

State Route-14/Palmdale Boulevard (SR-138) Interchange Improvement Project

CITY OF PALMDALE, LOS ANGELES COUNTY, CALIFORNIA
DISTRICT 07-LA-14 (PM R59.11/R60.19); 07-LA-138 (PM R43.31/R43.68)
EA 29880/EFIS 0713000283

Initial Study with Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation

March 2020



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Submitted Pursuant to: (State) Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation
CEQA Lead Agency

City of Palmdale
California Transportation Commission (CTC)
Responsible Agencies

March 18, 2020
Date of Approval

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Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), the lead agency pursuant to the California Environmental Quality Act (CEQA) on this Project, proposes to reduce existing and expected future traffic congestion along the SR-14/SR-138 mainline and Palmdale Boulevard; to improve safety and operations along Palmdale Boulevard (SR-138); and to improve traffic circulation along northbound and southbound SR-14/SR-138.

Determination

Caltrans has prepared an Initial Study for this Project, and following public review, has determined 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 farmlands, mineral resources, federal wetlands and movement of native wildlife species, tribal cultural resources, utilities and service systems, historic buildings, flood hazard areas, flood risk to people or structures, inundation, land use and planning, mineral resources, population and housing, recreation, air traffic patterns, or airport related noise.
- The proposed Project would have less than significant effects to aesthetics, air quality, cultural resources, geology, paleontology, native American cultural resources and remains, transportation and traffic, public services, and noise.
- The proposed project would have a less than significant effect on biological resources, with the appropriate mitigation measures incorporated.



RONALD KOSINSKI
Deputy District Director
Division of Environmental Planning - District 7
California Department of Transportation



Date

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Chapter 1 Introduction

1.1 Introduction

The California Department of Transportation (Caltrans), the California Environmental Quality Act (CEQA) lead agency on this Project, and the City of Palmdale are proposing a Project along Palmdale Boulevard and the State Route (SR) 14/Palmdale Boulevard (SR-138) interchange to improve traffic circulation and reduce congestion along the SR-14/SR-138 off-ramps as well as along Palmdale Boulevard (SR-138) through the interchange.

The Project is a part of the larger SR-14 Transportation Concept Report (TCR) which proposes improvements along interregional freeway SR-14. Within the jurisdiction of Caltrans District 7, SR-14 spans a total distance of 77.01 miles, entirely within Los Angeles County. SR-14 is a major north-south state route that is used for international, interstate, interregional, and intraregional travel and shipping through an urbanized corridor. It also serves as a commuter route. The route is part of the California Freeway and Expressway System. SR-14 is part of the National Highway System (NHS), the Strategic Highway Corridor Network (STRAHNET), and the Interregional Road System (IRRS). According to the SR-14 TCR, the traffic volume is forecasted to increase on SR-14 in 2035 and will require additional lanes to achieve the acceptable concept level of service. Several capacity improvements are planned, programmed, and recommended for this corridor such as improvements to Avenue G, Avenue I, Avenue J, and Avenue K.

In 2008, the North Los Angeles County (NLACO) Sub-region was allocated a total of 200 million dollars in Measure R Equity Grant funds to help design and construct un-built segments of SR-138 within Los Angeles County. The Project is being funded by the Los Angeles County Metropolitan Transportation Authority (Metro) Measure R Funds for State Route 138 (SR-14) / Southbound Off-Ramp at Palmdale Boulevard (SR-138) and Interchange Improvement Project (Metro Project ID#MR330.08 and FTIP# LA0G896).

1.2 Project Location

State Route 14 (SR-14) is a north-south state highway. State Route 138 (SR-138) is a major east-west state highway that overlaps SR-14 from W Avenue D interchange to the Palmdale Boulevard interchange. SR-138 then heads easterly and overlaps along Palmdale Boulevard. The segment of the SR-14 mainline from Avenue R to the

Palmdale Boulevard Interchange is identified as “SR-14” within this report. The segment of the mainline from the Palmdale Boulevard Interchange to Avenue Q is identified as “SR-14/SR-138”, where the two routes overlap. Similarly, a portion of Palmdale Boulevard is under City jurisdiction and a portion is under Caltrans jurisdiction. Palmdale Boulevard from 5th Street West to the southbound off-ramp intersection is referred to as “Palmdale Boulevard”. The segment of Palmdale Boulevard from the southbound off-ramp intersection to Division Street is referred to as “Palmdale Boulevard (SR-138)”. Refer to Figure 1 Regional Location and Figure 2, Project Location.

