNING (MS 825)
464 W. FOURTH STREET, 6TH FLOOR
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August 4, 2011

Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816
Attention: Susan Stratton

08-SBd-215-PM 0.58/1.66
Barton Road IC Replacement Project
EA 0J070 / 0800000282

Dear Mr. Donaldson:

Subject: Determinations of Eligibility and notification of No Historic Properties Affected for the California Department of Transportation (Caltrans) Interstate 215 / Barton Road Interchange Project

The California Department of Transportation (Department), in cooperation with San Bernardino Associated Governments (SANBAG), proposes an undertaking to reconstruct the I-215 / Baron Road Interchange located in the City of Grand Terrace, San Bernardino County. The Undertaking includes replacement of the Barton Road bridge, realignment of on- and off- ramps storm water treatment facilities, construction of sound barriers, utility relocations, landscaping, and local street improvements.

This consultation is undertaken in accordance with the *Programmatic Agreement (PA) among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation*, executed January 1, 2004.

Section 106 activities to date for this undertaking include a Historic Property Survey Report (HPSR, July 2010), which documents the identification and evaluation of cultural resources within the project's Area of Potential Effects (APE). Consultation and identification efforts for the proposed undertaking (summarized in the HPSR) resulted in the identification of six (6) previously evaluated properties located in the APE:

Name	Address	Community	OHP Code	APE Map Ref.
36-021705	22048 Vivienda Avenue	Grand Terrace	6Z	A

36-021706	11940 Vivienda Court	Grand Terrace	6Z	B
36-021707	11960 Vivienda Court	Grand Terrace	6Z	C
36-021708	11970 Vivienda Court	Grand Terrace	6Z	D
CA-SBR-6847H 36-021710 (BNSF Railroad segment including Bridge 540518)	Generally between Main Street and Barton Road	Grand Terrace	6Z	E
CA-SBR-6101H 36-021709 (UPRR segment including Bridge 540519)	Generally between Pico Street and Barton Road	Grand Terrace	6Z	F

In addition, eight (8) historic period cultural resources that required evaluation were identified in the APE:

Name	Address	Community	OHP Code	APE Map Ref. No.
	12175 Michigan Street	Grand Terrace	6Z	1
	22115 Barton Road	Grand Terrace	6Z	2
	21842 Grand Terrace Road	Grand Terrace	6Z	3
	12012-12040 La Crosse Avenue	Grand Terrace	6Z	4
	21892 Grand Teerace Road	Grand Terrace	6Z	5
	22036 Vivienda Avenue	Grand Terrace	6Z	6
	22220-26 Barton Road	Grand Terrace	6Z	7
	22238 Barton Road	Grand Terrace	6Z	8

Pursuant to Stipulation VIII.C.5 of the Section 106 PA, we request your concurrence that the above listed properties are not eligible for listing in the NRHP. Pursuant to Stipulation IX.A of the Section 106 PA, Caltrans is proposing that a finding of **No Historic Properties Affected** is appropriate for this undertaking.

We look forward to receiving your response within thirty (30) days of your receipt of this submittal, in accordance with Stipulation VIII.C.5.a of the Section 106 PA. If you have any questions or comments regarding the proposed project, please feel free to contact Andrew Walters, Associate Environmental Planner (Architectural History) at (909) 383-2647or by email at andrew_walters@dot.ca.gov. In return correspondence, please refer to this project by the EA number provided. We look forward to your response.

Sincerely,

GABRIELLE DUFF
Office Chief
Environmental Support/Cultural Studies

c. Jill Hupp, Section 106 Coordinator, Division of Environmental Analysis, HQ

Enclosures

Historic Property Survey Report (HPSR) for the Interstate 215 / Barton Road Interchange Project, Cities of Grand Terrace and Colton, San Bernardino County, July 2011.

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STATE OF CALIFORNIA – THE NATURAL RESOURCES AGENCY EDMUND G. BROWN, JR., *Governor*

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
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SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
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September 9, 2011 Reply To: FHWA110808A

Gabrielle Duff, Office Chief
Caltrans District 8
Environmental Support/Cultural Studies (MS 825)
464 W 4th Street, 6th Floor
San Bernardino, CA 92401-1400

Re: Determination of Eligibility for the Proposed Interstate 215/Barton Road Interchange Project, Grand Terrace, CA

Dear Ms. Duff:

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 following properties are not eligible for the National Register of Historic Places (NRHP):

- 12175 Michigan Street
- 22115 Barton Road
- 21842 Grand Terrace Road
- 12012-12040 La Crosse Avenue
- 21892 Grand Terrace Road
- 22036 Vivienda Avenue
- 22220-26 Barton Road
- 22238 Barton Road

Based on review of the submitted documentation, I concur.

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

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TCWG Project-Level PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

August 2009	Determination
RIV011210	Not a POAQC - Hot Spot analysis not required.
SBD31850	Not a POAQC - Hot Spot analysis not required.
SBD_OC2500	A POAQC - Hot Spot analysis required.
SBD20040826 and SBD200619	

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TCWG Project-Level PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

May 2013	Determination
SBD31850 Memo	Reaffirmed Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence via email before the meeting)
SCAG015	Not a POAQC - Hot Spot Analysis Not Required (EPA concurrence via email before the meeting)
ORA 112622	Not a POAQC - Hot Spot Analysis Not Required (TCWG concurrence via email before the meeting)

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite 208
Palm Springs, California 92262

In Reply Refer To:
FWS-SB-08B0601-13SL0251

APR 18 2013

Mr. Scott Quinnell
Senior Environmental Planner
Department of Transportation, District 8
464 West Fourth Street, 6th Floor
San Bernardino, California 92401

Attention: Adam Compton

Subject: Request for a List of Proposed, Threatened, or Endangered Species potentially occurring in the vicinity of the Barton Road/Interstate 215 Project, City of Grand Terrace, San Bernardino County, California

Dear Mr. Quinnell:

This letter is in response to your request, received by our office via email on April 9, 2013, for concurrence with a list of federally endangered, threatened, proposed, and candidate species and their critical habitat potentially present in the vicinity of the Barton Road/Interstate 215 Project as previously issued (FWS-SB-08B0601-12SL0483). The project site is located along Interstate 215 between Iowa Avenue and Newport Avenue in the city of Grand Terrace, San Bernardino County, California. We understand this information will be used in support of documentation required by the California Department of Transportation to assist you in evaluating the potential occurrence of federally listed endangered, threatened, proposed, and candidate species and their critical habitat potentially present. This updated list was generated from a species and critical habitat search, employing a 1-mile buffer around the extent of the proposed project, and lists species with the potential to occur within the area. We also suggest that you contact the California Department of Fish and Wildlife regarding State-listed and sensitive species that may occur within the project area. Please note that State-listed species are protected under the provisions of the California Endangered Species Act.

As a reminder if a proposed project is authorized, funded, or carried out by a Federal agency and may affect a federally listed species, then section 7 consultation pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), is required. Should you have any questions regarding the species listed or your responsibilities under the Act, please contact John M. Taylor of this office at 760-322-2070, extension 218.

Sincerely,

Jennifer E. McBride
for

Kennon A. Corey
Assistant Field Supervisor

Enclosure

Federally Endangered, Threatened, Proposed, and Candidate Species and their Critical Habitat that May Occur in the Vicinity of the Barton Road/Interstate 215 Project, City of Grand Terrace, San Bernardino, County, California

April 18, 2013

Type	Scientific Name	Common Name	Federal Status	Critical Habitat in Vicinity
Birds	*Polioptila californica californica*	coastal California gnatcatcher	Threatened	Yes
	Vireo bellii pusillus	least Bell's vireo	Endangered	No
	Empidonax traillii extimus	southwestern willow flycatcher	Endangered	Yes
	Coccyzus americanus	western yellow-billed cuckoo	Candidate	N/A
Fish	*Catostomus santaanae*	Santa Ana sucker	Threatened	Yes
Flowering Plants	*Eriastrum densifolium ssp. sanctorum*	Santa Ana River woolly-star	Endangered	No
	Arenaria paludicola	marsh sandwort	Endangered	N/A
	Dodecahema leptoceras	slender-horned spineflower	Endangered	N/A
	Chloropyron maritimum subsp. *maritimum* (*Cordylanthus maritimus* subsp. *maritimus*)	salt marsh bird's-beak	Endangered	N/A
Mammals	*Dipodomys merriami parvus*	San Bernardino Merriam's kangaroo rat	Endangered	No

Chapter 4 List of Preparers

The following persons were principally responsible for preparation of this Draft Initial Study with Proposed Negative Declaration/Environmental Assessment.

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Chapter 5 Distribution List

This Draft Initial Study with Proposed Negative Declaration/Environment Assessment (IS/EA) and/or a Notice of Availability was distributed to the federal, State, regional, and local agencies and legislators, as well as interested groups, organizations, and individuals. In addition, all utilities and services, property owners and occupants within a 500-foot radius of the Project limits were provided the Notice of Availability of the IS/EA.

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1401 S. Mt Vernon Ave
Colton, CA 92324

Neish Market
2531 S. La Cadena
Colton, CA 92324

Pinnacle Peak
2533 S. La Cadena
Colton, CA 92324

Capital Projects Program Manager
Red Tile Inn, Inc
1311 S. Santo Antonio Dr
Colton, CA 92324

Shell Oil
2718 Iowa Ave
Colton, CA 92324

United Eneterprises, Inc
1405 E. Washington St
Colton, CA 92324

Gaylene Jones
Exe. Assistant
Summit Career College
851 S. Cooley Dr
Colton, CA 92324

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3450 14th St
Riverside, CA 92501

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2533 S. La Cadena
Colton, CA 92324

Vidhyarkorn Family Trust DTD 5/21/20
5570 Via Verano
Yorba Linda, CA 92887

Current Occupant
22048 Vivienda Avenue
Grand Terrace, CA 92313

Scott P Graham, Operations
Omnitrans
1700 W. Fifth St
San Bernardino, CA 92411

RDO Equipment
20 Iowa Ave
Riverside, CA 92507-1028

Drew Feldman, President
San Bernardino Valley Audubon Society
PO Box 10973
San Bernardino, CA 92423

Ralph Salisbury, Chair
Sierra Club, San Gorgonio Chapter
4079 Mission Inn Ave
Riverside, CA 92501

Son, Samuel & Kelina Living Trust 12
1010 S. Summer Breeze Ln
Anaheim, CA 92808

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Tarlov Properties
13440 Ventura Blvd, Ste. 105
Sherman Oaks, CA 91423

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The Sun
4030 N. Georgia Blvd
San Bernardino, CA 92407

Regulatory Project Manager
Tri-City Tractor
12331 S. La Cadena Dr
Colton, CA 92324

Willowwood Park Homeowners Association
310 N. Lake Ave 10Th Fl
Pasadena, CA 91101

Richard McPeak
1237 W. La Cadena Dr
Riverside, CA 92501

ORCO
2650 Iowa St
Colton, CA 92324

Virginia Carrillo, Executive Director
22296 Victoria St
Grand Terrace, CA 92313

Celeste Cantu, General Manager
Santa Ana Watershed Project Authority
11615 Sterling Ave
Riverside, CA 92503

Gutierrez Hesiquio E.
Siquio's
1395 E. Washington St
Colton, CA 92324

Executive Assistant
Stater Bros.
22201 Barton Road
Grand Terrace, CA 92313

Charlotte Pienkos
The Nature Conservancy
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Los Angeles, CA 90014

TP HOLT LLC
13440 Ventura Blvd, Ste. 105 St
Sherman Oaks, CA 91423

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Automobile Club of Southern California
590 N. D Street
San Bernardino, CA 92401

Jo String Field
22273 Barton Road
Grand Terrace, CA 92313

Arthur M. Lopez
3000 Tyler St
Riverside, CA 92501

Douglas Andrew and Lisa Jo Pollard
2273 Trafalgar Ave
Riverside, CA 92506

Dennis Wilds
625 West La Cadena Dr
Riverside, CA 92501

Darryl Deighton
591 La Cadena Dr
Riverside, CA

Warren E & Pamela Scheibe
190 E. La Cadena Dr
Riverside, CA 92507

John Degennaro
1000 E. Alessandro Blvd
Riverside, CA 92508

Mr. Larry Rubio
CEO
Riverside Transit Agency
PO Box 59968
Riverside, CA 92517

Snedeker, Wiley & Sara Liv TR 2/29/1
12168 Mt Vernon Ave #94
Grand Terrace, CA 92313

Ferrer, Sandra
P O Box 2056
Pomona, CA 91769

Maria E Gonzales
11910 Pascal Ave
Grand Terrace, CA 92313

GT Apartments LLC
PO Box 5647
Balboa Island, CA 92662

Lindsley, Larry & Mary Anne Fam TR A
28360 Somerview Dr
Murrieta, CA 92563

Patricia Flores
21958 Vivienda Ave
Grand Terrace, CA 92313

Akers Trust 4-27-09
10 Lower Winn Hill Rd
Sunapee, NH 03782

Gabrielino Band of Mission Indians of CA
Ms. Susan Frank
P.O. Box 3021
Beaumont, CA 92223

Liles, William Trust
15118 Walnut St
Hesperia, CA 92345

JLR Trust
21934 Grand Terrace Rd
Grand Terrace, CA 92313

Cardenas, Marco A & Digna G Fam TR 1
21892 Grand Terrace Rd
Grand Terrace, CA 92313

Gorman, David
21860 Grand Terrace Rd
Grand Terrace, CA 92313

Macias, Roberto
21969 Vivienda Ave
Grand Terrace, CA 92313

Alvira, Waldemar
21945 Grand Ave
Grand Terrace, CA 92313

Rodriguez, Donald J
21981 Grand Terrace Rd
Grand Terrace, CA 92324

Viveros, Robert W
9745 Tullock Ct
Bloomington, CA 92316

Roussos, Christine Strike
153 San Vicente Blvd 4E
Santa Monica, CA 90402

Clark, Harold R & M M Rev Liv TR 4/2
9304 Cleveland Ave
Riverside, CA 92503

Clark, Gary
2778 Robinwood Wy
West Linn, OR 97068

Gutierrez, Deida
22033 Vivienda Ave
Grand Terrace, CA 92313

Gutierrez, Deida
12212 Stonewood Dr
Grand Terrace, CA 92313

Al-Hawash, Mariana Fabiola
11982 Canal St
Grand Terrace, CA 92313

Harold Luke MD Inc
P O Box 11118
San Bernardino, CA 92423

LB Marshell Law
284-C E Lake Mead Dr #173
Henderson, NV 89015

Strike, Alice L
22229 Mc Clarren St
Grand Terrace, CA 92313

Arroyo, Francisco J
PO Box 1744
San Bernardino, CA 92402

Vaughn, Terry
12615 Garden Ave
Grand Terrace, CA 92313

Miranda, Israel M
11960 Canal St
Grand Terrace, CA 92313

Pannier, Barbara J Revocable Tr – ES
1309 Ashford Ln
Newport Beach, CA 92660

Avila, Heather M
22536 Canal Cir
Grand Terrace, CA 92313

Campell, Charity C
22539 Canal Cir
Grand Terrace, CA 92313

Ludi, Cynthia
22504 Canal Cir
Grand Terrace, CA 92313

Nazzal, Mark
22501 Canal Cir
Grand Terrace, CA 92313

LVS Trading LLC
127 Manor House
Las Vegas, NV 89123

Minardi, Angelo Separate Property TR
950 W. Seventeenth St Ste. A
Santa Ana, CA 92706

Fajardo, Teresa
22034 De Berry St
Grand Terrace, CA 92313

Stater Bros Markets
301 S. Tippecanoe Ave
San Bernardino, CA 92408

Hamann, Curtis
3400 E. Mcdowell
Phoenix, AZ 85008

Cornwall, Amy
12168 Mt Vernon Ave #43
Grand Terrace, CA 92313

Hathway Family Living Trust
1310 County St 2962
Blanchard, OK 73010-3023

Teng Stephen
22532 Canal Cir
Grand Terrace, CA 92313

Novy, Brian B
22544 Canal Cir
Grand Terrace, CA 92313

Herrera, Cesar G
22535 Canal Cir
Grand Terrace, CA 92313

Ward, Daniel
22508 Canal Cir
Grand Terrace, CA 92313

Grand Terrace 28 LP
3202 W. March Ln Ste. A
Grand Terrace, CA 92313

Adams, Gerad & Maria Revocable Liv
3233 Arlington Ave Ste. 105
Riverside, CA 92506

Evans, Jann L Living Trust 4-16-12
22064 De Berry St
Grand Terrace, CA 92313

American WPC Stroage (Multi) LLC
PO Box 320099
Alexandria, VA 22320

Nguyen Family Ab Revocable TR 1/25/1
3810 Henshaw Rd
West Sacramento, CA 95691

Balance, Francis M II
12168 Mt Vernon Ave Unit 37
Grand Terrace, CA 92313

Pritchard Trust 11-14-91
1605 Margarita Dr
Redlands, CA 92374

Derosa, Eric
22175 Carhart Ave
Grand Terrace, CA 92313

Trujillo, Amadeo Jr
22536 Canal Cir
Grand Terrace, CA 92313

Griffin, David J
22543 Canal Cir
Grand Terrace, CA 92313

Guadiz, Ben Jesse M
22500 Canal St
Grand Terrace, CA 92313

Russell, Spencer Kent
22505 Canal Cir
Grand Terrace, CA 92313

Grand Canal Townhomes Assoc
1120 El Camino Ave
Grand Terrace, CA 92313

Witt Revocable Trust 11-13-89
Po Box 19250
Encino, CA 91416

Anica Properties Inc
23190 Westwood St
Grand Terrace, CA 92313

Curatolo Family Trust of 1989
17 Park Mirage Ln
Rancho Mirage, CA 92270

Greeley, Mark Steven
22154-22156 De Berry St
Grand Terrace, CA 92313

Mindham, Barbara J
12168 Mt Vernon Ave #40
Grand Terrace, CA 92313

Crawfird, James A 2007 Trust 12-26-0
8317 Bell St
Crown Point, IN 46307

Ponder, Mary Ann Living Trust
5/19/1
12168 Mt Vernon Ave #83
Grand Terrace, CA 92313

Sunnyridge Holdings LLC
2537-D Pacific Coast Hwy #252
Torrance, CA 90505

Homan, Clifford G
22396 De Soto St
Grand Terrace, CA 92313

Robb, Terrilee A
12168 Mt Vernon Un 28
Grand Terrace, CA 92313

Thakkar, Noel S.
6385 Terracina Ave
Rancho Cucamonga, CA 91737

Conepcion, Victor
22367 Blue Lupine Cir
Grand Terrace, CA 92313

Duri, Khalid H
2840 S. Diamond Bar Blvd #109
Diamond Bar, CA 91765

Stewart, Ken H
22358 Blue Lupine Cir No 19
Grand Terrace, CA 92313

Croussett, Yaritza Esthela
22356 Blue Lupine Cir
Grand Terrace, CA 92313

Axiom Properties LLC
18032 Lemon Dr C
Yorba Linda, CA 92886

Hung, Luke
22350 Blue Lupine Cir No 27
Grand Terrace, CA 92313

Randhawa, Irwin
3245 Garretson Cir
Corona, CA 92881

Fargo, Roy Ghanim
19127 Sanvitalia St
Riverside, CA 92508

Young, Randolph S.
19025 Lynn Ln
Yorba Linda, CA 92886

Noh, Chong Ung
22341 Blue Lupine Circle Unit
Grand Terrace, CA 92313

Tsai, Jason
12460 Fairbanks Dr
Tustin, CA 92782

Kozak, Amanda
22328 Blue Lupine Cir
Grand Terrace, CA 92313

Mr. Petros Kyababchian
5 Points Auto Service
1221 E. Washington St
Colton, CA 92324

Altmans Colton Properties
1324 Rv Center Dr
Colton, CA 92324

AP-Colton LLC
1350 E. Washington St
Colton, CA 92324

Baker, Neal T Enterprises Inc
1310 E. Washington St
Colton, CA 92324

Terry Talley
CEO/President
Baker's Burgers Corporate
1875 Business Center Drive
San Bernardino, CA 92408

Mr. John Anespie
Baker's Drive Through
1875 Business Center Dr
San Bernardino, CA 92408

BP West Coast Products LLC
22895Washington St
Colton, CA 92324

Canyon Bluffs Plaza
1604 E. Washington St
Colton, CA 92324

Centrepointe Partnership
1140 S. Mt Vernon Ave
Colton, CA 92324

Colton Health & Fitness Llc
1550 E. Washington St
Colton, CA 92324

Denny's Inc
1190 S. Mt Vernon Ave
Colton, CA 92324

Devry
1090 Washington St, #H
Colton, CA 92324

Dunn-Edwards Properties 1 Llc
22780Washington St
Grand Terrace, CA 92324

Restaurant Manager
Jack In The Box
2780 Iowa Avenue
Colton, CA 92324

Lido Communities Llc
1251 S. Meadow Ln
Colton, CA 92324

Son, Samuel & Kelina Living Trust
12
1251 S. Meadow Ln
Colton, CA 92324

Terrace Village Rv Park Llc
817 Cisco Cir
Colton, CA 92324

Tp Holt Llc
1231 E. Washington St
Colton, CA 92324

Us Health Work
850 E. Washnington St
Colton, CA 92324

Vidhyarkorn Family Trust Dtd 5/21/20
1251 S. Meadow Ln
Colton, CA 92324

W K S Restaurant Corporation
1090 S. Mt Vernon Ave
Colton, CA 92324

Wal-Mart Real Estate Business Tr
1120 S. Mt Vernon Ave
Colton, CA 92324

Restaurant Manager
Yum Yum Restaurant
2726 Iowa Avenue
Colton, CA 92324

Christian Center Academy
1401 S. Mt. Vernon Ave.
Colton, CA 92324

Ms. Rebecca Taua'i
Center Administrator
Mojave River Academy Learning Center
1290 E. Washington
Colton, CA 92324

Ms. Claudia Harris
Principal
Terrace Hills Middle School
22579 DeBerry Street
Grand Terrace, CA 92316

Dr. Joseph Adeyemo
Principal
Terrace View Elementary School
22731 Grand Terrace Road
Grand Terrace, CA 92313

Mr. David Downey
Reporter
The Press-Enterprise
3450 Fourteenth Street
Riverside, CA 92501

Muscoy Community Church Of San Bernardino
1401 S. Mt Vernon Ave
Colton, CA 92324

Colton Public Library – Main Branch
656 North 9th Street
Colton, CA 92324

Utilities

Greg Kowalski
Elsinore Valley Municipal Water District
31315 Chaney St
Lake Elsinore, CA 92530

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Southern California Edison
Eastern Division
1351 Frances Street
Ontario, CA 91761

Christina Donavan
Riverside Highland Water Company
1405 E. Washington Street
Colton, CA 92324

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AT&T
3073 Adams St., Flr. 2
Riverside, CA 92504

Bart VanWey
Time-Warner Telecom
3281 Guasti Road #350
Ontario, CA 91761

August Bernardino
Charter Communications
7337 Central Avenue
Riverside, CA 92504

Mr. Hector Barba
Time Warner Cable
268 W. Hospitality Ln
San Bernardino, CA 92408

Tony Barozzo
The Gas Company
1981 West Lugonia Avenue
Redlands, CA 92374

Mark Daurenhauser
Time-Warner Cable
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Ontario, CA 91761

Riverside Highland Water Company
Executive Director
1450 E. Washington St
Colton, CA 92324

Daniel Rendler
Southern California Gas Company
1981 W. Lugoinia Ave
Redlands, CA 92374

Tony Lee
Energy Education Center
Southern California Edison
6030 N. Irwindale Ave
Irwindale, CA 91702

Mr. Don Hough, General Manager
Riverside Highland Water Company
12374 Michigan Street
Grand Terrace, CA 92313

Southern California Edison
941 Forest Dr
Colton, CA 92324

Southern California Edison
PO Box 1574
Loma Linda, CA 92354

Mr. Walter Werstiuk
AT&T Network Services
22311 Brookhurst St., Ste. 203
Huntington Beach, CA 92646

Property Owners within 500 feet of the Project Limits

BANK OF AMERICA NA
101 N. TRYON ST
CHARLOTTE NC 28255

CANAL STREET TRUST 12/14/12
1040 S. MT VERNON AVE STE G-156
COLTON, CA

PETTA FAMILY TRUST 05/10/12
10515 POLAND PL
BANNING CA 92220

GRAND CANAL TOWNHOMES ASSOCIATION
109 MAPLE ST STE H
CORONA CA 92880

KIM, HILARY
11809 CANAL ST
GRAND TERRACE CA 92313

HERNANDEZ, MARIA E C
11880 CANAL ST
GRAND TERRACE CA 92324

GONZALES, MARIA E
11910 PASCAL AVE
GRAND TERRACE CA 92313

HENRY, MONA F
11911 PASCAL AVE
GRAND TERRACE CA 92324

KOKINDA, JEFFERY W
11918 PASCAL AVE
GRAND TERRACE CA 92313

NAVA, JAVIER SANCHEZ
11920 CANAL ST
GRAND TERRACE CA 92313

FOSTER, TSUNEKO
11921 PASCAL AVE
GRAND TERRACE CA 92313

REEVES, CHARLES A
11934 VIVIENDA CT
GRAND TERRACE CA 92324

HERNDERSON, CHERYL L
11935 VIVIENDA CT
GRAND TERRACE CA 92313

HOLM, SCOTT
11939 PASCAL AVE
GRAND TERRACE CA 92313

LARSEN, COSETTE
11939 VIVIENDA CT
GRAND TERRACE CA 92313

FOWLER, ELIZABETH A
11940 CANAL ST
GRAND TERRACE CA 92313-5012

CIFFORD, MARTIN JR.
11940 PASCAL AVE
GRAND TERRACE CA 92313-5022

EVANS, ALAN & LORALEE REV LIV TR
11940 VIVIENDA CT
GRAND TERRACE CA 92313

PRENTICE, PATRICIA M
11947 PASCAL AVE
GRAND TERRACE CA 92324

YBARRA, MARGARET G
11947 VIVIENDA CT
GRAND TERRACE CA 92313

LE FORGE, DAVID R
11948 PASCAL AVE
GRAND TERRACE CA 92324

ROMERO, GUILLERMO
11948 VIVIENDA CT
GRAND TERRACE CA 9232

RANEY, CRAIG A
11954 CANAL ST
GRAND TERRACE CA 92324

PASSIC, KEITH ALLEN
11954 PASCAL AVE
GRAND TERRACE CA 92313

PEREZ, SAMUEL
11955 PASCAL AVE
GRAND TERRACE CA 92313

RIOS, YVETTE M
11957 PASCAL AVE
GRAND TERRACE CA 92313

BEDNORZ, JOHN E
11958 VIVIENDA CT
GRAND TERRACE CA 92324

MIRANDA, ISRAEL M
11960 CANAL ST
GRAND TERRACE CA 92313

CHAVEZ, MARISSA E
11960 PASCAL AVE
GRAND TERRACE CA 92313

KATUIS, MATTHEW M
11960 VIVIENDA CT
GRAND TERRACE CA 92313

CAPIENDO, LIZA M
11970 VIVIENDA CT
GRAND TERRACE CA 92313

LUGO, DOREEN
11981 LA CROSSE AVE
GRAND TERRACE CA 92313

SOUTHERN PACIFIC TRANSPORTATION CO
1200 CORPORATE CENTER DR STE 100
MONTEREY PARK CA 91754

TERRACE PINES DEV CO
12005 ASPEN CIR UNIT C
GRAND TERRACE CA 92313

C & E MAUERHAN FAMILY L P
12005 ASPEN CIRCLE UNIT C
GRAND TERRACE CA 92313

ROBERTS, MARY LOU SEP PROP TR 8/22/0
12012 RED HILL AVE
SANTA ANA CA 92705

MAROVITCH FAMILY TRUST (7-8-03)
12018 MINONA CT
GRAND TERRACE CA 92324

MORALES, HERBERT O
12030 VIVIENDA AVE
GRAND TERRACE CA 92324

COLLINS, CINDY G
12056 MT VERNON AVE #173
GRAND TERRACE CA 9231

RAMOS, JOSE SIGUE & HELEN JEAN, TRUS
12138 PALM CT
GRAND TERRACE CA 92324

MC ORMOND, LINDA
12168 MOUNT VERNON #69
GRAND TERRACE CA 92313

MURRAY FAMILY TRUST 2-20-2003
12168 MOUNT VERNON AVE
GRAND TERRACE CA 92313

GASAWAY, GARY R
12168 MOUNT VERNON AVE #74
GRAND TERRACE CA 92313

HASELRIG, EARL R
12168 MOUNT VERNON AVE #87
GRAND TERRACE CA 92313

FIGUEROA, CARMEN D
12168 MOUNT VERNON AVE UNIT# 27
GRAND TERRACE CA 92313

GREELEY, NANCY P
12168 MT VERNON #11
GRAND TERRACE CA 92313

QUARTO, JOSEPHINE A
12168 MT VERNON #35
GRAND TERRACE CA 92324

COOPE, CYNTHIA A
12168 MT VERNON #39
GRAND TERRACE CA 92324

MENDOZA, JOSEFINA
12168 MT VERNON #71
GRAND TERRACE CA 92324

SPURBECK, PAMELA A
12168 MT VERNON AVE #23
GRAND TERRACE CA 92313

PALMER, DARRELL
12168 MT VERNON AVE #42
GRAND TERRACE CA 92313

SNEDEKER, MICHAEL
12168 MT VERNON AVE #46
GRAND TERRACE CA 92313

BALDWIN, GRACE L REVOCABLE LIV TR 1/
12168 MT VERNON AVE #79
GRAND TERRACE CA 92313

ADAIR, JEANNIE
12168 MT VERNON AVE #86
GRAND TERRACE CA 92313

MATTISON, LEE J.
12168 MT VERNON AVE UNIT 18
GRAND TERRACE CA 92324

MIGAIOLO, MARLENE A
12168 MT VERNON AVE UNIT 25
GRAND TERRACE CA 92313

BALLANCE, FRANCIS M II
12168 MT VERNON AVE UNIT 37
GRAND TERRACE CA 92313

HODNETT, VALERIE E
12168 MT VERNON AVE UNIT 38
GRAND TERRACE CA 92324

WELLONS, HUGH T
12168 MT VERNON AVE UNIT 75
GRAND TERRACE CA 92313

ELSTON-HURDLE, AINSLEY C TR
12168 S. MT VERNON #16
GRAND TERRACE CA 92313

SAN MIGUEL, GUADALUPE
12168 S. MT VERNON #48
GRAND TERRACE CA 92313

MCGUIRE, CHRISTY A
12168 S. MT VERNON AVE # 78
GRAND TERRACE CA 92313

BENNETT, JAMES B
12168 S. MT VERNON AVE #29
GRAND TERRACE CA 92313

LAYNE, DENISE M
12168 S. MT VERNON AVE #30
GRAND TERRACE CA 92313

GREELEY, RACHEL S
12168 S. MT VERNON AVE #73
GRAND TERRACE CA 92313

HARTWELL, MARY T
12168 S. MT VERNON AVE #81
GRAND TERRACE CA 92324

HUSTON, CARL F
12168 S. MT VERNON AVE NO 70
GRAND TERRACE CA 92324

LAMBERT FAMILY TRUST
12190 LA CROSSE AVE
GRAND TERRACE CA 92313

PIERSON, KATHLEEN M
12208 PASCAL AVE
GRAND TERRACE CA 92313

HERMAN, MILFORD
12209 PASCAL AVE
GRAND TERRACE CA 92313

LOPEZ, ANTHONY R
12210 REED AVE/646E4
GRAND TERRACE CA

HERRERA, RAUL
12211 STONEWOOD DR
GRAND TERRACE CA 92313

GUTIERREZ, CARLOS A
12212 STONE WOOD DR
GRAND TERRACE CA 92313

STERNBERG, WILLILAM REV TR
12215 MICHIGAN ST
GRAND TERRACE CA 92313

ARCHBOLD, LOU ANN
12218 PASCAL AVE
GRAND TERRACE CA 92313

BIDNEY, KENNETH D
12219 PASCAL AVE
GRAND TERRACE CA 92324

BARTMAN, JAY R
12220 REED AVE
GRAND TERRACE CA 92313

VAZQUEZ, JOHNNY
12221 STONEWOOD DR
GRAND TERRACE CA 92313

ELLER, JANE K TRUST 4-19-06
12224 STONEWOOD DR
GRAND TERRACE CA 92313

GOODRICK, MONTY J SR
12225 MICHIGAN ST
GRAND TERRACE CA 92313

WAT, JAMES D & LORENE G FAM TRUST 8/
12226 PASCAL AVE
GRAND TERRACE CA 92313

STAMM, JAMES A
12227 PASCAL AVE
GRAND TERRACE CA 92324

MCCREE, MICHAEL
12232 REED
GRAND TERRACE CA 92343

SADLER, DAVID P
12233 MICHIGAN ST
GRAND TERRACE CA 92324

MANGUNSONG, EDDY T TR
12233 STONEWOOD DR
GRAND TERRACE CA 92313

HOLCOMB, NATHANIEL & MELBA REV TR
12236 PASCAL AVE
GRAND TERRACE CA 92313

MARTINEZ, MANUEL E
12237 PASCAL AVE
GRAND TERRACE CA 92324

THORNHILL, BARBARA J
12238 & 1/2 MICHIGAN STREET
GRAND TERRACE, CA

CUEVAS, JOEL
12238 1/4 MICHIGAN ST
GRAND TERRACE CA 92324

THWEATT, LARRY O
12238 MICHIGAN ST
GRAND TERRACE CA 92313

ZHANG, GUANGYU
12238 STONEWOOD DR
GRAND TERRACE CA 92313

SADLER, DAVID
12239 MICHIGAN ST
GRAND TERRACE CA 92313

DUNSON, ROBERT
12242 REED AVE
GRAND TERRACE CA 92313

LINDNER, SARA LYN
12244 MIRADO AVE
GRAND TERRACE CA 92313

SADLER, DAVID P
12245 STONEWOOD DR
GRAND TERRACE CA 92313

EVERETT, MICHAEL R
12247 PASCAL AVE
GRAND TERRACE CA 92313

WILKERSON LIVING TRUST 11/07/92
12252 REED AVE
GRAND TERRACE CA 92313

OTWELL, DEBRA L
12254 MORADO AVE
GRAND TERRACE CA 92313

ESPADERO, RESTITUTO C
12254 STONEWOOD DR
GRAND TERRACE CA 92313

STEVENS, KELLY D
12255 PASCAL AVE
GRAND TERRACE CA 92324

ARCHULETA, THOMAS A
12264 MIRADA AVE
GRAND TERRACE CA 92324

ROBLES, PAUL J
12264 REED AVE
GRAND TERRACE CA 92324

GARNER, DAVID L
12266 MICHIGAN ST
GRAND TERRACE CA 92313

NICHOLS, TERRI A
12268 STONEWOOD DR
GRAND TERRACE CA 92313

LEATHERS, LARRY G
12269 MICHIGAN ST
GRAND TERRACE CA 92313

BOYER, STEVEN J
12269 MIRACO ST
GRAND TERRACE CA 92324

VILLANUEVA, EDWIN J JR
12270 MICHIGAN ST
GRAND TERRACE CA 92313

PEREZ, CELIA M
12274 MIRADO AVE
GRAND TERRACE CA 92313

SLOCUM, ALAN M
12274 REED AVE
GRAND TERRACE CA 92324

KIYOHIRO, NICOLE Y
12284 MIRADO AVE
GRAND TERRACE CA 92313

ZAKHARIA, SAMIR
12284 STONEWOOD DR
GRAND TERRACE CA 92313

BAUTISTA, PATRICIA
12286 MICHIGAN ST
GRAND TERRACE CA 92313

JAMES, LOUIS & BEVERLY FAMILY TRUST
12286 REED AVE
GRAND TERRACE CA 92313

CLARK, RODNEY
12311 MICHIGAN ST
COLTON CA 92324

BOYD, DOUGLAS E
12325 LA CADENA
COLTON CA 92324

TRUJILLO, STEVEN DALE
12385 LA CADENA DR
COLTON CA 92324-3618

SUPERNAW, BETTY R TR
12394 MICHIGAN ST
GRAND TERRACE CA 92313-5602

ANDERSON FAMILY TRUST (8-20-91)
12401 S. LA CADENA DR
COLTON CA 92324

BAILEY, LOWELL B.
12640 ALLARD ST
SANTA FE SPRINGS CA 90670

VON KANEL, CHARLES
12816 FREMONTIA AVE
GRAND TERRACE CA 92313

LIMON, CARLOS
13059 COLONIAL DR
RANCHO CUCAMONGA CA 91739

HATHAWAY FAMILY LIVING TRUST 5/3/11
1310 COUNTY ST 2962
BLANCHARD OK 73010-3023

FARLEY, DONALD V
139 CARLIN LN
RIVERSIDE CA 92507

THOMPSON, MIKE RECREATIONAL VEHICLES
13940 FIRESTONE BLVD
SANTA FE SPRINGS CA 90670

VIKING INVESTMENT PROPERTIES
14 MONARCH BAY PLAZA STE#315
MONARCH BEACH CA 92629

VIKING INVESTMENT PROPERTIES
14 MONARCH BAY PLZ STE#315
MONARCH BEACH CA 92629

VASQUEZ, DAVID E
1430 DIAMOND CT
REDLANDS CA 92374

DARWIN, WILLIAM E
1465 PACIFIC ST
REDLANDS CA 92373

SOUTHERN CALIFORNIA EDISON COMPANY
14799 CHESTNUT ST
WESTMINSTER CA 92683

SOUTHERN CALIFORNIA EDISON COMPANY
14803 CHESTNUT ST
WESTMINSTER CA 92683

LILES, WILLIAM C TRUST 9-9-09 - EST
15118 WALNUT ST
HESPERIA CA 92345

MORRIS, JIM
15358 VALLEY BLVD
FONTANA CA 92335

MONEY, HEATHER HERITAGE TR 2-16-10
1583 SILVER CUP CT
REDLANDS CA 92374

NEAL, ROBERT J & BERNARDA REV TR
16027 VENTURA BLVD STE 550
ENCINO CA 91436

PACIFIC WEST MANAGEMENT
16027 VENTURA BLVD SUITE 550
ENCINO, CA

PRITCHARD TRUST 11-14-91
1605 MARGARITA DR
REDLANDS CA 92374

12210 MICHIGAN GRAND TERRACE LLC
1645 SAMAR PL
COSTA MESA CA 92626

STEVENS, ROBERTA
1674 VIRDEN DR
GLENDALE CA 92108

CURATOLO FAMILY TRUST OF 1989
17 PARK MIRAGE LN
RANCHO MIRAGE CA 92270

CHACON, JOSE A
170 GOLDFINCH LN
RIVERSIDE CA 92507

YANGTZE MANAGEMENT LLC
17291 IRVINE BLVD #258
TUSTIN CA 92780

SHAMOLIAN, HOMAYOON
17328 VENTURA BLVD # 423
ENCINO CA 91316

VELARDE LIVING TRUST 07/25/80
17392 WILDROSE LN
HUNTINGTON BEACH CA 92649

VILLALPANDO, ANTONIO V
1754 JERYL AVE
COLTON CA 92324

NORTH WATERFORD APARTMENTS
1777 BOTELHO DR STE 300
WALNUT CREEK CA 94596

HARBER, JAMES B
1880 E. RIVERVIEW DRIVE
SAN BERNARDINO CA 92408

HYROSEN PROPERTIES INC
1887 BUSINESS CENTER DR #1B
SAN BERNARDINO CA 92408

JOHANSEN, WILLIAM N TR
1912 TURFWOOD DR
PFAFFTOWN NC 27040

NAVARRO TR 5-1-07
19450 NUTHATCH ST
PERRIS CA 92570

CASTANEDA, ANGELINA REVOCABLE LIV TR
2 VIEWPOINT CIRCLE
POMONA CA

KHURANA PROPERTIES INC
2001 DINERS CT
SAN BERNARDINO CA 92408

KC TERRACE HOLDINGS LLC
21316 SEASPRITE CIR
HUNTINGTON BEACH CA 92646

AFFILIATED JACOBSEN FAMILY HOLDINGS
21800 BURBANK BLVD STE 330
WOODLAND HILLS CA 91367

BARTON PROPERTY LLC
21801 BARTON RD UNIT B
GRAND TERRACE CA 92313

BARTON PROPERTY LLC
21801 BARTON RD UNIT C
GRAND TERRACE CA 92313

HUGHES, DAN F
21830 GRAND TERRACE RD
GRAND TERRACE CA 92313-4412

LUNSTRUM, TIMOTHY P
21850 GRAND TERRACE RD
GRAND TERRACE CA 92313-4412

HUBBS, JUDITH K
21875 DE BERRY ST
GRAND TERRACE CA 92324

GIROUX, EDWARD A
21891 VIVIENDA AVE
GRAND TERRACE CA 92313

CLARK, JOSHUA RAYMOND
21899 VIVIENDA AVE
GRAND TERRACE CA 92313

HADJICONSTANTIS, DEMETRI
21900 BARTON ROAD
GRAND TERRACE, CA

NGUYEN, TIM
21910 VIVIENDA AVE
GRAND TERRACE CA 92324

GOMEZ, RONALD
21920 GRAND TERRACE RD
GRAND TERRACE CA 92313

KUENTZ, BEATRIZ
21942 GRAND TERRACE RD
GRAND TERRACE CA 92313

MAGDALENO, JUAN
21962 GRAND TERRACE RD
GRAND TERRACE CA 92313

DALLUGE, JASON
21970 VIVIENDA AVE
GRAND TERRACE CA 92313

MENA, LUCINA
21971 GRAND TERRACE RD
GRAND TERRACE CA 92313

MORELAND, FREDERICK
21984 VIVIENDA AVE
GRAND TERRACE CA 92313

LLEWELLYN, JANISE
21985 VIVENDA AVE
GRAND TERRACE CA 92313

LERGA, MILAN
21995 VIVIENDA AVE
GRAND TERRACE CA 92313

HALVIN, LAURENCE E
21996 VAN BUREN
GRAND TERRACE CA 92324

STEVENSON, DONALD F
22000 VIVIENDA AVE
GRAND TERRACE CA 92324

L & G SWERTFEGER LLC
22002 VAN BUREN ST
GRAND TERRACE CA 92313

RAMIREZ, RAYMOND I
22005 VIVIENDA AVE
GRAND TERRACE CA 92313

ABRANTES, SHARON
22007 RENE LN
GRAND TERRACE CA 92324

PARR, PAMELA J
22011 RENE LN
GRAND TERRACE CA 92324

KELLY, MATTHEW J & FAITH B REV LIV T
22017 DE BERRY ST
GRAND TERRACE CA 92313-5412

MESTAS, LEONARD J
22020 VIVIENDA AVE
GRAND TERRACE CA 92313

FIEBOH, EDWARD
22023 RENE LN
GRAND TERRACE CA 92313

DAVALOS, JOSE A
22031 DE BERRY ST
GRAND TERRACE CA 92313

LITTERAL, JERRY
22036 VIVIENDA AVE
GRAND TERRACE CA 92313-4432

TANIOS, FAHIM
22045 BARTON RD
GRAND TERRACE CA 92313

RUCKER, RAYNORD
22049 NEWPORT AVE
GRAND TERRACE CA 92313

ROUSSOS, CHRISTINE STRIKE
22051 GRAND TERRACE RD
GRAND TERRACE CA 92313

MUNOZ, JOSE J
22054 DE BERRY ST
GRAND TERRACE CA 92313

EVANS, JANN L LIVING TRUST 4-16-12
22064 DE BERRY ST
GRAND TERRACE CA 92313

COURTNEY, EDWARD C III
22074 DE BERRY ST
GRAND TERRACE CA 92324

FRAU, LOUIS
2208 W. OLYMPIC BLVD
MONTEBELLO CA 90640

IE ROLLERSPORTS INC
22080 COMMERCE WY
GRAND TERRACE CA 92313

VALENCIA, ARMANDO III
22081 DE BERRY ST
GRAND TERRACE CA 92313

HEACOCK, FRED ALBERT & PATRICIA A RE
22081 GRAND TERRACE RD
GRAND TERRACE CA 92324

WISNER, JAMES
22084 VIVIENDA AVE
GRAND TERRACE CA 92324

WARREN, ELSIE TRUST 5-3-05
22087 NEWPORT AVE
GRAND TERRACE CA 92313

EDMUNDSON, REX
22111 NEWPORT SP 164
GRAND TERRACE CA 92324

SMITH, KATHERINE L
22119 DEBERRY ST
GRAND TERRACE CA 92324

PAQUET, MARY
22132 GRAND TERRACE RD
GRAND TERRACE CA 92313

REBS, JENNIFER K
22135 DE BERRY ST
GRAND TERRACE CA 92313

SEIPP, KENNETH L
22168 MC CLARREN
GRAND TERRACE CA 92324

MARTIN, SHERWAYNE
22176 CARHART
GRAND TERRACE CA 92313

HUERTA, JESUS
22177 MC CLARREN ST
GRAND TERRACE CA 92324

LEMAY, DANIEL R
22185 CARHART AVE
GRAND TERRACE CA 92313

HALE FAMILY LIVING TRUST 5-15-08
22185 MCCLARREN ST
GRAND TERRACE CA 92313

MONTGOMERY, KEVIN A
22186 CARHART AVE
GRAND TERRACE CA 92324

RUSSELL, RAYMOND L TR
22195 CARHART AVE
GRAND TERRACE CA 92313

MC PHERSON, BRETT
22206 MC CLARREN ST
GRAND TERRACE CA 92313

HUBBS, PATRICIA
22207 CARHART AVE
GRAND TERRACE CA 92313

RAYMER, AMANDA
22208 CARHART
GRAND TERRACE CA 92313

CERVANTES, RAYMOND E JR
22211 DE SOTO ST
GRAND TERRACE CA 92313

LEE, DEAN
22213 MCCLARREN ST
GRAND TERRACE CA 92313

DAILY, STACIE MAE
22215 CARHART AVE
GRAND TERRACE CA 92313

BUTLER, MICHAEL
22219 DE SOTO ST
GRAND TERRACE CA 92313

SILVA, SAUL JR
22225 CARHART AVE
GRAND TERRACE CA 92313

CARRILLO, VIRGINIA
22226 VICTORIA ST
GRAND TERRACE CA 92324

JONES, STEVE T
2223 LINDSEY CT
FALLBROOK CA 92028

URIBE, ROBERT M
22230 MC CLARREN
GRAND TERRACE CA 92324

BRIDGEMAN, TIMOTHY
22235 CARHART AVE
GRAND TERRACE CA 92313

RODRIGUEZ, JENNIFER
22236 VICTORIA ST
GRAND TERRACE CA 92313

BOJORQUEZ, BRENT DEREK
22238 BARTON RD
GRAND TERRACE CA 92313

GADWAY, MARY K
22239 DE SOTO ST
GRAND TERRACE CA 92313

STEWARD, DAVID L
22243 MC CLARREN ST
GRAND TERRACE CA 92313

LIBBY, STEPHEN R
22245 CARHART
GRAND TERRACE CA 92324

THOMPSON, JERRY RALPH
22245 DE SOTO ST
GRAND TERRACE CA 92313

FURNAS FAMILY TRUST 2-1-91-CREDIT TR
2225 JOHN MATICH DR
COLTON CA 92324

SCHNETZ, RANDALL A
22250 CARHART AVE
GRAND TERRACE CA 92313

RATTANABABPHA, PINGKHAM
22251 CARHART AVE
GRAND TERRACE CA 92313

JOHNSON, CONNIE S
22252 DE BERRY ST
GRAND TERRACE CA 92313

CLARK, DALE W
22252 MC CLARREN ST
GRAND TERRACE CA 92313

SWERTFEGER, JEFFRY
22257 MC CLARREN ST
GRAND TERRACE CA 92313

VILLAREAL, GILBERT
22260 DEBERRY ST
GRAND TERRACE CA 92313

DONNEL, JAMES M
22271 CARHART AVE
GRAND TERRACE CA 92324

BAKER, SHIRLEY M
22271 MC CLARREN ST
GRAND TERRACE CA 92313

CANELA, CARMEN REVOC LIV TR (2-27-03
22287 MC CLARREN ST
GRAND TERRACE CA 92313

ABBOTT, HARRY E
22300 BARTON RD
GRAND TERRACE CA 92313

JAMES, SHAAN D
22315 BLUE LUPINE CIR
GRAND TERRACE CA 92313

RIFAI, ISSAM
22316 BLUE LUPINE CIR
GRAND TERRACE CA 92313

NAVARRO, JOHN M III
22317 BLUE LUPINE CIR
GRAND TERRACE CA 92313

FERRER, SANDRA
22320 BLUE LUPINE CIR
GRAND TERRACE CA 92313

PORTER, DERRICK
22321 BLUE LUPINE CIR
GRAND TERRACE CA 92313

DELFIN, DEANNE
22323 BLUE LUPINE CIR
GRAND TERRACE CA 92313

GRANATO, CONNIE MARIE REVOCABLE TR
22326 BLUE LUPINE CIR
GRAND TERRACE CA 92313

WILLIAMS, AUDLEY
22327 BLUE LUPINE CIR
GRAND TERRACE CA 92313

TROIA, CATHERINE
22329 BLUE LUPINE CIR
GRAND TERRACE CA 92313

CHAMPANERIA, MANISH C
22331 BLUE LUPINE CIR
GRAND TERRACE CA 92313

GENTLES, JUNIOR J
22332 BLUE LUPINE CIR
GRAND TERRACE CA 92313

FAVELA, RAYMOND C
22333 BLUE LUPINE CIR
GRAND TERRACE CA 92313

BROWN, SHAWNNA
22334 BLUE LUPINE CIR
GRAND TERRACE CA 92313

MUTHIAH, SALLY
22336 BLUE LUPINE CIR
GRAND TERRACE CA 92313

MISTRY, BHASKAR
22338 BLUE LUPINE CIR
GRAND TERRACE CA 92313

BELLO, TEMITOPE S
22340 BLUE LUPINE CIR
GRAND TERRACE CA 92313

PAYNE, TERRI
22342 BLUE LUPINE CIR
GRAND TERRACE CA 92313

FRASER, EARL G JR
22342 GRAND TERRACE RD
GRAND TERRACE CA 92324

ZUNIGA, ERIC
22343 BLUE LUPINE CIR
GRAND TERRACE CA 92313

SANDIFORD, GIVONA A
22345 BLUE LUPINE CIR
GRAND TERRACE CA 92313

HERNANDEZ, GREGG
22354 BLUE LUPINE CIR
GRAND TERRACE CA 92313

RODRIGUEZ, RHEANNA M
22355 BLUE LUPINE CIR
GRAND TERRACE CA 92313

FIEDLER, BRIDGET
22357 BLUE LUPINE CIR #21
GRAND TERRACE CA 92313

GREGORY, LESLIE M
22359 BLUE LUPINE CIR
GRAND TERRACE CA 92313

KRCHNAVI, VALERIE DRAKE
22360 BLUE LUPINE CIR
GRAND TERRACE CA 92313

CERNA, MARIO
22361 BLUE LUPINE CIR
GRAND TERRACE CA 92313

REOUK, DANIIL V
22362 BLUE LUPINE CIR
GRAND TERRACE CA 92313

ROSAS, JUAN
22363 BLUE LUPINE CIR
GRAND TERRACE CA 92313

AVILA, MARSHALL
22366 BLUE LUPINE CIR
GRAND TERRACE CA 92313

CONCEPCION, VICTOR
22367 BLUE LUPINE CIR
GRAND TERRACE CA 92313

REGINATO, JUAN A
22368 BLUE LUPINE CIR
GRAND TERRACE CA 92313

MOHAMMED, NINA N
22369 BLUE LUPINE CIR
GRAND TERRACE CA 92313

BALDING, DAWN
22370 BLUE LUPINE CIR
GRAND TERRACE CA 92313

O CONNELL, MICHAEL
22372 BLUE LUPINE CIR
GRAND TERRACE CA 92313

THAKKAR, NOEL S
22373 BLUE LUPINE CIR
GRAND TERRACE CA 92313

PATEL, SAURABH V
22374 BLUE LUPINE CIR
GRAND TERRACE CA 92313

ROVETTI, GINA M
22376 BLUE LUPINE CIR
GRAND TERRACE CA 92313

CROWE, FRANK
22378 BLUE LUPINE CIR
GRAND TERRACE CA 92313

BARBAROSSA, SALVATORE
22380 DE BERRY ST
GRAND TERRACE CA 92313

VAID, ILYAS O
22386 DE SOTA ST
GRAND TERRACE CA 92324

CLARK, JEFFREY J & RILLA J
FAM LIV T
22393 DE SOTO ST
GRAND TERRACE CA 92313

HOMAN, CLIFFORD G
22396 DE SOTO ST
GRAND TERRACE CA 92313

CROSTHWAIT, CHAD E
22401 DE SOTO ST
GRAND TERRACE CA 92313

CABRAL, ANDREW H & LINDA M
LIVING TR
22408 DESOTO ST
GRAND TERRACE CA 92313

LUCKMAN, RICHARD B
22411 DESOTO
GRAND TERRACE CA 92324

SEEKINS, GAIL ANNE
22418 DE SOTO ST
GRAND TERRACE CA 92313

GOMEZ-FLORES, HUGO E
22420 CANAL CIR
GRAND TERRACE CA 92313

GUADIZ, BEN JESSE M
22500 CANAL ST
GRAND TERRACE CA 92313

NAZZAL, MARK
22501 CANAL CIR
GRAND TERRACE CA 92313

LUDI, CYNTHIA
22504 CANAL CIR
GRAND TERRACE CA 92313

RUSSELL, SPENCER KENT
22505 CANAL CIR
GRAND TERRACE CA 92313

WARD, DANIEL
22508 CANAL CIR
GRAND TERRACE CA 92313

TENG, STEPHEN
22532 CANAL CIR
GRAND TERRACE CA 92313

HERRERA, CESAR G
22535 CANAL CIR
GRAND TERRACE CA 92313

CAMPBELL, CHARITY C
22539 CANAL CIR
GRAND TERRACE CA 92313

AVILA, HEATHER M
22540 CANAL CIR
GRAND TERRACE CA 92313

GRIFFIN, DAVID J
22543 CANAL CIR
GRAND TERRACE CA 92313

NOVY, BRIAN B
22544 CANAL CIR
GRAND TERRACE CA 92313

SCHWAB, THOMAS J
22685 LARK ST
GRAND TERRACE CA 92313

SCHWAB, THOMAS
22687 LARK ST
GRAND TERRACE CA 92313

PB&J LLC
2275 LA CROSSE AVE #215
COLTON CA 92324

MOORE, DARRYL E
22750 MINONA DR
GRAND TERRACE CA 92313

CITY OF GRAND TERRACE
22795 BARTON RD
GRAND TERRACE CA 92324

DANESH, PARVIZ
22845 BLUEBIRD LN
GRAND TERRACE CA 92313

YASIN, ALI M
22975 ORANGEWOOD CT
GRAND TERRACE CA 92324

MATTESON, BYRON R TRUST 7/30/86
23142 VISTA GRANDE WY
GRAND TERRACE CA 92324

BENSON, JAMES H
23200 BARTON RD
GRAND TERRACE CA 92313

BRITHINEE, DONALD P & DEBORAH F FAM
23286 WESTWOOD ST
GRAND TERRACE CA 9231

SZLANTA, MYCHAJLO
24582 STEFFY DR
LAGUNA NIGUEL CA 92677

COAST PROPERTIES INVESTORS
2605 S. WATERMAN
SAN BERNARDINO CA 92408

BERGER, BECKY L
277 MONTECITO BLVD
NAPA, CA

LINDSLEY, LARRY & MARY ANNE FAM TR A
28360 SOMERVIEW DR
MURRIETA CA 92563

KADER, ABBA
28582 MURRELET DR
LAGUNA NIGUEL CA 92677

THR CALIFORNIA L P
291 CORPORATE TERRACE CIR
CORONA, CA

KREMKOW, CAROLE TRUST 9-9-11
2913 HICKORY PL
FULLERTON CA 92635

Colton Joint Unified School District
1212 Valencia Drive
Colton, CA 92324

EMERITOL GRAND TERRACE LLC
3131 ELLIOTT AVE #500
SEATTLE WA 98121

ANDERSON, ANDY D
318 REVERE CT NE
CEDAR RAPIDS IA 52402

ADAMS, GERARD & MARIA REVOCABLE LIV
340 LOWER GRASSHOPPER RD
DILLION MT 59725

HERNANDEZ, RUBEN L & JENNIFER A REV
3410 LA SIERRA AVE F 516
RIVERSIDE CA 92503

GEORGIA CAPITAL LLC
3525 PIEDMONT ROAD 6
PIEDMONT CENTER STE 305
ATLANTA GA

HUNG, LUKE
3592 S. MALL
IRVINE CA 92606

ROSEN, KATHLEEN G
3671 SEASCAPE DR
HUNTINGTON BEACH CA 92649

HAYS, LUCILLE M TR
3707 BANDINI AVE
RIVERSIDE CA 92506

VAGAS FAMILY TRUST 4-28-88
37821 GRAND OAKS AVE
PALM DESERT CA 92211

NGUYEN FAMILY AB REVOCABLE TR 1/25/1
3810 HENSHAW RD
WEST SACRAMENTO CA 95691

CITY OF RIVERSIDE
3900 MAIN ST
RIVERSIDE CA 92501

PARAMO, RICHARD L
4285 HAINES STREET
SAN DIEGO, CA

TRUAX, TIMOTHY JASON
429 COBERTA AVE
LA PUENTA CA 91746

SOUTHERN CALIFORNIA EDISON COMPANY
430 N. VINEYARD AVE STE 210
ONTARIO CA 91764

TAPIA, DONALD RAY
4350 E. CAMELBACK RD STE E-250
PHOENIX AZ

FIFIELD, RALPH C AND DALE TR
44503 JACKSON ST
INDIO CA 92201

CHAVEZ, CHARLOTTE ANN
TRUST 8-4-09
4811 SUNCREST DR
RIVERSIDE CA 92509

ADCOCK, ROY & LORA TRUST
10-25-02 SU
5705 VIA SOTELO
RIVERSIDE CA 92506

METZGAR, MARIE
57124 ONAGA TRAIL
YUCCA VALLEY CA 92284

SIMON, WILLIAM J
5915 NEWCOMB ST
SAN BERNARDINO CA 9240

ABDULLAHI, MARIA
6225 CROFTON DR
ALPHARETTA GA 30005

REDEVELOPMENT AGENCY/CITY
OF COLTON
650 N. LA CADENA DR
COLTON CA 92324

JSP GRAND ROYAL LP
655 MONTGOMERY ST #1700
SAN FRANCISCO CA 94111

DNA RESIDENTIAL PROP I LLC
6665 LONG BEACH BLVD
LONG BEACH CA 90805

HARRIS LIVING TRUST 3/27/2003
6842 CANYON HILL DR
RIVERSIDE CA 92506

FURLONG, RACHEL M TRUST
6/19/1992
7390 LIVE OAK DR
RIVERSIDE CA 92509

ATCHISON TOPEKA AND SANTA
FE RR CO
740 E. CARNEGIE DR
SAN BERNARDINO CA 92408

LEUNG, JASON KAI-MING
750 RANCHO EL FUERTE
COVINA CA 91724

GRAND TERRACE-SAN
BERNARDINO LP
781 LINCOLN AVE STE 300
SAN RAFAEL CA 94901

PITZONKA, PAUL L
8036 OTTO MAPLES RD
LITTLE VALLEY NY 14755

CRAWFORD, JAMES A 2007
TRUST 12-26-0
8317 BELL ST
CROWN POINT IN 46307

CORBIT REVOCABLE TRUST
AGMNT 8/1/13
914 WAGGONER RD
PARADISE CA 95969

DRECHSLER FAMILY TRUST
8/18/09
9140 EL AZUL CIR
FOUNTAIN VALLEY CA 92708

DRECHSLER FAMILY TRUST
8/18/09
9140 EL AZUL CIRCLE
FOUNTAIN VALLEY CA 92708

MCDUFFEE, TERREL R TRUST
7/15/08
925 CAROB ST
REDLANDS CA 92373

CAMPOS, ANTONIO F
963 WESTERN AVE
SAN BERNARDINO CA 92411

MORALES, JOSEPHINE
993 N. PRIMROSE AVE
RIALTO CA 92376

OSBORNE, JOHN TRUST 12/17/07
PO BOX 8127
REDLANDS CA

TILLEY, ROBERT T
P O BOX 1076
BANNING CA

HAROLD LUKE MD INC
P O BOX 11118
SAN BERNARDINO CA

C-Y DEVELOPMENT CO
P O BOX 161
ORCAS WA

WILLIAMS, BRUCE A
P O BOX 1745
MONUMENT CO

COLTON INDUSTRIAL
PROPERTIES LLC
P O BOX 19155
ENCINO, CA

STRICKLER, CORBIN T
P O BOX 43
RIMFOREST CA

BAILEY, GARY L
P O BOX 431
SUN CITY CA

DARWIN, BILLY G TR
P O BOX 483
COLTON CA

STRIKE, ALICE
P O BOX 49229
LOS ANGELES CA

SCHWARK, RITA TRUST 7/17/09
PO BOX 11965
SAN BERNARDINO CA

SDG INVESTMENTS LLC
PO BOX 1224
CORONA CA

RANK, HAROLD G IV
PO BOX 1365
YUCAIPA CA

ARROYO, FRANCISCO J
PO BOX 1744
SAN BERNARDINO CA

GT APARTMENTS LLC
PO BOX 5647
BALBOA ISLAND CA

STEWART, EUGENIA
PO BOX 5652
FULLERTON CA

Occupants within 500 feet of the Project Limits

Current Occupant
22111 Newport Ave Spc 167
Colton, CA 92324

Current Occupant
2271 La Crosse Ave
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 101
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 103
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 107
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 110
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 111
Colton, CA 92324

Current Occupant
2273 La Crosse Ave Ste. 112
Colton, CA 92324

Current Occupant
2275 La Crosse Ave Ste. 201
Colton, CA 92324

Current Occupant
2275 La Crosse Ave Ste. 206
Colton, CA 92324

Current Occupant
2275 La Crosse Ave Ste. 212
Colton, CA 92324

Current Occupant
2275 La Crosse Ave Ste. 213
Colton, CA 92324

Current Occupant
2275 La Crosse Ave Ste. 215
Colton, CA 92324

Current Occupant
2277 La Crosse Ave Ste. 301A
Colton, CA 92324

Current Occupant
2279 La Crosse Ave Ste. 401
Colton, CA 92324

Current Occupant
2281 La Crosse Ave Ste. 501
Colton, CA 92324

Current Occupant
2281 La Crosse Ave Ste. 503
Colton, CA 92324

Current Occupant
2281 La Crosse Ave Ste. 505
Colton, CA 92324

Current Occupant
2281 La Crosse Ave Ste. 508
Colton, CA 92324

Current Occupant
2281 La Crosse Ave Ste. 601
Colton, CA 92324

Current Occupant
2680 S. La Cadena Dr
Colton, CA 92324

Current Occupant
2690 S. La Cadena Dr
Colton, CA 92324

Current Occupant
2700 S. La Cadena Dr
Colton, CA 92324

Current Occupant
2706 S. Iowa Ave
Colton, CA 92324

Current Occupant
2726 S. Iowa Ave
Colton, CA 92324

Current Occupant
2760 S. Iowa Ave
Colton, CA 92324

Current Occupant
2780 S. Iowa Ave
Colton, CA 92324

Current Occupant
280 De Berry St
Colton, CA 92324

Current Occupant
2830 S. Iowa Ave
Colton, CA 92324

Current Occupant
2861 S. La Cadena Dr Apt B
Colton, CA 92324

Current Occupant
2861 S. La Cadena Dr Apt C
Colton, CA 92324

Current Occupant
375 De Berry St
Colton, CA 92324

Current Occupant
11809 Canal St
Grand Terrace, CA 92313

Current Occupant
12014 La Crosse Ave
Grand Terrace, CA 92313

Current Occupant
12016 La Crosse Ave Ste. A
Grand Terrace, CA 92313

Current Occupant
12018 La Crosse Ave Ste. A
Grand Terrace, CA 92313

Current Occupant
12030 La Crosse Ave
Grand Terrace, CA 92313

Current Occupant
12034 La Crosse Ave
Grand Terrace, CA 92313

Current Occupant
12040 La Crosse Ave
Grand Terrace, CA 92313

Current Occupant
12066 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
12210 Michigan St Ste. 10
Grand Terrace, CA 92313

Current Occupant
12210 Michigan St Ste. 11
Grand Terrace, CA 92313

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12210 Michigan St Ste. 12
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12210 Michigan St Ste. B
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12210 Michigan St Ste. D
Grand Terrace, CA 92313

Current Occupant
12210 Michigan St Ste. F
Grand Terrace, CA 92313

Current Occupant
12210 Michigan St Ste. G
Grand Terrace, CA 92313

Current Occupant
12210 Michigan St Ste. I
Grand Terrace, CA 92313

Current Occupant
21801 Barton Rd Ste. B
Grand Terrace, CA 92313

Current Occupant
21801 Barton Rd Ste. D
Grand Terrace, CA 92313

Current Occupant
21824 Barton Rd
Grand Terrace, CA 92313

Current Occupant
21825 Barton Rd
Grand Terrace, CA 92313

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21829 Barton Rd
Grand Terrace, CA 92313

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21831 Barton Rd
Grand Terrace, CA 92313

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21840 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21842 Barton Rd
Grand Terrace, CA 92313

Current Occupant
21845 Grand Terrace Rd Spc 1
Grand Terrace, CA 92313

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21845 Grand Terrace Rd Spc 10
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21845 Grand Terrace Rd Spc 64
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Current Occupant
21845 Grand Terrace Rd Spc 7
Grand Terrace, CA 92313

Current Occupant
21845 Grand Terrace Rd Spc 9
Grand Terrace, CA 92313

Current Occupant
21868 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21892A Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21892B Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21900 Barton Rd Ste. 100
Grand Terrace, CA 92313

Current Occupant
21900 Barton Rd Ste. 102
Grand Terrace, CA 92313

Current Occupant
21900 Barton Rd Ste. 107
Grand Terrace, CA 92313

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21900 Barton Rd Ste. 108
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21900 Barton Rd Ste. 109
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21900 Barton Rd Ste. 110
Grand Terrace, CA 92313

Current Occupant
21900 Barton Rd Ste. 170
Grand Terrace, CA 92313

Current Occupant
21900 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21902 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21945 Grand Terrace Rd
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Current Occupant
21955 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21970 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21973 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21975 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
22035 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
22077 Barton Rd Ste. A
Grand Terrace, CA 92313

Current Occupant
22077 Barton Rd Ste. B
Grand Terrace, CA 92313

Current Occupant
22111 Newport Ave Ofc
Grand Terrace, CA 92313

Current Occupant
22111 Newport Ave Spc 10
Grand Terrace, CA 92313

Current Occupant
22111 Newport Ave Spc 101
Grand Terrace, CA 92313

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Grand Terrace, CA 92313

Current Occupant
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Colton, CA 92324

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Colton, CA 92324

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22111 Newport Ave Spc 155
Colton, CA 92324

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22111 Newport Ave Spc 156
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Current Occupant
22125 Barton Rd Ste. 100
Grand Terrace, CA 92313

Current Occupant
22125 Barton Rd Ste. 200
Grand Terrace, CA 92313

Current Occupant
22125 Barton Rd Ste. 400
Grand Terrace, CA 92313

Current Occupant
22125 Barton Rd Ste. 600
Grand Terrace, CA 92313

Current Occupant
22161 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22200 Newport Ave
Grand Terrace, CA 92313

Current Occupant
22226 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22238 1/2 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22270 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22310 Barton Rd Ste. A
Grand Terrace, CA 92313

Current Occupant
22310 Barton Rd Ste. B
Grand Terrace, CA 92313

Current Occupant
22310 Barton Rd Ste. C
Grand Terrace, CA 92313

Current Occupant
22310 Barton Rd Ste. E
Grand Terrace, CA 92313

Current Occupant
22310 Barton Rd Ste. F
Grand Terrace, CA 92313

Current Occupant
22320 Barton Rd Ste. A
Grand Terrace, CA 92313

Current Occupant
22320 Barton Rd Ste. B
Grand Terrace, CA 92313

Current Occupant
22320 Barton Rd Ste. C
Grand Terrace, CA 92313

Current Occupant
22320 Barton Rd Ste. D
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 100
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 101
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 108
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 110
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 112
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 120
Grand Terrace, CA 92313

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22365 Barton Rd Ste. 201
Grand Terrace, CA 92313

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22365 Barton Rd Ste. 202
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22365 Barton Rd Ste. 210
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22365 Barton Rd Ste. 212
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22365 Barton Rd Ste. 220
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd Ste. 300
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22365 Barton Rd Ste. 302
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22365 Barton Rd Ste. 308
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Current Occupant
22365 Barton Rd Ste. 314
Grand Terrace, CA 92313

Current Occupant
22400 Barton Rd Ste. 1
Grand Terrace, CA 92313

Current Occupant
22400 Barton Rd Ste. 10
Grand Terrace, CA 92313

Current Occupant
22400 Barton Rd Ste. 11
Grand Terrace, CA 92313

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22400 Barton Rd Ste. 14
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22400 Barton Rd Ste. 17
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Grand Terrace, CA 92313

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22400 Barton Rd Ste. 3
Grand Terrace, CA 92313

Current Occupant
22400 Barton Rd Ste. 5
Grand Terrace, CA 92313

Current Occupant
22400 Barton Rd Ste. 8
Grand Terrace, CA 92313

Current Occupant
22113 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
22055 Newport Ave
Grand Terrace, CA 92313

Current Occupant
918 Rv Center Dr
Colton, CA 92324

Current Occupant
22009 Grand Ave
Colton, CA 92324

Current Occupant
22081 Grand Terrace Ave
Grand Terrace, CA 92324

Current Occupant
22033 Newport Ave
Colton, CA 92324

Current Occupant
21944 Vivienda Ave
Colton, CA 92324

Current Occupant
22010 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
21922 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
22092 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
22110 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
22084 Vivienda Ct
Grand Terrace, CA 92324

Current Occupant
21800 Barton Rd
Grand Terrace, CA 92324

Current Occupant
21700 Barton Rd
Colton, CA 92324

Current Occupant
21882 Grand Terrace Rd
Grand Terrace, CA 92313

Current Occupant
21830 Grand Ave
Grand Terrace, CA 92313

Current Occupant
21842 Palm Ave
Grand Terrace, CA 92313

Current Occupant
21840 Grand Ave
Grand Terrace, CA 92313

Current Occupant
21934 Grand Terrace Ave
Grand Terrace, CA 92324

Current Occupant
21942 Grand Terrace Ave
Grand Terrace, CA 92313

Current Occupant
21962 Grand Terrace Ave
Grand Terrace, CA 92313

Current Occupant
21970 Grand Terrace Ave
Grand Terrace, CA 92313

Current Occupant
21892 Grand Ave
Grand Terrace, CA 92324

Current Occupant
21952 Grand Terrace Rd
Grand Terrace, CA 92324

Current Occupant
21912 Grand Terrace Rd
Grand Terrace, CA 92324

Current Occupant
21900 Grand Ave
Grand Terrace, CA 92324

Current Occupant
21920 Grand Terrace Ave
Grand Terrace, CA 92313

Current Occupant
11978 La Crosse Ave
Grand Terrace, CA 92324

Current Occupant
21973 Grand Ave
Colton, CA 92324

Current Occupant
21985 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
21953 Grand Terrace Rd
Grand Terrace, CA 92324

Current Occupant
21931 Vivienda Ave
Colton, CA 92324

Current Occupant
21951 Grand Terrace Rd
Grand Terrace, CA 92324

Current Occupant
21957 Vivienda Ave
Colton, CA 92324

Current Occupant
12012 La Crosse Ave
Grand Terrace, CA 92324

Current Occupant
21951 Vivienda Ave
Colton, CA 92324

Current Occupant
22122 McClarren St
Grand Terrace, CA 92313

Current Occupant
22230 McClarren St
Grand Terrace, CA 92324

Current Occupant
22196 McClarren St
Colton, CA 92324

Current Occupant
12001 Vivienda Ave
Grand Terrace, CA 92313

Current Occupant
22252 McClarren St
Grand Terrace, CA 92324

Current Occupant
22168 McClarren St
Grand Terrace, CA 92324

Current Occupant
22270 E. McClarren St
Colton, CA 92324

Current Occupant
22284 E. McClarren St
Colton, CA 92324

Current Occupant
22262 E. McClarren St
Colton, CA 92324

Current Occupant
22313 McClarren St
Grand Terrace, CA 92324

Current Occupant
22284 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22296 E. McClarren St
Colton, CA 92324

Current Occupant
22254 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22220 Barton Rd
Colton, CA 92324