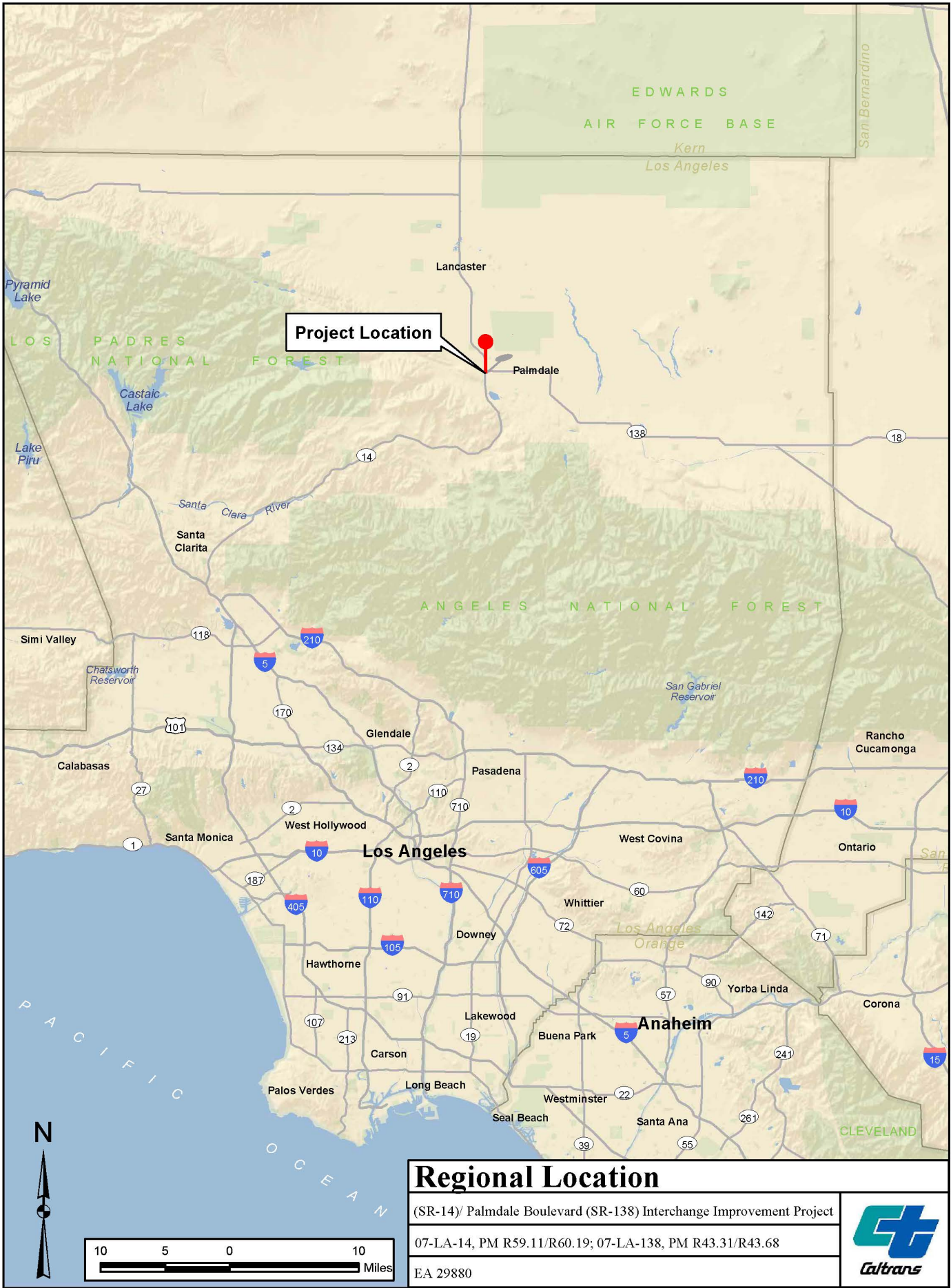


Figure 1

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Figure 2

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1.3 Purpose and Need

1.3.1 Purpose

The purpose of the Project is to improve traffic circulation and operations for all roadway users (motorists, pedestrians, and bicyclists), accommodate forecasted traffic growth, and reduce existing and expected future traffic congestion along the SR-14/SR-138 mainline, at the SR-14/Palmdale Boulevard (SR-138) interchange, and along Palmdale Boulevard. The intent of the Project is to improve the circulation and operations of the SR-14/SR-138 interchange's north and southbound ramps and to improve safety and operations along Palmdale Boulevard with improvements between 5th Street West and SR-14/SR-138.

1.3.2 Need

Due to the high volume of traffic traveling along Palmdale Boulevard (SR-138) and the limited green time allowed for the single left turn lane from the northbound and southbound SR-14/SR-138 off-ramps at the "Continuous Green T- Intersection" (aka Florida-T) on Palmdale Boulevard (SR-138), motorists experience an extended queue along the SR-14 off ramps. This extended queue backs onto the mainline during heavy congestion periods and creates a potential safety concern. Because of the extended queue along the southbound off-ramps, some motorists making a right turn at Palmdale Boulevard (SR-138) use the existing shoulder to bypass the queued vehicles waiting to make a left turn onto Palmdale Boulevard (SR-138).

With continued regional growth, congestion is expected to increase along the SR-14/SR-138 corridor and the surrounding roadway network. Motorists traveling through the interchange along Palmdale Boulevard also weave into the outer two through-lanes to avoid the merging traffic from the off-ramps. The Project would eliminate the existing merge condition from the ramps onto Palmdale Boulevard (SR-138).

Existing Roadway Deficiencies and Projected Demand

The effectiveness of traffic operations on a transportation facility is measured in terms of Level of Service (LOS). LOS A for a highway is generally described as a highway with free traffic flow with few restrictions on maneuverability or speed, whereas LOS F for a highway is described as a highway with heavy congested traffic conditions that occurs when demand exceeds capacity. LOS A for a signalized intersection is generally described as having a minimal delay per vehicle of 10 seconds or less; where as LOS F is described as having more than 80 seconds of delay per vehicle. The level of service descriptions are shown in Figure 3. Figure 3a depicts

LOS for multi-lane highways; Figure 3b depicts LOS for intersections with traffic signals; and Figure 3c depicts LOS for unsignalized intersections. The *City of Palmdale General Plan* strives to achieve a LOS D on major arterial highways. Caltrans aims to maintain a LOS at the transition between LOS C and LOS D, and LOS D is generally considered acceptable for facilities in urban areas.

The intersections in the Project area are currently operating at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. However, the following movements are operating at a deficient LOS E:

- Palmdale Boulevard and 5th Street West, Left Turn Movement
 - Eastbound, AM and PM peak hours
 - Westbound, AM and PM peak hours
- Palmdale Boulevard and 5th Street West, Thru Movement
 - Northbound, AM peak hour
- Palmdale Boulevard (SR-138) and Division Street, Left Turn Movement
 - Eastbound, AM and PM peak hours







In addition, the left turns on both the SR-14 northbound and southbound off-ramps are currently operating at LOS D in both peak hours.

Several of the turn lane storage lengths are deficient in the Project area, either because the turning movement queue exceeds the storage length or because the adjacent through traffic blocks access to the turn lane. The deficient turn lanes include:

- Palmdale Boulevard and 5th Street West
 - Eastbound left turn
 - Westbound left turn
- Palmdale Boulevard (SR-138) and SR-14/SR-138 Southbound Off-Ramps
 - Southbound right turn
- Palmdale Boulevard (SR-138) and Division Street
 - Eastbound left turn
 - Northbound left turn
 - Northbound right turn

LEVELS OF SERVICE

for Multi-Lane Highways

Level of Service	Flow Conditions	Operating Speed (mph)	Technical Descriptions
A		60	Highest level of service. Traffic flows freely with little or no restrictions on maneuverability. No delays
B		60	Traffic flows freely, but drivers have slightly less freedom to maneuver. No delays
C		60	Density becomes noticeable with ability to maneuver limited by other vehicles. Minimal delays
D		57	Speed and ability to maneuver is severely restricted by increasing density of vehicles. Minimal delays
E		55	Unstable traffic flow. Speeds vary greatly and are unpredictable. Minimal delays
F		<55	Traffic flow is unstable, with brief periods of movement followed by forced stops. Significant delays

Source: Caltrans 2018

Levels of Service Multi-Lane Highways

(SR-14)/ Palmdale Boulevard (SR-138) Interchange Improvement Project

07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/R43.68

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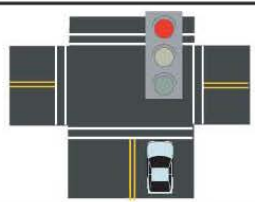
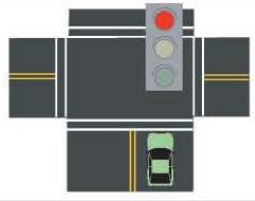
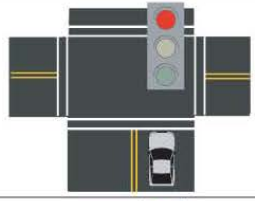
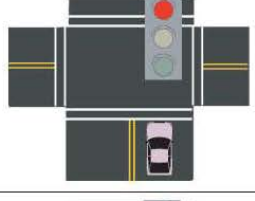
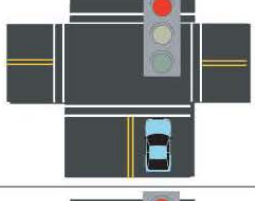
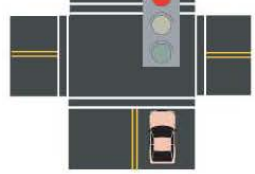


Figure 3a

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LEVELS OF SERVICE

for Intersections with Traffic Signals

Level of Service	Delay per Vehicle (seconds)
A	 ≤10
B	 11-20
C	 21-35
D	 36-55
E	 56-80
F	 >80

Factors Affecting LOS of Signalized Intersections

Traffic Signal Conditions:

- Signal Coordination
- Cycle Length
- Protected left turn
- Timing
- Pre-timed or traffic activated signal
- Etc.