Current Occupant
22270 Palm Ave
Grand Terrace, CA 92313

Current Occupant
22172 Barton Rd
Colton, CA 92324

Current Occupant
22185 McClarren St
Grand Terrace, CA 92313

Current Occupant
22182 Barton Rd
Grand Terrace, CA 92313

Current Occupant
22213 McClarren St
Grand Terrace, CA 92324

Current Occupant
22307 McClarren St
Grand Terrace, CA 92324

Current Occupant
22195 McClarren St
Grand Terrace, CA 92324

Current Occupant
11695 Canal St
Grand Terrace, CA 92313

Current Occupant
22236 Victoria St
Grand Terrace, CA 92324

Current Occupant
22310 Barton Rd
Grand Terrace, CA 92324

Current Occupant
11809 N. Canal St
Grand Terrace, CA 92324

Current Occupant
11750 Mt Vernon Ave
Grand Terrace, CA 92324

Current Occupant
11868 Canal St
Grand Terrace, CA 92324

Current Occupant
22250 Carhart Ave
Grand Terrace, CA 92324

Current Occupant
11948 Canal St
Grand Terrace, CA 92324

Current Occupant
11852 Mt Vernon Ave
Grand Terrace, CA 92324

Current Occupant
11980 Canal St
Grand Terrace, CA 92324

Current Occupant
22404 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
11958 Canal St
Grand Terrace, CA 92324

Current Occupant
22412 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
22416 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
22408 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
22424 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
22431 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
22420 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
12016 Aspen Cir
Grand Terrace, CA 92324

Current Occupant
12005 Aspen Cir
Grand Terrace, CA 92324

Current Occupant
22429 Terrace Pines Dr
Grand Terrace, CA 92324

Current Occupant
12011 Aspen Cir
Grand Terrace, CA 92324

Current Occupant
22500 Canal Cir
Grand Terrace, CA 92313

Current Occupant
12009 Aspen Cir
Grand Terrace, CA 92324

Current Occupant
12319 La Cadena Dr
Grand Terrace C 92313

Current Occupant
12345 La Cadena Dr
Grand Terrace C 92324

Current Occupant
22502 Canal Cir
Grand Terrace, CA 92313

Current Occupant
12387 La Cadena Dr
Grand Terrace C 92324

Current Occupant
2640 W. La Cadena Dr
Colton, CA 92324

Current Occupant
12377 La Cadena Dr
Grand Terrace C 92324

Current Occupant
21893 Barton Rd
Grand Terrace C 92324

Current Occupant
21823 Barton Rd
Grand Terrace C 92324

Current Occupant
2650 La Cadena Dr
Colton, CA 92324

Current Occupant
21769 E. Barton Rd
Grand Terrace C 92324

Current Occupant
21881 Barton Rd
Grand Terrace C 92324

Current Occupant
21801 Barton Rd
Grand Terrace C 92324

Current Occupant
2233 La Crosse Ave
Colton, CA 92324

Current Occupant
21674 N. De Berry St
Colton, CA 92324

Current Occupant
2185 La Crosse Ave
Colton, CA 92324

Current Occupant
22045 W. Barton Rd
Grand Terrace, CA 92313

Current Occupant
22080 Commerce Dr
Grand Terrace, CA 92324

Current Occupant
2283 La Crosse Ave
Colton, CA 92324

Current Occupant
22060 Commerce Wy
Grand Terrace, CA 92313

Current Occupant
22070 Commerce Wy
Grand Terrace, CA 92313

Current Occupant
22050 Commerce Wy
Grand Terrace, CA 92324

Current Occupant
12234 Rene Ln
Grand Terrace, CA 92324

Current Occupant
22000 De Berry St
Grand Terrace, CA 92313

Current Occupant
22075 Commerce Wy
Grand Terrace, CA 92313

Current Occupant
21911 De Berry St
Grand Terrace, CA 92313

Current Occupant
21971 De Berry St
Grand Terrace, CA 92313

Current Occupant
22009 De Berry St
Grand Terrace, CA 92313

Current Occupant
22293 Barton Rd
Grand Terrace CA 92313

Current Occupant
22125 Barton Rd
Grand Terrace CA 92313

Current Occupant
12438 Michigan St
Grand Terrace, CA 92324

Current Occupant
22219 Barton Rd
Grand Terrace CA 92313

Current Occupant
22201 Barton Rd
Grand Terrace CA 92313

Current Occupant
22115 Barton Rd
Grand Terrace CA 92313

Current Occupant
12251 Michigan St
Grand Terrace CA 92313

Current Occupant
22114 De Berry St
Grand Terrace, CA 92313

Current Occupant
12201 Michigan St
Grand Terrace CA 92313

Current Occupant
12246 Pascal Ave
Grand Terrace, CA 92324

Current Occupant
12252 Reed Ave
Grand Terrace, CA 92324

Current Occupant
12268 Stonewood Dr
Grand Terrace CA 92313

Current Occupant
12210 Reed Ave
Grand Terrace, CA 92324

Current Occupant
22164 De Berry St
Grand Terrace, CA 92313

Current Occupant
12232 Reed Ave
Grand Terrace, CA 92324

Current Occupant
22325 Barton Rd
Grand Terrace CA 92324

Current Occupant
22419 Barton Rd
Grand Terrace CA 92324

Current Occupant
22317 Barton Rd
Grand Terrace CA 92324

Current Occupant
22401 Barton Rd
Grand Terrace CA 92324

Current Occupant
22377 Barton Rd
Grand Terrace CA 92313

Current Occupant
22409 Barton Rd
Grand Terrace CA 92324

Current Occupant
12284 Morado St
Grand Terrace, CA 92313

Current Occupant
22373 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22365 Barton Rd
Grand Terrace CA 92324

Current Occupant
22364 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22365 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22369 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22347 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22357 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22368 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22350 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22348 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22352 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22344 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22341 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22346 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22324 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22319 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22330 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22318 Blue Lupine Cir
Grand Terrace, CA 92313

Current Occupant
22320 Blue Lupine Cir
Grand Terrace, CA 92313

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Appendix A CEQA Checklist

Supporting documentation of all California Environmental Quality Act (CEQA) checklist determinations is provided in Chapter 2 of this Initial Study/Environmental Assessment (IS/EA). Documentation of “No Impact” determinations is provided at the beginning of Chapter 2. Discussion of all impacts avoidance, minimization, and/or mitigation measures is under the appropriate topic headings in Chapter 2.

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CEQA Environmental Checklist

08-SBD-215	0.58/1.66	0J0700
Dist.-Co.-Rte.	P.M/P.M.	E.A.

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed Project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans 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 significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.			
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☒	☐
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐
XV. RECREATION:				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XVI. TRANSPORTATION/TRAFFIC: Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Result in inadequate emergency access?	☐	☐	☒	☐
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

I. AESTHETICS

The potential for the Project to result in impacts related to aesthetics was assessed in the *Visual Impact Assessment* (VIA) (November 2013), the results of which inform the discussion provided in Section 2.6 of this Environmental Document. The following is based on that information.

a) No Impact. While the La Loma Hills and Blue Mountain are located within the viewshed of the Project, existing views of the La Loma Hills and/or Blue Mountain are obstructed by existing development. Because of the visual obstructions, there are no outstanding scenic vistas and/or visual features that would potentially be impacted by any of the proposed alternatives. No mitigation is required.

b) No Impact. There are no State-designated Scenic Highways in the Project area. Visual resources in the viewshed of the Project include Blue Mountain and the La Loma Hills; however, the Project would not damage these resources. Therefore, the Project would not result in substantial impacts to scenic highways or resources. No mitigation is required.

c) Less Than Significant Impact. Temporary visual impacts during construction, such as from construction activity, staging sites, truck hauling, excavation activity, and detour signage, are anticipated under Alternatives 3, 6, and Modified Alternative 7. These construction impacts would occur over a relatively short duration (within a projected construction time frame of 24 months) and would cease upon Project completion. The Project would require Temporary Construction Easements (TCEs) from private property owners for access and staging purposes. Impacts would be minimized through compliance with the California Department of Transportation (Caltrans) Standard Construction Specifications.

Although the visual quality of most of the key views would be reduced, the key views would be consistent with views of and around a freeway. Additionally, implementation of any of the Build Alternatives would be consistent with the I-215 Bi-County Aesthetic Concept as discussed in Minimization Measures VIS-1 and VIS-2. None of the key views currently have unobstructed views of visual resources such as the La Loma Hills or Blue Mountain. Therefore, implementation of any of the Build Alternatives would have a low-level visual impact on the Project area due to the level of existing visual quality, and any impact to visual resources resulting from the proposed alternatives would not be considered substantial. Implementation of

Measures VIS-1 and VIS-2, provided in Section 2.6, would minimize visual impacts during construction and operation of the Project. No mitigation is required.

d) Less Than Significant Impact. The Project area receives light at night from traffic, street lighting, and lighted parking lots; signalization at the intersections and freeway on- and off-ramps; and commercial zone and limited light sources from residential development. Existing lighting on the streets and along the ramps would be modified or relocated as a part of the proposed Project. Minimization Measure VIS-3 would minimize potential impacts regarding light and glare. No mitigation is required.

II. AGRICULTURE AND FOREST RESOURCES

a), b), c), d), and e) No Impact. There are no farmlands, agricultural resources, forest lands, or timberlands within or immediately adjacent to the disturbance limits of the Project. Areas adjacent to the Project area are not zoned for agricultural or timberland uses, and there are no Williamson Act contracts in effect within or adjacent to the Project limits. The Project would not result in impacts related to the direct or indirect conversion of farmlands or timberlands to nonagricultural or nontimberland uses. Additionally, the Project would not conflict with agricultural/timberland land use designations or Williamson Act contracts. No mitigation is required.

III. AIR QUALITY

The potential for the Project to result in impacts related to air quality was assessed in the *Air Quality Analysis* (September 2013), the results of which inform the discussion provided in Section 2.12 of this Environmental Document. The following is based on that information.

a) No Impact. Alternatives 3, 6, and Modified Alternative 7 would not conflict with or obstruct implementation of any applicable air quality plan. No mitigation is required.

b) Less Than Significant Impact. Historical air quality data show that existing carbon monoxide (CO) levels for the Project area and the general vicinity do not exceed either the State or federal ambient air quality standards. The proposed Project would help to improve traffic flow and reduce congestion on roadway links in the Project vicinity. The Project is located in an attainment/maintenance area for federal CO standards. Using the Caltrans Transportation Project-Level Carbon Monoxide Protocol, a screening and a CO hot-spot analysis were conducted to determine

whether the proposed Project would result in any CO hot spots. It was determined that Alternatives 3, 6, and Modified Alternative 7 of the proposed Project would not result in any exceedances of the 1-hour or 8-hour CO standards.

The proposed Project is within a nonattainment area for federal $PM_{2.5}$ and PM_{10} (particulate matter less than 2.5 microns and 10 microns, respectively, in size) standards. Therefore, per 40 Code of Federal Regulations (CFR), Part 93, analyses are required for conformity purposes. However, the United States Environmental Protection Agency (EPA) does not require hot-spot analyses, qualitative or quantitative, for projects that are not listed in Section 93.123(b)(1) as an air quality concern. The project-level particulate matter (PM) hot-spot analysis was presented to Southern California Association of Governments (SCAG's) Transportation Conformity Working Group (TCWG) for discussion and review on May 28, 2013. Per Caltrans' Headquarters policy, all nonexempt projects are required to go through review by the TCWG. This Project was approved and concurred upon by Interagency Consultation at the TCWG meeting as a project not having substantial impacts on air quality, and it meets the requirements of the Clean Air Act (CAA) and 40 CFR 93.116. A copy of the TCWG finding is included in Chapter 3.

Compliance with South Coast Air Quality Management District (SCAQMD) Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions.

Because the proposed Project does not generate new regional vehicular trips, no new regional vehicular emissions would occur. The proposed Project may have a beneficial effect in helping to reduce congestion on roadway links in the Project vicinity.

It is expected that there would be similar or lower Mobile Source Air Toxics (MSAT) emissions in the study area under any of the Build Alternatives relative to the No Build Alternative in the design year (2040) due to the improvement in the level of service (LOS) and reduction of the delay at Project intersections. Therefore, Alternatives 3, 6, and Modified Alternative 7 would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. No mitigation is required.

c) Less Than Significant Impact. As previously described, Alternatives 3, 6, and Modified Alternative 7 are not expected to result in any concentrations exceeding the 1-hour or 8-hour CO standards. In addition, the proposed Project would not delay the

attainment of the $PM_{2.5}$ or PM_{10} air quality standards within the South Coast Air Basin (Basin). No mitigation is required.

d) Less Than Significant Impact. The majority of the sensitive receptors within or adjacent to the Project area are residential uses; however, Grand Terrace Elementary School is located on Barton Road, adjacent to Interstate 215 (I-215). As discussed above, Alternatives 3, 6, and Modified Alternative 7 may result in temporary, short-term construction-related increases in pollutant concentrations specifically associated with construction equipment emissions and fugitive dust. The implementation of SCAQMD Standard Conditions and Caltrans Standard Construction Specifications, provided in Measures AQ-1–AQ-5 in Section 2.12, would minimize potential short-term air quality impacts to sensitive receptors. No mitigation is required.

e) Less Than Significant Impact. Alternatives 3, 6, and Modified Alternative 7 may result in temporary, short-term construction-related increases in objectionable odors. Implementation of the SCAQMD Standard Conditions and Caltrans Standard Construction Specifications, as described in Section 2.13, would minimize this potential short-term impact. No mitigation is required.

IV. BIOLOGICAL RESOURCES

The potential for the Project to result in impacts to biological resources was assessed in the *Natural Environment Study* (*Minimal Impacts*) (NES[MI]) (October 2013), the results of which inform the discussion provided in Sections 2.14, 2.15, 2.16, 2.17, and 2.18 of this Environmental Document. The following is based on that information.

a) No Impact. An on-site assessment was conducted to evaluate the biological condition of the Biological Study Area (BSA), including vegetation, wildlife, and suitability of habitat for the presence of various sensitive species. The BSA represents the area of potential direct and indirect Project impacts to biological resources and is predominantly a mixture of nonnative ruderal and ornamental vegetation. There is a drainage with associated riparian habitat at the north end of the BSA, along southbound I-215, approximately 1,000 feet (ft) south of Newport Avenue (Drainage F). Another drainage located at the south end of the BSA also consists of riparian habitat (Drainage B). Both drainages were determined not to have potential suitable habitat for the federally and State listed as endangered least Bell's vireo (*Vireo bellii pusillus*); however, the drainages have marginal habitat for the nonlisted San Bernardino aster (*Corethrogyne filaginifolia*), a species of special concern. Additionally, a vacant field southeast of the I-215/Barton Road interchange

potentially has marginal habitat for the northwestern San Diego pocket mouse (*Chaetodipus fallax*), a nonlisted species of special concern. This area has been substantially disturbed for equipment staging for the I-215 Bi-County HOV Lane Gap Closure Project. Neither of the nonlisted species of special concern is anticipated to occur within the BSA or be affected by the Project due to the high level of disturbance in the BSA. The western burrowing owl (*Athene cunicularia hypugaea*) was determined to be absent based on results of the burrow survey; however, a preconstruction focused survey will be required for this species. Alternatives 3, 6, and Modified Alternative 7 are not expected to result in any impacts to threatened or endangered species or other species of special concern, and no mitigation is required.

b) Less Than Significant Impact. Alternatives 3, 6 and Modified Alternative 7 would not result in direct impacts to riparian habitat because there would be no impacts to Drainages B or F. The Project has the potential to result in indirect permanent impacts through the degradation of riparian habitat. Permanent indirect impacts include impacts to adjacent habitats caused by storm water runoff, traffic, and litter. In addition, construction has the potential to indirectly affect riparian habitat permanently through enhancing the germination and proliferation of nonnative invasive plant species.

Storm water and litter indirect impacts would be avoided through compliance with the Caltrans Storm Water Management Plan (SWMP), the Caltrans and City National Pollutant Discharge Elimination System (NPDES) permits, and implementation of Project-specific BMPs as required in Minimization Measure WQ-2. The Project would reduce local traffic congestion, and regional exhaust emissions would be the same as the No Build Alternative, or would increase slightly. Therefore, the Build Alternatives would not cause new indirect impacts to sensitive natural communities from exhaust. Control of invasive plant species requires revegetation with plant species native to the area, adherence to a weed abatement and control program, and compliance with pollution and litter laws and regulations as specified in Avoidance Measure INV-1. Implementation of these measures would avoid or minimize permanent indirect impacts to riparian habitat, and no substantial impacts would occur.

c) Less Than Significant Impact. Alternatives 3 and 6 would not result in temporary impacts to potential United States Army Corps of Engineers (USACE), California Department of Fish and Wildlife (CDFW), or Regional Water Quality Control Board (RWQCB) jurisdiction. Modified Alternative 7 would result in < 0.01 ac of

temporary impacts to potential USACE and RWQCB jurisdiction and < 0.01 ac of temporary impacts to CDFW jurisdiction within Drainage E.

Alternative 3 would result in permanent impacts to 0.01 ac of potential USACE nonwetland waters and 0.08 ac of potential CDFW jurisdiction. Impacts to potential RWQCB jurisdiction would be the same as impacts to USACE jurisdiction.

Alternative 6 would not permanently impact potential USACE, CDFW or RWQCB jurisdiction.

Modified Alternative 7 would result in permanent impacts to 0.01 ac of potential USACE jurisdictional nonwetlands and 0.08 ac of potential CDFW jurisdiction. Impacts to potential RWQCB jurisdiction would be the same as impacts to USACE jurisdiction.

Temporary and permanent impacts to jurisdictional areas are minimal; however, they would require authorization from the CDFW and RWQCB prior to construction as specified in Measures WET-1 and WET-2. Construction of the Project, whether Alternative 3, 6, or Modified Alternative 7, would not result in impacts to federally protected wetlands, as defined by Section 404 of the Clean Water Act, No mitigation is expected to be required..

d) No Impact. The site does not appear to function as a wildlife movement corridor, and Alternatives 3, 6, and Modified Alternative 7 would not affect any wildlife movement corridors. The proposed Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites. No mitigation is required.

e) No Impact. There are no local policies or ordinances relevant to the Project site. No mitigation is required.

f) No Impact. There are no Multispecies Habitat Conservation Plans (MSHCPs) or any other adopted Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) within the Project area. No mitigation is required.

V. CULTURAL RESOURCES

The potential for the Project to result in impacts related to cultural resources was assessed in the *Historic Property Survey Report* (July 2011); the *Archaeological Survey Report* (July 2011); the *Historical Resources Evaluation Report* (July 2011);

the *Paleontological Identification and Evaluation Report* (July 2010); the Addendum to the *Paleontological Identification and Evaluation Report* (July 2011); the results of which inform the discussions provided in Sections 2.7 and 2.10 of this Environmental Document. The following is based on that information.

a) and b) No Impact. It was determined that the only cultural resources within the Project Area of Potential Effects (APE) do not appear to be eligible for inclusion in the National Register, do not qualify as a "historical resource" pursuant to CEQA, or are exempt per the Section 106 Programmatic Agreement (PA). In addition, it has been determined that a finding of no impact is appropriate because there are no historical resources within the Project area limits, or there are no impacts to historical resources pursuant to CEQA Guidelines Section 15064.5(b)(3).

No archaeological resources requiring evaluation were identified through archival research, consultation, or field survey, and the APE does not appear to be sensitive in terms of archaeological resources.

Although considered unlikely, there is the potential to encounter unknown buried cultural materials or human remains within the APE during construction of Alternatives 3, 6, and Modified Alternative 7. If buried archaeological or cultural materials are exposed during construction, it is Caltrans policy that work in the area must halt until a qualified archaeologist can evaluate the nature and significance of the find. In the event that previously unknown buried cultural materials or human remains are encountered during construction, compliance with standard Measures CR-1 and CR-2 would avoid and/or minimize potential impacts to previously unknown cultural resources or human remains, and no mitigation is required.

c) No Impact. The results of the research and field surveys conducted for this Project show that fossiliferous Pleistocene sediments deposited during the last 2 million years may be encountered during excavation of undisturbed sediments. Consequently, during construction, there would be a potential for significant, unrenewable paleontological resources to be encountered at depths greater than 3 ft below ground surface (bgs). It is very likely that sensitive sediments would be encountered during construction in areas that do not contain deep fill. Measure PAL-1, provided in Section 2.10, requires preparation and implementation of a Paleontological Mitigation Plan, which would provide the specific procedures to avoid impacts to paleontological resources during construction of Alternatives 3, 6, and Modified Alternative 7, and no mitigation is required.

d) No Impact. No human remains are known to exist within the Project APE. Therefore, Alternatives 3, 6, and Modified Alternative 7 would not impact any known human resources. If human remains are exposed during construction, State Health Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code 5097.98. In addition, the Caltrans District 8 Environmental Branch Chief would be immediately notified. The above requirements are included in Measure CR-2 for cultural resources, provided in Section 2.7. No mitigation is required.

VI. GEOLOGY AND SOILS

The potential for the Project to result in impacts related to geology and soils was assessed in the *Revised Preliminary Geotechnical Report/Structures Design Report* (March 4, 2009), the *Revised Addendum to Structure Preliminary Geotechnical Report* (June 2011), and the *Structure Preliminary Geotechnical Report* (June 2012), the results of which inform the discussion provided in Section 2.9 of this Environmental Document. The following is based on that information.

a-i) Less Than Significant Impact. No active or potentially active faults have been identified on the Project site. In addition, the site is not located within a designated Alquist-Priolo Earthquake Fault Zone (Bryant and Hart 2007), and a site-specific fault investigation is not required. No known active fault traces project toward or across the Project site. Additionally, the potential for ground surface rupture is considered to be low. No mitigation is required.

a-ii) No Impact. The Project site is located in the highly seismic Southern California region within the influence areas of several fault systems. These fault systems are considered active and well-defined and are capable of producing potentially damaging seismic groundshaking. Therefore, it is anticipated that the Project site will periodically experience ground acceleration as the result of moderate to large seismic events. Therefore, the structures (e.g., bridges, culverts) constructed for Alternatives 3, 6, and Modified Alternative 7 would be potentially subject to substantial impacts related to seismic ground shaking. The proposed Project would be designed in accordance with the requirements of the Caltrans Seismic Design Criteria and the Uniform Building Code. With implementation of Minimization Measure GEO-1, potential impacts due to earthquakes would be less than significant. No mitigation is required.

a-iii) Less Than Significant Impact. Due to the depth to groundwater, which is anticipated to be greater than 30 ft bgs, and based on a preliminary screening-level liquefaction analysis, the site has a low-to-moderate liquefaction potential. However, as detailed in Measure GEO-2, the potential for liquefaction effects on the structures constructed for Alternatives 3, 6, and Modified Alternative 7 would be further investigated during final design. If recommended by the geotechnical investigation, final design will include design features related to liquefiable soils. Therefore, potential impacts related to liquefiable soils would not be substantial. No mitigation is required.

a-iv) No Impact. The Project site and the surrounding area are relatively flat and lack natural slopes. Therefore, Alternatives 3, 6, and Modified Alternative 7 would not result in substantial impacts related to landslides. No mitigation is required.

b) Less Than Significant Impact. Construction activities for Alternatives 3, 6, and Modified Alternative 7, such as grading and cut-and-fill slopes, would disturb soil and alter existing landforms. Temporary impacts would include soil compaction and an increased possibility of soil erosion. Exposed soils could potentially be particularly prone to erosion during construction of Alternatives 3, 6, and 7, especially during heavy rains. Erosion impacts related to water quality are evaluated in Section 2.8, Water Quality and Storm Water Runoff. In addition, Measures WQ-1 and WQ-2, described in Section 2.8, Water Quality and Storm Water Runoff, would minimize impacts during construction and operation related to erosion. No mitigation is required.

c) and d) Less Than Significant Impact. Construction of the Project, whether Alternative 3, 6, or Modified Alternative 7 could subject the Project area to impacts associated with expansive and collapsible soils. Caltrans' Standard Conditions require the preparation of a detailed geotechnical investigation during Final Design phase of the Project, which is specified in Measure GEO-2 in Section 2.9. The detailed geotechnical investigation would address the potential for expansive and collapsible soils in the Project area. If expansive and/or collapsible soils are identified, Final Design would include design features related to expansive and collapsible soils. No mitigation is required.

e) No Impact. No septic or alternative waste treatment systems would be required for the proposed Project under Alternatives 3, 6, and Modified Alternative 7 because it is

a transportation facility and would not generate sewer demand. Therefore, no impacts would occur, and no mitigation is required.

VII. GREENHOUSE GAS (GHG) EMISSIONS

An assessment of GHG emissions and climate change is included in the body of the environmental document. Carbon dioxide (CO_2) emissions are projected to increase over existing levels in both the No Build and Project conditions. While Caltrans has included this good-faith effort in order to provide the public and decision-makers as much information as possible about the Project, it is Caltrans 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 significance determination regarding the Project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the Project. These measures are outlined in the body of the environmental document.

VIII. HAZARDS AND HAZARDOUS MATERIALS

The potential for the Project to result in impacts related to hazards and hazardous materials was assessed in the *Initial Site Assessment*s (ISAs) (February 2010 and November 2013 [Modified Alternative 7]), and the Aerially Deposited Lead Investigation Report (ADLIR) (May 2010), the results of which inform the discussion provided in Section 2.9 of this Environmental Document. The following is based on that information.

a) Less Than Significant Impact. During construction, there is the potential to encounter hazardous materials in the soils and existing road materials. Alternatives 3, 6, and Modified 7 would involve disturbance of soils and demolition of existing buildings and structures; therefore, hazardous soil contaminants such as aerially deposited lead (ADL) and structural materials (polychlorinated biphenyls [PCBs], creosote, lead chromate, lead-based paint [LBP], and asbestos-containing material [ACM]) may be encountered during Project construction. In addition, soil impacted by petroleum hydrocarbons, halogenated compounds, or other hazardous materials could be encountered at the properties that would be partially or fully acquired for the Project.

Typical hazardous materials used during construction (e.g., solvents, paints, fuels) would be handled in accordance with standard procedures. There are standard regulations and Caltrans policies (avoidance and minimization measures) that must be

followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials during construction of Alternatives 3, 6, and Modified Alternative 7 to protect human health and the environment.

Avoidance and Minimization Measures HAZ-1 through HAZ-11 require site investigations of potentially impacted properties and proper handling of hazardous waste and materials. With implementation of these measures, potential impacts related to hazardous materials would not be substantial.

Routine maintenance activities during Project operation would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, Project operation would not result in significant impacts related to hazardous waste or materials. No mitigation is required.

b) No Impact. Alternatives 3, 6, and Modified Alternative 7 would not create a significant hazard to the public or the environment through any reasonably foreseeable upset or accident conditions involving the release of hazardous materials. As discussed above in Response VIII.a, routine hazardous materials such as paint, solvents, and fuel would be used, handled, stored, disposed of, and transported during construction of the Project in accordance with applicable local, State, and federal regulations. No mitigation is required.

c) Less Than Significant Impact. Grand Terrace Elementary School is located in the Project area in the northeast quadrant of the interchange at 12066 Vivienda Avenue. However, Alternatives 3, 6, and Modified Alternative 7 do not involve the potential for release of hazardous emissions or handling of acutely hazardous materials. Therefore, the Project would not result in substantial impacts to Grand Terrace Elementary School related to hazardous materials. There are no other schools located within 0.25 mi of the areas of construction for the Project. No mitigation is required.

d) Less Than Significant Impact. The records search for the *Initial Site Assessment* (ISA) prepared for Modified Alternative 7 (November 2013) identified four sites listed on the Historical Cortese list located within 0.5 mi of the Project site. Two of these sites, the Grand Terrace Gas-Up and Quick Stop ARCO, are located within the Project area. These two sites are identified as leaking underground storage tank (LUST) sites, which may have impacted soils and groundwater in the Project area. A third LUST site, the Former Shell/Texaco Service Station, is located in the Project area. In addition, four sites, identified as A1 Cleaners, Automotive FBR Generator,

Pas Tex Plastics Facility, and Orkin Pest Control, are located within the Project area and have used or stored hazardous materials. As specified in Measure HAZ-9, detailed in Section 2.11 of this Environmental Document, subsurface investigations at the sites that may have been impacted by hazardous waste, is required. Implementation of Measure HAZ-9 includes all necessary action(s) to avoid and/or minimize potential impacts. No mitigation is required.

e) and f) No Impact. The Project is not located within 2 miles (mi) of a public airport, public use airport, or private airstrip. Therefore, Alternatives 3, 6, and Modified Alternative 7 would not result in the construction of any features that would pose a hazard to air traffic in the vicinity of the Project area. Therefore, the proposed Project would not result in aviation-related safety impacts. No mitigation is required.

g) Less Than Significant Impact. Traffic delays are expected during Project construction. In addition, travel times through the Project area could increase due to construction staging. As a result, some impairment to emergency response times may occur. Implementation of a Caltrans-required Transportation Management Plan (TMP), as outlined in Measure TR-1, provided in Section 2.5 of this Environmental Document, would minimize these impacts during construction. No mitigation is required.

h) No Impact. The Project site is in an urbanized area surrounded by existing commercial, industrial, and residential development. There are no wildlands or fire hazard areas in the vicinity of the Project site, and no impacts are anticipated. No mitigation is required.

IX. HYDROLOGY AND WATER QUALITY

The potential for the Project to result in impacts related to hydrology and water quality was assessed in the *Water Quality Technical Study* (WQAR) (October 2013), the results of which inform the discussion provided in Section 2.9 of this Environmental Document. The following is based on that information.

a) Less Than Significant Impact. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion compared to existing conditions. The total disturbed area under Alternatives 3, 6, and Modified Alternative 7 would be approximately 40.4 ac, 33.6 ac, and 29.5 ac, respectively. In addition, chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked

during construction of the Project with the potential to be transported via storm runoff into receiving waters.

Alternative 3 would result in a permanent decrease in impervious surface area of 5.9 ac compared to the footprint of the existing interchange, which would result in a decrease in runoff and pollutant loading in the interchange area. Alternatives 6 and Modified Alternative 7 would increase the impervious surface area by 3.2 ac and 1.2 ac, respectively. An increase in impervious area would increase the volume of runoff during a storm, which would more effectively transport pollutants to receiving waters. Compared to existing conditions, runoff under the Project would be expected to contain higher concentrations of sediments, trash, petroleum products, metals, and chemicals, which are pollutants associated with road runoff. The Project would be required to comply with applicable National Pollution Discharge Elimination System (NPDES) permit requirements for construction and operation to protect the beneficial uses of waters. In addition, Best Management Practices (BMPs) would be implemented during construction, and as determined necessary, BMPs will be implemented in conjunction with completion of the Project. Measures WQ-1 and WQ-2, provided in Section 2.8, are regulatory requirements that would minimize Project impacts to water quality. No mitigation is required.

b) No Impact. Dewatering is not anticipated during Project construction. Alternatives 3, 6, and Modified Alternative 7 would not use groundwater during operation, and no substantial groundwater supply impacts would occur. No mitigation is required.

c) and d) Less Than Significant Impact. The area drainage patterns are anticipated to be similar to the existing condition, with minor modifications to accommodate the improvements to the freeway interchange facilities. These modifications would include extension of culverts, construction of drainage inlets, and minor alignment of freeway-adjacent channels. Alternatives 3, 6, and Modified Alternative 7 would result in additional impervious surface with increased runoff in the Project area. However, routine implementation of the Caltrans Storm Water Management Program would prevent a substantial increase in the rate or amount of surface runoff that could lead to erosion, siltation, or flooding. In addition, applicable BMPs would be implemented during construction of the proposed Project, and as determined necessary, BMPs will be implemented in conjunction with completion of the Project. Measures WQ-1 and WQ-2, provided in Section 2.8 of this Environmental Document, are regulatory requirements that would minimize impacts to water quality. No mitigation is required.

e) Less Than Significant Impact. The Project involves modification of an existing transportation facility. The Project would not increase peak storm flows such that they would impact downstream drainage facilities. Compliance with the Caltrans National Pollutant Discharge Elimination System (NPDES) permit requirements, as noted in Measure WQ-2, provided in Section 2.8, would minimize any incremental pollutant loading associated with the increased surface area of Alternatives 6 and Modified Alternative 7. No mitigation is required.

f) No Impact. As discussed above, runoff associated with the Project would be treated to remove pollutants of concern, as required; detailed in Measures WQ-1 and WQ-2 in Section 2.8 of this Environmental Document. No substantial degradation to water quality will occur. No mitigation is required.

g) and h) No Impact. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06071C8687H (August 28, 2008), there are no 100-year floodplains within the Project area. The Project does not propose the construction of housing or structures in a 100-year flood hazard area. The Project would not result in impacts related to the 100-year floodplain. No mitigation is required.

i) No Impact. The increased runoff associated with the Project would be controlled through minor modifications to the drainage system and the Project would not encroach in the 100-year floodplain. The Seven Oaks Dam is located several miles upstream of the Santa Ana River. According to the City of Grand Terrace General Plan (April 2010), in the event that this dam failed, it would eventually enter the Santa Ana River floodplain, and the increased water volume could potentially flood the lower elevations of the northwest corner of the City along the river's course; however, this area is not within the Project area. The Project would not expose people or structures to a significant risk of flooding, and no mitigation is required.

j) No Impact. Due to the distance of the Project site from the ocean, there is no foreseeable risk of tsunami inundation. There is also low risk from seiches (oscillations in enclosed bodies of water caused by seismic waves) or mudflows in the Project area due to the lack of bodies of water or hillsides in the Project area. No mitigation is required.

X. LAND USE AND PLANNING

The potential for the Project to result in impacts specific to land use and planning was discussed in Sections 2.1 and 2.3 of this Environmental Document. The following is based on that information.

a) Less Than Significant Impact. The I-215/Barton Road interchange is an existing freeway interchange within a largely developed area. Construction of the proposed interchange improvements, whether under Alternative 3, 6, or Modified Alternative 7, would result in no further division of the established community. A few residents and businesses are anticipated to be displaced from within the Project area, however, the Project area is a very small portion of the two cities in which the Project is located, and it is anticipated that all relocated residences and businesses will remain within the limits of one of the two cities in which the Project area is located. No mitigation is required.

b) No Impact. Alternatives 3, 6, and Modified Alternative 7 are consistent with the pertinent goals and policies of the current General Plans of the City of Grand Terrace and the City of Colton, the design concept and scope of the proposed Project are consistent with the project description in the Southern California Association of Government's 2012 Regional Transportation Plan and the 2013 Federal Transportation Improvement Program. Additionally, the proposed Project is included in the Nexus Study that is appended to San Bernardino Associated Governments' 2009 Congestion Management Program (CMP). No mitigation is required.

c) No Impact. There are no habitat conservation plans or natural community conservation plans that include the area of the proposed Project. Accordingly, Alternatives 3, 6, and Modified Alternative 7 would not conflict with any such plans. No mitigation is required.

XI. MINERAL RESOURCES

The potential for the Project to result in impacts specific to mineral resources was assessed based on review of the City of Grand Terrace and City of Colton General Plans.

a) and b) No Impact. According to the Cities' General Plans, the Project area is not in a mineral resource zone. In addition, the Project would be constructed within and adjacent to an existing freeway interchange. Alternatives 3, 6, and Modified Alternative 7 would not result in the loss of availability of known mineral resources or a mineral resource recovery site. No mitigation is required.

XII. NOISE

The potential for the Project to result in noise impacts was assessed in the *Noise Study Report* (NSR) (February 2012) and the *Supplemental Noise Study Report* (September 2013), the results of which inform the discussion provided in Section 2.13 of this Environmental Document. The following is based on that information.

a) Less Than Significant Impact. Sensitive receivers would be exposed to construction noise during construction of the Project. The closest sensitive receivers are within 50 ft of the Project construction areas and may be subject to short-term noise levels of 91 A-weighted decibels (dBA) maximum instantaneous noise level (L_{max}) or higher generated by construction activities. In addition to standard construction equipment, the construction of the proposed Project may include the use of pile drivers. Pile driving generates noise levels of approximately 93 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 95 dBA L_{max} at a distance of 50 ft.

Minimization Measures N-1 and N-2, detailed in Section 2.13.4 of this Environmental Document, stipulate compliance with the construction hours specified in the City of Colton's Bid and Contract template and City of Grand Terrace Municipal Code, as well as adherence to the Cities' ordinances and the Caltrans Standard Special Provisions (SSP) pertinent to minimizing potential noise impacts during construction. Implementation of measures N-1 and N-2, detailed in Section 2.13.4 of this Environmental Document, the short-term noise impacts during Project construction would not be substantial.

b) Less Than Significant Impact. During construction, the Project could generate groundborne vibration and groundborne noise in conjunction with pile driving. If pile driving takes place, potential impacts would be minimized through implementation of the minimization measures N-1 and N-2, referenced above. No mitigation is required.

c) Less Than Significant Impact. Potential long-term noise impacts after construction of the proposed Project is completed would only be associated with vehicular traffic. A 3 dBA difference is generally the point at which the human ear will perceive a difference in noise level. To determine whether the proposed Project could result in a substantial permanent increase in ambient noise levels in the Project vicinity, a comparison of the baseline noise level to the projected build noise level was made. Traffic noise was evaluated for the worst-case traffic condition. Future traffic noise levels for Alternatives 3, 6, and Modified Alternative 7 were determined

at 144 receiver locations, using the worst-case traffic operations (prior to speed degradation) along the I-215 mainline.

In the future (2040) build condition, one or more receivers would experience up to a 10 dBA increase in noise levels under Alternative 3, up to a 9 dBA increase in noise levels under Alternative 6, and up to an 8 dBA increase in noise levels under Modified Alternative 7, each in comparison to baseline noise levels. Based on the projected comparative increases identified, a perceptible increase in noise may be experienced at some receiver locations. However, none of the receivers in the Project area are expected to experience a 12 dba increase, and because their existing locations are in close proximity to the existing I-215 and/or Barton Road facilities, these sensitive receptors are recognized as already being in an area—or in close proximity to an area—that is regularly subject to noticeable noise associated with vehicular traffic. After construction of the proposed Project is completed, the noise associated with vehicular traffic is not expected to be perceived as substantially changed. No mitigation is required.

d) Less Than Significant Impact. As discussed in the follow-up to checklist item XIIa above, in addition to standard construction equipment, the proposed Project may involve the use of pile drivers. Pile driving generates noise levels of approximately 93 dBA L_{max} at 50 ft. If pile driving is conducted concurrently with site preparation, the construction site could potentially generate noise levels of 95 dBA L_{max} at a distance of 50 ft. However, construction noise levels are expected to be minimized through compliance with Caltrans and City standards for construction, which is stipulated in Measures N-1 and N-2 in Section 2.13.4 of this Environmental Document.

e) and f) No Impact. The proposed Project is not located within an airport land use plan and is not located within 2 mi of a public airport, a public use airport, or a private airstrip. In addition, Alternatives 3, 6, and Modified Alternative 7 would not expose people residing or working in the Project area to excessive noise levels due to its proximity to an airport. Therefore, there would be no aviation-related noise impacts. No mitigation is required.

XIII. POPULATION AND HOUSING

The potential for the Project to result in impacts related to population and housing is discussed in Sections 2.2 and 2.3 of this Environmental Document. The following is based on that information.

a) No Impact. Alternatives 3, 6, and Modified 7 are consistent with the General Plans of the Cities of Colton and Grand Terrace, respectively, as well as applicable regional transportation plans. The proposed Project would improve an existing freeway interchange, in an area already substantially developed. Alternatives 3, 6, and Modified Alternative 7 would accommodate approved and planned growth in the associated study area. The proposed Project would not contribute to new, unplanned growth in the Project area and would not induce substantial population growth in the area. No mitigation is required.

b) and c) No Impact. Alternative 3 would result in 8 residential displacements and Alternatives 6 and Modified Alternative 7 would result in 2 residential displacements each. As discussed in Section 2.3 of this Environmental Document, there are sufficient residential resources available for the residents potentially displaced by the Project within the Cities of Grand Terrace and Colton. The proposed Project would not necessitate the construction of replacement housing elsewhere. No mitigation is required.

XIV. PUBLIC SERVICES

The potential for Alternatives 3, 6, and Modified Alternative 7 to result in impacts related to provision of emergency services is discussed in Section 2.4 of this Environmental Document. The following is based on that information.

a) Less Than Significant Impact. During construction, traffic would be temporarily detoured in conjunction with short-term ramp closures and/or delayed due to lane closures, which could potentially result in a temporary increase in emergency response times in the Project area. Implementation of measure TR-1, detailed in Section 2.5.4 of this Environmental Document, is expected to minimize these potential impacts.

After completion of construction, the proposed Project is expected to reduce congestion at the I-215/Barton Road interchange. The Project would not substantially affect the provision of police or emergency services in the Project area. The proposed Project would not result in substantial physical impacts to government facilities in the study area. In addition, the Project does not include the construction of housing or other uses that would necessitate the construction of additional public facilities such as schools or parks in the study area. No mitigation is required.

XV. RECREATION

The potential for the proposed Project to impact recreational resources is discussed in Section 2.1 of this Environmental Document. The following is based on that information.

a) Less than Significant Impact. There are no parks or recreational facilities within the Project area; however, there is one park, Grand Terrace Fitness Park, located immediately adjacent to a portion of the northwestern limits of the proposed Project. The proposed Project involves modifications to an existing freeway interchange and components of the local circulation system directly related to the operation of the freeway interchange. While the proposed Project is not expected to directly impact Grand Terrace Fitness Park, the improvements to the freeway interchange, which includes improvements to associated local streets directly related to the operation of the I-215/Barton Road interchange, will result in construction of a local street, a portion of which will be immediately adjacent to the southern limits of Grand Terrace Fitness Park. Although no additional parking is planned to be constructed for visitors to the Park, the change to the Park's overall proximity to local streets is anticipated to modestly increase the Park's visibility to the local community, which may result in an increase in the use of the park. However, because the capacity of the existing parking lot for the park will not be increased, and because the planned primary means of access to the park is not by driving; it is not expected that substantial physical deterioration of this Park facility will result, or that the Project will contribute to a substantially accelerated deterioration of Grand Terrace Fitness Park due to the Park's visibility being slightly increased. No mitigation is required.

b) No Impact. Alternatives 3, 6, and Modified Alternative 7 do not include the construction of recreation facilities or expansion of recreational facilities. No mitigation is required.

XVI. TRANSPORTATION/TRAFFIC

The potential for Alternatives 3, 6, and Modified Alternative 7 to result in impacts related to traffic was assessed in the Interstate 215/Barton Road Traffic Operations Analysis (December 2011) and the Barton Road Interchange Improvement Project Roundabout Analyses (August 2013), the results of which inform the discussion provided in Section 2.5 of this Environmental Document. The following is based on that information.

a) No Impact. The proposed Project is consistent with the pertinent goals and policies of the current General Plans of the City of Grand Terrace and the City of Colton. Alternatives 3, 6, and Modified Alternative 7 include design features to reduce congestion at the I-215/Barton Road interchange, improve operational performance of local intersections in immediate proximity and directly related to the operational performance of the I-215/Barton Road interchange, while also accommodating pedestrians, bicycles, and mass transit.

Traffic delays are expected during construction of the new ramps and Barton Road overcrossing, as well as realignment of local streets and modifications to local intersections. Construction of Alternatives 3, 6, and Modified Alternative 7 would delay traffic on Barton Road, La Crosse Avenue, Grand Terrace Road, Commerce Way, Vivienda Avenue, Michigan Street, the I-215 mainline, and the I-215/Barton Road ramps. No extended ramp closures and no full local road closures are anticipated. All potential construction-related traffic impacts associated with the proposed Project would be short term, and are expected to be minimized by implementation of the TMP, as discussed in Section 2.5 of this Environmental Document. No mitigation is required.

b) No Impact. Alternatives 3, 6, and Modified Alternative 7 would reduce congestion and improve the operational performance of the I-215/Barton Road interchange. The proposed Project is included in the Nexus Study that is appended to San Bernardino Associated Governments' 2009 Congestion Management Program (CMP). The proposed Project would not conflict with the CMP for San Bernardino County. The design concept and scope of the proposed Project are consistent with the project description in the Southern California Association of Governments 2012 Regional Transportation Plan and the 2013 Federal Transportation Improvement Program. No mitigation is required.

c) No Impact. The closest airports in the vicinity of the Project are the San Bernardino International Airport and the Flabob Airport. Both of these airports are almost 5 mi from the Project site. Alternatives 3, 6, and Modified Alternative 7 would not result in the construction of any features that would affect air traffic patterns and would not result in any operational effect that would result in a change in air traffic patterns in the vicinity of the Project area. No mitigation is required.

d) No Impact. Alternatives 3, 6, and Modified Alternative 7 would be constructed in compliance with Caltrans' Standard Construction Specifications. The proposed

improvements do not include any hazardous design features or incompatible uses. No mitigation is required.

e) Less Than Significant Impact. During construction of Alternatives 3, 6, and Modified Alternative 7, traffic would be temporarily delayed, and travel times would increase due to construction staging and closures along the freeway. Inadequate emergency access is not expected to result, even during construction of the proposed Project. However, a temporary increase in emergency response times within or through the Project area is possible during construction. Measure TR-1, detailed in Section 2.5 of this Environmental Document, requires preparation of a TMP. The TMP is expected to minimize Project impacts during construction. No mitigation is required.

f) No Impact. Alternatives 3, 6, and Modified Alternative 7 would not conflict with any adopted policies, plans, or programs supporting alternative transportation in the Cities of Colton and Grand Terrace, and these Alternatives are consistent with those Cities' General Plans. The proposed Project includes Class 2 bicycle lanes and sidewalks, and would not impact public transit routes. No mitigation is required.

XVII. UTILITIES AND SERVICE SYSTEMS

The potential for Alternatives 3, 6, and Modified Alternative 7 to result in impacts specific to utilities and service systems is discussed in Section 2.4 of this Environmental Document. The following is based on that information.

a) No Impact. Alternatives 3, 6, and Modified Alternative 7 would not result in the generation of wastewater. Therefore, the Project would not exceed wastewater treatment requirements that would require the construction of new wastewater treatment facilities. In addition, the Project would comply with the requirements of the Caltrans NPDES permit. No mitigation is required.

b) No Impact. The proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No mitigation is required.

c) Less Than Significant Impact. The Project includes drainage modifications to accommodate the reconstructed interchange. In conjunction with implementation of the measures identified in Section 2.8.4 of this Environmental Document, the construction of these modifications will not result in significant environmental effects. No mitigation is required.

d) No Impact. The proposed Project involves improvements to an existing interchange. No new or expanded water entitlements would be needed as a result of the Project, and no mitigation is required.

e) No Impact. The Project would not generate wastewater that requires treatment.

f) Less Than Significant Impact. The solid waste disposal requirements for the proposed Project would be minor, temporary, and limited to the construction phase of the proposed Project. The amount of waste material generated during construction would be limited and would be properly disposed of and/or recycled, as appropriate. No mitigation is required.

g) No Impact. Construction waste would be disposed of in accordance with federal, State, and local regulations related to recycling, which would minimize the amount of waste material entering local landfills. No mitigation is required.

XVIII. Mandatory Findings of Significance

a) Less Than Significant Impact. The potential for Alternatives 3, 6, and Modified Alternative 7 to result in significant impacts to biological or cultural resources specific is discussed in Sections 2.14, 2.15, 2.16, 2.17, 2.18, 2.7 and 2.10 of this Environmental Document. Alternatives 3, 6, and Modified Alternative 7 would not degrade the quality of the environment or substantially impact any animal or plant species or associated habitat. The Project is expected to result in only minimal impacts to areas under the jurisdiction of CDFW, RWQCB and ACOE; however, the Project will not impact wetlands. Measures WET-1 through WET-3, detailed in Section 2.15 of this Environmental Document, stipulate compliance with the applicable permit processes for any impacts to jurisdictional areas resulting from this Project.

Based on the results of the Historic Property Survey Report, Archaeological Survey Report, and Historical Resources Evaluation Report, it was determined that the cultural resources within the Project APE do not appear to be eligible for inclusion in the National Register, do not qualify as "historical resources" pursuant to CEQA, or are exempt per the Section 106 Programmatic Agreement (PA). In addition, it has been determined a finding of No Historic Properties Affected is appropriate because there are no historical resources within the Project Area limits, pursuant to CEQA Guidelines section 15064.5(b)(3).

To avoid impacts to any paleontological resources that may be present within the Project area where excavation may take place in areas of undisturbed soils, a Paleontological Mitigation Plan, detailed in measure PAL-1 in Section 2.10.4 of this Environmental Document, would be developed during the Final Design phase of the Project and implemented during the Construction phase of the Project.

No mitigation is expected to be required.

b) Less Than Significant Impact. As discussed in Section 2.21 of this Environmental Document, construction of this proposed Project, whether through Alternative 3, 6, or Modified Alternative 7, would not result in any impacts that are individually limited, but cumulatively considerable.

c) Less Than Significant Impact. As discussed in Section 2.1 (Land Use), Section 2.2 (Growth), Section 2.3 (Community Impacts), Section 2.4 (Utilities and Emergency Services), Section 2.5 (Traffic and Transportation/Pedestrian and Bicycle Facilities), Section 2.6 (Visual/Aesthetics), Section 2.8 (Water Quality and Storm Water Runoff), Section 2.9 (Geology/Soils/Seismic/Topography), Section 2.11 (Hazardous Waste/Materials), Section 2.12 (Air Quality), and Section 2.13 (Noise) of this Environmental Document, the proposed Project will not result in environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

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Appendix B Resources Evaluated Relative to the Requirements of Section 4(f)

This appendix discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the Project area that do not trigger Section 4(f) protection because either: (1) they are not publicly owned, (2) they are not open to the public, (3) they are not eligible historic properties, (4) the Project does not permanently use the property and does not hinder the preservation of the property, or (5) the proximity impacts do not result in constructive use.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "…it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

As defined in 23 Code of Federal Regulations (CFR) 774.17, there is a use of land from a Section 4(f) property when one of the following occurs:

(1) When land is permanently incorporated into a transportation facility;
(2) When there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose as determined by the criteria in Section 774.13(d). Section 774.13(d) indicates that temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f) are exceptions to the requirement for Section 4(f) approval. Specifically, for the purposes of Section 4(f), such temporary occupancy of a Section 4(f) resource does not normally constitute use if each of the following five conditions is met (23 CFR 774.13(d)):
    (a) Duration 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;
    (b) Scope of the work must be minor (i.e., both the nature and the magnitude of the changes to the Section 4(f) property are minimal);
    (c) There are no anticipated permanent adverse physical impacts, nor would there be interference with the protected activities, features, or attributes of the property, on either a temporary or permanent basis;

(d) The land being used must be fully restored (i.e., the property must be returned to a condition that is at least as good as that which existed prior to the project); and

(e) There must be documented agreement of the official(s) with jurisdiction over the Section 4(f) resource regarding the above conditions.

(3) When there is a constructive use of a Section 4(f) property as determined by the criteria in Section 774.15. Section 774.15(a) indicates a constructive use occurs when the transportation project does not incorporate land from a Section 4(f) property, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the property are substantially diminished.

B.1 Identification of and Evaluation of Project Effects on Section 4(f) Properties

The first step of the identification process consisted of reviewing various available technical and public documents, including publicly available maps, General Plans, and websites to identify parks, wildlife and waterfowl refuges, play and sports fields at public schools, reserves, trails, and historic sites within approximately 0.5 mile (mi) of the Project area shown on Figure B.1 that might qualify as properties requiring evaluation under Section 4(f). Those identified resources were then examined to determine whether they triggered the need for consideration under the requirements of Section 4(f). As shown in Figure B.1, two publicly owned parks, and one off-road trail were identified as being within 0.5 mi of the Project area. Those resources are described below, including discussion regarding why they do not trigger the requirements for protection under Section 4(f).

There are no wildlife and waterfowl refuges, or National Register of Historic Places (National Register) listed or eligible properties within 0.5 mile of the Project area.

B.1.1 Pico Park

Pico Park is located at 21950 Pico Street in the City of Grand Terrace and is owned and operated by the City of Grand Terrace. This park is approximately 0.3 mi southeast of the Interstate 215 (I-215)/Barton Road interchange in the City of Grand Terrace. This 9.3-acre (ac) park includes two basketball courts, one shelter with six tables and two barbecues, picnic tables, playgrounds, a tot lot area, walking/jogging tracks, two baseball/softball diamonds, and 24-hour video surveillance for the

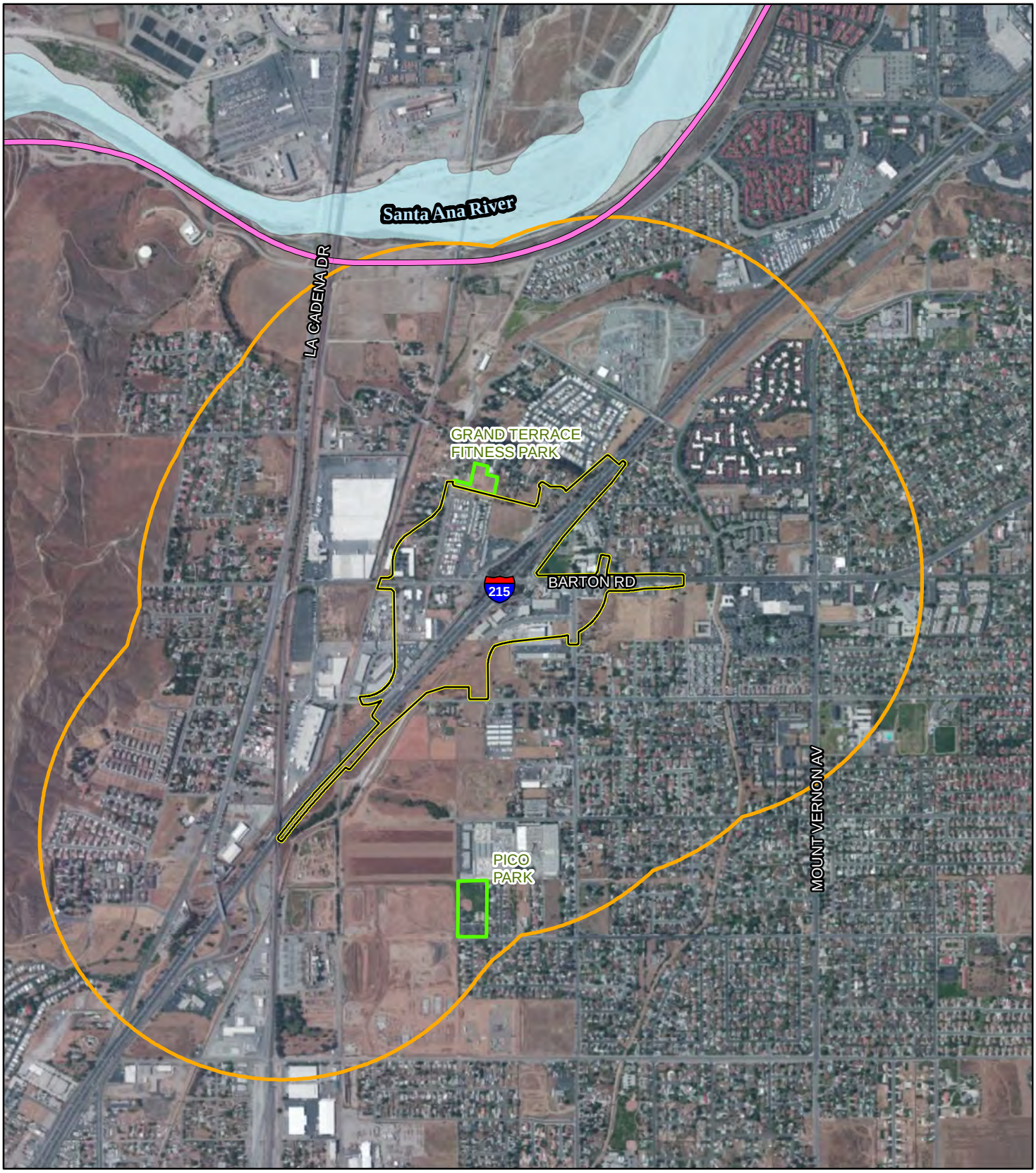

FIGURE B.1

LEGEND

- Project Area
- 0.5 Mile Radius
- Santa Ana River Trail
- Parks

N

0 750 1500
FEET

SOURCE: Microsoft (5/2010)

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I-215/Barton Road Interchange Improvement Project

Section 4(f) Resources

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safety of park patrons. In addition, City of Grand Terrace residents and nonresidents can reserve picnic tables with a shelter and barbecues.

The Project would not result in the permanent use of any land from this park. No temporary construction easements (TCEs) or permanent surface, aerial, or subsurface easements are proposed within the boundary of this park under the Build Alternatives. The facilities, functions, and/or activities of this park would not be impacted.

Due to the distance from the physical footprint of the Project (i.e., Project area), the technical studies prepared for the Project did not identify any changes to the accessibility, visual character, or quality of the park, or impacts to vegetation or wildlife in or surrounding the park. There would be no impacts related to traffic noise or air quality or water quality in the park vicinity. Based on the distance of this park from the location of the proposed Barton Road/I-215 interchange and the presence of intervening land uses, the Build Alternatives would not result in proximity impacts on this park.

Because there is no permanent or temporary use of land from Pico Park and the Build Alternatives would not result in proximity impacts on this park so severe that the protected activities, features, or attributes that qualify this property for protection under Section 4(f) would be substantially impaired, the requirements for protection under Section 4(f) are not triggered.

B.1.2 Grand Terrace Fitness Park

Grand Terrace Fitness Park, located at 21937 Grand Terrace Road in the City of Grand Terrace, is owned and operated by the City of Grand Terrace. As of October 2013, the construction of this park on an approximately 2.6-ac parcel in the northwestern part of the City of Grand Terrace, was nearly complete. Grand Terrace Fitness Park currently features: fitness stations, covered picnic tables, restrooms, a drinking fountain, walking paths, a tennis court, a children’s slide, limited on-site parking, a storage building, trash receptacles, lighting, and landscaping designed to be water conserving and informative. Items to be added prior to the final completion of the park include: a community activities area, a handball court, a turf area, and additional playground equipment. Vehicular and pedestrian access to the site is provided from a limited on-site parking area accessed directly from Grand Terrace Avenue. The park facilities are enclosed by a wrought iron and vinyl fence. The wrought iron portion of the fencing includes a gate. The gate is closed and locked when the park is closed. Grand Terrace Fitness Park is open from 6 AM to dusk 7 days per week.

The Grand Terrace Fitness Park is located northwest of the I-215/Barton Road interchange, on Grand Terrace Road, a few hundred feet south of the intersection of Grand Terrace Road and Vivienda Avenue. During the planning of the park, the City of Grand Terrace approved a Parcel Map that has an easement for transportation right-of-way over the alignment of what will be Fitness Park Way, a new local road that will extend from Grand Terrace Road east to La Crosse Avenue. This new local road would be constructed under each of the Build Alternatives. The location of the fenced park and Fitness Park Way are shown on Figure B.2. Figure B.2 also shows how Fitness Park Way will transition into the remaining portion of the existing La Crosse Avenue.

The construction of Fitness Park Way is expected to require two TCEs located on the south side of the new road, as shown on Figure B.2, one in Terrace Village RV Park and one in Grand Terrace Mobile Home Park. No TCEs or permanent surface, aerial, or subsurface easements are planned within the boundary of the Fitness Park under any of the Build Alternatives.

None of the Build Alternatives are expected to result in impacts to Grand Terrace Fitness Park. Caltrans transmitted a letter to the City of Grand Terrace on November 12, 2013, providing a summary for this conclusion and requesting that the City confirm their agreement, if they agreed. The City of Grand Terrace provided a letter on November 18, 2013, confirming their agreement that none of the Build Alternatives are expected to result in impacts to Grand Terrace Fitness Park.

Potential proximity impacts to the park, during construction and after construction, are discussed below.

B.1.2.1 Air Quality

Table 2.12.C in Section 2.12, Air Quality, shows the maximum amount of construction-related emissions during a peak construction day for the Build Alternatives. The emissions of particulate matter smaller than 10 microns in diameter (PM_{10}) and particulate matter smaller than 2.5 microns in diameter ($PM_{2.5}$) were estimated assuming a 50 percent control of fugitive dust from watering and other dust control measures required by the California Department of Transportation (Caltrans) and the South Coast Air Quality Management District (SCAQMD). Compliance with the Caltrans Standard Specifications Section 14-9 (Dust Control) and 39-3.06 (Asphalt Concrete Plant Emissions) during construction would reduce emissions generated by construction equipment. Additionally, best available control measures

FIGURE B.2

LEGEND

- Grand Terrace Fitness Park
- Geometrics for Alternatives 3, 6 & Modified 7
- Temporary Construction Easement
- Proposed Right of Way
- Existing Fence

0 100 200
FEET

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013)

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I-215/Barton Road Interchange Improvement Project

Grand Terrace Fitness Park

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(BACM) specified in SCAQMD Rule 403 would be incorporated in the Project commitments to reduce fugitive dust emissions. With implementation of these standard measures (providing 50 percent effectiveness) and Measures AQ-1 throughAQ-4 provided in Section 2.12, fugitive dust and exhaust emissions during construction of the Build Alternatives are not expected to result in substantial impacts to air quality at Grand Terrace Fitness Park.

Additionally, as discussed in the analysis provided in Section 2.12, the Build Alternatives would not result in any air emission concentrations exceeding the 1-hour or 8-hour carbon monoxide (CO) standards; would not create a new, or worsen an existing, violation of PM_{10} or $PM_{2.5}$; would result in mobile source air toxic (MSAT) emissions similar to or lower than MSAT emissions in the study area compared to the No Build Alternative; and would not contribute substantially to regional vehicle emissions.

As discussed above, the proposed Project, under any of the build alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the park with respect to air quality.

B.1.2.2 Natural Resources

The native plant area in the northern part of Grand Terrace Fitness Park would not be directly or indirectly impacted during construction and operation of Fitness Park Way or the interchange improvements. The *Natural Environment Study (Minimal Impacts)* for the Project did not identify any sensitive animal species in this area. Accordingly, the proposed Project, under any of the build alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the natural resources of the park.

B.1.2.3 Noise

Short-term noise impacts during construction of the Build Alternatives, including Fitness Park Way, would result from construction crew commutes, movement of construction equipment and materials to the construction site, and the road construction. Construction related traffic in the immediate vicinity of Grand Terrace Fitness Park will be minimal as the park is located in an established residential area featuring streets designed for local use, and the Transportation Management Plan for the Project during construction will address this part of the Project area accordingly.

Therefore, short-term construction worker commute and equipment transport noise impacts would be minimal. Typical noise levels during the road construction at 50 feet (ft) from an active construction area range up to 91 A-weighted decibels (dBA) maximum instantaneous noise level (L_{max}) during the noisiest construction phases. As a result, areas in the Fitness Park may be subject to short episodes of construction noise reaching 91 dBA L_{max} along the southern boundary of the park as large equipment passes by during a few days of the heaviest grading of Fitness Park Way. Compliance with the construction hours specified in the City of Grand Terrace Municipal Code would be required for work on the local access road. In addition, construction of Fitness Park Way would be a short-term temporary condition, and the construction-related noise would cease when construction of the road is complete.

Long-term noise impacts were evaluated based on traffic volumes projected on I-215 and on local roads, including Grand Terrace Road and Vivienda Avenue. The Traffic Study for the Project did not include traffic volumes on Fitness Park Way. The three closest sensitive receptors to the Fitness Park are receptors R-66, R-92, and R-93 as shown in Figure 2.13.1, Section 2.13, Noise. The projected noise levels in 2040 at these receptors for any of the three Build Alternatives are 61, 60, and 58 dBA equivalent continuous noise level (L_{eq}), respectively, which represent a 0 to 1 dBA increase when compared to the No Build Alternative. These levels are below the Noise Abatement Criteria of 67 dBA L_{eq} for Section 4(f) sites (Category C).

As discussed above, the proposed Project, under any of the build alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the park with respect to noise.

B.1.2.4 Accessibility

Vehicular and pedestrian access to the park is provided from a limited on-site parking area accessed directly from Grand Terrace Avenue, a few hundred feet south of the intersection with Vivienda Avenue. During construction, under any of the Build Alternatives, access to and from the park will be maintained, including during construction of the new local road (Fitness Park Way), without exception. In the long term, access to and from Grand Terrace Fitness Park will continue to be provided via Grand Terrace Road and the small parking lot located north of the future intersection of Fitness Park Way with Grand Terrace Road.

Accordingly, the proposed Project, under any of the build alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the accessibility of the park.

B.1.2.5 Visual/Aesthetics

Patrons of the park would have temporary views of construction activities including staging, hauling, excavation, and pavement installation along Fitness Park Way that would be specifically—and only—related, to what is necessary to construct Fitness Park Way, which would include views of activities, equipment, and materials on the two TCEs on the south side of the new access road. They may also have more distant temporary views of construction of the interchange facilities. In the long term, patrons of Grand Terrace Fitness Park would have partial views of Fitness Park Way, a new local two lane street, which would be at almost the same grade as the perimeter of the park. This view will be partially disrupted by the vegetation planted within the park and the fence along the border of the park. The vegetation within the park will not be impacted by any of the Build Alternatives. The freeway and the existing southbound off-ramp are somewhat visible in the existing view from the park area. The new southbound off-ramp for all of the Build Alternatives is expected to be visible from the eastern and southeastern portions of the park, however this view will be obstructed by vegetation and the park's border fence.

Patrons of Grand Terrace Fitness Park would have only short-term views of only a limited portion of the area associated with the proposed Project, and would have views of Fitness Park Way, the southbound off-ramp, and freeway (after construction) similar to views of existing Grand Terrace Avenue, southbound off-ramp, and freeway, respectively.

Accordingly, the proposed Project, under any of the Build Alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the visual/aesthetic aspects of the park.

B.1.2.6 Water Quality

There are no surface waters on or in the immediate vicinity of Grand Terrace Fitness Park. Pollutants of water quality concern during Project construction, under any of the Build Alternatives, including construction of the new local road, Fitness Park Way, include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary

waste, and chemicals, all of which can have a detrimental effect on surface water or groundwater quality. During construction, excavated soil would be exposed, and there would be an increased potential for soil erosion, temporarily. Chemicals, liquid products, petroleum products (such as paints, solvents, and fuels), and concrete-related waste may be spilled or leaked during construction with the potential to be transported via storm runoff into receiving waters. As discussed in Section 2.9, Water Quality and Stormwater Runoff, under the National Pollutant Discharge Elimination System (NPDES) permit(s), applicable to any of the Build Alternatives, construction of the Project would include preparation and implementation of a construction Storm Water Pollution Prevention Plan (SWPPP) including best management practices (BMPs) to minimize erosion and prevent spills. As part of the Project, bioswales are proposed to treat runoff from the interchange to minimize impacts to water quality. The SWPPP and BMP requirements would apply to the construction of Fitness Park Way as well as to the interchange improvements.

Based on proper design, implementation, and maintenance of construction and operation BMPs, no short- or long-term surface water quality impacts are expected to occur during construction and after construction, including in the portion of the project area immediately adjacent to and in general close proximity to the park. All drainage from Fitness Park Way and other portions of the interchange improvement are planned to be directed away from the park, thereby avoiding any potential flooding or water quality impacts to the park. As a result, the proposed Project, under any of the Build Alternatives, will not cause a constructive use of the Grant Terrace Fitness Park because the proximity impacts will not substantially impair the protected activities, features, or attributes of the park with respect to water quality.

In summary, Project construction and after construction traffic operations specifically related to the I-215/Barton Road Interchange Improvement Project, would not cause direct impacts to Grand Terrace Fitness Park and are not expected to result in any minor short- or long-term proximity impacts to the park, such that the protected activities, features, or attributes that qualify this property for protection under Section 4(f) would be impaired.

B.1.2.7 Santa Ana River Trail

Santa Ana River Trail is a Class 1 Trail (off-street paved path) that parallels the Santa Ana River and intersects with a number of established bicycle lanes/facilities and local streets along its alignment. As a result, this trail can be widely accessed by foot or bicycle from a large number of places along its entire length. In the study area for

the proposed Project, public parking to access the trail is available along local streets near the trail. Bicyclists and pedestrians are allowed to park on these local streets, providing them with several access points to the Santa Ana River Trail.

The trail crosses under Interstate 10 (I-10) and I-215 just south of the I-10/I-215 interchange. Within the City of Grand Terrace, the trail is a paved asphalt path that is 12 ft wide and divided into two lanes so that cyclists may ride abreast and to allow for safe passing. The Santa Ana River Trail accommodates bicyclists, rollerbladers, joggers, and pedestrians. The segment of the trail in the City of Grand Terrace has only moderate topography and provides views of the Santa Ana River, developed areas, and wildlife.

Features that make the Santa Ana River Trail special include its length and route, its views of natural and developed areas along the trail alignment, and the access that the trail provides to other recreational facilities, including parks and additional trails.

The Project would not result in the permanent use of any land from this trail. No TCEs or permanent surface, aerial, or subsurface easements are proposed along the trail under the Build Alternatives. The facilities, functions, and/or activities of the trail would not be impacted.

Due to the distance from the Project area, the technical studies prepared for the Project did not identify any changes to the accessibility, visual character, or visual quality of the park, or impacts to vegetation or wildlife in or surrounding the park. There would be no impacts related to traffic noise or air quality in the trail vicinity.

As discussed above, under the NPDES permits applicable to all the Build Alternatives, the Build Alternatives would include preparation and implementation of a construction SWPPP, including BMPs to minimize erosion and prevent spills. Treatment BMPs would also be included as part of the Project design to minimize impacts to the Santa Ana River.

Based on the distance of this trail from the location of the proposed I-215/Barton Road interchange the presence of intervening land uses, and the requirement to adhere to applicable regulations, construction of the Project, under any of the Build Alternatives, would not result in proximity impacts to the Santa Ana River Trail.

Because there is no permanent or temporary use of land from the Santa Ana River Trail and the Build Alternatives would not result in proximity impacts to the trail, the

protected activities, features, or attributes that qualify this property for protection under Section 4(f) would not be impaired, and the requirements for protection under Section 4(f) are not triggered.

B.2 Summary

The Build Alternatives would not result in the permanent use of land from any Section 4(f) properties, would not require temporary or permanent easements at any Section 4(f) properties, and would not result in constructive use of any Section 4(f) properties.

B.3 Correspondence

The November 12, 2013 Caltrans letter to the City of Grand Terrace and the City's November 18, 2013 response letter are provided on the following pages.

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
DIVISION OF ENVIRONMENTAL PLANNING
ENVIRONMENTAL STUDIES "C"
464 WEST FOURTH STREET, 6th FLOOR, (MS 827)
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-6379
FAX (909) 383-6494
TTY 711

Flex your power!
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November 12, 2013

Mr. Richard Shields
Community Development Director
City of Grand Terrace
22795 Barton Road
Grand Terrace, CA 92313

Subject: Proposed I-215 / Barton Road Interchange Improvement Project and City of Grand Terrace's Grand Terrace Fitness Park

Dear Mr. Shields,

In conjunction with San Bernardino Associated Governments' (SANBAG's) proposed project to improve the Interstate 215 (I-215) / Barton Road interchange (Project), located in the City of Grand Terrace and partially in the City of Colton in San Bernardino County, California, the California Department of Transportation (Caltrans) is the Lead Agency under the California Environmental Quality Act (CEQA) and Caltrans is also the Lead Agency under the National Environmental Policy Act (NEPA).

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007 and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6th, 2012, amended 23 USC 327 to establish a revised and permanent Surface Transportation Project Delivery Program. As a result, the California Department of Transportation (Caltrans) entered into a memorandum of understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with the Federal Highway Administration (FHWA). The NEPA Assignment MOU became effective October 1, 2012. The NEPA Assignment MOU incorporates by reference the terms and conditions of the Pilot Program MOU. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and federal-aid local streets and roads projects under FHWA's Surface Transportation Project Delivery Program for Projects off of the State Highway System within the State of California.

Caltrans assumed all of FHWA's responsibilities for environmental coordination and consultation under other federal environmental laws pertaining to the review or approval of projects under NEPA Assignment. For the purposes of carrying out the responsibilities assumed under NEPA Assignment, Caltrans is deemed to be acting as FHWA with respect to the environmental review, consultation, and other actions required under those responsibilities.

The Project limits on I-215 extend from approximately 0.8 mi south of the Barton Road Overcrossing to approximately 0.4 mi north of the Barton Road Overcrossing. On Barton Road, the Project limits extend from approximately 0.3 mile (mi) west of I-215 to approximately 0.4 mi east of I-215. The Project is currently in the Project Approval/Environmental Document (PA/ED) phase, with a No Build Alternative and three Build alternatives being studied. All three of the Build alternatives (Alternative 3 – Partial Cloverleaf, Alternative 6 – Modified Cloverleaf, and Modified Alternative 7 – Modified Cloverleaf/Diamond) would include construction of a new permanent two-lane local road from La Crosse Avenue, terminating at Grand Terrace Road (please see attached Figure 1, an excerpt from one of the preliminary engineering figures for the Project). A portion of this new permanent two-lane road, as detailed in your October 17, 2013 letter and illustrated in Parcel Map 18847 (Attachment F thereto), will be located directly adjacent to a portion of the limits of the City of Grand Terrace's Grand Terrace Fitness Park.