Geometric Conditions:

- Left- and right-turn lanes
- Number of lanes
- Etc.

Traffic Conditions:

- Percent of truck traffic
- Number of pedestrians
- Etc.

Source: Caltrans 2018

Level of Service Signalized Intersections

(SR-14)/ Palmdale Boulevard (SR-138) Interchange Improvement Project
 07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/R43.68
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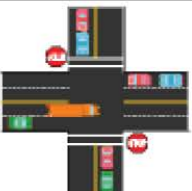

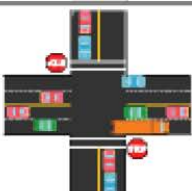
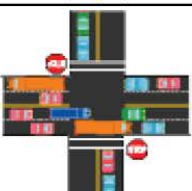


Figure 3b

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LEVELS OF SERVICE

for Unsignalized Intersections

Level of Service	Flow Conditions	Delay per Vehicle (seconds)	Technical Descriptions
A		<10	Highest quality of service. Free traffic flow with few restrictions on maneuverability or speed. Very short delay
B		10-15	Stable traffic flow. Speed becoming slightly restricted. Low restriction on maneuverability. No delays
C		15-25	Stable traffic flow, but less freedom to select speed, change lanes or pass. Minimal delays
D		25-35	Traffic flow becoming unstable. Speeds subject to sudden change. Passing is difficult. Minimal delays
E		35-50	Unstable traffic flow. Speeds change quickly and maneuverability is low. Significant delays
F		>50	Heavily congested traffic. Demand exceeds capacity and speeds vary greatly. Considerable delays

Source: Caltrans 2018

Level of Service Unsignalized Intersections

(SR-14)/ Palmdale Boulevard (SR-138) Interchange Improvement Project

07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/R43.68

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Figure 3c

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Tables 1.1 through 1.4 list the existing and forecasted peak hour intersection delays and LOS designations for the study area intersections. The delays were developed using SimTraffic, a microsimulation software which evaluates operations using the Highway Capacity Manual (HCM) protocol. As shown, for the existing geometry, all of the study intersections operate at a satisfactory LOS and would continue to do so in both the opening (2020) and design (2040) years.

**Table 1.1
Existing Level of Service Summary**

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	A	E	B	B	D	D	B	D	D	A	B
	Delay	70.2	13.2	6.6	70.5	13.5	11.6	53.0	53.7	11.6	54.3	47.6	3.0	19.8
PM	LOS	E	B	B	E	B	B	D	E	B	D	D	A	C
	Delay	55.2	19.8	13.2	72.6	18.4	14.2	54.9	56.9	12.0	52.2	50.9	5.7	28.3
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	B	N/A	A	N/A	N/A	N/A	N/A	D	N/A	A	B
	Delay	N/A	3.9	10.4	N/A	9.6	N/A	N/A	N/A	N/A	37.6	N/A	6.9	13.1
PM	LOS	N/A	A	C	N/A	B	N/A	N/A	N/A	N/A	D	N/A	B	C
	Delay	N/A	6.6	21.1	N/A	19.2	N/A	N/A	N/A	N/A	40.4	N/A	16.2	20.1
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	6.5	N/A	N/A	1.7	3.2	48.0	N/A	N/A	N/A	N/A	N/A	7.7
PM	LOS	N/A	B	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	B
	Delay	N/A	10.9	N/A	N/A	2.6	5.9	44.9	N/A	N/A	N/A	N/A	N/A	10.3
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	B	D	A	A	D	D	A	D	C	A	B
	Delay	58.0	14.0	11.1	49.7	9.7	5.8	46.9	36.0	6.1	39.2	33.1	6.5	17.6
PM	LOS	E	B	B	D	B	A	D	D	A	D	D	A	C
	Delay	62.4	18.7	16.1	48.6	12.2	8.1	52.5	39.1	6.5	43.0	37.1	7.6	21.0

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

**Table 1.2
Future (2020) Level of Service Summary**

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	A	E	B	B	D	D	B	D	E	A	C
	Delay	63.1	14.1	7.2	68.4	16.6	14.3	51.5	52.2	12.9	53.5	56.5	4.4	21.1
PM	LOS	E	C	B	E	C	B	D	E	B	D	D	A	C
	Delay	60.9	25.5	16.9	66.5	24.5	19.3	51.0	56.5	15.2	54.0	44.9	7.6	32.0
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	A	N/A	B	N/A	N/A	N/A	N/A	D	N/A	B	B
	Delay	N/A	3.3	3.7	N/A	12.3	N/A	N/A	N/A	N/A	44.7	N/A	11.4	14.8
PM	LOS	N/A	A	A	N/A	C	N/A	N/A	N/A	N/A	D	N/A	C	C
	Delay	N/A	4.6	4.7	N/A	25.2	N/A	N/A	N/A	N/A	49.9	N/A	28.6	23.8
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	2.7	N/A	N/A	1.8	2.7	43.3	N/A	N/A	N/A	N/A	N/A	5.6
PM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	6.4	N/A	N/A	3.1	3.5	43.9	N/A	N/A	N/A	N/A	N/A	7.9
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	A	A	E	B	A	E	D	A	D	D	A	B
	Delay	63.9	8.3	7.6	61.5	10.7	6.8	55.2	42.1	6.8	40.2	35.7	6.8	16.4
PM	LOS	E	B	B	E	B	B	D	D	A	D	D	A	C
		65.2	15.8	14.8	61.1	14.2	11.6	54.7	40.3	7.6	42.1	38.2	7.8	20.7

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

**Table 1.3
Future (2040) Level of Service Summary**

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	C	B	E	C	C	D	D	C	E	D	A	C
	Delay	61.7	21.0	16.1	75.1	31.6	28.3	50.6	52.3	26.5	55.1	52.1	4.6	30.5
PM	LOS	E	E	E	E	C	C	D	E	C	E	D	B	D
	Delay	79.4	77.3	69.4	77.0	29.1	23.9	54.7	56.2	28.3	62.3	45.8	10.8	54.4
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	A	N/A	C	N/A	N/A	N/A	N/A	F	N/A	F	D
	Delay	N/A	5.5	5.8	N/A	24.5	N/A	N/A	N/A	N/A	120.9	N/A	96.1	45.1
PM	LOS	N/A	A	A	N/A	D	N/A	N/A	N/A	N/A	F	N/A	F	D
	Delay	N/A	7.3	7.6	N/A	48.6	N/A	N/A	N/A	N/A	126.8	N/A	108.7	53.8
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	5.7	N/A	N/A	2.6	4.0	44.4	N/A	N/A	N/A	N/A	N/A	7.5
PM	LOS	N/A	B	N/A	N/A	A	A	E	N/A	N/A	N/A	N/A	N/A	B
	Delay	N/A	11.3	N/A	N/A	5.4	5.6	60.9	N/A	N/A	N/A	N/A	N/A	12.4
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	B	E	B	B	D	D	A	C	C	B	C
	Delay	66.5	15.3	14.5	58.7	16.6	12.9	54.7	39.3	9.3	30.4	29.0	11.4	21.5
PM	LOS	E	C	C	E	C	B	E	D	B	C	C	B	C
	Delay	66.5	31.3	31.5	58.7	21.9	18.1	63.1	43.0	11.2	33.6	30.6	15.6	31.7