Pursuant to 49 USC 303 and 23 CFR 774.17, Grand Terrace Fitness Park is recognized as a Section 4(f) resource. Preliminary engineering efforts to-date on all three of the proposed Project Build Alternatives being studied has been reviewed, to determine if and/or to what extent any of the Build Alternatives could impact this public recreational facility. Based on this review, Caltrans understands that the Project will not result in any part of the Grand Terrace Fitness Park needing to be acquired permanently or temporarily. Additionally, and again based on your October 17, 2013 letter, which includes the specific statement, "This future roadway will not impact the Fitness Park or any of the recreation improvements[,]" Caltrans also understands that no construction-related temporary impacts to the Grand Terrace Fitness Park will occur at anytime throughout the construction phase of the Project. Accordingly, Caltrans is concluding that construction of the Project, under any of the Build Alternatives studied, is not expected to result in a "use" of Grand Terrace Fitness Park, as defined under 23 CFR 774.15.

The City of Grand Terrace Department of Community Development's anticipation of the I-215/Barton Road Interchange Improvement Project during the development of the Grand Terrace Fitness Park, as evidenced in your October 17, 2013 letter and further documented in the City of Grand Terrace City Council's Agenda Report dated September 10, 2013 for Item 3.B (Attachment E thereto), was included in the review to determine if the Project might result in impacts to this recreational facility.

To facilitate confirmation that construction of the Project will result in no impacts to Grand Terrace Fitness Park during construction, an Avoidance Measure will be included in the

Environmental Commitments Record (ECR) for the Project, specifically stipulating that no staging or storage of materials on any part of Grand Terrace Fitness Park will be allowed, and no obstruction of access to the Park, at any time, will be allowed. Additionally, with respect to potential temporary noise and air quality impacts, the noise and air quality measures included in the ECR will be stipulated as also being specifically applicable while construction activities are occurring in close proximity to the Grand Terrace Fitness Park.

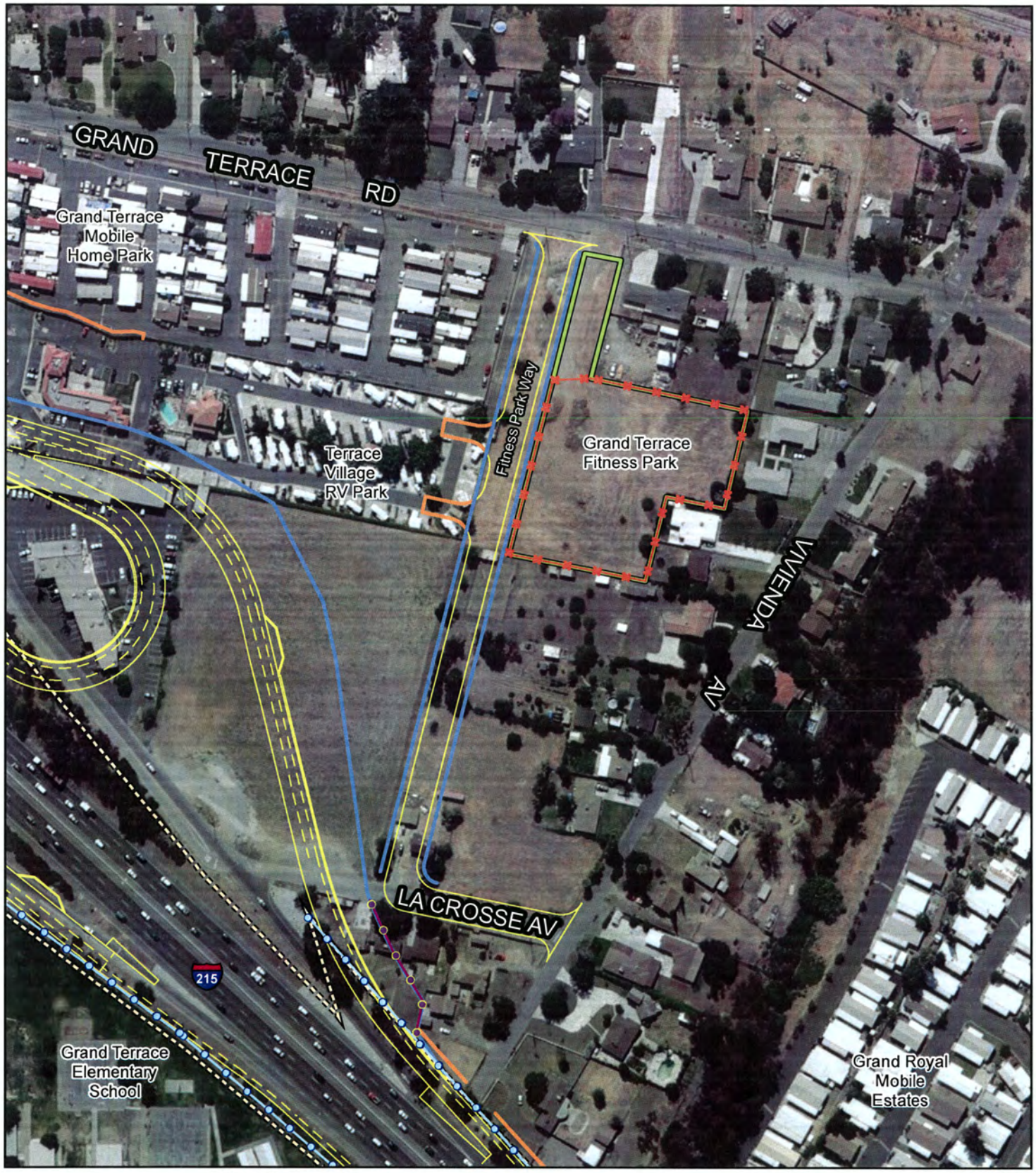
Please be advised that if the scope of work for this Project changes during the Final Design phase of this project, and Caltrans determines during reviews of the associated Final Design document9s), that the Project could potentially impact Grand Terrace Fitness Park (temporarily or permanently), Caltrans will pursue follow-up coordination with the City of Grand Terrace, in accordance with all applicable requirements pursuant to 23 CFR 774.

Caltrans respectfully requests the City of Grand Terrace formally document their agreement with the results of Caltrans' review of the I-215/Barton Road Interchange Improvement Project in specific regard to the City of Grand Terrace's Grand Terrace Fitness Park.

Sincerely,

JAMES SHANKEL
Senior Environmental Planner, Branch Chief
District 8—Division of Environmental Planning

Attachment: Figure 1



LEGEND

- Grand Terrace Fitness Park
- Existing Fence
- Existing Caltrans Right of Way
- I-215 Bi-County HOV Lane Gap Closure Project Sound Barrier
- Geometrics for Modified Alternative 7
- Proposed Right of Way
- Temporary Construction Easement
- Proposed Sound Barrier

0 100 200
FEET

FIGURE 1

I-215/Barton Road Interchange Improvement Project

Grand Terrace Fitness Park

SOURCE:Microsoft (5/2010); San Bernardino Cnty. (3/2008, 9/2013)

I:\SBA330\Barton_I-215\GIS\ISEA\GTFitnessPark_CT.mxd (11/12/2013)

November 18, 2013

James Shankel
Senior Environmental Planner
Branch Chief, Environmental Studies "C"
NEPA Assignment QC–SHS Projects
District 8, Division of Environmental Planning
California Department of Transportation
464 West 4th Street, 6th Floor (MS 827)
San Bernardino, California 92401-1400

Subject: Proposed I-215 / Barton Road Interchange Improvement Project and City of Grand Terrace's Grand Terrace Fitness Park.

Dear Mr. Shankel:

The City is in receipt of your letter dated November 12, 2013 regarding potential impacts to Grand Terrace Fitness Park associated with construction of the I-215 / Barton Road Interchange improvements. As described in the City's letter dated October 17, 2013, both the Grand Terrace Fitness Park and the I-215/Barton Road Interchange improvements are very important public improvements to the residents of Grand Terrace and the two projects were designed in conjunction with one another. As such, the City concurs with your conclusion that construction of the I-215 / Barton Road Interchange improvements would not result in direct or indirect impacts to the Fitness Park and therefore does not constitute a "use" of Grand Terrace Fitness Park, as defined under 23 CFR 774.15.

Furthermore, the City of Grand Terrace concurs with the Avoidance Measures proposed in the ECR that prevent the use of Grand Terrace Park for staging or storage; maintain access to the park during construction; and minimize temporary noise and air quality impacts during construction.

Therefore the City agrees with the conclusions presented in your November 12, 2013 letter and appreciates Caltrans' efforts to complete the I-215 / Barton Road Interchange project.

Sincerely,

Richard Shields, CBO
Director of Community Development

City of Grand Terrace
Community Development Department
22795 Barton Road, Grand Terrace, California, 92313-5295
(909) 825-3825 Fax (909) 825-7506

Appendix C Title VI Policy Statement

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DEPARTMENT OF TRANSPORTATION
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March 2013

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director

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Appendix D Summary of Relocation Benefits

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California Department of Transportation Relocation Assistance Program

Relocation Assistance Advisory Services

Declaration of Policy

"The purpose of this title is to establish a ***uniform policy for fair and equitable treatment*** of persons displaced as a result of federal and federally assisted programs in order that such persons ***shall not suffer disproportionate injuries*** as a result of programs designed for the benefit of the public as a whole."

The Fifth Amendment to the U.S. Constitution states, "No Person shall…be deprived of life, liberty, or property, without due process of law, nor shall private property be taken for public use without just compensation." The Uniform Act sets forth in statute the due process that must be followed in Real Property acquisitions involving federal funds. Supplementing the Uniform Act is the government-wide single rule for all agencies to follow, set forth in 49 Code of Federal Regulations, Part 24. Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments, as discussed below.

Fair Housing

The Fair Housing Law (Title VIII of the Civil Rights Act of 1968) sets forth the policy of the United States to provide, within constitutional limitations, for fair housing. This Act, and as amended, makes discriminatory practices in the purchase and rental of most residential units illegal. Whenever possible, minority persons shall be given reasonable opportunities to relocate to any available housing regardless of neighborhood, as long as the replacement dwellings are decent, safe, and sanitary and are within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Any persons to be displaced will be assigned to a relocation advisor, who will work closely with each displacee in order to see that all payments and benefits are fully utilized, and that all regulations are observed, thereby avoiding the possibility of displacees jeopardizing or forfeiting any of their benefits or payments. At the time of the initiation of negotiations (usually the first written offer to purchase), owner-occupants are given a detailed explanation of the state's relocation services. Tenant occupants of properties to be acquired are contacted soon after the initiation of

negotiations, and also are given a detailed explanation of the Caltrans Relocation Assistance Program. To avoid loss of possible benefits, no individual, family, business, farm, or nonprofit organization should commit to purchase or rent a replacement property without first contacting a Caltrans relocation advisor.

Relocation Assistance Advisory Services

In accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Caltrans will provide relocation advisory assistance to any person, business, farm or nonprofit organization displaced as a result of the acquisition of real property for public use, so long as they are legally present in the United States. Caltrans will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are “decent, safe and sanitary.” Nonresidential displacees will receive information on comparable properties for lease or purchase (for business, farm and nonprofit organization relocation services, see below).

Residential replacement dwellings will be in a location generally not less desirable than the displacement neighborhood at prices or rents within the financial ability of the individuals and families displaced, and reasonably accessible to their places of employment. Before any displacement occurs, comparable replacement dwellings will be offered to displacees that are open to all persons regardless of race, color, religion, sex, national origin, and consistent with the requirements of Title VIII of the Civil Rights Act of 1968. This assistance will also include the supplying of information concerning Federal and State assisted housing programs, and any other known services being offered by public and private agencies in the area.

Persons who are eligible for relocation payments and who are legally occupying the property required for the project will not be asked to move without first being given at least 90 days written notice. Residential occupants eligible for relocation payment(s) will not be required to move unless at least one comparable “decent, safe and sanitary” replacement dwelling, available on the market, is offered to them by Caltrans.

Residential Relocation Payments

The Relocation Assistance Program will help eligible residential occupants by paying certain costs and expenses. These costs are limited to those necessary for or incidental to the purchase or rental of a replacement dwelling and actual reasonable moving

expenses to a new location within 50 miles of the displacement property. Any actual moving costs in excess of the 50 miles are the responsibility of the displacee. The Residential Relocation Assistance Program can be summarized as follows:

Moving Costs

Any displaced person, who lawfully occupied the acquired property, regardless of the length of occupancy in the property acquired, will be eligible for reimbursement of moving costs. Displacees will receive either the actual reasonable costs involved in moving themselves and personal property up to a maximum of 50 miles, or a fixed payment based on a fixed moving cost schedule. Lawful occupants who move into the displacement property after the initiation of negotiations must wait until Caltrans obtains control of the property in order to be eligible for relocation payments.

Purchase Differential

In addition to moving and related expense payments, fully eligible homeowners may be entitled to payments for increased costs of replacement housing.

Homeowners who have owned and occupied their property for 180 days or more prior to the date of the initiation of negotiations (usually the first written offer to purchase the property), may qualify to receive a price differential payment and may qualify to receive reimbursement for certain nonrecurring costs incidental to the purchase of the replacement property. An interest differential payment is also available if the interest rate for the loan on the replacement dwelling is higher than the loan rate on the displacement dwelling, subject to certain limitations on reimbursement based upon the replacement property interest rate. The maximum combination of these three supplemental payments that the owner-occupant can receive is $22,500. If the total entitlement (without the moving payments) is in excess of $22,500, the Last Resort Housing Program will be used (See the explanation of the Last Resort Housing Program below).

Rent Differential

Tenants and certain owner-occupants (based on length of ownership) who have occupied the property to be acquired by Caltrans prior to the date of the initiation of negotiations may qualify to receive a rent differential payment. This payment is made when Caltrans determines that the cost to rent a comparable “decent, safe and sanitary” replacement dwelling will be more than the present rent of the displacement dwelling. As an alternative, the tenant may qualify for a down payment benefit designed to assist in the purchase of a replacement property and the payment of

certain costs incidental to the purchase, subject to certain limitations noted under the *Down Payment* section below. The maximum amount payable to any eligible tenant and any owner-occupant of less than 180 days, in addition to moving expenses, is $5,250. If the total entitlement for rent supplement exceeds $5,250, the Last Resort Housing Program will be used.

In order to receive any relocation benefits, the displaced person must buy or rent and occupy a "decent, safe and sanitary" replacement dwelling within one year from the date the Caltrans takes legal possession of the property, or from the date the displacee vacates the displacement property, whichever is later.

Down Payment

The down payment option has been designed to aid owner-occupants of less than 180 days and tenants in legal occupancy prior to Caltrans' initiation of negotiations. The down payment and incidental expenses cannot exceed the maximum payment of $5,250. The one-year eligibility period in which to purchase and occupy a "decent, safe and sanitary" replacement dwelling will apply.

Last Resort Housing

Federal regulations (49 CFR 24) contain the policy and procedure for implementing the Last Resort Housing Program on federal-aid projects. Last Resort Housing benefits are, except for the amounts of payments and the methods in making them, the same as those benefits for standard residential relocation as explained above. Last Resort Housing has been designed primarily to cover situations where a displacee cannot be relocated because of lack of available comparable replacement housing, or when the anticipated replacement housing payments exceed the $22,500 and $5,250 limits of the standard relocation procedure, because either the displacee lacks the financial ability or other valid circumstances.

After the initiation of negotiations, Caltrans will within a reasonable length of time, personally contact the displacees to gather important information, including the following:

- Number of people to be displaced;
- Specific arrangements needed to accommodate any family member(s) with special needs;
- Financial ability to relocate into comparable replacement dwelling which will adequately house all members of the family;
- Preferences in area of relocation;

- Location of employment or school.

Nonresidential Relocation Assistance

The Nonresidential Relocation Assistance Program provides assistance to businesses, farms and nonprofit organizations in locating suitable replacement property, and reimbursement for certain costs involved in relocation. The Relocation Advisory Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms and nonprofit organizations are: searching and moving expenses, and possibly reestablishment expenses; or a fixed in lieu payment instead of any moving, searching and reestablishment expenses. The payment types can be summarized as follows:

Moving Expenses

Moving expenses may include the following actual, reasonable costs:

- The moving of inventory, machinery, equipment and similar business-related property, including: dismantling, disconnecting, crating, packing, loading, insuring, transporting, unloading, unpacking, and reconnecting of personal property. Items acquired in the Right of Way contract may not be moved under the Relocation Assistance Program. If the displacee buys an Item Pertaining to the Realty back at salvage value, the cost to move that item is borne by the displacee.
- Loss of tangible personal property provides payment for actual, direct loss of personal property that the owner is permitted not to move.
- Expenses related to searching for a new business site, up to $2,500, for reasonable expenses actually incurred.

Reestablishment Expenses

Reestablishment expenses related to the operation of the business at the new location, up to $10,000 for reasonable expenses actually incurred.

Fixed In Lieu Payment

A fixed payment in lieu of moving, searching, and reestablishment payments may be available to businesses which meet certain eligibility requirements. This payment is an amount equal to half the average annual net earnings for the last two taxable years prior to the relocation and may not be less than $1,000 nor more than $20,000.

Additional Information

Reimbursement for moving costs and replacement housing payments are not considered income for the purpose of the Internal Revenue Code of 1954, or for the purpose of determining the extent of eligibility of a displacee for assistance under the Social Security Act, or any other law, *except* for any Federal law providing local "Section 8" Housing Programs.

Any person, business, farm or nonprofit organization which has been refused a relocation payment by the Caltrans relocation advisor or believes that the payment(s) offered by the agency are inadequate, may appeal for a special hearing of the complaint. No legal assistance is required. Information about the appeal procedure is available from the relocation advisor.

California law allows for the payment for lost goodwill that arises from the displacement for a public project. A list of ineligible expenses can be obtained from Caltrans Right of Way. California's law and the federal regulations covering relocation assistance provide that no payment shall be duplicated by other payments being made by the displacing agency.

The following attachments provide additional information regarding Caltrans' relocation benefits.

Attachment A: Your Rights and Benefits as a Displacee Under the Uniform Relocation Assistance Program (Residential) 2007 (English and Spanish)

Attachment B: Your Rights and Benefits as a Displaced Business, Farm or Nonprofit Organization Under theUniform Relocation Assistance Program (English and Spanish)

Attachment A:

Your Rights and Benefits as a Displacee
Under the Uniform Relocation Assistance Program
(Residential)
2007 (English and Spanish)

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Your Rights and Benefits as a Displacee Under the Uniform Relocation Assistance Program (Residential) 2007

Caltrans

California Department of Transportation

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced individuals, families, businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

> To ensure that persons displaced as a direct result of federal or federally-assisted projects 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.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Comparable Replacement: means a dwelling which is:

(1) Decent, safe, and sanitary. (See definition below)

(2) Functionally equivalent to the displaced dwelling.

(3) Adequate in size to accommodate the family being relocated.

(4) In an area not subject to unreasonable adverse environmental conditions.

(5) In a location generally not less desirable than the location of your displacement dwelling with respect to public utilities and commercial and public facilities, and reasonably accessible to the place of-employment.

(6) On land that is typical in size for residential development with typical improvements.

Decent, Safe and Sanitary (DS&S): Replacement housing must be decent, safe, and sanitary...which means it meets all of the minimum requirements established by federal regulations and conforms to applicable housing and occupancy codes. The dwelling shall:

(1) Be structurally sound, weather tight, and in good repair.

(2) Contain a safe electrical wiring system adequate for lighting and other devices.

(3) Contain a heating system capable of sustaining a healthful temperature (of approximately 70 degrees) for a displaced person, except in those areas where local climatic conditions do not require such a system.

(4) Be adequate in size with respect to the number of rooms and area of living space needed to accommodate the displaced person. The Caltrans policy is that there will be no more than 2 persons per room unless the room is of adequate size to accommodate the normal bedroom furnishings for the occupants.

(5) Have a separate, well-lighted and ventilated bathroom that provides privacy to the user and contains a sink, bathtub or shower stall, and a toilet, all in good working order and properly connected to appropriate sources of water and to a sewage drainage system.

Note: In the case of a housekeeping dwelling, there shall be a kitchen area that contains a fully usable sink, properly connected to potable hot and cold water and to a sewage drainage system, and adequate space and utility service connections for a stove and refrigerator.

(6) Contains unobstructed egress to safe, open space at ground level. If the replacement dwelling unit is on the second story or above, with access directly from or through a common corridor, the common corridor must have at least two means of egress.

(7) For a displaced person who is handicapped, be free of any barriers which would preclude reasonable ingress, egress, or use of the dwelling by *such displaced person.*

Displaced Person or Displacee: Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Residents **not lawfully present** in the United States are not eligible to receive relocation payments and assistance

Relocation benefits will vary, depending upon the type and length of occupancy. As a residential displacee, you will be classified as either a:

- An owner occupant of a residential property (includes mobile homes)
- A tenant occupant of a residential property (includes mobile homes and sleeping rooms)

Dwelling: The place of permanent or customary and usual residence of a person, according to local custom or law, including a single family house; a single family unit in a two-family, multi-family, or multi-purpose property; a unit of a condominium or cooperative housing project; a non-housekeeping unit; a mobile home; or any other residential unit.

Owner: A person is considered to have met the requirement to own a dwelling if the person purchases or holds any of the following interests in real property:

(1) Fee title, a life estate, a land contract, a 99-year lease, oral lease including any options for extension with at least 50 years to run from the date of acquisition; or

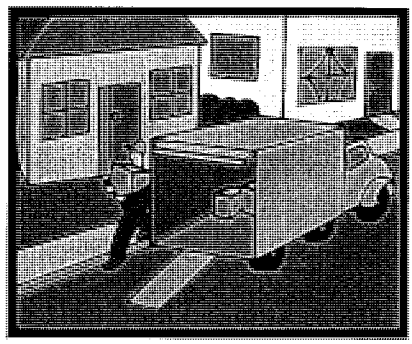
(2) An interest in a cooperative housing project which includes the right to occupy a dwelling; or

(3) A contract to purchase any interests or estates; or

(4) Any other interests, including a partial interest, which in the judgment of the agency warrants consideration as ownership.

Tenant: A person who has the temporary use and occupancy of real property owned by another.

Moving Expenses



If you qualify as a displaced person, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. The methods of moving and the various types of moving cost payments are explained. Below.

Displaced individuals and families may choose to be paid on the basis of actual, reasonable moving costs and related expenses, or according to a fixed moving cost schedule. However, to ensure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs - You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses may include:

- Transportation
- Packing and unpacking personal property.
- Disconnecting and reconnecting household appliances.
- Temporary storage of personal property.
- Insurance while property is in storage or transit.

OR

Fixed Moving Cost Schedule - You may be paid on the basis of a fixed moving cost schedule. Under this option, you will not be eligible for reimbursement of related expenses listed above. The fixed schedule is designed to cover such expenses.

Examples (Year 2005 Rate):
4 Rooms - $ 950
7 Rooms - $1,550

If the furniture is moved with the mobile home, the amount of the fixed payment is based on Schedule B.

Examples (Year 2005Rate):
4 Rooms - $1,175
7 Rooms - $1,900

Under the Fixed Move Schedule for a furnished unit (e.g. you are a tenant of an apartment that is furnished by your landlord) is based on Schedule B.

Example (Year 2005 Rate):
1 Room - $400

Under the Fixed Move Schedule, you will not receive any additional payments for temporary storage, lodging, transportation or utility hook-ups.

Replacement Housing Payments

The type of Replacement Housing Payment (RHP) depends on whether you are an owner or a tenant, and the length of occupancy in the property being acquired.

If you are a qualified **owner occupant** of more than 180 days prior to the initiation of negotiations for the acquisition of your property, you may be entitled to a RHP that consists of:

Price Differential, and

Mortgage Differential, and

Incidental Expenses;

OR

Rent Differential

If you are a qualified **owner occupant** of more than 90 days but less than 180 days, OR you are a qualified **tenant occupant** of at least 90 days, you may be entitled to a RHP as follows:

Rent Differential

OR

Downpayment Option

Length of occupancy simply means counting the number of days that you actually occupied a dwelling before the date of initiation of negotiations by Caltrans for the purchase of the property. The term "initiation of negotiations" means the date Caltrans makes the first personal contact with the owner of real property, or his/ her representative, to give him/her a written offer for the property to be acquired.

Note: If you have been in occupancy less than 90 days before the initiation of negotiations and the property is subsequently acquired, or if you move onto the property after the initiation of negotiations and you are still in occupancy on the date of acquisition, you may or may not be eligible for a Replacement Housing Payment. Check with your Relocation Agent before you make any decision to vacate your property.

For Owner Occupants of 180 Days or More

If you qualify as a 180-day owner occupant, you may be eligible -- in addition to the fair market value of your property -- for a Replacement Housing Payment that consists of a Price Differential, Mortgage Differential and/or Incidental Expenses.

The **Price Differential** payment is the amount by which the cost of a replacement dwelling exceeds the acquisition cost of the displacement dwelling. This payment will assist you in purchasing a comparable decent, safe, and sanitary (DS&S) replacement dwelling. Caltrans will compute the maximum payment you may be eligible to receive.

In order to receive the full amount of the calculated price differential, you must spend at least the amount calculated by Caltrans on a replacement property

The **Mortgage Differential** payment will reimburse your for any increased mortgage interest costs you might incur because the interest rate on your new mortgage exceeds the interest rate on the property acquired by Caltrans The payment computation is complex as it is based on prevailing rates, your existing loan and your new loan. Also, a part of this payment may be prorated such as reimbursement for a portion of your loan origination fees and mortgage points.

To be eligible to receive this payment, the acquired property must have been encumbered by a bona fide mortgage which was a valid lien for at least 180 days prior to the initiation of negotiations.

You may also be reimbursed for any actual and necessary **Incidental Expenses** that you incur in relation to the purchase of your replacement property. These expenses may be those costs for title search, recording fees, credit report, appraisal report, and certain other closing costs associated with the purchase of property. You will not be reimbursed for any recurring costs such as prepaid real estate taxes and property insurance.

If the total amount of your **Replacement Housing Payment** (Price Differential, Mortgage Differential and Incidental Expenses) exceeds $22,500, the payment must be deposited directly into an escrow account or paid directly to the mortgage company.

EXAMPLES OF PRICE DIFFERENTIAL PAYMENT COMPUTATION:

Assume that Caltrans purchases your property for $98,000. After a thorough study of available, decent, safe and sanitary dwellings on the open market, Caltrans determines that a comparable replacement property will cost you $100,000. If your purchase price is $100,000, you will receive $2,000 *(see Example A).*

If your actual purchase price is more than $100,000, you pay the difference (see *Example B).* If your purchase price is less than $100,000, the differential payment will be based on actual costs *(see Example C).*

How much of a differential payment you receive depends on how much you actually spend on a replacement dwelling as shown in these examples:

Caltrans' Computation

Comparable Replacement Property and Mobile Home	$100,000
Acquisition Price of Your Property and Mobile Home	-$ 98,000
Maximum Price Differential	$ 2,000

Example A

Purchase Price of Replacement	$100,000
Comparable Replacement Property	$100,000
Acquisition Price of Your Property	-$ 98,000
Maximum Price Differential	$ 2,000

Example B

Purchase Price of Replacement Property	$105,000
Comparable Replacement Property	$100,000
Acquisition Price of Your Property	$ 98,000
Maximum Price Differential	$ 2,000
You Must Pay the Additional	$ 5,000

Example C

Comparable Replacement Property	$100,000
Purchase Price of Replacement	$ 99,000
Acquisition Price of Your Property	$ 98,000
Price Differential	$ 1,000

In Example C you will only receive $1,000 - not the full amount of the Caltrans "Comparable Replacement Property" because of the "Spend to Get" requirements.

IN ORDER FOR A "180 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING *PAYMENT* *(Price Differential, Mortgage Differential and Incidental Expenses)*, **you must:**

A) Purchase and occupy a DS&S replacement dwelling within one year after the later of:

(1) The date you first receive a notification of an available replacement house, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the closing of escrow on State's acquisition),

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" for a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later:

(1) The date you vacate the property acquired by Caltrans, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. Also, you will also receive at least 90 days' written notice before you must move.

For Owner Occupants and Tenants of 90 Days or More

If you qualify as a 90-day occupant (either as an owner or tenant), you may be eligible for a Replacement Housing Payment in the form of a Rent Differential.

The **Rent Differential** payment is designed to assist you in renting a comparable decent, safe and sanitary replacement dwelling. The payment is based on the difference between the base monthly Rent for the property acquired by Caltrans (including average monthly cost for utilities) and the lesser of:

a) The monthly rent and estimated average monthly cost of utilities for a comparable replacement dwelling as determined by Caltrans, **OR**

b) The monthly rent and estimated average monthly cost of utilities for the decent, safe and sanitary dwelling that you actually rent as a replacement dwelling.

Utility costs are those expenses you incur for heat, lights, water and sewer - regardless of the source (e.g. electricity, propane, and septic system). It does not include garbage, cable, telephone, or security. The utilities at your property are the average costs over the last 12 months. The utilities at the comparable replacement property are the estimated costs for the last 12 months for the type of dwelling and area used in the calculation.

This difference is multiplied by 42 months and may be paid to you in a lump sum payment or in periodic installments in accordance with policy and regulations.

In order to receive the full amount of the calculated Rent Differential, you must spend at least the amount calculated by Caltrans on a replacement property.

This payment may - with certain limitations - be converted to a **Downpayment Option** to assist you in purchasing a replacement property.

Example of Rent Differential Payment Computation:

After a thorough study of comparable, decent, safe and sanitary dwellings that are available for rent, Caltrans determines that a comparable replacement property will rent for $325.00 per month.

Caltrans Computation (rates are per month)

Rental Rate for Comparable Replacement Property	$ 325
PLUS average estimated utilities costs	+ 100
TOTAL Cost to Rent Comparable Replacement Property	= $ 425
Rental Rate for Your Current Property	$ 300
PLUS average utilities costs	+ 90
TOTAL Cost to Rent Current Property	= $ 390
Comparable Replacement Property including utilities	$ 425
Cost you pay to rent your property including utilities	+ 390
Difference	= $ 35

Multiplied by 42 months = $1,470 Rent Differential

Example A:

Rental Rate for a Replacement Property including Estimated average utilities costs	$ 525
Comparable Replacement Property including utilities	$ 425
Cost you pay to rent your property including utilities	$ 390

Since $425 is less than $525, the Rent Differential is based on the difference between $390 and $425.

Rent Differential ($35 x 42 months = $1,470)

In this case you spent "at least" the amount of the Comparable Replacement Property on the replacement property and will receive the full amount.

Example B:

Rental Rate for a Replacement Property including Estimated average utilities costs	$ 400
Comparable Replacement Property including utilities	$ 425
Cost you pay to rent your property including utilities	$ 390

Since $400 is less than $525, the Rent Differential is based on the difference between $400 and $390.

Rent Differential ($10 x 42 months = $420)

In this case you spent "less than" the amount of the Comparable Replacement Property on the replacement property and will not receive the full amount.

IN ORDER FOR A "90 DAY OWNER OCCUPANT" TO RECEIVE THE FULL AMOUNT OF THEIR REPLACEMENT HOUSING PAYMENT *(Rent Differential)*, **you must:**

A) Rent and occupy a DS&S replacement dwelling within one year after the later of:

(1) The date you first receive a notification of an available replacement house, **OR**

(2) The day you vacate the property acquired by Caltrans.

AND

B) Spend at least the amount of the Caltrans "Comparable Replacement Property" to rent a replacement property,

AND

C) File a claim for relocation payments within 18 months of the later of:

(1) The date you vacate the property acquired by Caltrans, **OR**

(2) The date that Caltrans has paid the acquisition cost of your current dwelling (usually the close of escrow on State's acquisition)

You will not be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. And, you will also receive at least 90 days' written notice before you must move.

Note1: The time periods for a 90-day owner occupant are different than a 180-day owner occupant.

Note 2: If the Rent Differential is converted to a Downpayment Option, there is no "spend-to-get" requirement.

DOWN PAYMENT OPTION

The Rent Differential payment may - with certain limitations - be converted to a **Down Payment Option** to assist you in purchasing a replacement property. The down payment option is a direct conversion of the Rent Differential payment.

If the Caltrans calculated Rent Differential is between $0 and $5,250, your down payment option will be $5,250, which can be used towards the purchase of a replacement decent, safe and sanitary dwelling.

If the Rent Differential is over $5,250, you may be able to convert the entire amount of the Rent Differential to a downpayment option.

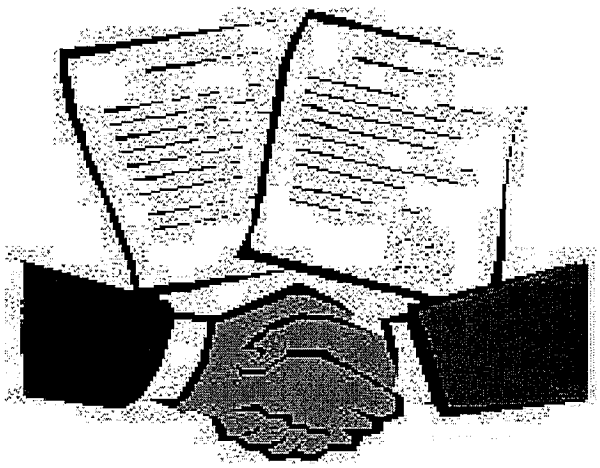
The down payment option must be used for the acquisition of the replacement dwelling, plus any eligible incidental expenses (see "180-day Owner Occupants Incidental Expenses") related to the purchase of the property. You must work closely with your Relocation Agent to ensure you can utilize the full amount of your down payment option towards the purchase.

If any portion of the Rent Differential was used prior to the decision to convert to a down payment option, those advance payments will be deducted from the entire benefit.

LAST RESORT HOUSING

On most projects, an adequate supply of housing will be available for sale and for rent, and the benefits provided will be sufficient to enable you to relocate to comparable housing. However, there may be projects in certain locations where the supply of available housing is insufficient to provide the necessary housing for those persons being displaced. In such cases, Caltrans will utilize a method called Last Resort Housing. Last Resort Housing allows Caltrans to construct, rehabilitate or modify housing in order to meet the needs of the people displaced from a project. Caltrans can also pay above the statutory limits of $5,250 and $22,500 in order to make available housing affordable.

Relocation Advisory Assistance



Any individual, family, business or farm displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your housing needs and desires will be determined as well as your need for assistance. You cannot be required to move unless at least one comparable replacement dwelling is made available to you.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Explain the relocation benefits and eligibility requirements.
- Provide the amount of the replacement housing payments in writing.
- Assure the availability of a comparable property before you move.
- Inspect possible replacement residential units for DS&S compliance.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- VA and FHA loan requirements
- Real property taxes.
- Consumer education literature on housing

If you desire, your Relocation Agent will give you current listings of other available replacement housing. Transportation will be provided to inspect available housing, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local housing programs offering assistance to displaced persons. If you have special problems, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.

YOUR RIGHTS AS A DISPLACEE

All eligible displacees have a freedom of choice in the selection of replacement housing, and Caltrans will not require any displaced person to accept a replacement dwelling provided by Caltrans. If you decide not to accept the replacement housing offered by Caltrans, you may secure a replacement dwelling of your choice, providing it meets DS&S housing standards. Caltrans will not pay more than your calculated benefits on any replacement property.

The most important thing to remember is that the replacement dwelling you select must meet the basic "decent, safe, and sanitary" standards. Do not execute a purchase agreement or a rental agreement until a representative from Caltrans has inspected and certified in writing that the dwelling you propose to occupy meets the basic standards. **DO NOT jeopardize** your right to receive a replacement housing payment by moving into a substandard dwelling.

It is important to remember that your relocation benefits will not have an adverse affect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Whenever possible, minority persons shall be given reasonable opportunities to relocate to decent, safe, and sanitary replacement dwellings, not located in an area of minority concentration, and that is within their financial means. This policy, however, does not require Caltrans to provide a person a larger payment than is necessary to enable a person to relocate to a comparable replacement dwelling.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

NOTES

Sus Derechos y Beneficios Como Una Persona Desplazada Bajo el Programa Uniforme De Asistencia Para Reubicación (Residencial)

Introducción

En la construcción de un sistema moderno de transportación, el desplazamiento de un pequeño porcentaje de la población es a menudo necesario. Sin embargo, la política de Caltrans es que las personas desalojadas no tengan que sufrir innecesariamente como resultado de los programas diseñados para el beneficio del público en general.

Los individuos y familias desplazadas pueden ser elegibles para recibir servicios de asesoramiento y pagos de reubicación.

Este folleto provee información acerca de los servicios y pagos de reubicación disponibles. Si usted es requerido a mudarse como resultado de un proyecto de transportación, un Agente de Reubicación se comunicará con usted. El Agente de Reubicación le contestará preguntas específicas y le proveerá información adicional.

Ley de Procedimiento Uniforme de Asistencia para Rubicación y Adquisición de Bienes Raíces de 1970, Enmendada “La Ley Uniforme”

El propósito de esta Ley es proveer tratamiento igual y uniforme para las personas que son desplazadas de sus hogares, negocios, u operaciones agrícolas por programas federales o programas que son asistidos con fondos federales y para establecer uniformidad e igualdad en la política de adquisición de tierras por programas federales y programas asistidos con fondos federales.

La ley trata de asegurar que las personas desplazadas directamente como resultado de proyectos federales o proyectos asistidos con fondos federales sean tratados con igualdad, consistencia y equidad para que esas personas no sufran

daños desproporcionados como resultado de proyectos designados para el beneficio del público en general.

Aunque se ha hecho un esfuerzo para asegurar la precisión de este folleto, debe de ser entendido que no tiene la fuerza o efectos de la ley, regla, o regulación que gobierna el pago de los beneficios. Si hay diferencias o error, la ley tomará precedencia.

Algunas Definiciones Importantes…

Sus beneficios de reubicación pueden ser entendidos mejor si usted entiende los siguientes términos:

Vivienda de Restitución comparable: significa una propiedad que es:

(1) Decente, segura y sanitaria. (Vea la definición abajo.)
(2) Equivalente funcionalmente a la propiedad desplazada.
(3) Adecuada en tamaño para acomodar a la familia que esta siendo reubicada.
(4) En un área que no esté sujeta a condiciones irrazonablemente adversas.
(5) En una localidad generalmente no menos deseable que la localidad de su propiedad desplazada con respecto a servicios públicos, y acceso razonable al lugar de empleo.
(6) En una parcela de tamaño típico para el desarrollo de una residencia de tamaño normal.

Decente, Segura y Sanitaria (DS&S): La vivienda de restitución debe de ser decente, segura y sanitaria … que significa que llena todos los requisítos mínimos establecidos por las regulaciones federales y conforme a los códigos de ocupación de viviendas aplicables. La propiedad será:

(1) Buena estructuralmente, cerrada a las condiciones climáticas y en buen estado de reparación.

(2) Contiene un sistema eléctrico adecuado para iluminación y otros aparatos.

(3) Contiene un sistema de calefacción capáz de mantener una temperatura saludable (de aproximadamente 70 grados) para la persona desplazada,

con excepción en aquellas áreas donde las condiciones climáticas no requieren dicho sistema.

(4) Debe de ser adecuada en tamaño con respecto al número de cuartos y áreas para vivir necesarias para acomodar a las personas desplazadas. Es política de Caltrans que más de dos personas no deben de estar en un solo cuarto, a menos que que el tamaño del cuarto sea suficientemente adecuado para acomodar los muebles de dormitorios necesarios de los ocupantes.

(5) Tener un baño separado, bien iluminado y ventilado que sea privado a los usuarios y que contenga un lavamanos, una tina o regadera, y un excusado, todos en buenas condiciones y apropiadamente conectados a los sistemas de aguas negras y aguas potables.

Nota: *En el caso de una propiedad residencial, debe de haber una área de cocina que contenga un lavatrastos usable, propiamente conectado a agua caliente y agua fría, y al sistema de drenaje, y con espacio adecuado para utilizar los servicios y connecciones para una estufa y un refrigerador.*

(6) Que contenga salidas sin obstrucción y seguros espacio abierto al nivel del suelo. Si la propiedad de restitución está en el segundo piso o más arriba, que tenga acceso directamente desde o a travéz de un corredor, y que éste corredor común debe de tener al menos dos salidas.

(7) Si la persona desplazada es incapacitada físicamente, debe de ser libre de cualquier barrera que le impidan la entrada o salida, o uso razonable de la propiedad por dicha persona incapacitada.

Persona Desplazada: Cualquier individuo o familia que se mueva de una propiedad o mueva sus bienes personales de una propiedad como resultado de la adquisición de bienes raíces, en todo o en parte, o como resultado de una notificación escrita de una agencia pidiéndole que desocupe la propiedad que se necesita para un proyecto de transportación. En el caso de una adquisición parcial, Caltrans debe de determinar si la persona es desplazada directamente como resultado de esta adquisición.

Los residentes **que no están legalmente** en los Estados Unidos no son elegibles para recibir pagos y asistencia de reubicación.

Los beneficios de reubicación van a variar dependiendo del tipo y tiempo de ocupación. Como una persona desplazada de una unidad residencial usted puede ser clasificado como:

- Un dueño ocupante de una propiedad residencial (incluyendo casas movibles)
- Un inquilino ocupante de una propiedad residencial (incluyendo casas movibles y cuartos para dormir)

Vivienda: El lugar de permanencia o residencia regular y usual de una persona, de acuerdo a las costumbres locales o la ley, incluyendo una unidad familiar, una unidad familiar en un complejo doble o multi-familiar, o una propiedad de uso múltiple, una unidad de condominio o proyecto de vivienda en cooperativa, una unidad libre de mantenimiento doméstico, una casa movible, o cualquier otra unidad residencial.

Dueño: Una persona es considerada que llena los requisitos de dueño de una casa, si esta persona compra, tiene título o tiene algunos de los siguientes intereses en una propiedad:

(1) Una escritura de propiedad, un interés de por vida en una propiedad, un contrato de renta por 99 años, un contrato oral de renta incluyendo una opción para extensión con al menos 50 años que queden después de la fecha de adquisición; o

(2) El interés en un proyecto de vivienda en cooperativa que incluya el derecho de ocupar una vivienda; o

(3) Un contrato de compra de interés, o bienes raíces.

(4) Algún otro interés, incluyendo intereses parciales, qua a juicio de la agencia garanticen los pagos como dueño.

Inquilino: Una persona que tiene el uso y la ocupación temporal de una propiedad de la que otro es dueño.

Gastos de Mudanza

Si usted califica como persona desplazada, usted tiene derecho a reembolso de sus gastos de mudanza y a ciertos gastos relacionados incurridos durante el traslado. Los métodos de traslado y los distintos tipos de pagos para gastos de mudanza son explicados abajo.

Los individuos y familias desplazadas pueden escoger un pago basado en los gastos reales, razonables y los gastos relacionados, o de acuerdo a una lista de costos fijos de mudanza. Sin embargo, para asegurar su elegibilidad y el pago rápido de sus gastos de mudanza, usted debe de ponerse en contacto con su Agente de Rubicación antes de mudarse.

Usted Puede Elegir Entre:

Los Gastos Razonables de Mudanza – A usted se le puede pagar por los gastos razonables de mudanza y gastos relacionados cuando una compañia comercial de mudanza hace la mudanza. Los reembolsos deberán ser limitados a una mudanza de 50 millas o menos. Los gastos relacionados pueden incluir:

- Transportación.
- Empaque y desempaque de propiedades personales.
- Desconexión y reconexión de aparatos eléctricos.
- Almacenaje temporal de propiedades personales.
- Seguros cuando la propiedad está almacenada o en tránsito.

Ó

Lista de Costos Fijos de Mudanza – A usted se le puede pagar basado en una lista de costos fijos de mudanza. Bajo esta opción, usted no puede ser elegible para reembolsos de gastos relacionados incluídos en la lista de arriba. Esta lista de gastos fijos está designada a cubrir todos esos gastos.

Por ejemplo (Tarifa para el año 2001)

4 Cuartos - $ 950
7 Cuartos - $1,550

Los costos fijos de mudanza para una unidad amueblada (ejemplo, usted es inquilino en un apartamento donde los muebles pertenecen al dueño de la vivienda) estan basados en la Tabla de Honorarios B.

Ejemplos (Taza en el año 2001):

4 Cuartos - $475
7 Cuartos - $625

Bajo la lista de Pago Fijos de Mudanza, usted no puede recibir ningun pago adicional por almacenamiento temporario, vivienda temporaria, transportación o conexiones de servicios públicos.

Pagos Para Vivienda de Restitución

El tipo de Pago Para Vivienda de Restitución (RHP) depende de si usted es dueño o un inquilino, y en el tiempo de ocupación que tiene de la propiedad que será adquirida.

Si usted es calificado **como dueño ocupante** de más de 180 días antes de la iniciación de negociaciones para la adquisición de su propiedad, usted puede tener derecho a recibir RHP que consiste en:

Diferencia de Precio, y

Diferencia para Hipoteca, y

Gastos Incidentales

O

Diferencia Para Rentar

Si usted es calificado como **dueño ocupante** de más de 90 días, pero menos de 180 días, O si usted es calificado como **inquilino ocupante** de al menos 90 días, usted puede tener derecho a recibir RHP así:

Diferencia Para Rentar

U

Opción para Enganche

Tiempo de ocupación simplemente significa contar el número de días que usted actualmente ocupó la vivienda antes de la fecha de iniación de negociaciones por Caltrans para la compra de la propiedad. El término “iniciación de negociaciones” significa la fecha que Caltrans hizo el primer contacto personal con el dueño de bienes raíces, o su representante, para darle a el/ella una oferta escrita para la adquisición de la propiedad.

*Nota: Si usted ocupó una vivienda por **menos de 90 días** antes de la iniciación de negociaciones y la propiedad es posteriormente adquirida, o si usted se mudó a la propiedad después de la iniciación de negociaciones y usted todavía*

ocupaba la propiedad a la fecha de adquisición, usted puede ser elegible para un Pago para Restitución de Vivienda, basado en una guía de elegibilidad establecida. Consulte con su Agente de Reubicación antes de que haga cualquier decisión de mudarse de su propiedad.

Para Ocupantes de 180 Días o Más

Si usted califica como dueño ocupante de 180 días, puede ser elegible – además del valor equitativo en el mercado de su propiedad – para un Pago de Restitución de Vivienda que consiste en un pago de Diferencia de Precio y/o Gastos Incidentales.

El Pago de **Diferencia de Precio** es la cantidad por la que el costo de una vivienda de restitución excede el costo de adquisición de la vivienda desplazada. Este pago le asistirá en la compra de una vivienda decente, segura, y sanitaria (DS&S). Caltrans computará el pago máximo que usted puede ser elegible para recibir. (Vea un ejemplo en la página 15.)

Para recibir la cantidad total de la diferencia de precio calculadas, usted debe de gastar al menos la cantidad calculada por Caltrans en la propiedad de restitución.

El pago de **Diferencia de Hipoteca** le será reembolsado por cualquier aumento del costo de interés en la hipoteca que usted haya incurrido porque la taza de interés en su nueva hipoteca excede la taza de interés de la propiedad adquirida por Caltrans. La computación del pago es complicada ya que está basada en las tazas típicas entre su préstamo anterior y su préstamo nuevo. También, una parte de los pagos pueden ser prorrateado como reembolso por una porción de los honorarios de su préstamo y los puntos (intereses) de la hipoteca.

Para ser elegible para recibir este pago, la propiedad adquirida debe de ser hipotecada con una hipoteca de buena fé, la cual fue un crédito válido de por lo menos 180 días antes de la iniciación de negociaciones.

Usted también puede ser reembolsado por cualquier **Gasto Incidental** actual y necesario que usted incurra en relación con la compra de su propiedad de restitución. Estos gastos pueden ser los costos por búsqueda de título, honorarios de copia en el Registro, reporte de crédito, reporte de evaluación, y ciertos otros gastos de cierre de escritura. Usted no puede ser reembolsado por ningún gasto frequente como pre-pagos de impuesto de bienes raíces y seguro de propiedad.

Si la cantidad total de su **Pago de Vivienda de Restitución** (Diferencia de Precio, Diferencia Para Hipoteca y Gastos Incidentales) excede $22,500, el pago debe de ser depositado directamente en una cuenta fiduciaria o ser pagado directamente a la compañía financiera.

EJEMPLO DE COMO SE CALCULA LA DIFERENCIA DE PAGO:

Suponga que Caltrans compra su propiedad por $98,000. Después de un estudio completo de viviendas disponibles en el mercado, que sean decentes, seguras y sanitarias, Caltrans determina que la propiedad de restitución comparable en el mercado abierto le costará $100,000. Si su precio de compra es $100,000 usted recibirá $2,000 (*Vea el Ejemplo A)*

Si su precio de compra es de más de $100,000, usted paga la diferencia (vea el *Ejemplo B*). Si su precio de compra es menos de $100,000, el pago se basará en los costos actuales (vea el *Ejemplo C).*

La cantidad que usted recibe en un pago diferencial dependerá de cuanto usted realmente gasta en una vivienda de restitución, como se muestra en estos ejemplos.

Computación de Caltrans

Precio Comparable de la Propiedad de Restitución	$100,000
Precio de Adquisición de su Propiedad	– $ 98,000
Diferencia Máxima de Precio	$ 2,000

Ejemplo A

Precio de Compra de Restitución	$100,000
Propiedad Comparable de Restitución	$100,000
Precio de Adquisición de su Propiedad	– $ 98,000
Diferencia Máxima de Precio	$ 2,000

Ejemplo B

Precio de Compra de Restitución	$105,000
Propiedad Comparable de Restitución	$100,000
Precio de Adquisición de su Propiedad	– $ 98,000
Diferencia Máxima de Precio	$ 2,000
Usted Debe de Pagar el Precio Adicional de	$ 5,000

Ejemplo C

Propiedad Comparable de Restitución	$100,000
Precio de Compra de Restitución	$ 99,000
Precio de Adquisición de su Propiedad	– $ 98,000
Diferencia de Precio	$ 1,000

En el ejemplo C usted solo recibirá $1,000 – no la cantidad completa de "La propiedad Comparable de Restitución" por los requisítos de "Gastar para Obtener" de Caltrans.

PARA QUE UN "DUENO OCUPANTE DE 180 DÍAS" RECIBA LA CANTIDAD TOTAL DE SUS BENEFICIOS DE PAGOS PARA VIVIENDA (*Diferencia de Precio, Diferencia de Hipoteca y Gastos Incidentales), usted debe:*

A) Comprar y ocupar una vivienda de restitución que sea DS&S dentro de al menos un año desde la fecha más tarde de:

(1) La fecha en que recibió la primera notificación de una casa de restitución, **O**

(2) La fecha que Caltrans pagó los costos de adquisición de su vivienda actual (usualmente los gastos de cierre de escritura en la adquisición del Estado.)

Y

B) Haber gastado al menos la cantidad que Caltrans estableció para "La Propiedad Comparable de Restitución" para la propiedad de restitución.

Y

C) Reportar un reclamo para pago para reubicación dentro de los 18 meses de la fecha más tarde de:

(1) La fecha en que se mudó de la propiedad adquirida por Caltrans, **O**

(2) La fecha en que Caltrans le pagó los costos de adquisición de su vivienda actual (usualmente al cierre de escritura en la adquisición del Estado.)

Usted no será elegible para recibir ningún pago de reubicación hasta que el Estado haya hecho la primera oferta por escrito de la compra de la propiedad. Usted también recibirá una notificación escrita por lo menos 90 días antes de tener que mudarse.

Para Dueños Ocupantes e Inquilinos de 90 Días o Más

Si usted califica como un ocupante (ya sea como dueño o inquilino) de 90 días, usted puede ser elegible para un Pago de Vivienda de Restitución en la forma de Diferencia para Rentar.

El pago de la **Diferencia para Rentar** es designado para asistirle en la renta de una vivienda comparable que sea decente, segura y sanitaria. El pago será basado en la diferencia entre la renta básica mensual por la propiedad adquirida por Caltrans (incluyendo el promedio del costo mensual de servicios públicos) y el menor de:

a) La renta mensual y el promedio del costo mensual estimado de los servicios públicos para una vivienda comparable de restitución determinada por Caltrans, **O**

b) La renta mensual y el promedio del costo mensual estimado de los servicios públicos para una vivienda decente, segura y sanitaria que usted rente como vivienda de restitución.

Gastos de servicios públicos son esos gastos que usted incurre por calefacción, luz, agua, aguas negras y basura – sin importar quien los provea (ejemplo, electricidad, gas propano, y sistema séptico.) No incluye cable de televisión, teléfono, o seguridad. Los servicios públicos en su propiedad de restitución será el estimado del promedio de costos por los 3 últimos meses para el tipo de vivienda y área usados en los cálculos.

Esta diferencia es multiplicada por 42 meses y le puede ser pagado en una sola suma o en pagos periódicos de acuerdo con la política y regulaciones. (Vea un ejemplo en la página 21.)

Para recibir la cantidad calculada total de la diferencia para rentar, usted debe gastar al menos la cantidad calculada por Caltrans en la propiedad de restitución.

Este pago puede – con ciertas limitaciones – ser convertido en una **Opción para Enganche** para asistirle en la compra de una propiedad de restitución (Vea la página 25 para una explicación completa.)

EJEMPLO DE LA COMPUTACIÓN DEL PAGO DE LA DIFERENCIA PARA RENTAR:

Después de hacer un estudio completo de viviendas comparables, decentes, seguras y sanitarias que estén disponibles para rentar, Caltrans determina que una propiedad comparable de restitución podría ser rentada por $325 al mes.

Computación de Caltrans

Renta por una Propiedad Comparable de Restitución	$ 325 al mes
MÁS: estimado de costos de servicios públicos	100 al mes
TOTAL Costo de renta por una Propiedad Comparable de Restitución	$ 425 al mes
Renta por su Propiedad Actual	$ 300 al mes
MÁS: costos de servicios públicos	90 al mes
TOTAL Costo para pagar la renta de su propiedad actual	$ 390 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	$ 425 al mes
Costo para pagar la renta de su propiedad incluyendo servicios públicos	390 al mes
Diferencia	$ 35 al mes

Multiplicado por 42 meses = $1,470 Diferencia para Rentar

Ejemplo A:

Renta para una Propiedad de Restitución, incluyendo los costos estimados de servicios públicos	$ 525 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	$ 425 al mes
Costos de pago de la renta de su propiedad incluyendo servicios públicos	$ 390 al mes

Ya que $425 es menos que $525, la diferencia para rentar está basada en la diferencia entre $390 y $425.

Diferencia para Rentar ($35 x 42 meses = $1,470)

En este caso usted gasta “al menos” la cantidad de la Propiedad de Restitución Comparable en la propiedad de restitución y así recibirá la cantidad total.

Ejemplo B:

Renta por una Propiedad de Restitución, incluyendo los costos estimados de servicios públicos	$ 400 al mes
Propiedad Comparable de Restitución incluyendo servicios públicos	$ 425 al mes
Costos de pago de la renta de su propiedad incluyendo servicios públicos	$ 390 al mes

Ya que $400 es menos que $525, la diferencia para rentar está basada en la diferencia entre $400 y $390.

Diferencia para Rentar ($10x 42 meses = $420)

En este caso usted va a gastar “menos que” la cantidad de Propiedad de Restitución Comparable en la restitución de la vivienda y usted no recibirá la cantidad total.

PARA QUE UN “DUENO OCUPANTE DE 90 DÍAS” RECIBA LA CANTIDAD TOTAL DE PAGO PARA SU VIVIENDA DE RESTITUCION (Diferencia para Rentar), **usted debe de:**

A) Rentar y ocupar una vivienda de restitución DS&S dentro de un año después de la última fecha de:

(1) La fecha en que usted recibió la primera notificación de una casa de restitución disponible, **O**

(2) El día en que usted su mudó de la propiedad adquirida por Caltrans.

Y

B) Gastar al menos la cantidad de la “Propiedad Comparable de Restitución” de Caltrans para rentar una vivienda de restitución.

Y

C) Reportar un reclamo para pagos de reubicación dentro de los 18 meses de la fecha más tarde:

(1) La fecha en que usted se mudó de la propiedad adquirida por Caltrans, **O**

(2) La fecha en que Caltrans le pagó los costos de adquisición de su propiedad actual (usualmente al cierre de escritura de la adquisición del Estado.)

Usted no será elegible para recibir ningún pago de reubicación hasta que haya hecho la primera oferta escrita para comprar la propiedad. Además, usted recibirá al menos una noticia por escrito 90 días antes de tener que mudarse.

OPCIÓN PARA ENGANCHE

El pago de Diferencia para Rentar puede – con ciertas limitaciones – ser convertido en una **Opción para Enganche** para asistirle en la compra de una propiedad de restitución. La Opción para Enganche es una conversión directa del pago de la diferencia para rentar.

Si la diferencia para rentar es calculada entre $0 y $5,250, su Opción Para Enganche será de $5,250 la cual puede ser usada para la compra de una vivienda de restitución decente, segura y sanitaria.

Si la diferencia para rentar es más de $5,250 usted podrá convertir la cantidad completa de diferencia para rentar a una Opción Para Enganche.

La Opción Para Enganche debe de ser usada para el enganche requerido, la cual usualmente es un porcentage del precio total de compra, más cualquier gasto incidental elegible (vea la página 14, “Gastos Incidentales para Dueños Ocupantes de 180 días”) relacionado con la compra de la propiedad. Usted debe trabajar junto con su Agente de Reubicación para asegurarse de que puede utilizar la cantidad total de su Opción Para Enganche en su compra.

Si alguna porción de la diferencia para rentar fue usada antes de su decisión de convertirla a una Opción Para Enganche, los pagos avanzados serán deducidos de los beneficios completos.

CASA DEL ÚLTIMO RECURSO

En la mayoría de los proyectos de Caltrans, existe una cantidad adecuada de viviendas de venta y alquiler, y los beneficios serán suficientes para que usted pueda reubicarse a una vivienda comparable. Sin embargo, en ciertas localidades pueden haber proyectos donde el número de viviendas disponibles no son suficientes para proveer viviendas a todas las personas desplazadas. En estos casos, Caltrans utiliza un método llamado Casa del Último Recurso. La Casa del Último Recurso permite a Caltrans construir, rehabilitar, o modificar viviendas para cumplir con las necesidades de las personas desplazadas por un proyecto. Caltrans puede también pagar arriba de los límites legales de $5,250 y $22,500 para hacer posible viviendas con precios razonables.

Asistencia de Consulta Para Reubicación

A cualquier individuo, familia, negocio u operación agrícola desplazada por Caltrans deberá ofrecérsele servicios de asistencia con el propósito de localizar una propiedad de restitución. Los servicios de reubicación son proveídos por empleados calificados de Caltrans. Es la meta de ellos y el deseo de estos empleados de servirle y asistirle de cualquier manera posible para ayudarle a reubicarse exitosamente.

Un Agente de Reubicación de Caltrans se pondrá en contacto con usted personalmente. Los servicios de reubicación y pagos se le explicarán de acuerdo con su elegibilidad. Durante la entrevista inicial, sus necesidades de vivienda y deseos se determinarán así como sus necesidades de asistencia. No se le puede pedir que se mude a menos que una vivienda comparable de restitución le sea disponible.

Usted puede esperar recibir los siguientes servicios, consejos y asistencia de su Agente de Reubicación quien le:

- Explicará los beneficios de reubicación y los requesitos de elegibilidad.
- Proveerá por escrito la cantidad de pago por su vivienda de restitución.
- Asegurará la disposición de una propiedad comparable antes de que se mude.
- Inspeccionará las posibles unidades residenciales de restitución para el cumplimiento de DS&S.

- Proveerá información y aconsejará como puede obtener ayuda para minimizar las adversidades en ajustarse a su nueva localidad.
- Ayudará en completar los documentos de préstamos, aplicaciones de rentas o las Formas de Reclamo para Reubicación.

Y proveerle información de:

- Seguro de Depósitos
- Taza de intereses y términos
- Pagos típicos de enganches
- Requisitos de préstamos de la Administración de Veteranos (VA) y la Administración de Vivienda Federal (FHA)
- Impuestos sobre bienes raíces
- Literatura de educación en viviendas para el consumidor

Si usted lo desea, el Agente de Reubicación le dará una lista actual de otras viviendas de restitución disponibles.

Se proveerá transportación para inspeccionar viviendas disponibles, especialmente si usted es mayor de edad o con impedimiento físico. Aunque usted puede utilizar los servicios de un agente de bienes raíces, Caltrans no lo podrá referir.

Su Agente de Reubicación está familiarizado con los servicios proveídos por otras agencias de su comunidad y le proveerá información de otros programas de viviendas federales, estatales y locales que ofrecen programas de asistencia para personas desplazadas. Si usted tiene algun problema especial, su Agente de Reubicación hará su mejor esfuerzo para asegurarle los servicios de esas agencias con personal capacitado y con experiencia que le ayudarán.

Si el proyecto de transportación requiere un número considerable de personas que sean reubicados, Caltrans establecerá una Oficina Temporal de Reubicación en, o cerca del proyecto. Las oficinas de proyectos de reubicación deberán de abrirse durante horas convenientes y en horas tempranas de la noche, si es necesario.

Además de estos servicios, Caltrans es requirido que coordine las actividades de otras agencias que causen desplazamientos para asegurar que todas esas personas desplazadas reciban beneficios de reubicación equitativos y consistentes.

Recuerde – SU AGENTE DE REUBICACIÓN está para aconsejarle y asistirle. No vacile en hacer preguntas, y asegúrese de que entiende completamente sus derechos y beneficios de reubicación disponibles.

SUS DERECHOS COMO UNA PERSONA DESPLAZADA

Todas las personas elegibles como personas desplazadas tienen la libertad de escoger dentro de la selección de viviendas de restitución, y Caltrans no requerirá a ninguna persona que sea desplazada que acepte una vivienda de restitución proveída por Caltrans. Si usted decide no aceptar la vivienda de restitución ofrecida por Caltrans, usted puede elegir una vivienda de restitución de su propia selección, mientras que cumple con los requisítos de DS&S. Caltrans no pagará más que los beneficios calculados por una vivienda de restitución.

Lo más importante que usted debe de recordar es que la vivienda de restitución que usted seleccione debe de llenar los requisítos básicos de "decente, segura y sanitaria". No ejecute los documentos de compra o el contrato de renta hasta que un representante de Caltrans haya inspeccionado y certificado por escrito que la vivienda que usted se propone ocupar cumple con los requisítos básicos. **NO ARRIESGUE** su derecho de recibir los pagos de vivienda de restitución por mudarse a una vivienda que no sea "decente, segura y sanitaria."

Es importante recordar que sus beneficios de reubicación no van a tener ningún efecto adverso en su:

- Elegibilidad para Seguro Social
- Elegibilidad para Asistencia Social
- Impuestos sobre ingresos

Además, el Título VIII de los Derechos Civiles, Ley de 1968 y luego otras leyes y enmiendas hacen descriminatoria la práctica de compra y renta de unidades de vivienda si es basada ilegalmente en la raza, color, religión, sexo u origen nacional.

Cuando sea posible, a personas de minorías se les debe de dar oportunidades razonables para reubicarse a viviendas de restitución que sean decentes, seguras y sanitarias, no localizadas en áreas de concentración de minorías, y que estén dentro de sus recursos económicos. Esta política, sin embargo, no requiere que Caltrans provea a una persona pagos más grandes de lo que sean necesarios para permitir que la persona sea reubicada a una vivienda de restitución comparable.

La política No-Descriminatoria de Caltrans asegura que todos los servicios y/o los beneficios deben de ser administrados al público en general sin importar la raza, color, origen nacional, o sexo en cumplimiento con el Título VI de la Ley de Derechos Civiles de 1964 (42 USC 2000 d. et seq.)

Usted siempre tendrá el Derecho de Apelar cualquier decisión hecha por Caltrans relacionada a los beneficios de reubicación y elegibilidad.

Su Derecho de Apelar está garantizado en la “Ley Uniforme” la cual establece que una persona puede apelar al jefe de la agencia responsable, si ella cree que la agencia ha fallado en determinar correctamente su elegibilidad, o la cifra del pago autorizado por la Ley.

Si usted indica su disatisfacción, ya sea verbalmente o por escrito, Caltrans le asistirá en hacer su demanda de apelación y le explicará el procedimiento que debe de seguir. Usted tiene derecho de ser representado por un asesor legal u otro representante en conexión con su apelación (pero solamente por su propia cuenta.)

Caltrans considerará toda justificación y materia pertinente que usted entregue u otra información disponible, necesaria para asegurar una audiencia equitativa. Caltrans le proveerá una determinación por escrito del resultado de su apelación, con una explicación sobre la base de la decisión. Si usted aún no está satisfecho con la decisión otorgada, Caltrans le aconsejará que usted puede pedir una audiencia judicial.

Noticiero de la Ley para Americanos con Incapacidades Físicas (ADA):

> **Para personas con incapacidades físicas, este documento es disponible en formatos alternativos. Para Información llame al número (916) 654-5413 Voz, CRS: 1-800-735-2929, o escriba a Derecho de Vía, MS 37, 1120 N Street, Sacramento, CA 95814.**

NOTAS

Attachment B:

Your Rights and Benefits as a Displaced Business, Farm or Nonprofit Organization Under the Uniform Relocation Assistance Program (English and Spanish)

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Your Rights and Benefits as a Displaced Business, Farm or Nonprofit Organization Under the Uniform Relocation Assistance Program

Introduction

In building a modern transportation system, the displacement of a small percentage of the population is often necessary. However, it is the policy of Caltrans that displaced persons shall not suffer unnecessarily as a result of programs designed to benefit the public as a whole.

Displaced businesses, farms, and nonprofit organizations may be eligible for relocation advisory services and payments.

This brochure provides information about available relocation services and payments. If you are required to move as the result of a Caltrans transportation project, a Relocation Agent will contact you. The Relocation Agent will be able to answer your specific questions and provide additional information.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 As Amended "The Uniform Act"

The purpose of this Act is to provide for uniform and equitable treatment of persons displaced from their business, farm or nonprofit organization, by federal and federally assisted programs and to establish uniform and equitable land acquisition policies for federal and federally assisted programs.

49 Code of Federal Regulations Part 24 implements the "Uniform Act" in accordance with the following relocation assistance objective:

> To ensure that persons displaced as a direct result of federal or federally-assisted projects 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.

While every effort has been made to assure the accuracy of this booklet, it should be understood that it does not have the force and effect of law, rule, or regulation governing the payment of benefits. Should any difference or error occur, the law will take precedence.

Relocation Services

The California Department of Transportation has two programs to aid businesses, farms and nonprofit organizations which must relocate.

These are:

1. The Relocation Advisory Assistance Program, which is to aid you in locating a suitable replacement property, and

2. The Relocation Payments Program, which is to reimburse you for certain costs involved in relocating. These payments are classified as:

    - Moving and Related Expenses (costs to move personal property not acquired).

    - Reestablishment Expenses (expenses related to the replacement property).

    - In-Lieu Payment (a fixed payment in lieu of moving and related expenses, and reestablishment expenses).

NOTE: *Payment of loss of goodwill is considered an acquisition cost. California law and the federal regulations mandate that relocation payments cannot duplicate other payments such as goodwill. You will* **not** *be eligible to receive any relocation payments until the State has actually made the first written offer to purchase the property. You will also receive at least 90 days' written notice before you must move.*

Some Important Definitions...

Your relocation benefits can be better understood if you become familiar with the following terms:

Business: Any lawful activity, with the exception of a farm operation, conducted primarily for the purchase, sale, lease and rental of personal or real property, or for the manufacture, processing, and/or marketing of products, commodities, or any other personal property, or for the sale of services to the public, or solely for the purpose of this Act, and outdoor advertising display or displays, when the display(s) must be moved as a result of the project.

Displaced Person or Displacee: Any person who moves from real property or moves personal property from real property as a result of the acquisition of the real property, in whole or in part, or as the result of a written notice from the agency to vacate the real property needed for a transportation project. In the case of a partial acquisition, Caltrans shall determine if a person is displaced as a direct result of the acquisition.

Owners and tenants **not lawfully present** in the United States are not eligible to receive relocation payments and assistance.

Contributes Materially: A business or farm operation must have had average annual gross receipts of at least $5,000 **or** average annual net earnings of at least $1,000, or their income must have contributed at least 33 1/3 percent of the owner's or operator's average annual gross income form all sources, in order to qualify as a bona-fide operation.

Farm Operation: Any activity conducted solely or primarily for the production of one or more agricultural products or commodities, including timber, for sale and home use, and customarily producing such products or commodities in sufficient quantity to be capable of contributing materially to the operator's support.

Nonprofit Organization: A public or private entity that has established its nonprofit status under applicable law.

MOVING EXPENSES

If you qualify as a displaced business, farm or nonprofit organization, you are entitled to reimbursement of your moving costs and certain related expenses incurred in moving. To qualify you must legally occupy the property as the owner or lessee/tenant when Caltrans initiates negotiations for the acquisition of the property **OR** at the time Caltrans acquires title or takes possession of the property. However, to assure your eligibility and prompt payment of moving expenses, you should contact your Relocation Agent before you move.

You Can Choose Either:

Actual Reasonable Moving Costs – You may be paid for your actual reasonable moving costs and related expenses when a commercial mover performs the move. Reimbursement will be limited to a move of 50 miles or less. Related expenses, with limitations, ***may*** include:

- Transportation.
- Packing and unpacking of personal property.
- Disconnecting and reconnecting personal property related to the operation.
- Temporary storage of personal property.
- Insurance while property is in storage or transit, or the loss and damage of personal property if insurance is not reasonably available.
- Expenses in finding a replacement location.
- Professional services to plan and monitor the move of the personal property to the new location.
- Licenses, permits and fees required at the replacement location.

OR

Self-Move Agreement – You may be paid to move your own personal property based on the lower of two acceptable bids obtained by Caltrans.

Under this option, you will still be eligible for reimbursement of related expenses listed above that were not included in the bids.

OR

In-Lieu Payment – You can accept a fixed payment between $1,000 and $20,000, based on your annual earnings IN LIEU OF the moving cost, related expenses and reestablishment cost.

Actual Reasonable Moving Costs

You may be paid the actual reasonable and necessary costs of your move when a professional mover performs the move. All of your moving costs must be supported by paid receipts or other evidence of expenses incurred. In addition to the transportation costs of your personal property, certain other expenses may also be reimbursable, such as packing, crating, unpacking and uncrating, and the disconnecting, dismantling, removing, reassembling, and reinstalling relocated machinery, equipment, and other personal property.

Other expenses such as professional services necessary for planning and carrying out the move, temporary storage costs, and the cost of licenses, permits and certifications may also be reimbursable. This is not intended to be an all-inclusive list of moving related expenses. Your Relocation Agent can provide you with a complete explanation of reimbursable expenses.

Self-Move Agreement

If you agree to take full responsibility for all or part of the move of your business, farm, or nonprofit organization, the Department may approve a payment not to exceed the lower of two acceptable bids obtained by the Department from qualified moving firms or a qualified Department staff employee. A low-cost or uncomplicated move may be based on a single bid or estimate at the Department's discretion. The advantage of this moving option is the fact that it relieves the displaced business, farm or nonprofit organization operator from documenting all moving expenses. The Department may make the payment without additional documentation as long as the payment is limited to the amount of the lowest acceptable bid or estimate. Other expenses, such as professional services for planning, storage costs, and the cost of licenses, permits, and certifications may also be reimbursable if determined to be necessary. These latter expenses must be pre approved by the Relocation Agent.

Requirements:

Before you move, you must provide Caltrans with the:

- Certified inventory of all personal property to be moved.
- Date you intend to vacate the property.
- Address of the replacement property.
- Opportunity to monitor and inspect the move from the acquired property to the replacement property.

Related Expenses

1. **Searching Expenses for Replacement Property:** Displaced businesses, farms and nonprofit organizations are entitled to reimbursement for actual reasonable expenses incurred in searching for a replacement property, not to exceed $2,500. Expenses may include transportation, meals, and lodging when away from home; the reasonable value of the time spent during the search; fees paid to the real estate agents, brokers or consultants; and other expenses determined to be reasonable and necessary by the Department.

2. **Direct Loss of Tangible Personal Property:** Displaced businesses, farms, and nonprofit organizations may be eligible for a payment for the actual direct loss of tangible personal property which is incurred as a result of the move or discontinuance of the operation. This payment will be based upon the lesser of:

    a. The fair market value of the item for continued use at the displacement site minus the proceeds from its sale.

    OR

    b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expense4s, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE:
You determine that the "document shredder" cannot be moved to the new location because of its condition, and you will not replace it at the new location.

Fair Market Value of the Document Shredder Based on its use at the current location		$ 1,500
Proceeds: Price received from selling the Document Shredder	-	$ 500
Net Value		$ 1,000

OR

Estimated cost to move	$ 1,050
Based on the "lesser of", the amount of the "Loss of Tangible Personal Property" =	**$ 1,000**

Note: You are also entitled to all reasonable costs incurred in attempting to sell the document shredder (e.g. advertisement).

3. Purchase of Substitute Personal Property: If an item of personal property, which is used as part of the business, farm, or nonprofit organization, is not moved but is promptly replaced with a substitute item that performs a comparable function at the replacement site, the displacee is entitled to payment of the lesser of:

   a. The cost of the substitute item, including installation costs at the replacement site, minus any proceeds from the sale or trade-in of the replaced item;

   OR

   b. The estimated cost of moving and reinstalling the replaced item, based on the lowest acceptable bid or estimate obtained by the Department for eligible moving and related expenses, including dismantling and reassembly, but with no allowance for storage, cost of code requirement betterments or upgrades at the replacement site.

EXAMPLE A:

You determine that the copying machine cannot be moved to the new location because it is now obsolete and you will replace it.