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 Shading indicates a deficient LOS.
 Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

**Table 1.4
Summary of Existing and Future Level of Service**

Intersection	Existing Conditions (2015)				2020 No-Build				2040 No-Build			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Palmdale Boulevard and 5th St West	19.8	B	28.3	C	21.1	C	32	C	30.5	C	54.4	D
Palmdale Boulevard and SR-14 SB Ramps	13.1	B	20.1	C	14.8	B	23.8	C	45.1	D	53.8	D
Palmdale Boulevard and SR-14 NB Ramps	7.7	A	10.3	B	5.6	A	7.9	A	7.5	A	12.4	B
Palmdale Boulevard and Division St	17.6	B	21.0	C	16.4	B	20.7	C	21.5	C	31.7	C

sec=second; veh=vehicle

Collision data was provided by Caltrans for the three-year period from July 1, 2012 through June 30, 2015 for Palmdale Boulevard (SR-138) from the SR-14 interchange to Division Street and for the SR-14 ramps. During that period, there were 38 collisions on Palmdale Boulevard (SR-138) and 54 collisions on all of the ramps combined. Table 1.5 includes a summary of the collisions as well as the actual and average collision rates for similar facilities in California.

**Table 1.5
Traffic Accident Surveillance and
Analysis System Accident Summary**

Location	Total Collisions	Total Fatalities	Collision Rate [a]					
			Actual			Average		
			F	F+I	Total	F	F+I	Total
Multi-Lane Highway Segment								
Along SR-138 (EB & WB) Hwy from Jct 14/138 to Division St. (Post Mile 43.418 – 43.681)	38	0	0.000	2.08	4.38	0.010	0.60	1.45
Freeway Ramps								
SR-14 SB On-Ramp from WB SR-138 (Post Mile R59.864)	3	0	0.000	0.36	1.07	0.002	0.21	0.73
SR-14 NB On-Ramp from WB SR-138 (Post Mile R59.97)	13	0	0.000	0.96	1.57	0.003	0.11	0.32
SR-14 SB Off-Ramp to SR-138 (Post Mile R60.029)	27	0	0.000	0.58	2.62	0.003	0.35	1.01
SR-14 NB Off-Ramp to SR-138 (Post Mile R59.55)	4	0	0.000	0.00	0.66	0.001	0.25	0.76
SR-14 SB On-Ramp from EB SR-138 (Post Mile R59.621)	6	0	0.000	0.60	1.20	0.003	0.18	0.57
SR-14 NB On-Ramp from EB SR-138 (Post Mile R59.741)	1	0	0.000	0.37	0.37	0.004	0.21	0.72
Source: Caltrans District 7 TASAS Table B for 3-year period from July 1, 2012 through June 30, 2015.								
[a] For mainline sections, the collision rate is the number of collisions per million vehicle-miles. For ramps, the collision rate is the number of collisions per million vehicles. F=Fatalities, I=Injuries, SB=southbound								

There were 38 injury collisions and 57 property damage only collisions in the study area, but no fatalities on the ramps or Palmdale Boulevard (SR-138). The highest overall collision rates in the study area were observed on Palmdale Boulevard (SR-138) (4.38) and on the southbound off-ramp (2.62), both of which are significantly higher than the comparable statewide rates for similar facilities of 1.45 and 1.01. Sideswipe collisions were the most common (27 collisions), followed by collisions involving objects in or adjacent to the roadway (23) and rear end (20) collisions.

As seen from the data, one-third all collisions on Palmdale Boulevard (SR-138) involved at least one left-turning vehicle. The left turn problem could be the result of a number of factors, including lack of gaps in traffic, insufficient sight distance, or sideswipe/merging collisions due to the existing off-ramp intersection geometry on Palmdale Boulevard (SR-138).

The Project would also improve the ramp geometry of the northbound on-ramp for traffic headed west on Palmdale Boulevard (SR-138) to better prevent the possibility of single-vehicle collisions, which may help reduce the frequency of these collisions.

Chapter 2 Project Description

2.1 Project Alternatives

This section describes the Project alternatives: the No-Build Alternative and one Build Alternative.

2.1.1 Identification of a Preferred Alternative

The Project Development Team (PDT) evaluated the environmental impacts associated with the State Route-14/Palmdale Boulevard (SR-138) Interchange Improvement Project as outlined in this Initial Study (IS/MND) including the comment letters received during the public review period.

During the public review period, four comment letters were received on the IS/MND (refer to Appendix G). In making their selection of the Build Alternative as the Preferred Alternative, the PDT evaluated the ability of the Build Alternative to meet the Purpose and Need for the Project, as well as the extent of the environmental impacts that would result from implementation of the Build Alternative. The Build Alternative would satisfactorily achieve the purpose that was established for the Project. Based on the findings in this environmental document, all environmental impacts associated with the Build Alternative would be less than significant with the implementation of the avoidance, minimization, and mitigation measures (refer to Appendix A). The Build Alternative is also consistent with the 2019 FTIP, 2016-2040 RTP/SCS, and the City's General Plan.

2.1.2 The Build Alternative (Preferred Alternative)

Palmdale Boulevard is a major east-west arterial located within the City of Palmdale that traverses State Route 14/State Route 138 (SR-14/SR-138). It provides both local and regional access to the residential and business communities located on either side of the freeway. This Project proposes to reduce traffic congestion, enhance safety, and improve traffic circulation on SR-14 between Avenue R and Avenue Q and on Palmdale Boulevard / SR-138 between 5th Street West and Division Street. The proposed improvements consider current safety and operational needs and are compatible with common elements of the High Desert Corridor (HDC) project.