Cost of a substitute copy machine Including installation costs at the replacement site		$ 3,000
Trade-in Allowance	-	$ 2,500
Net Value		$ 500

OR

Estimated cost to move	$ 550
Based on the "lesser of", the amount of the "Substitute Personal Property" =	**$ 500**

EXAMPLE B:

You determine that the chairs will not be used at the new location because they no longer match the décor and you will replace them.

Cost of substitute chairs		$ 1,000
Proceeds from selling the chairs	-	$ 100
Net Value		$ 900

OR

Estimated cost to move	$ 200
Based on the "lesser of", the amount of the "Substitute Personal Property" =	**$ 200**

Note: You are also entitled to all reasonable costs incurred in attempting to sell the copy machine and/or chairs.

4. **Disconnecting and Reinstallation:** You will be reimbursed for your actual and reasonable costs to disconnect, dismantle, remove, reassemble and reinstall any machinery, equipment or other personal property in relation to its move to the new location. This includes connection to utilities available nearby and any modifications to the

personalty that is necessary to adapt it to utilities at the replacement site.

5. **Physical changes at the new location:** You may be reimbursed for certain physical changes to the replacement property if the changes are necessary to permit the reinstallation of machinery or equipment necessary for the continue operation of the business. ***Note:*** *The changes cannot increase the value of the building for general purposes, nor can they increase the mechanical capability of the buildings beyond its normal requirements.*

6. The cost of installing utilities from the right of way line to the structure(s) or improvements on the replacement site.

7. Marketing studies, feasibility surveys and soil testing.

8. Professional real estate services needed for the purchase or lease of a replacement site.

9. One-time assessments or impact fees for anticipated heavy utility usage.

Reestablishment Expenses

A small business, farm or nonprofit organization may be eligible for a payment, not to exceed $10,000, for expenses actually incurred in relocating and reestablishing the enterprise at a replacement site.

Reestablishment expenses may include, but are not limited to, the following:

1. Repairs or improvements to the replacement real property required by Federal, State or local laws, codes or ordinances.

2. Modifications to the replacement real property to make the structure(s) suitable for the business operation.

3. Construction and installation of exterior signing to advertise the business.

4. Redecoration or replacement such as painting, wallpapering, paneling or carpeting when required by the condition of the replacement site or for aesthetic purposes.

5. Advertising the new business location.

6. The estimated increased costs of operation at the replacement site during the first two years, for items such as:

    a) Lease or rental charges
    b) Personal or real property taxes
    c) Insurance premiums, and
    d) Utility charges (excluding impact fees).

7. Other items that the Department considers essential for the reestablishment of the business or farm.

Note: *A nonprofit organization must substantiate that it cannot be relocated without a substantial loss of existing patronage (membership or clientele). The payment is based on the average of two years annual gross revenues less administrative expenses.*

In-Lieu Payment (Fixed)

Displaced businesses, farms and nonprofit organizations may be eligible for a fixed payment in lieu of (in place of) actual moving expenses, personal property losses, searching expense, and reestablishment expenses. The fixed payment may not be less than $1,000 or more than $20,000.

For a business to be eligible for a fixed payment, the Department must determine the following:

1. The business owns or rents personal property that must be moved due to the displacement.

2. The business cannot be relocated without a substantial loss of existing patronage.

3. The business is not part of a commercial enterprise having more than three other businesses engaged in the same or similar activity, which are under the same ownership and are not being displaced by the department.

4. The business contributed materially to the income of the displaced business operator during the two taxable years prior to displacement.

Any business operation that is engaged solely in the rental of space to others is not eligible for a fixed payment. This includes the rental of space for residential or business purposes.

Eligibility requirements for farms and nonprofit organizations are slightly different than business requirements. If you are being displaced from a farm or your represent a nonprofit organization and are interested in a fixed payment, please consult your relocation counselor for additional information.

The Computation of Your In-Lieu Payment:

The fixed payment for a displaced business or farm is based upon the average annual net earnings of the operation for the two taxable years immediately preceding the taxable year in which it is displaced. Caltrans can use a different two year period if it is determined that the last two taxable years do not accurately reflect the earnings of the operation.

EXAMPLE: Caltrans acquires your property and you move in 2005:

2003 Annual Net Earnings	$ 10,500
2004 Annual Net Earnings	$ 12,500
TOTAL	$ 23,000
Average over two years	**$ 11,500**

This would be the amount of your in-lieu payment. Remember – this is in-lieu of all other moving benefits, including reestablishment expenses. You must provide the Department with proof of net earnings to support your claim.

Proof of net earnings can be documented by income tax returns, certified financial statements, or other reasonable evidence of net earnings acceptable to the Department.

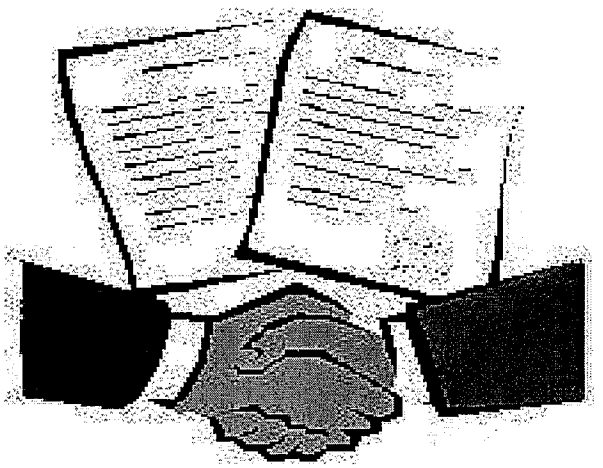
Note: The computation for nonprofit organizations differs in that the payment is computed on the basis of average annual gross revenues less administrative expenses for the two year period specified above.

Before You Move:

A. Request a determination of entitlement for in-lieu payment from your Relocation Agent.
B. Include a written statement of the reasons the business cannot be relocated without a substantial loss in net earnings.

C. Provide certified copies of tax returns for the two tax years immediately preceding the tax year in which you move. (If you move anytime in the year 2005, regardless of when negotiations began or the State took title to the property, the taxable years would be 2003 and 2004).
D. You will be notified of the amount you are entitled to after the application is received and approved.
E. You cannot receive the payment until after you vacate the property, AND submit a claim for the payment within 18 months of the date of your move.

Relocation Advisory Assistance



Any business, farm or nonprofit organization displaced by Caltrans shall be offered relocation advisory assistance for the purpose of locating a replacement property. Relocation services are provided by qualified personnel employed by Caltrans. It is their goal and desire to be of service to you and assist in any way possible to help you successfully relocate.

A Relocation Agent from Caltrans will contact you personally. Relocation services and payments will be explained to you in accordance with your eligibility. During the initial interview with you, your needs and desires will be determined as well as your need for assistance.

You can expect to receive the following services, advice and assistance from your Relocation Agent who will:

- Determine your needs and preferences.
- Explain the relocation benefits and eligibility requirements.
- Provide information on replacement properties for your consideration.
- Provide information on counseling you can obtain to help minimize hardships in adjusting to your new location.
- Assist you in completing loan documents, rental applications or Relocation Claims Forms.

AND provide information on:

- Security deposits
- Interest rates and terms
- Typical down payments
- Permits, fees and local planning
- SBA loan requirements
- Real property taxes.
- Consumer education literature

If you desire, your Relocation Agent will give you current listings of other available replacement property. Transportation will be provided to inspect available property, especially if you are elderly or handicapped. Though you may use the services of a real estate broker, Caltrans cannot provide a referral.

Your Relocation Agent is familiar with the services provided by others in your community and will provide information on other federal, state, and local programs offering assistance to displaced persons. If you have special needs, your Relocation Agent will make every effort to secure the services of those agencies with trained personnel who have the expertise to help you.

If the highway project will require a considerable number of people to be relocated, Caltrans will establish a temporary Relocation Field Office on or near the project. Project relocation offices will be open during convenient hours and evening hours if necessary.

In addition to these services, Caltrans is required to coordinate its relocation activities with other agencies causing displacements to ensure that all persons displaced receive fair and consistent relocation benefits.

Remember - YOUR RELOCATION AGENT is there to offer advice and assistance. Do not hesitate to ask questions. And be sure you fully understand all of your rights and available benefits.

YOUR RIGHTS AS A DISPLACEE

It is important to remember that your relocation benefits will not have an adverse affect on your:

- Social Security Eligibility
- Welfare Eligibility
- Income Taxes

In addition, the Title VIII of the Civil Rights Act of 1968 and later acts and amendments make discriminatory practices in the purchase and rental of most residential units illegal if based on race, color, religion, sex, or national origin.

Caltrans' Non-Discrimination Policy ensures that all services and/or benefits will be administered to the general public without regard to race, color, national origin, or sex in compliance with Title VI of the 1964 Civil Rights Act (42 USC 2000d. et seq.).

And you always have the Right to Appeal any decision by Caltrans regarding your relocation benefits and eligibility.

Your Right of Appeal is guaranteed in the "Uniform Act" which states that any person may file an appeal with the head of the responsible agency if that

person believes that the agency has failed to properly determine the person's eligibility or the amount of a payment authorized by the Act.

If you indicate your dissatisfaction, either verbally or in writing, Caltrans will assist you in filing an appeal and explain the procedures to be followed. You will be given a prompt and full opportunity to be heard. You have the right to be represented by legal counsel or other representative in connection with the appeal (but solely at your own expense).

Caltrans will consider all pertinent justifications and materials submitted by you and other available information needed to ensure a fair review. Caltrans will provide you with a written determination resulting from the appeal with an explanation of the basis for the decision. If you are still dissatisfied with the relief granted, Caltrans will advise you that you may seek judicial review.

NOTES

Sus Derechos y Beneficios Como Negocio, Operación Agrícola o Organización No Lucrativa Desplazada Bajo el Departmento de Transportación de California, Programa para Asistencia de Reubicación

Introducción

Cuando se está construyendo un sistema de transporte moderno, el desplazamiento de un pequeño porcentaje de la población es a veces necesario. Sin embargo, es el procedimiento de Caltrans que las personas desplazadas no deben de sufrir innecesariamente como resultado de los programas diseñados para el benificio del público en general.

Los negocios, operaciones agrícolas, y organizaciones no-lucrativas desplazadas pueden ser elegibles para servicios de reubicación y pagos.

Este libreto le provee información acerca de los servicios y pagos de reubicación disponibles. Si usted tiene que mudarse como resultado de un proyecto de transportación de Caltrans, un Agente de Reubicación lo contactará. El Agente de Reubicación estará disponible para responderle preguntas específicas y darle información adicional.

Acta de Procedimiento Uniforme de Asistencia para Reubicación y Adquisición de Bienes Raíces de 1970, Emendada
“El Acta Uniforme”

El propósito de esta Acta es de proveer uniformidad e igualdad de tratamiento a personas desplazadas de sus negocios, operaciones agrícolas, u organización no-lucrativa, por programas federales o programas asistidos con fondos federales, y de establecer uniformidad e igualdad en los procedimientos para adquisión de tierras para los programas federales y programas asistidos con fondos federales.

El Código de Regulaciones Federales 49, Parte 24 implementa el “Acta Uniforme” de acuerdo a los siguientes objetivos de asistencia de relocalización:

> Para asegurar que las personas desplazadas como resultado directo de proyectos federales o proyectos asistidos con fondos federales sean tratados con justicia, consistencia e igualdad de tal manera que esas personas no sufran daños desproporcionados como resultado de los proyectos diseñados para el beneficio del público en general.

Mientras se ha hecho todo esfuerzo para asegurar la veracidad de este folleto, debe entenderse que no tiene la fuerza ni efecto de la ley, regla o regulaciones que gobiernan el pago de los beneficios. Si alguna diferencia o error resulta, la ley tomará precedencia.

Servicios de Reubicación

El Departamento Transportación tiene dos programas para de ayudar a negocios, granjas y organizaciones no-lucrativas que tienen que reubicarse. Estas son:

1. El Programa de Consejos de Asistencia de Reubicación, que es para ayudarle en localizar una propiedad de reemplazo conveniente, y

2. El Programa de Pagos para Reubicación, que le reembolsará de ciertos costos envueltos en la reubicación. Estos pagos están clasificados como:

   - Gastos Relacionados a Mudanza (costos de mover propiedad personal no adquirida).
   - Gastos de Reestablecimiento (gastos relacionados a la propiedad de reemplazo.)
   - Pagos Fijos (pago fijo en vez de los gastos de mudanzas y otros gastos relacionados, y gastos de reestablecimiento).

Nota: *Pagos por pérdida de clientela es considerado un costo de adquisición. La ley de California y las regulaciones federales mandan que los pagos de reubicación no pueden duplicar otros pagos, como los pagos de pérdida de clientela.*

Usted **no** puede ser elegible a recibir ningún pago de reubicación hasta que el Estado haya hecho la primera oferta escrita para comprar su propiedad. Usted tambien recibirá un aviso escrito por lo menos 90 días antes que se tenga que mover.

Algunas Definiciones Importantes…

Sus beneficios de relocalización pueden ser entendidos mejor si usted se familiariza con los siguientes términos:

Negocio: Cualquier actividad legal, con la excepción de operaciones agrícolas, conducida principalmente para la compra, venta, arrendamiento, y alquiler de bienes personales o bienes raices, o para la fabricación, elaboración y/o mercadotecnia de productos, mercancías, u otros bienes personales, o solamente para el propósito de ésta Acta, un rótulo con anuncio o anuncios, cuando el rótulo(s) tenga(n) que ser movido(s) como resultado del proyecto.

Negocios Pequeños: Un negocio que tenga no más de 500 empleados trabajando en el lugar que esta siendo adquirido o desplazado por un programa o proyecto.

Contribuye Materialmente: Un negocio u operación agrícola debe de haber tenido un ingreso bruto en recibos de al menos $5,000 o un promedio anual de ingreso netos de al menos $1,000, para poder calificar como una operación de buena fé.

Operación Agrícola: Cualquier actividad conducida sola o primarialemente para la producción de uno o más productos de agricultura o mercancías, incluyendo venta de madera, para la venta y uso en casa, y producción ordinaria de tales productos o mercancía en cantidades suficientes para tener la capacidad de contribuir materialmente al soporte del operario.

Organización No-lucrativa: Una entidad pública o privada que haya establecido su estado de organización no-lucrativa bajo las leyes aplicables.

Persona desplazada: Cualquier individuo o familia que se muda de una propiedad o mueva sus bienes personales de una propiedad como resultado de la acquisición de bienes raíces, en todo o en parte, o como resultado de una notificación escrita de una agencia para desocupar la propiedad que se necesita para un proyecto de transportación. En el caso de una adquisición parcial, Caltrans determinará si la persona es desplazada directamente como resultado de la adquisición.

Los residentes que no están legalmente en los Estados Unidos no son elegibles para recibir pagos y asistencia de reubicación.

Los beneficios de reubicación varían según el tipo y tiempo de ocupación. Como una persona desplazada de un unidad residencial usted puede ser clasificado como:

- Un dueño ocupante de una propiedad residencial (incluye casas movibles)
- Un inquilino ocupante de una propiedad Residencial (incluye casas movibles y cuartos para dormir)

GASTOS DE MUDANZA

Si usted califica como un negocio, operación agrícola, u organización no-lucrativa desplazada, usted puede recibir reembolso de los gastos de mudanza y ciertos gastos relacionados incurridos en la mudanza. Para calificar, usted tiene que ocupar la propiedad legalmente como dueño o inquilino cuando Caltrans inicie negociaciones para la adquisición de la propiedad, O al tiempo que Caltrans adquiera título, o tome posesión de la propiedad. Sin embargo, para asegurar su elegibilidad y el pronto pago de los gastos de mudanza, usted tiene que haber contactado a su Agente de Reubicación antes de que se mude.

Usted Puede Escoger Entre:

Gastos Razonables de Mudanza Actual – Usted tiene que haber pagado por sus gastos de mudanza razonables y gastos relacionados cuando una compañia comercial hace la mudanza.

El reembolso será limitado a mudanza de 50 millas o menos. Los gastos relacionados, con limitaciones, ***pueden*** incluir:

- Transportación.
- Empacamiento y desempacamiento de la propiedad personal.
- Desconnección y reconneción relacionada a la operación de la propiedad personal.
- Almacenamiento temporal de la propiedad personal.

Seguros mientras la propiedad está en almacenamiento o en tránsito, o la propiedad personal es perdida y dañada, si los seguros no son razonablemente disponible.

- Gastos en encontrar un lugar de reemplazamiento.
- Servicios profesionales para planificar y supervisar la mudanza de la propiedad personal al nuevo lugar.
- Licencias, permisos y honorarios requiridos en el lugar de reemplazamiento.

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Contrato de Mudanza Propia – Usted puede ser pagado por mover su propia propiedad personal basado en la más baja de dos ofertas aceptables obtenidas por Caltrans. Bajo esta opción, usted deberá todavía ser elegible para el reembolsamiento de los gastos arriba relacionados que no fueron incluídos en la oferta

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Pago Fijo – Usted puede aceptar un pago fijo entre $1,000 y $20,000 basado en sus ganancias anuales EN VEZ de los costos y gastos relacionados de la mudanza.

Costos Actuales Razonables de Mudanza:

Pueden pagársele los gastos actuales razonables y necesarios de su mudanza si lo transporta con una compañía comercial de muebles y mudanzas. Todos sus gastos deben de ser respaldados con recibos u otra evidencia de gastos incurridos. Además de los gastos de transportación de su propiedad personal, ciertos otros gastos también pueden ser reembolsados, tales como empaque, embalaje, desempaque y desembalaje, desconexión, desmantelación, removimiento, reensamblamiento, y reinstalación de maquinaria relocalizada, equipos y otras propiedades personales. Otros gastos necesarios tales como servicios profesionales para planificar y supervisar la mudanza, almacenaje temporal y el costo para licencias, permisos y certificados también pueden ser reembolsables. Esta no es la intención de ser una lista inclusiva de todos los gastos relacionados de mudanza. Su Agente de Reubicación puede proveerle una explicación completa de los gastos reembolsables.

Contrato de Mudanza Propia

Si usted elige tomar la responsabilidad total o parcial para la mudanza de su negocio, operación agrícola, u organización no-lucrativa, Caltrans puede aprobar un pago sin exceder el presupuesto mas bajo de dos ofertas aceptables de una compañía comercial de muebles y mudanzas o por el Agente de Reubicación. Una mudanza a costo bajo o sin complicaciones puede ser basada en una sola oferta o estimado. En realidad, la ventaja de esta opción es que releva de la obligación al operador del negocio, operación agrícola u organización no-lucrativa desplazadas de documentar todos los gastos de mudanza. Caltrans puede hacer el pago sin documentación adicional siempre y cuando el pago sea limitado a la cantidad más baja aceptable de la oferta o del estimado. Otros gastos tales como servicios profesionales para planificar, costos de almacenaje y el costo de licencias, permisos, y certificados también pueden ser reembolsables si son necesarios. Estos gastos tienen que ser aprobados de ante mano por el Agente de Reubicación.

Requisitos:

Antes de que se mueva, usted tiene que proveer a Caltrans con:

- El inventario certificado de toda la propiedad personal que va a mover.
- La fecha que usted intenta desalojar la propiedad.
- La dirección de la propiedad de reemplazamiento.
- La oportunidad de supervisar e inspeccionar la mudanza desde la propiedad adquirada a la propiedad de reemplazo.

Gastos Relacionados

(1) **Gastos Para la Búsqueda de una Propiedad de Reemplazo** – Negocios, operaciones agrícolas, y organizaciones no-lucrativas tienen derecho a un reembolso por gastos actuales razonables, incurridos en la búsqueda de una propiedad de reemplazo, sin exceder $1,000. Los gastos pueden incluir transportación, alimento y alojamiento cuando esté lejos de su casa; el valor razonable del tiempo que ha gastado buscando una propiedad de reemplazo; los honorarios pagados a agentes de bienes raíces o asesores; y otros gastos determinados por Caltrans como razonables y necesarios.

(2) **Pérdidas Directas de Bienes Personales Tangibles:** Los negocios, operaciones agrícolas, y organizaciones no-lucrativas desplazadas pueden ser elegibles para un pago por pérdidas directas de bienes personales tangibles incurrido como resultado de la mudanza o descontinuación de la operación. Este pago deberá ser basado en el menor de:

(a) El valor de mercado de un producto para uso continuo en el sitio de desplazamiento menos la ganancia por su venta.

O

(b) El costo estimado de mudanza y reinstalación de los objetos reemplazados es basado en la oferta mas baja o el estimado obtenido por Caltrans para mudanza elegible y costos relacionados, incluyendo desmantelamiento y reemsamblaje, pero sin pago por almacenamiento.

POR EJEMPLO:

Usted determina que el "cortador de documentos" no puede ser movido a la nueva localidad por su condición, y usted no lo va a reemplazar en la nueva localidad.

El Valor de Mercado del Cortador de Documentos basado en su uso actual en la localidad actual es de	$1,500
Ganancia: Precio recibido por la venta del Cortador de Documentos	– $ 500
Valor Neto	$1,000
Ó	
El costo estimado de moverlo	$ 1,050
Basado en el "menor de", la cantidad de la "Perdida de Propiedad Personal Tangible"	= **$ 1,000**

Nota: *Usted tambien tiene derecho a todos los costos rasonables incurrido en su esfuerzo por vender el cortador de documentos (por ejemplo, anuncio commercial)*

(3) Compra de Substitución de la Propiedad Personal: Si un objeto de propiedad personal, el cual es usado como parte del negocio, la operación agrícola, o la organización no-lucrativa, no es movido pero es prontamente reemplazado con un objeto substituto que hace una función comparable en el sitio de reemplazo, el desplazado tiene derecho al menor de:

(a) El costo de un objeto substituto, incluyendo los costos de instalación en el sitio de reemplamiento, menos cualquier ganacia por la venta o intercambio del objeto reemplazado.

O

(b) El costo estimado de mudanza y reinstalación del objeto de reemplazo, basado en la oferta mas baja aceptable o el estimado obtenido por Caltrans para una mudanza elegible y gastos relacionados, incluyendo el desmantelamiento y reensamblaje, pero sin pago por almacenamiento

EJEMPLO A:

Usted puede determinar que la máquina copiadora no puede ser movida a la nueva localidad porque es ahora obsoleta y la va a reemplazar.

Costo de substuitir una Máquina Copiadora incluyendo costos de instalación en el sitio de reemplazamiento.	$ 3,000
Pago por el Intercambio	– $ 2,500
Valor Neto	$ 500
O	
Costo estimado de la mudanza	$ 550
Basado en el “menor de” la cantidad de “La Propiedad Personal Substituida”	**$ 500**

EJEMPLO B:

Usted determina que las sillas no van a ser usadas en la nueva localidad, porque ya no combinan con la decoración, y usted las quiere reemplazar.

Costo de la sillas substitutas	$ 1,000
Ganancias: Por la venta de las Sillas	– $ 100
Valor Neto	$ 900
O	
Costo estimado de la mudanza	$ 200
Basado en el “menor de”, la cantidad de “La Propiedad Personal de Substitución”	**$ 200**

NOTA: *Usted tambien tiene derecho a todos los gastos razonables incurridos en su esfuerzo por vender la copiadora (Ejemplo A) o las sillas (Ejemplo B).*

(4) **Desconección y Reinstalación:** Usted va a ser reembolsado por los costos actuales y razonables de desconección, desmantelamiento, mudanza, reem-samblaje, e reinstalación de cualquier maquinaria, equipo u otra propiedad personal en relación a la mudanza a su nuevo local. Esto incluye conección a los servicios públicos disponibles en el lugar y a cualquier modificación de los objectos personales que sean necesario para adaptar a los servicios públicos en el sitio de reemplazamiento.

(5) **Cambios Físicos en el nuevo local:** Usted puede ser reembolsado por ciertos cambios físicos de la propiedad de reemplazamiento si los cambios son necesarios para permitir la reinstalación de la maquinaria o equipo necesario para la continua operación del negocio.

Nota: *Los cambios no pueden incrementar el valor del edificio para propósitos generales, tampoco pueden incrementar la capacidad mecánica de los edificios más alla de los requerimientos normales.*

Gastos De Reestablecimiento

Un pequeño negocio, operación agrícola, u organización no-lucrativa puede ser elegible para un pago, que no exceda $10,000, para los gastos actuales incurridos en la reubicación y el reestablecimiento en el sitio de reemplazo.

Gastos de reestablecimiento pueden incluir, pero no están limitados a, lo siguiente:

1. Reparación y mejoramiento de la propiedad de reemplazamiento requerido por las leyes, códigos, u ordenanzas federales, estatales o locales.

2. Modificaciones de la propiedad de reemplazamiento para hacer la estructura(s) apropiado para la operación del negocio.

3. Construcción e instalación de los letreros exteriores para anunciar el negocio.

4. El costo de instalación de servicios públicos desde la línea del derecho de vía a la estructura(s) o mejoramientos en el sitio de reemplazamiento.

5. Redecoración o reemplazamiento como pintura, tapizado de pared, paneles, o carpetas cuando sean requeridas por la condición del sitio de reemplazo o con propósitos estéticos.

6. El costo de licencias, honorarios, y permisos cuando no sean cubiertos como gastos de mudanza.

7. Estudios de mercado, estudios de factibilidad y exámen de suelo.

8. Anunciar la localidad del nuevo negocio.

9. Servicios profesionales de bienes raíces necesarios para la compra o la renta de un lugar de reemplazo.

10. El aumento del costo estimado de operación en el lugar de reemplazo durante los primeros dos años, por objectos como:

    a. Cargas de rentas,
    b. Impuestos de propiedad personal o propiedad real
    c. Prima de seguros, y
    d. Carga de servicios públicos (excluyendo honorarios de impacto).

11. Evaluación de una-vez o honorarios de impacto por alta utilización de servicios públicos.

12. Otros objetos que el Departmento considere esenciales para el reestablecimiento del negocio ú operación agrícola.

Pago De Una Vez (O Pago Fijo)

Negocios que han sido desplazados, operaciones agrícolas, y organizaciones no-lucrativas podrían ser elegibles para un pago fijo (en vez de) por los gastos actuales de mudanza, pérdida de propiedad personal, gastos de búsqueda, y gastos de reestablecimiento. Los pagos fijos no podrán ser menos de $1,000 o más de $20,000.

Para que un negocio sea elegible por un pago fijo, Caltrans debe de determinar lo siguiente:

1. El negocio posee o renta propiedad personal que debe de ser movida debido al desplazamiento.

2. El negocio no puede ser relocalizado sin una pérdida substancial de la clientela existente.

3. El negocio no es parte de un empresa comercial que tiene mas de tres otros negocios conectados en una misma o actividad similar, las cuales están bajo el mismo dueño y no están siendo desplazadas por el Departamento.

4. El negocio contribuyó materialmente a las ganancias del operador del negocio desplazado durante los dos años anteriores al desplazamiento.

Cualquier operación del negocio que está conectado solamente en la renta del espacio de otros, no es elegible para un pago fijo. Esto incluye la renta de espacio con propósitos residenciales o de negocios.

Los requerimientos de elegibilidad para las operaciones agrícolas y organizaciones no-lucrativas son un poco diferentes a los requerimientos para negocios. Si usted está siendo desplazado de una granja o usted representa una organización no-lucrativa y está interesado en un pago fijo, por favor consulte con su consejero de reubicación para información adicional.

La computación de Su Pago Fijo

El pago fijo para un negocio desplazado o una operación agrícola es basado en el promedio anual neto de ganancias de la operación por los dos años immediatamente precedentes al año en el cual fue desplazado. Caltrans puede usar un período de dos años diferentes, si se determina que los dos últimos años no reflejan con certeza las ganacias de la operación.

EJEMPLO: Caltrans adquiere su propiedad y usted se mueve en el 2001:

1999 Ganancias Netas Anuales	$10,500
2000 Ganancias Netas Anuales	$12,500
TOTAL	$23,000
Promedio de los dos años	$11,500

Este podría ser la cantidad de su pago fijo. Recuerde – esto es “en vez de” todos los otros beneficios de mudanza. Usted tendrá que proveer Caltrans pruebas de las ganacias netas para verificar su reclamo.

Prueba de las ganancias netas pueden ser documentas con sus declaraciones de impuestos, cartas financieras certificadas, u otra evidencia razonable de las ganancias netas aceptables por Caltrans.

Nota: *La computación de las organizaciones no-lucrativas difiere en que los pagos son computados en la base del promedio anual grueso de las ganancias menos los gastos administrativos por el período de los dos años especificados arriba.*

Antes de que se Mueva:

A. Complete una forma de “Aplicación para Determinación de sus Derechos” que la puede obtener de su Agente de Reubicación, y devuélvala con la mayor prontitud posible.

B. Incluya una declaración escrita de las razones por las cuales su negocio no puede ser reubicado sin una pérdida substancial en la ganancias netas.

C. Provea una copia certificada de su declaración de impuestos de los dos años immediatamente precedentes al año en el que se va a mover. (Si usted se mueve en cualquier momento en el año 2001, sin importar de cuando comenzaron las negociaciones o cuando el Estado tomó título de su propiedad, los años serán el de 1999 y el 2000.

D. Usted deberá ser notificado de la cantidad a la que tiene derecho después que la aplicación es recibida y aprobada.

E. Usted no puede recibir un pago hasta que se haya movido de la propiedad, Y que haya entregado un reclamo de pago dentro de los 18 meses de la fecha de mudanza.

Asistencia de Asesoría de Reubicación

A cualquier negocio, operación agrícola, u organización no-lucrativa, desplazado por Caltrans debe de ofrecerle los servicios de asistencia de reubicación con el propósito de localizar una propiedad de reemplazamiento. Los servicios de reubicación deben de ser proveídos por un empleado de Caltrans. Es la meta y el deseo de nosotros de servirle y asistirle en cualquier manera posible para ayudarle a reubicarse exitosamente.

Un Agente de Reubicación de Caltrans se comunicará con usted personalmente. Los servicios de reubicación y los pagos deberán ser explicados a usted de acuerdo con su elegibilidad. Durante la entrevista inicial con usted, sus necesidades y deseos deberán determinarse así como su necesidad de asistencia.

Usted puede esperar recibir los siguientes servicios, consejos, y asistencia de su Agente de Reubicación quien le:

- Determinará sus necesidades y preferencias.
- Explicará los beneficios de reubicación y su elegibilidad.
- Proveerá información en las propiedades de reemplazo para su consideración.
- Proveerá información en aconsejarle como puede obtener ayuda para minimizar la adversidad en ajustarse a su nuevo local.
- Asistirá en completar los documentos de préstamos, aplicaciones de rentas o Formas de Reclamos de Reubicación.

Y puede proveerle información en:

- Depósitos de seguridad.
- Taza de intereses y términos.
- Pagos típicos de enganches.
- Permisos, honorarios, y ordenanzas locales.
- Requirimientos de préstamos SBA
- Impuestos de bienes raíces.
- Literatura de educación al consumidor.

Si usted desea, su Agente de Reubicación le dará una lista actual de otras propiedades de reemplazamiento que esten disponibles. Se le proveerá transportación para inspeccionar la propiedad disponible, especialmente si usted es anciano o desabilitado. Aunque usted puede usar los servicios de un vendedor de bienes raíces, Caltrans no lo puede referir a un agente específico.

Su Agente de Reubicación está familiarizado con los servicios proveído por otros en su comunidad y le proveerá información de otros programas federales, estatales y locales que ofrecen asistencia a las personas desplazadas. Si usted tiene necesidades especiales, su Agente de Reubicación hará un esfuerzo para asegurar los servicios del personal entrenado de estas agencias que tienen la experiencia para ayudarle.

Si el proyecto de carreteras requiere que un número considerable de personas sean reubicadas, Caltrans establecerá Oficinas temporales de Reubicación en o cerca del proyecto. Las oficinas de projectos de reubicación serán abiertas durante las horas convenientes y hasta horas de la noche si es necesario.

Además de estos servicios, Caltrans será requerido a coordinar las actividades de reubicación con otras agencias causantes de desplazamiento para asegurar que todas las personas desplazadas reciban beneficios de reubicación iguales y consistentes.

Recuerde – Su Agente de Reubicación está ahí para ofrecer consejos y asistencia. No tenga dudas en preguntar. Y esté seguro que usted entiende completamente todos los derechos y beneficios disponibles.

SUS DERECHOS COMO UNA PERSONA DESPLAZADA

Es importante que recuerde que los beneficios de reubicación no tendrán un efecto adverson en su:

- Elegibilidad para Seguro Social
- Elegibilidad para Asistencia Social
- Declaración de Impuestos.

Además, el **Título VIII del Acta de Derechos Civiles de 1968**, y las actas anteriores y sus enmiendas hacen ilegal las prácticas en la venta y renta de las unidades residenciales que estén basadas en la raza, color, religion, sexo, u origen nacional.

Los Procedimientos No-Descriminatorios de Caltrans aseguran que todos los servicios y/o beneficios sean administrados al público en general sin diferencia de raza, color, origen nacional, o sexo en cumplimiento con el Título VI del Acta de Derechos Civiles de 1964. (42 USC 2000 (d.) et seq.).

Y usted siempre tiene el **Derecho de Apelar** una decisión de Caltrans en relación a sus beneficios de reubicación y elegibilidad.

Su Derecho de Apelación es garantizado en la “Ley Uniforme” que establece que una persona puede apelar con el responsible de la agencia si esta persona cree que la agencia ha fallado en determinar apropiadamente la elegibilidad de la persona o la cantidad de un pago autorizado por la Ley.

Si usted indica su disatisfacción, ya sea verbalmente o por escrito, Caltrans puede asistirle en entregar su caso y explicar los procedimientos a seguir. A usted le darán la oportunidad de ser oído pronta y totalmente. Usted tiene el derecho de ser representado por un consejero legal u otro representante en conección con la apelación (pero solamente a su propio costo.)

Caltrans puede considerar todas las justificaciones pertinentes y materiales entregadas por usted y cualquier otra información disponible que sea necesaria para asegurar una revisión justa. Caltrans le proveerá con una determinación de la apelación por escrito con una explicación de la base de la decisión. Si usted todavía no está satisfecho con la asistencia prestada, Caltrans le aconsejará que usted puede buscar una revisión judicial.

Noticiero de la Ley para Americanos con Incapacidades Físicas (ADA):

Para personas con incapacidades físicas, este documento es disponible en formatos alternativos. Para Información llame al número (916) 654-5413 Voz, CRS: 1-800-735-2929, o escriba a Derecho de Vía, MS 37, 1120 N Street, Sacramento, CA 95814.