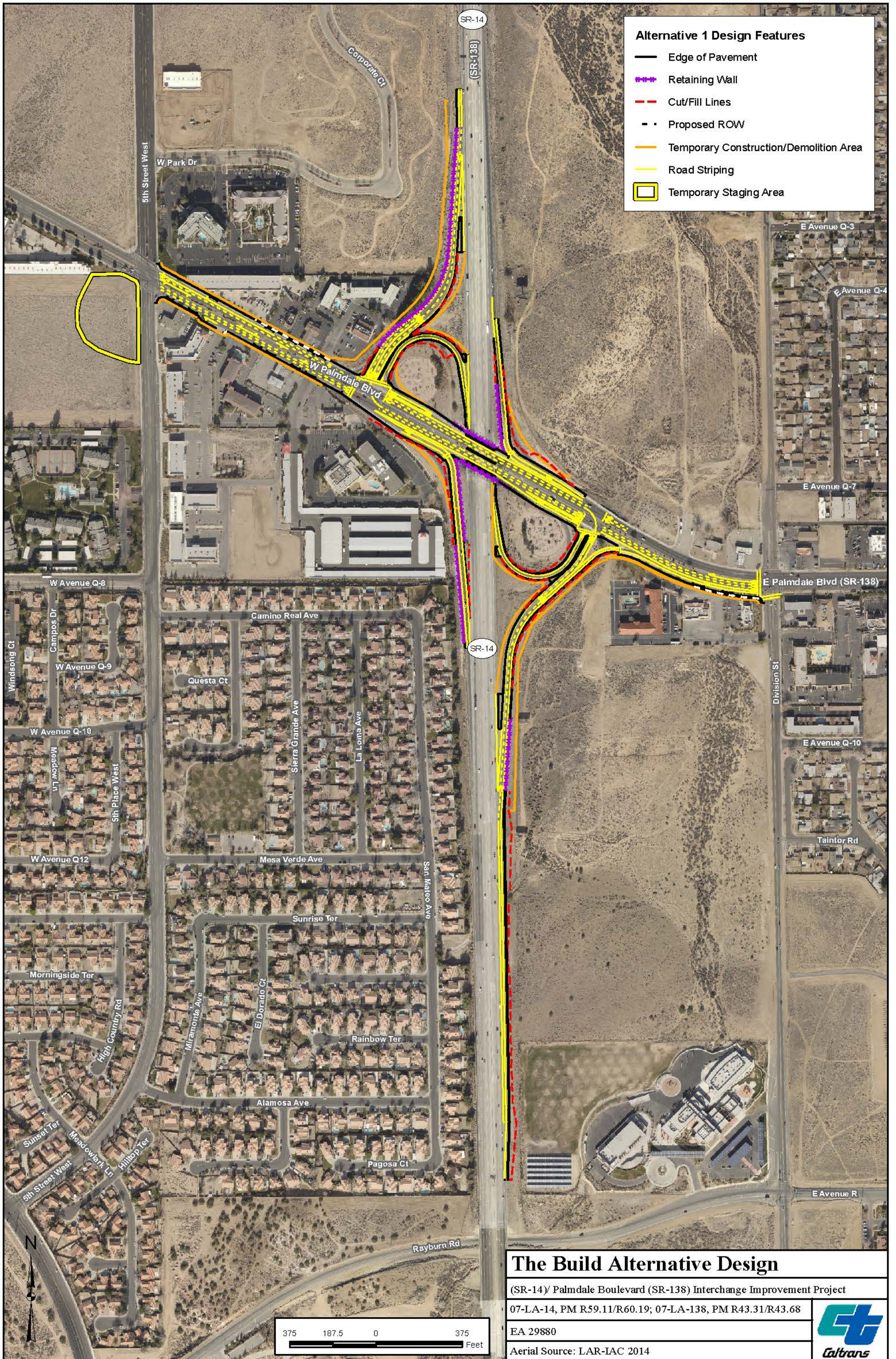
The segment of the State Route 14 mainline from Avenue R to the Palmdale Boulevard Interchange is identified as "SR-14" within this report. The segment of the mainline from the Palmdale Boulevard Interchange to Avenue Q is identified as "SR-14/SR-138", where the two routes overlap. Palmdale Boulevard from 5th Street West

to the southbound off-ramp intersection is referred to as “Palmdale Boulevard”. The segment of Palmdale Boulevard from the southbound off-ramp intersection to Division Street is referred to as “Palmdale Boulevard (SR-138)”.

Caltrans and the City of Palmdale intends to make improvements along Palmdale Boulevard (SR-138) and Palmdale Boulevard and to the SR-14/Palmdale Boulevard (SR-138) interchange to improve traffic circulation and to reduce congestion along the SR-14/SR-138 off-ramps as well as along Palmdale Boulevard through the interchange. The Build Alternative incorporates traffic signals at the off-ramp intersections. Palmdale Boulevard will also be widened to provide three westbound through lanes through the southbound ramp intersection with additional widening to 5th Street West to allow for the City’s standard eight-foot sidewalks and to provide a right-turn lane for eastbound traffic to turn onto Division Street.

The Build Alternative would improve traffic flow, reduce congestion, and potentially improve the safety of the entire SR-14/ Palmdale Boulevard interchange (refer to Figure 4, The Build Alternative Design). This will be accomplished through the addition of auxiliary lanes on SR-14, reconfiguration of the existing traffic signals to improve the ramp intersection capacity, and improvements on the ramps to address some of the existing geometric concerns. Specific Project improvements are proposed as follows:

- Widen the northbound SR-14 freeway mainline to include a new auxiliary lane
- Modify the two existing off-ramp intersections to eliminate the merge condition and allow for dual left turn lanes from the ramps onto Palmdale Boulevard
- Widen the southbound off-ramp at the Palmdale Boulevard Interchange to provide four lanes: two left turn lanes and two right turn lanes onto Palmdale Boulevard
- Widen the northbound off-ramp at the Palmdale Boulevard Interchange to provide three lanes: two left turn lanes and one right turn lane onto Palmdale Boulevard
- Modify Palmdale Boulevard to allow three westbound through lanes through the southbound ramp intersection (the third westbound lane becomes a right turn lane at 5th Street West)



Alternative 1 Design Features

- Edge of Pavement
- Retaining Wall
- - Cut/Fill Lines
- - Proposed ROW
- Temporary Construction/Demolition Area
- Road Striping
- Temporary Staging Area

The Build Alternative Design
 (SR-14) Palmdale Boulevard (SR-138) Interchange Improvement Project
 07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/R43.68
 EA 29880
 Aerial Source: LAR-IAC 2014




Figure 4

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- Provide a right-turn-only lane from eastbound Palmdale Boulevard to Division Street. Also, consider installing left turn permissive-protected phasing for northbound Division Street
- Provide exclusive right turn lanes on Palmdale Boulevard at each of the two loop on-ramps
- Modify Palmdale Boulevard to accommodate double left turn lanes from the off-ramps
- Modify the southbound off-ramp to accommodate the SR-14 widening from Avenue Q to Palmdale Boulevard which shall be coordinated with Caltrans
- Acquire partial right of way to accommodate the eastbound Palmdale Boulevard (SR-138) widening at Division Street and westbound Palmdale Boulevard widening at 5th Street West
- Construct six conventional retaining walls and two ground anchor tie in walls in the following locations (Table 2.1):
 - Two retaining walls would be located along the SR-14 Southbound (SB) slip off-ramp. One wall would have a maximum height of 1-foot (ft) while the other wall would have a maximum height of 10-feet
 - An existing wall along the SR-14 SB slip on-ramp would be partially demolished and reconstructed with a maximum height of 12-feet , and an additional retaining wall with a maximum height of 14-feet would be located on the inside edge of the same ramp
 - Two walls would be located under the SR-14 freeway on both sides of Palmdale Boulevard (SR-138) to accommodate the relocation of sidewalks along Palmdale Boulevard (SR-138). One wall would have a maximum height of 8 feet height while the other wall would have a maximum 10 ft height
 - One wall, with a maximum height of 8 feet would be located along the SR-14 Northbound (NB) on-ramp
 - One wall, with a maximum height of 1-ft would be located along the SR-14 NB slip off-ramp to support the ramp widening/auxiliary lane

**Table 2.1
Proposed Wall Types and Location**

Wall Type	Location	Height
New Retaining wall	SR-14 Southbound (SB) slip off-ramp.	1 ft
New Retaining wall	SR-14 Southbound (SB) slip off-ramp.	10 ft
Reconstruction of existing Sound wall	SR-14 SB slip on-ramp	12 ft
New Retaining wall	SR-14 SB slip on-ramp	14 ft
New Retaining wall	Under SR-14 and on both sides of Palmdale Boulevard (SR-138)	8 ft
New Retaining wall	Under SR-14 and on both sides of Palmdale Boulevard (SR-138)	10 ft
New Retaining wall	SR-14 Northbound (NB) on-ramp	8 ft
New Retaining wall	SR-14 NB slip off-ramp	1 ft

Temporary Project Construction Components

Construction of the Project is expected to occur over 17 months roughly between 2019-2021. Several temporary construction components are proposed for the Build Alternative. These include Temporary Construction Easements (TCE) and staging areas and operations. A temporary construction easement is required to accommodate impacts that are limited to the construction phase of the Project and may involve equipment staging and equipment maneuvering required to construct elements of the Project, such as retaining wall. Areas affected by the temporary construction impacts would be restored and usable when the improvements are completed.

Temporary Construction Easements

The Build Alternative would require 18 TCEs from three quadrants of the SR-14/ Palmdale Boulevard interchange, primarily along the north and south sides of Palmdale Boulevard and around the SR-14 ramps. It is anticipated that the City would coordinate with the property owner/tenants to maintain access during construction, thereby preventing any damage or loss of business goodwill.

Construction Vehicle Access and Staging

Construction vehicle access and staging of construction materials would occur within disturbed or developed areas inside the existing right-of-way or adjacent vacant land near the Project area. One potential area for staging of construction materials is at the southwest corner of the Palmdale Boulevard/ 5th Street West intersection. All construction vehicle access, materials staging and storage, and other construction activities would occur within the defined disturbance limits for the proposed Project.

Project Staging

The Project would likely be constructed in stages to minimize impacts to traffic during construction, and a Traffic Management Plan will be developed prior to Project construction. The likely main stages of construction are the following:

- Stage 1 – Construct the outside widening along both the northbound and southbound off-ramps while keeping existing traffic where it exists today. Shoulders may be reduced to provide the contractor with more room for construction activities. The additional lane on Palmdale Boulevard from the northbound off-ramp to Division Street along with any SR-14 widening in both directions would also be constructed during this stage.
- Stage 2 – Construct the inside widening along both the northbound and southbound off-ramps while shifting traffic into the new outside areas of the off-ramps constructed during Stage 1. Widening of the loop on-ramps would also be constructed during this stage. Short-term (up to few hours) night closures would likely be required so that the newly constructed inside and outside ramp areas can be merged together and complete the construction of the off and on-ramps.
- Stage 3 – Construct the new sidewalk and retaining walls beneath the existing Palmdale Boulevard (SR-138) undercrossing. The new retaining walls along the northbound and southbound diagonal on-ramps would also be constructed during this stage, including any related widenings.
- Stage 4 – Construct the widening of Palmdale Boulevard from the southbound ramp intersection to 5th Street West.
- Stage 5 – Final re-construction and overlay of Palmdale Boulevard (SR-138) including the final striping work for the entire Project area.

Any lane closures for SR-14, ramps or Palmdale Boulevard would be conducted in accordance with the traffic lane closure tables to be developed by Caltrans. Closures would be typically limited to a few hours each day with re-opening the following morning before peak commute hours. Lane closure tables will be subject to Caltrans approval and will be provided during the PS&E phase. For the final lift of asphalt concrete paving operations, the Contractor may close down an entire ramp for a few hours during off-peak hours (late night/early morning hours) but again will follow the lane closure tables.

Drainage Improvements

Drainage improvements are limited to extending existing over-side drains and culvert pipes along with construction of new dikes, curb and gutter, and drainage inlets to convey drainage run-off to new and existing ditches. Construction related Best Management Practices (BMPs) would be implemented.

2.1.3 No-Build Alternative

Under this alternative, no improvements would be implemented.

2.2 Alternatives Considered But Withdrawn

Several alternatives were considered for this improvement Project. Single-point urban interchange (SPUI) and diamond interchange alternatives were rejected during the initial Project development stages because they did not meet the Project's purpose and need, the required right-of-way would be difficult and/or costly to obtain, and/or the designs were otherwise cost prohibitive.

A Roundabout Alternative was also studied but withdrawn. Under the Roundabout Alternative Palmdale Boulevard was proposed to be widened to allow three westbound through lanes through the southbound ramp intersection with additional widening to 5th Street West to allow for the City's standard eight-foot sidewalks and to provide a right-turn lane for eastbound traffic to turn onto Division Street. The Roundabout Alternative was ultimately withdrawn because the traffic modeling projected the Roundabout Alternative traffic operations would fail in the design year 2040 as opposed to the No-Build Alternative.

In addition, at Caltrans' request, a Diverging Diamond Interchange (DDI) was evaluated in the Intersection Control Evaluation (ICE) Memorandum. However, because of the existing geometry of the ramps at the interchange, the construction of a DDI would require full reconstruction of the ramps and would result in significant impacts to additional properties and buildings. Therefore, the DDI alternative was also removed from consideration.

Transportation Systems Management and Transportation Demand Management Alternatives

Transportation Systems Management (TSM) and Transportation Demand Management (TDM) alternatives were identified for the Project. TSM improvements enhance the capacity of the existing transportation systems by implementing a wide array of operational improvements. Although transportation systems management

measures alone could not satisfy the purpose and need for the proposed Project, the following TSM measures have been incorporated into the Build Alternative for this Project: intersection and signal lighting, signal synchronization along Palmdale Boulevard, signal timing optimization, turn lanes, pavement striping, auxiliary lane improvement on freeway, and lane-change sections.

Transportation demand management focus on moving people through the study area more efficiently by using alternative means of transportation. TDM concepts evaluated for this Project included improvement of crosswalks visibility, implementation of transit vouchers, shuttle services, and/or bike-share. Sample TDM concepts that are proposed as part of the Build Alternative include improved sidewalks and crosswalks that allow for enhanced pedestrian movement (underneath the State Route 14 Bridge).

2.3 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications (PLACs) are required for Project construction are provided in Table 2.2.