NOTAS:

Appendix E Environmental Commitments Record (ECR)

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Date:

ENVIRONMENTAL COMMITMENTS RECORD (ECR)

Environmental Coordinator:
Phone No:
Generalist:

08-SBD-215 PM 0.58/1.66
EA 0J070
Interstate 215/Barton Road Interchange Improvement Project

No.	Description of Commitment	Ref.	Responsible Party/Monitor	Timing/Phase	Task Completed		Commitment Source	Comments
					Signature	Date		
PARKS AND RECREATIONAL FACILITIES								
PRF-1	**Cal Skate Grand Terrace Access.** Access to Cal Skate Grand Terrace roller skating rink will be maintained throughout construction for Alternative 6 and Modified Alternative 7.	IS/EA Section 2.1	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction				
PRF-2	**Grand Terrace Fitness Park Access.** The construction contract will specifically stipulate that no staging or storage of materials will be allowed on any part of Grand Terrace Fitness Park for any duration, and further that no obstruction of access to the Park will be allowed at any time in conjunction with Project Construction. Additionally, with respect to potential temporary noise and air quality impacts, Measures AQ-1, AQ-2, AQ-3, AQ-4, AQ-5, N-1, and N-2 are stipulated as also being specifically applicable while construction activities are occurring in close proximity to Grand Terrace Fitness Park.	IS/EA Section 2.1	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During final design and construction				
COMMUNITY IMPACTS								
CI-1	**Community Outreach Program.** During Final Design, the Project team will develop and implement a community outreach and public involvement program to inform the community including Grand Terrace Elementary School about Project construction activities.	CIA, IS/EA, Section 2.3	SANBAG/Caltrans	During final design			Caltrans Policy	
CI-2	**Construction Management Program.** The Project team will develop and implement a construction management program that maintains access to and from the Project area through signage, detours, and flag persons.	IS/EA, Section 2.3	SANBAG/Caltrans	During final design			Caltrans Policy	
REL-1	**The Uniform Act.** All affected property owners will be provided with a copy of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (Public Law 91-646, 84 Statutes 1894). The San Bernardino Association of Governments (SANBAG) will comply with the Uniform Act. The Uniform Act mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. The Uniform Act provides for uniform and equitable treatment by federal or federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies.	DRIS, IS/EA, Section 2.3	SANBAG/Caltrans	During final design			Caltrans Policy, local, State and federal regulations	
REL-2	**Replacement Housing.** Where acquisition and relocation are unavoidable, the provisions of the Uniform Act would be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal would be made. The Uniform Act requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means be made available before that person may be displaced. In the event that such replacement housing is not available for persons displaced by the Project within the statutory limits for replacement housing payments, last resort housing may be provided in a number of prescribed ways.	DRIS, IS/EA, Section 2.3	SANBAG/Caltrans	During final design			Caltrans Policy, local, State and federal regulations	
UTILITIES AND EMERGENCY SYSTEMS								
UES-1	**Utility Protection in Place.** Prior to commencement of construction, all affected utility providers will be contacted to establish exact procedures and specifications for all facilities to be protected in place or relocated during construction to ensure that utility services are not disrupted.	IS/EA, Section 2.4	SANBAG/Caltrans	Prior to construction				
UES-2	**Utility Relocation.** Prior to commencement of construction, the utility providers for utilities requiring relocation will be contacted to inform the utility users in advance about the date and timing of service disruptions.	IS/EA, Section 2.4	SANBAG/Caltrans	Prior to construction				
TRAFFIC AND TRANSPORTATION								
TR-1	**Transportation Management Plan.** A detailed Transportation Management Plan (TMP) will be prepared during the final design phase of the proposed Project. The objective of the TMP is to minimize the potential impacts that construction activities may have on the traveling public and emergency services providers. Preparation of the TMP will be coordinated with the emergency services providers in the Project vicinity to minimize response delays resulting from traffic delays, temporary ramp and lane closures, and detours during Project construction.	CIA, IS/EA Section 2.5	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During final design and construction				

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	The TMP for the proposed Project will include the following elements and strategies: a) During construction, the contractor will be required to coordinate all temporary ramp closures and detour plans with the Colton Joint Unified School District, as well as with applicable fire, emergency, medical, and law enforcement providers, to minimize temporary delays in school trips and provider response times. b) The TMP will include construction staging, detours, and road closures, as applicable. c) The proposed Project will provide access to the parking area and gate for Grand Terrace Fitness Park at all times from Grand Terrace Road. d) Traffic control plans and related specifications, to be completed during final design of the proposed Project, will be developed in accordance with the Work Area Traffic Control Handbook (also referred to as the WATCH manual), Section 5 of the California Department of Transportation (Caltrans) Traffic Manual, Caltrans Standard Plans, and applicable city requirements. These plans and specifications will include elements such as: advance roadside signs and portable changeable message signs (CMSs); traffic surveillance; lane/shoulder closures; and temporary signing/ striping on local streets, the Interstate 215 (I-215) ramps, and the I-215 mainline. Temporary overnight lane closures of I-215 are anticipated during construction. Lane closures along the mainline, which will be limited to nighttime and will maintain at least one lane in each direction, will be coordinated with Caltrans. e) The proposed Project will implement a Construction Zone Enhanced Enforcement Program (COZEEP) and use California Highway Patrol (CHP) officers to enforce lane closures and provide a visual deterrent to errant/speeding vehicles. f) The proposed Project will implement a Public Awareness Campaign (PAC). Although any lane closures will occur at night, there will still be a potential temporary impact to vehicles traveling through the construction zone. The purpose of this PAC is to keep the surrounding community abreast of the proposed Project's progress and construction activities that could affect the public's travel plans, as well as to minimize delays or confusion to the motoring public during construction activities. Mailers/flyers and local newspaper advertising will be used to disseminate this information. g) The proposed Project will implement a Construction Freeway Service Patrol (CFSP) program. The CFSP will provide tow truck service to aid stranded motorists and remove disabled vehicles from the traveled way or shoulders. h) The proposed Project will implement the following construction strategies to minimize construction-related impacts: i. Perform major construction activities at off-peak hours, such as at night or during the weekends, when feasible and reasonable. ii. Finalize ramp closure charts during the final design phase. During final design, the proposed lane and ramp closures will be presented to the Caltrans Lane Closures Review Committee (LCRC) for approval. iii. Coordinate construction with adjacent projects. Coordination is important to address possible temporary increases in traffic due to detours from adjacent projects. Construction of the adjacent projects is anticipated to be completed prior to construction of the proposed Project. iv. All ramp reconstruction and local street widening will be constructed in stages to minimize disruption. i) The proposed Project will include provisions for maintaining pedestrian and bicycle access at all times during construction.							

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	j) The proposed Project will include contingency plans that specify the actions that will be taken in the event that something unexpected occurs with respect to construction activities or traffic operations. The contractor will review these plans and incorporate them into the contractor's contingency plan.							
VISUAL/AESTHETICS								
VIS-1	**Landscape Plan.** A landscape plan will be prepared that identifies all opportunities to use areas within the State right of way for full landscaping consistent with the *Interstate 215 (I-215) Bi-County Aesthetic Concept*. This will include landscaping for graded areas with plant species consistent with adjacent vegetation and enhancement of new Project structures (ramps, sound barriers, and retaining walls) to the extent feasible. This plan will incorporate all applicable procedures and requirements detailed in the California Department of Transportation (Caltrans) *Highway Design Manual*, Section 902.1, Planting Guidelines (November 2001), and individual local policies as applicable.	VIA, IS/EA, Section 2.6	SANBAG/Caltrans Landscape Architect	During final design			I-215 Bi-County Aesthetic Concept, Highway Design Manual Planting Guidelines	
VIS-2	**Hardscape Plan.** A Hardscape Plan with aesthetic enhancements of retaining and sound barriers, bridges, and other hardscape will be incorporated into the final design of the Project consistent with the *I-215 Bi-County Aesthetic Concept* and applicable goals and policies in the affected City General Plan. The design of all hardscape features is required to comply with Caltrans standards for sound attenuation (where the walls/barriers provide that function), safety requirements, and other pertinent standards. The design of sound barriers requires compliance with the Caltrans *Highway Design Manual* Standards, and aesthetic treatments will be reviewed and approved by the Caltrans District 8 Landscape Architect. The sound barriers should include the following features: a) Aesthetic treatments will be incorporated into barrier designs to increase the visual quality of the area and to provide an expression of the regional "sense of place." b) To the maximum extent feasible, trees and shrubs will be provided in available spaces, and textured walls and vines will be used on barriers to soften the appearance of the wall and deter graffiti.	VIA, IS/EA, Section 2.6	SANBAG/Caltrans Landscape Architect/Resident Engineer/ Construction Contractor	During final design and construction			I-215 Bi-County Aesthetic Concept, Highway Design Manual Planting Guidelines	
VIS-3	**Lighting.** The lighting fixtures will be selected and installed to minimize glare on adjacent properties and into the night sky. Lighting will be shielded with nonglare hoods and focused within the Project right-of-way. The lighting plan will be reviewed and approved by the Caltrans District 8 Landscape Architect prior to construction to ensure compliance with these criteria.	VIA, IS/EA, Section 2.6	SANBAG/Caltrans Landscape Architect/Resident Engineer/ Construction Contractor	During final design and construction			Caltrans Policy	
CULTURAL RESOURCES								
CR-1	**Cultural Materials.** If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.	IS/EA, Section 2.7	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans SSPs, CEQA	
CR-2	**Human Remains.** If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County of San Bernardino Coroner contacted. Pursuant to California Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the Coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the California Department of Transportation District 8 Environmental Branch Chief 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.	IS/EA, Section 2.7	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans SSPs, CEQA	

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					Signature	Date		
WATER QUALITY								
WQ-1	**General Permit (Construction).** Construction will comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water 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. This will include submission of the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (SWRCB) at least 14 days prior to the start of construction. The SWPPP will meet the requirements of the Construction General Permit, which includes identifying potential pollutant sources associated with construction activities; identifying nonstorm water discharges; developing a water quality monitoring and sampling plan; and identifying, implementing, and maintaining Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site. The BMPs identified in the SWPPP will be implemented during Project construction. A Notice of Termination (NOT) will be submitted to the SWRCB upon completion of construction and stabilization of the site.	WQTS, IS/EA, Section 2.8	SANBAG/Caltrans	Prior to and during construction			NPDES permit	
WQ-2	**Stormwater Management and NPDES Permits.** Caltrans and City/County NPDES permit requirements will be followed for the operation of Post-Construction Treatment BMPs for the Project. This will include coordination with the Santa Ana Regional Water Quality Control Board (RWQCB) with respect to feasibility, maintenance, and monitoring of Treatment BMPs.	WQTS, IS/EA, Section 2.8	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During final design and operation			NPDES permit	
GEOLOGY AND SOILS								
GEO-1	**Geotechnical Investigation.** During the Plans, Specifications, and Estimates (PS&E) phase, a detailed geotechnical investigation will be conducted by qualified geotechnical personnel to assess the geotechnical conditions at the Project area. The geotechnical investigation will include exploratory borings to investigate site-specific soils and conditions and to collect samples of subsurface soils for laboratory testing. Those soil samples will be tested to evaluate liquefaction potential, collapsibility potential, stability, and corrosion potential. The Project-specific findings and recommendations of the geotechnical investigation will be summarized in a Structure Foundation Report (SFR) and a Geotechnical Design Report (GDR) to be submitted to the California Department of Transportation (Caltrans) for review and approval. Those findings and recommendations will be incorporated in the final design of the selected Build Alternative.	Prelim Geotech Investigation IS/EA, Section 2.9	SANBAG/Caltrans	During final design			Caltrans SSPs	
PALEONTOLOGY								
PAL-1	**Paleontological Mitigation Plan.** During Plans, Specifications, and Estimates (PS&E), a Paleontological Mitigation Plan (PMP) will be prepared and adhered to during construction. The PMP will follow the guidelines of the California Department of Transportation (Caltrans) and the Society of Vertebrate Paleontologists (SVP). The PMP will include, but not be limited to, the following: a) A preconstruction field survey, including salvage of any observed surface paleontological resources, prior to the beginning of grading. b) Attendance at the pregrade meeting by a qualified paleontologist or his/her representative. At this meeting, the paleontologist will explain the likelihood for encountering paleontological resources, what resources may be discovered, and the methods that will be employed if paleontological resources are discovered. c) During construction excavation, a qualified vertebrate paleontological monitor will initially be present on a full-time basis whenever excavation will occur within sediments that have a high sensitivity rating. Monitoring may be reduced to a part-time basis if no resources are being discovered in sediments with a high sensitivity rating (monitoring reductions and when	PIR/PER, IS/EA, Section 2.10	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During final design and construction			Caltrans SSPs, CEQA	

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	they occur will be determined by the qualified Principal Paleontologist). The monitor will inspect fresh cuts and/or spoils piles to recover paleontological resources. The monitor will be empowered to temporarily divert construction equipment away from the immediate area of a 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, Caltrans and the San Bernardino Association of Governments (SANBAG) will consider using heavy equipment to assist in the speedy and safe removal and collection of large materials. d) Localized concentrations of small (or micro-) vertebrates may be found in all native sediments. Therefore, it is recommended that these native sediments occasionally be spot-tested by screening through 1/20-inch mesh screens to determine whether microfossils are present. If microfossils are encountered, sediment samples (up to 12 cubic yards, or 6,000 pounds) will be collected and processed through 1/20-inch mesh screens to recover additional fossils. e) Recovered specimens will be prepared to the point of identification and permanent preservation. This includes the sorting of 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 the storage cost, and the addition of approved chemical hardeners/stabilizers to fragile specimens. f) Specimens will be identified to the most specific taxonomic level possible and curated at an institutional repository with retrievable storage. Repository institutions usually charge a one-time fee based on the volume of material, 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. Caltrans and SVP require that a draft curation agreement be in place with an approved curation facility prior to the initiation of any paleontological monitoring or mitigation activities. g) A Final Report will be presented to Caltrans and the repository institution, describing all salvage activities, geology, and the paleontological resources recovered and their distribution.							
HAZARDOUS WASTE								
HAZ-1	**Historic Agricultural Properties.** Prior to completion of the Project Approval/Environmental Document (PA/ED) phase, soil sampling for pesticides will be conducted in areas of historic agricultural use that have not previously been disturbed by the excavation activities associated with the ongoing I-215 Bi-County HOV Lane Gap Closure Project (EA#: 0M940). If these areas will be disturbed by the Project (through grading, etc.), soil samples should be analyzed for organochlorine pesticides (OCPs) using United States Environmental Protection Agency (EPA) Methods 8081. The analytical results of the soil sampling will be used to determine the appropriate handling, removal, containment, and off-site transportation and disposal of any contaminated soils, as appropriate. Testing on undisturbed historical or current agricultural areas is ongoing.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	During final design			Caltrans Policy, local, State and federal regulations	
HAZ-2	**Striping and Pavement Markings.** Striping paint along Interstate 215 (I-215)/ Barton Road and ancillary roads in the Project area will be sampled and tested for lead chromate by trained and/or licensed professionals in areas not already tested and remediated as part of the I-215 Bi-County HOV Lane Gap Closure Project. The field and analytical data obtained during this study will be used to provide a review of the sampling locations and descriptions, a summary of the analytical results, and recommendations for striping paint removal, containment, and off-site transportation and disposal, as appropriate.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	During final design			Caltrans Policy, local, State and federal regulations	
HAZ-3	**Transformers.** If transformer removal is required, Southern California Edison will be contacted prior to handling or removal of electric transformers. Should utility poles require removal, additional sampling and analysis will be conducted to determine the presence of creosote (often associated with the preservation	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	During construction			Caltrans Policy, local, State and federal regulations	

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	of wooden electric poles) and appropriate disposal methods. Any hazardous transformers or poles that are disturbed/removed will be disposed of in accordance with the California Health and Safety Code.							
HAZ-4	**Lead Compliance Plan.** Prior to construction, construction contractors excavating, transporting, or stockpiling soil will prepare a Lead Compliance Plan in accordance with the California Department of Transportation (Caltrans) Code of Safety Practices, the California Code of Regulations, and California Division of Occupational Safety and Health (Cal-OSHA) standards. The Lead Compliance Plan will address the presence of aerially deposited lead (ADL) in the soils within the Project area and the health and safety of construction workers.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer/Construction Contractor	Prior to construction			Caltrans Policy, local, State and federal regulations	
HAZ-5	**Aerially-Deposited Lead Investigation Report.** Prior to construction, the testing results of the ADL Investigation Report will be provided to the construction contractor handling on-site soils during construction.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer	Prior to construction			Caltrans Policy, local, State and federal regulations	
HAZ-6	**Transite Piping.** During construction, if signs of transite piping are observed, construction in the area will be halted and sampling and analysis for asbestos conducted. The analytical results of the soil sampling will be used to determine the appropriate handling, removal, containment, and off-site transportation and disposal of asbestos-containing transite piping, as appropriate.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans Policy, local, State and federal regulations	
HAZ-7	**Asbestos-Containing Materials and Lead-Based Paint.** After property acquisition and prior to demolition, building structures planned for demolition within the Project area will be assessed for the possible presence of ACM and LBP. These studies will be conducted by trained and/or licensed professionals and will comply with the EPA, National Emission Standards for Hazardous Air Pollutants (NESHAPs) 40 Code of Federal Regulation (CFR), Southern California Air Quality Management District (SCAQMD) Rule 1403, Housing and Urban Development (HUD), and California Department of Public Health (CDPH) guidelines. The results of these studies will provide a description of the ACM and LBP locations, estimated quantity, and recommendations for removal, containment, and off-site transportation and disposal.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	After property acquisition and prior to demolition			Caltrans Policy, local, State and federal regulations	
HAZ-8	**SCAQMD Rule 1403.** Notification and applicable fees will be submitted to the SCAQMD at least 10 days prior to proceeding with any demolition or renovation of a structure (refer to SCAQMD Rule 1403 (d)(1)(B)). The construction contractor will adhere to the requirements of SCAQMD Rule 1403 during renovation and demolition activities.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During final design and construction			Caltrans Policy, local, State and federal regulations	
HAZ-9	**Soil Sampling.** Soil sampling will be performed at all locations within the Project area with potential hazardous waste concerns, prior to completion of PA&ED. These properties should be analyzed, at a minimum, for total petroleum hydrocarbons with carbon chain analysis, VOCs including fuel oxygenates and chlorinated solvents, and Title 22 Metals, using EPA Methods 8015B, 8260B, and 6010B/7471A, respectively. Testing at affected properties listed in Table 2.11.A is ongoing.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	Prior to project and environmental document approval			Caltrans Policy, local, State and federal regulations	
HAZ-10	**Groundwater.** Although excavation activities associated with the proposed Project are not likely to encounter groundwater, should groundwater be encountered during construction/excavation activities and dewatering become necessary, regulatory compliance and permitting consistent with Santa Ana Regional Water Quality Control Board (SARWQCB) and National Pollutant Discharge Elimination System (NPDES) requirements should be adhered to, and groundwater sampling should be conducted.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans Policy, local, State and federal regulations	
HAZ-11	**Unknown Hazards.** During construction, soil excavations will be monitored for visible soil staining, odor, and the possible presence of unknown hazardous material sources, such as contaminated soil or buried 55-gallon drums and underground tanks. The contents of the partial, or partially buried, drum will be assessed and disposed of appropriately if this property is acquired as part of the Project. The resident engineer overseeing construction will have available field monitoring equipment (e.g., photoionization detector [PID]) on site to facilitate timely detection of potentially hazardous conditions in the field. If signs of potential impact (odors, discolored soil, etc.) are noted or observed during	IS/EA, Section 2.11	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans Policy, local, State and federal regulations	

Date: ENVIRONMENTAL COMMITMENTS RECORD (ECR)

Environmental Coordinator: 08-SBD-215 PM 0.58/1.66
Phone No: EA 0J070
Generalist: Interstate 215/Barton Road Interchange Improvement Project

No.	Description of Commitment	Ref.	Responsible Party/Monitor	Timing/Phase	Task Completed		Commitment Source	Comments
					Signature	Date		
	construction activity, sampling and analysis should be conducted. Soil samples should be analyzed for total petroleum hydrocarbons (TPH) with carbon chain analysis using EPA Method 8015B and VOCs by EPA Method 8260B where run-off may have collected. If other hazardous materials contamination or sources are suspected or identified during Project construction activities, an environmental professional will evaluate the course of action required. This course of action will follow the Unknown Hazards Procedures described in Chapter 7 of the *Caltrans Construction Manual* (August 2006).							
HAZ-12	**Phase II ISA**. A Phase II Initial Site Assessment (ISA) is required prior to completion of the PA&ED phase of the Project, so that special handling, treatment, or disposal provisions associated with hazardous wastes can be included in construction documents. This work is ongoing.	ISA, IS/EA, Section 2.11	SANBAG/Caltrans	Prior to project and environmental document approval			Caltrans Policy, local, State and federal regulations	
AIR QUALITY								
AQ-1	**SCAQMD Rule 403.** During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. All material excavated or graded will be sufficiently watered to prevent excessive amounts of dust. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on site or off site will be either sufficiently watered or securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in Project specifications. Visible dust beyond the property line emanating from the Project will be prevented to the maximum extent feasible.	AQA, IS/EA, Section 2.12	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			SCAQMD	
AQ-2	**Ozone Precursors.** Project grading plans will show the duration of construction. Ozone (O_3) precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.	AQA, IS/EA, Section 2.12	SANBAG/Caltrans/Resident Engineer/Construction Contractor	Prior and during construction			SCAQMD	
AQ-3	**State Vehicle Code Section 23117.** All trucks that are to haul excavated or graded material on site will comply 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.	AQA, IS/EA, Section 2.12	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			SCAQMD	
AQ-4	**Caltrans Standard Specifications.** Most of the construction impacts to air quality are short-term in duration and, therefore, will not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control, will reduce any air quality impacts resulting from construction activities. The contractor will adhere to California Department of Transportation (Caltrans) Standard Specifications for Construction (Sections 14.9-02 and 14-9.03), specifically including: a) Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. b) Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18. c) Water or dust palliative will be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line depending on local regulations. d) Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas. e) Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions. f) Construction equipment and vehicles will be properly tuned and maintained.	IS/EA, Section 2.12	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			Caltrans SSPs	

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					Signature	Date		
	All construction equipment will use low sulfur fuel as required by CA Code of Regulations Title 17, Section 93114. g) A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities. h) Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly. i) ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible. j) Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used. k) All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation. l) Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter. m) To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times. n) Mulch will be installed or vegetation planted as soon as practical after grading to reduce windblown particulate in the area. Be aware that certain methods of mulch placement, such as straw blowing, may themselves cause dust and visible emission issues and may need to use controls such as dampened straw.							
AQ-5	**Construction Equipment Staging Areas.** Construction equipment staging areas will be located at least 200 feet from sensitive receptors.	IS/EA Section 2.12	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction				
NOISE								
N-1	**Noise Control, Caltrans SSP 14-8.02.** The control of noise from construction activities within the California Department of Transportation (Caltrans) right-of-way will conform to the Caltrans Standard Special Provisions (SSP), Section 14-8.02, "Noise Control." The noise level from the Contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., will not exceed 86 A-weighted decibels (dBA) at a distance of 50 feet (ft). The Contractor will use 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 muffler and will not operate any internal combustion engine on the job site without the appropriate muffler.	NSR, IS/EA, Section 2.13	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			NSR, Caltrans SSPs	
N-2	**Construction Noise Standards.** In accordance with the City of Colton Bid and Contract template and the City of Grand Terrace Municipal Code, construction activities within the City of Colton will be limited to between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, excluding weekends and holidays, and within the City of Grand Terrace, construction activities will be limited to between the hours of 7:00 a.m. and 8:00 p.m., Monday through Friday, excluding weekends and holidays.	NSR, IS/EA, Section 2.13	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			NSR, Local regulations	
N-3	**Noise Abatement.** If the project proceeds to construction based on Alternative 6, a sound barrier with a length of 926 ft and an average height of 16 ft (Sound Barrier [SB] No. 13) will be constructed at the State right-of-way.	NADR, IS/EA, Section 2.13	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction				
N-4	**Sound Barrier Reconstruction.** The portion the of the sound barrier constructed as part of the Interstate (I-215) Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project, located adjacent to the Grand Royal Mobile Estates, to be removed during project construction will be reconstructed along	IS/EA, Section 2.13	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction				

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	the proposed State right-of-way line.							
WETLANDS AND OTHER WATERS								
WET-1	**Streambed Alteration Agreement.** Prior to construction, a Section 1602 Streambed Alteration Agreement will be obtained from the California Department of Fish and Wildlife (CDFW).	NESMI, IS/EA, Section 2.15	SANBAG/Caltrans	Prior to construction			NES, federal regulations	
WET-2	**Water Quality Certification.** Prior to construction, a certification of water quality from the Santa Ana Regional Water Quality Control Board (RWQCB) Region 8, pursuant to Section 401 of the federal Clean Water Act (CWA), will be obtained.	NESMI, IS/EA, Section 2.15	SANBAG/Caltrans	Prior to construction			NES, State and federal regulations	
WET-3	**Compliance with the Nationwide Permit Program.** During construction, the Project will comply with the Nationwide Permit Program, pursuant to Section 404 of the federal CWA.	NESMI, IS/EA, Section 2.15	SANBAG/Caltrans	During construction			NES, State regulations	
ANIMAL SPECIES								
AS-1	**Migratory Bird Treaty Act.** In compliance with the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code, during construction, the construction contractor will restrict vegetation clearing to outside the active breeding season (February 15–August 31) for birds. If vegetation clearing is scheduled during the breeding season, a qualified biologist will conduct clearance surveys for active bird nesting immediately prior to any clearing of vegetation. During the clearance surveys, the location of any active bird nests will be mapped by the biologist, and an appropriate buffer (e.g., 250-foot [ft] buffer for raptors) where work will not take place will be established and monitored. The buffer will be delineated by roping or flagging the boundaries and will remain in place until the nest is either abandoned or the young have fledged.	NESMI, IS/EA, Section 2.17	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction			NES, State and federal regulations	
AS-2	**Burrowing Owl Survey Protocol.** Consistent with the *California Department of Fish and Wildlife (CDFW) Burrowing Owl Survey Protocol and Mitigation Guidelines* (prepared by the California Burrowing Owl Consortium, April 1993), a preconstruction survey will be conducted by a qualified biologist within 30 days prior to Project-related ground-disturbing activities to ensure that burrowing owls are not occupying potentially suitable ruderal fields. If owls are determined to be present outside the nesting season (February 15–August 31), coordination with the CDFW will occur to passively relocate the burrowing owls. If nesting burrowing owls are determined to be present during the nesting season, construction activities within a 300 ft buffer of the occupied burrow will be prohibited until the end of nesting season or until it is determined that the owls are not utilizing the burrow as a nest.	NESMI, IS/EA, Section 2.17	SANBAG/Caltrans	During final design and Prior to Construction			NES, State regulations	
INVASIVE SPECIES								
INV-1	**Executive Order 13112.** In compliance with Executive Order (EO) 13112, a weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies will be employed should an invasion occur. At a minimum, this program will include: a) During construction, the construction contractor will inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another. b) During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible. c) During construction, the construction contractor will ensure that all active portions of the construction site are watered as needed due to dry or windy conditions to prevent excessive amounts of dust. d) During construction, the construction contractor will ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust. e) During construction, soil/gravel/rock will be obtained from weed-free sources. f) Only certified weed-free straw, mulch, and/or fiber rolls will be used for	IS/EA, Section 2.19	SANBAG/Caltrans/Resident Engineer/Construction Contractor	During construction and operation			NES, federal regulations	

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	erosion control. g) After construction, affected areas adjacent to native vegetation will be revegetated with plant species native to the vicinity and approved by the California Department of Transportation (Caltrans) District Biologist. h) After construction, all revegetated areas will avoid the use of species listed in California Invasive Plant Council's (Cal-IPC's) California Invasive Plant Inventory. i) After construction, erosion control and revegetation sites will be monitored for 2 to 3 years after construction to detect nonnative species prior to the establishment of the native vegetation. j) Eradication procedures (e.g., spraying and/or hand weeding) will be outlined 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 District Biologist.							

Appendix F List of Acronyms

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List of Acronyms

AADT	Annual Average Daily Traffic
AAQS	ambient air quality standards
AB	Assembly Bill
ac	acre or acres
ACM	asbestos-containing materials
ACS	American Community Survey
ACOE	United States Army Corps of Engineers
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
ADT	average daily traffic
Alt	Alternative
amsl	above mean sea level
AP	Office/Professional
APE	Area of Potential Effects
APN	Assessor’s Parcel Number
ARB	Air Resources Board
ASA	archaeological study area
asl	above sea level
BACMs	best available control measures
Basin	South Coast Air Basin
bgs	below ground surface
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
BSA	Biological Study Area
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Clean Air Act

CAAA	Clean Air Act Amendments
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CARB	California Air Resources Board
Cal-IPC	California Invasive Plant Council
Cal-OSHA	California Code of Regulations, and California Division of Occupational Safety and Health
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDPH	California Department of Public Health
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERFA	Community Environmental Response Facilitation Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CFSP	Construction Freeway Service Patrol
CH4	methane
CHP	California Highway Patrol
CHRIS	California Historical Resources Information System
CIA	Community Impact Assessment
CJUSD	Colton Joint Unified School District
CMP	SANBAG Congestion Management Program
CMSs	Changeable Message Signs
CNPS	California Native Plant Society
CO	carbon monoxide

CO_2	carbon dioxide
CO-CAT	Coastal Ocean Climate Action Team
County	County of San Bernardino
COZEEP	Construction Zone Enhanced Enforcement Program
CTP	California Transportation Plan
CWA	Clean Water Act
cy	cubic yards
dBA	A-weighted decibel
Diesel PM	diesel particulate matter
DP	Caltrans Director's Policy
DRIS	Draft Relocation Impact Statement
DSA	Disturbed Soil Area
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EB	eastbound
ECR	Environmental Commitments Record
EIS	Environmental Impact Statement
EO	Executive Order
EPA	United States Environmental Protection Agency
ES	edge of shoulder
EW	Existing Wall
ºF	Fahrenheit
FCAA	Federal Clean Air Act
FCVs	Fuel Cell Vehicles
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration

FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
ft	feet or foot
ft/sec^2	$feet/second^2$
FTA	Federal Transit Administration
FTIPs	Federal Transportation Improvement Programs
GC	General Commercial
GDR	Geotechnical Design Report
GHG	greenhouse gases
GIS	geographic information system
Guidelines	U.S. EPA's Section 404(b)(1) Guidelines
H	height
H_2S	hydrogen sulfide
HDM	Highway Design Manual
HEI	Health Effects Institute
HFCs	hydrofluorocarbons
HFC-23	trifluoromethane
HFC-134a	tetrafluoroethane
HFC-152a	difluoroethane
HMMP	Habitat Mitigation Monitoring Plan
HOV	high-occupancy vehicle
HPSR	Historic Property Survey Report
HUD	United States Department of Housing and Urban Development
I-10	Interstate 10
I-15	Interstate 15
I-215	Interstate 215

IGR	Intergovernmental Review
IL	Insertion Loss
IPCC	Intergovernmental Panel on Climate Change
IRIS	Integrated Risk Information System
IS	Initial Study
ISAs	Initial Site Assessments
ITS	Intelligent Transportation System
LBP	lead-based paint
lbs	pounds
lbs/day	pounds per day
LCRC	Caltrans Lane Closures Review Committee
LED	light-emitting diode
LEDPA	least environmentally damaging practicable alternative
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Instantaneous Noise Level
lbs/day	pounds per day
LOS	level of service
LUSTs	leaking underground storage tanks
MAR	Modified Access Request
MBTA	Migratory Bird Treaty Act
MCE	maximum credible earthquake
mf	mixed flow
MF Vol	mixed flow volumes
mg/kg	milligram per kilogram
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MI	Minimal Impacts

mi	mile or miles
MLD	Most Likely Descendant
MMT	Million Metric Tons
MND	Mitigation Negative Declaration
MPG	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MRMLS	MultI-Regional Multiple Listing Service
MS4s	municipal separate storm sewer systems
mph	miles per hour
MSATs	Mobile Source Air Toxics
MTBE	methyl tertiary buytl ether
N_2O	nitrous oxide
N/A	not applicable
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NADR	Noise Abatement Decision Report
NAHC	Native America Heritage Commission
NATA	National Air Toxics Assessment
NB	northbound
NCHRP	National Cooperative Highway Research Program
NESHAPS	National Emission Standard for Hazardous Air Pollutants
NEPA	National Environmental Policy Act
NES[MI]	Natural Environmental Study (Minimal Impacts)
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen oxide

NO_x	oxides of nitrogen
NOA	naturally occurring asbestos
NOAA	National Marine Fisheries Service
NOI	Notice of Intent
NOT	Notice of Termination
NO_X	nitrogen oxides
NP	Not Permitted
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRCS	Natural Resources Conservation Service
NSR	Noise Study Report
O_3	ozone
OCPs	organochlorine pesticides
OMB	Office of Management and Budget
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy
PA	Programmatic Agreement
PAC	Public Awareness Campaign
PA/ED	Project Approval/Environmental Document
Pb	lead
PBA	Peak Bedrock Acceleration
pc/mi/ln	passenger cars per mile per lane
PCBs	Polychlorinated Biphenyls
PCEs	Passenger Car Equivalents
PDT	project development team
PE	permanent easement

PFCs	perfluorocarbons
PGA	peak ground acceleration
pH	percentage of hydrogen
PID	Project Initiation Document
PL	property line
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PMP	Paleontological Mitigation Plan
POAQC	project of air quality concern
POM	polycyclic organic matter
Porter-Cologne	Porter-Cologne Water Quality Control Act
ppb	parts per billion
ppm	parts per million
PRC	Public Resources Code
Protocol	Caltrans Transportation Project-Level Carbon Monoxide Protocol
PS&E	Plans, Specifications and Estimates
Qof	Pleistocene alluvium
Qvof	Older Pleistocene alluvium
Qw	Holocene wash sediments
RAP	Relocation Assistance Program
RCRA	Resource Conservation and Recovery Act
RCTC	Riverside County Transportation Commission
RIP	Regional Improvement Program
ROGs	reactive organic gases
ROW	right-of-way
RSA	Resource Study Area

RTA	Riverside Transit Agency
RTP	Regional Transportation Plan
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SAN	Streambed Alteration Notification
SANBAG	San Bernardino Associated Governments
SARWQCB	Santa Ana Regional Water Quality Control Board
SB	southbound
SBs	sound barriers
SBAIC	San Bernardino Archaeological Information Center
SBCFD	San Bernardino County Fire Department
SBSD	San Bernardino County Sheriff's Department
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
sec	seconds
SER	Caltrans Standard Environmental Reference
SFR	Structure Foundation Report
SF_6	sulfur hexafluoride
sf	square feet or square foot
SHPO	State Historic Preservation Office
SIP	State Implementation Program
SO_2	sulfur dioxide
SO_x	oxides of sulfur
SR-60	State Route 60
SR-91	State Route 91

SR-210	State Route 210
SSP	Standard Special Provisions
STP	Surface Transportation Program
SVE	soil vapor extraction
SVP	Society of Vertebrate Paleontologists
SWDR	Storm Water Data Report
SWMP	Caltrans Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resource Control Board
TCEs	temporary construction easements
TCLP	Toxicity Characteristic Leaching Procedure
TCWG	Transportation Conformity Working Group
TDM	Transportation Demand Management
TDS	total dissolved solids
TIP	Transportation Improvement Program
TMDLs	Total Maximum Daily Loads
TMP	Traffic Management Plan
TPH	total petroleum hydrocarbons
TPHg	total petroleum hydrocarbons as gasoline
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, or Disposal Facility
TSM	Transportation Systems Management
TTM	Tentative Tract Map
UPRR	Union Pacific Railroad
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code

USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UV	ultraviolet
V	Vehicles
VA	Pettis Veteran's Administration
VC	Village Commercial
V/C	volume/capacity
VHT	vehicle hours traveled
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VOC	volatile organic compounds
Vol	volume
WATCH	Work Area Traffic Control Handbook
WB	westbound
WDRs	Waste Discharge Requirements
WPCP	Water Pollution Control Plan
WQAR	Water Quality Assessment Report
$\mu g/m^3$	micrograms per cubic meter

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Appendix G List of Technical Studies

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List of Technical Studies

The technical studies listed below were used in the preparation of this Initial Study/ Environmental Assessment (IS/EA).

Aerially Deposited Lead Investigation Report (May 2010)
Prepared by Stantec Consulting Corporation.

Air Quality Analysis (September 2013)
Prepared by LSA Associates, Inc.

Archaeological Survey Report (July 2011)
Prepared by LSA Associates, Inc.

Community Impact Assessment (November 2013)
Prepared by LSA Associates, Inc.

Draft Relocation Impact Statement (September 2013)
Prepared by LSA Associates, Inc.

Historic Property Survey Report (July 2011)
Prepared by LSA Associates, Inc.

Historical Resources Evaluation Report (July 2011)
Prepared by LSA Associates, Inc.

Initial Site Assessment (February 2010)
Prepared by Kleinfelder West, Inc.

Initial Site Assessment Modified Alternative 7 (November 2013)
Prepared by Kleinfelder West, Inc.

Jurisdictional Delineation Report (June 2011)
Prepared by LSA Associates, Inc.

Natural Environment Study (Minimal Impacts) (October 2013)
Prepared by LSA Associates, Inc.

Noise Abatement Decision Report (May 2012)
Prepared by LSA Associates, Inc.

Noise Study Report (February 2012)
Prepared by LSA Associates, Inc.

Paleontological Identification and Evaluation Report (August 2010)
Prepared by LSA Associates, Inc.

Paleontological Identification and Evaluation Report Addendum (July 2011)
Prepared by LSA Associates, Inc.

Reconstruction of the I-215 Bi-County High-Occupancy Vehicle (HOV) Lane Gap Closure Project Sound Barrier at the I-215 Southbound Off-Ramp Memorandum (November 2013)
Prepared by LSA Associates, Inc.

Revised Preliminary Geotechnical Report/Structures Design (March 2009)
Prepared by Kleinfelder West, Inc.

Revised Addendum to Structure Preliminary Geotechnical Report (June 2011)
Prepared by Kleinfelder West, Inc.

Revised Traffic Operations Analysis (December 2011)
Prepared by ITERIS

Roundabout Analyses (August 2013)
Prepared by ITERIS

Structure Preliminary Geotechnical Report (June 2012)
Prepared by Kleinfelder West, Inc.

Supplemental Noise Abatement Decision Report (October 2013)
Prepared by LSA Associates, Inc.

Supplemental Noise Study Report (September 2013)
Prepared by LSA Associates, Inc.

Traffic Volume Comparison (November 2013)
Prepared by AECOM

Visual Impact Assessment (November 2013)
Prepared by LSA Associates, Inc.

Water Quality Technical Study (October 2013)
Prepared by LSA Associates, Inc.