**Table 2.2
Permits and Approvals for the Build Alternative (Preferred Alternative)**

Agency	PLAC	Status
CDFW	Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the <i>California Fish and Game Code</i> .	A jurisdictional delineation has been completed; Caltrans will schedule a pre-application field meeting and the 1602 Agreement will be finalized before construction.
Caltrans, WQCB	NPDES Construction General Permit	Prior to initiation of construction, the contractor may be required to obtain an individual NPDES permit or file permit registration documents for coverage under the NPDES Construction Permit.
Caltrans, WQCB	NPDES Caltrans Stormwater Permit (WQO 2012-0011-DWQ)	NPDES Caltrans Stormwater permit is underway. The permit may be required before construction.
Caltrans, WQCB	NPDES MS4 Permit (WQO 2013-0001-DWQ)	The permit may be required before construction, if exemption letter from Lahontan Region is not applicable. The need for the permit will be evaluated after approval of the IS/MND.
Caltrans, WQCB	Section 401 Certification pursuant to the Clean Water Act.	Section 401 certification will be required for impacts to the jurisdictional resources. The permit will be obtained before construction and after approval of the IS/MND.
Caltrans, City of Palmdale	Project Approval	Project Approval will occur after approval of the Project Report and IS/MND.
Caltrans, Lahontan RWQCB	Approval of the SUSMP	Approval of the SUSMP
City of Palmdale	Certification of right-of-way	Prior to initiation of construction, certification that all necessary right-of-way has been obtained will be required. This would include right-of-way being obtained in fee title and TCEs.
<p>Caltrans: California Department of Transportation; CDFW: California Department of Fish and Wildlife; IS/MND: Initial Study/Mitigated Negative Declaration; NPDES: National Pollutant Discharge Elimination System; RWQCB: Regional Water Quality Control Board; WQMP: Water Quality Management Plan; SUSMP: Standard Urban Stormwater Management Plan; TCE: Temporary Construction Easement.</p>		

Chapter 3 CEQA Environmental Checklist

Project title:	State Route-14/Palmdale Boulevard (SR-138) Interchange Improvement Project
Lead agency name and address:	Caltrans — District 7 100 S. Main Street, MS-16A Los Angeles, CA 90012
Contact person and telephone number:	Karl Price, 213-897-1839
Project location:	The Project is located along SR-14, generally between Avenue Q (on the north) and Rayburn Avenue (on the south), and along (SR-138) between 5th Street West (on the west) and Division Street (on the east), in the City of Palmdale, California
Project sponsor's name and address:	City of Palmdale 38300 Sierra Highway Palmdale, CA 93550
General Plan description:	Palmdale Trade and Commerce Spec Plan (SP-13), Community Commercial (CC), Public Facility-School (PF-S), Single Family Residential 3 (SFR-3)
Zoning:	The City of Palmdale zoned the properties adjoining SR-14/SR-138, north of Palmdale Boulevard and Palmdale Boulevard (SR-138) "SP" as part of the Palmdale Trade and Commerce plan. Properties adjoining to the south of Palmdale Boulevard and Palmdale Boulevard (SR-138) are zoned "C-3" for commercial use. South of this "C-3" commercial use, properties along the west side of the SR-14 mainline are zoned "R-1-7,000" for residential use, with the exception of the northwestern corner of SR-14 and Rayburn Avenue, which is zoned "C-3" for commercial use. Properties east of the SR-14 mainline (south of the "C-3" commercial use) are zoned "R-1-7,000" for residential use, except for the property at the northeastern corner of SR-14 and Rayburn Avenue, which is zoned "PF" for Public Facilities.
Description of Project:	The Project would improve traffic circulation and operations for all roadway users, accommodate forecasted traffic growth, and reduce existing and expected future traffic congestion of the entire SR-14/ Palmdale Boulevard interchange and Palmdale Boulevard. This would be accomplished by the addition of auxiliary lanes to the northbound SR-14, reconfiguration of the existing traffic signals to improve the ramp intersection

	<p>capacity, and improvements on the ramps to address some of the existing geometric concerns. One Build Alternative is being proposed as part of the Project.</p> <p>The Project would widen the SR-14 off-ramps thus improving the operation of the interchange and alter the signal operations at both ramp intersections on Palmdale Boulevard. An exclusive eastbound right turn lane would be added at Division Street as a continuous lane from the northbound off-ramp right turn lane.</p>
<p>Surrounding land uses and setting:</p>	<p>Palmdale Boulevard is adjoined to the north and south by commercial/retail properties. Undeveloped land adjoins to the north of Palmdale Boulevard (SR-138) with the exception of two vacant structures located at the northwest corner of Palmdale Boulevard (SR-138) and Division Street. Palmdale Boulevard (SR-138) is adjoined to the east (beyond Division Street) and south by commercial properties. Undeveloped land adjoins the SR-14/SR-138 mainline to the east and west, with the exception of commercial properties where the southbound off-ramp intersects Palmdale Boulevard. Residential properties and undeveloped land adjoin the SR-14 mainline to the west and east, respectively. However, the Palmdale Learning Center adjoins to the east, at the northeast corner of SR-14 and Rayburn Avenue.</p>
<p>Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements):</p>	<ul style="list-style-type: none"> • CDFW - Section 1602 Agreement for Streambed Alteration pursuant to Section 1600 of the California Fish and Game Code • State Water Resources Control Board- NPDES Construction General Permit , NPDES Caltrans Stormwater permit (WQO 2012-0011-DWQ) • RWQCB (Lahontan Region) - Section 401 Certification pursuant to the Clean Water Act, NPDES MS4 Permit (WQO 2013-0001-DWQ) • City of Palmdale - Project Approval, Certification of right-of-way • Approval of the SUSMP • Caltrans - Project Report Approval, CEQA-compliance document

CEQA Environmental Checklist

LA-7-SR-14
07-LA-138

PM 59.8/R61.4
PM R43.31/R43.68

E.A. 29880
E.A. 29880

This checklist identifies environmental factors that might be affected by the proposed Project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the proposed Project and have been considered prior to any significance determinations documented below.

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3.1 Aesthetics

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Aesthetics at the proposed Project site were evaluated with regard to the City of Palmdale General Plan (City of Palmdale 1993), Caltrans’ Scenic Highway System (California Department of Transportation 2010) designations, previously published information regarding the visual character of the proposed Project site, including light and glare, site reconnaissance, and currently operative conceptual elevations and site plans. The terminology used in the assessment of the visual environment includes several key terms such as viewshed, viewer groups, and visual resources. The viewshed is defined as all surface area that can be observed from one location. Viewer groups are individuals that have a view of the viewshed or are affected by the viewshed. Visual resources are unique features that define and/or contribute to the visual environment.

Changes to the existing viewshed’s quality and/or character may affect viewer groups. Identification of the viewers and the aspects of the visual environment to which they are likely to respond are necessary to understand and predict viewer response to the proposed Project. The response to the visual environment determines the viewer exposure and is based on the viewer groups; the viewer groups’ sensitivity to the visual elements; and the duration of their view.

The proposed Project is located on the floor of the Antelope Valley. The SR-14/Palmdale Boulevard (SR-138) viewshed is relatively flat and semi-urban in nature due to the presence

of large undeveloped parcels in two quadrants of the intersection. The visual character of the proposed Project study area is typical for interchanges in semi-urban areas, in addition to the undeveloped parcels, a gas station and roadside convenience commercial enterprises are visible, intermixed with ornamental landscaping and vegetation, street lights, and existing roadway and freeway infrastructure. No major natural features or manmade landmarks are present. No scenic vistas or scenic highways are located within the viewshed. Neither Palmdale Boulevard (SR-138) nor SR-14 are designated as scenic roadways on the City of Palmdale General Plan within the proposed Project boundaries. The dominant feature in the viewshed includes the SR-14 interchange bridge overpassing Palmdale Boulevard (SR-138). Middle ground is composed of vacant parcels, commercial development, intermixed with desert ornamental vegetation. Background views include Tehachapi Mountains on the west and San Gabriel Mountains on the east.

The primary viewer groups along Palmdale Boulevard (SR-138) are motorists, pedestrian/bikers, residents and commercial, office employees, and customers. The sensitivity of the viewers groups depends on the duration of exposure to changes.

Environmental Consequences

Checklist Questions a, b, d

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?**
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

The Build Alternative (Preferred Alternative)

No Impact. The proposed Project viewshed includes the areas likely to be affected by the visual changes as a result of the Project. Because of the flat topography, the views of the proposed Project are mostly limited to those uses along the proposed Project alignment and by motorists on the roadway. There are no distance views of the roadway that would be affected. Site photos, which provide representative ground level views, are shown on Figure 5. Additionally, Figure 2 provides an aerial photograph of the Project area.



Palmdale Blvd (SR-138) looking west.



West of the Interchange, Palmdale Blvd looking west.

Representative Site Photos

SR-14/Palmdale Boulevard (SR-138) Interchange Improvement Project

07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/43.68

EA 29880



Figure 5

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There are no major natural features or manmade landmarks are present, and no scenic vistas or scenic highways are located within the viewshed. In addition, neither Palmdale Boulevard (SR-138) nor SR-14 are designated as scenic roadways on the state scenic highway list or the City of Palmdale General Plan within the proposed Project boundaries. Thus, the Build alternative would not have a substantial adverse effect on a scenic vista or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Lighting would be comparable to the existing lighting; therefore, the Build Alternative would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. Therefore, no impacts would occur.

No-Build Alternative

No Impact. The No-Build Alternative would not impact visual resources. The views from and of the proposed Project site would remain the same as the existing condition. The No-Build Alternative would not incorporate any of the visual amenities (i.e., enhanced landscaping, entry signage, or public art elements) proposed by the proposed Project. Thus, the No-Build alternative would not have a substantial adverse effect on a scenic vista or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. The No-Build Alternative would not create a new source of substantial light or glare. Therefore, no impacts would occur.

Checklist Question c

Would the Project:

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The SR-14/ Palmdale Boulevard viewshed is not considered unique because it consists of a semi-urban environment that lacks a particular character and quality. The quality of the viewshed is considered low. The Build Alternative would realign the existing ramps at the interchange and construct new sidewalks along Palmdale Boulevard (SR-138). No new buildings would be developed along the boundary of the site nor would existing buildings be demolished.

The Build Alternative proposes 8 new 6- to 14-foot high retaining walls to be located along SR-14 southbound off ramp, along Palmdale Boulevard (SR-138) under the SR-14/Palmdale

Boulevard Bridge Interchange (with one on each side of the roadway), and along SR-14 northbound on ramp. The retaining walls would not obstruct views currently available to drivers or pedestrians. One of these walls, a 12 foot wall located along the SR-14 southbound slip on ramp would be constructed to replace an existing retaining and soundwall. This wall currently shields residential properties, and during the Project construction the soundwall would have to be demolished to allow for the realignment of the ramp. After Project construction, the soundwall would be rebuilt in place at the same height as an existing wall. Soundwall treatments will be replicated to match what is on the existing soundwalls. Impacts associated with the introduction of new retaining walls would be less than significant because these locations do not currently have views that would be obscured. Aesthetic treatment on the retaining walls, such as use of stamped concrete, and inclusion of landscape boulders and stone veneer to further accent the interchange planting would help beautify the pedestrian sidewalk zone.

The SR-14 Interchange landscape would be designed to enhance the entry gateway to the City of Palmdale. The landscaping would include large canopy trees, flowering trees for color, large to small shrub plantings to help direct views and screen freeway edges, and groundcover to soften the road edge and ground plane. The plantings would consist of climate appropriate plant species to reduce the use of water and to stay consistent with the high desert environmental and existing corridor setting. Drought tolerant plant palette and using gravel or mulch as ground cover would be substituted where appropriate. The existing landscape, such as trees may be utilized in the landscape improvement plan. Other elements in the landscape design will include gateway entry signs at the freeway off ramps outside the clear recovery zone.

After construction of the Build Alternative the overall visual experience, and the visual changes of the Project area are anticipated to be beneficial. Minimization Measure AE-1 provides that the Project complies with adopted regional plant protection measures, including City of Palmdale Native Desert Vegetation Ordinance. This ordinance is further discussed under Biological Resources. Minimization Measure AE-2 regarding Public Art would beautify the existing interchange and is also proposed herein to provide further enhancements to the Project. Implementation of the Build Alternative would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts would be less than significant. In addition, incorporation of Minimization Measures AES-1 and AES-2 would further reduce potential impacts related to visual character.

No-Build Alternative

No Impact. The No-Build Alternative would not impact visual resources. The views from and of the proposed Project site would remain the same as the existing condition. The No-Build Alternative would not incorporate any of the visual amenities (i.e., enhanced landscaping, entry signage, or public art elements) proposed by the Project. Thus, the No-Build alternative would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, no impacts would occur.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measures

The following minimization measures ensure the Project’s compliance with regulations and programs that would be applicable to the Project:

- AE-1** During the Plans, Specifications, and Estimates (PS&E) phase of the Project, a Landscape Architect shall be secured by the City of Palmdale and final landscaping plans shall be prepared in compliance with the City of Palmdale Native Desert Vegetation Ordinance. The Plant Palette shall be approved by the City of Palmdale and Caltrans prior to Project construction.

- AE-2** Prior to the approval of the final design, a Public Art Beautification Element for the Project will be approved by the City of Palmdale and Caltrans Landscape Office.

3.2 Agriculture and Forest Resources

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
AGRICULTURE AND FOREST RESOURCES: 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The proposed Project study area is built out and paved and is not in agricultural production. According to the California Department of Conservation Division of Land Resource Protection Farmland Mapping and Monitoring Program’s 2010 Los Angeles County Important Farmland Map, the study area is classified as “Urban and Built-Up Land “ and Other Land”. No agricultural or forestry resources exist on the Project site – refer to Figure 6.

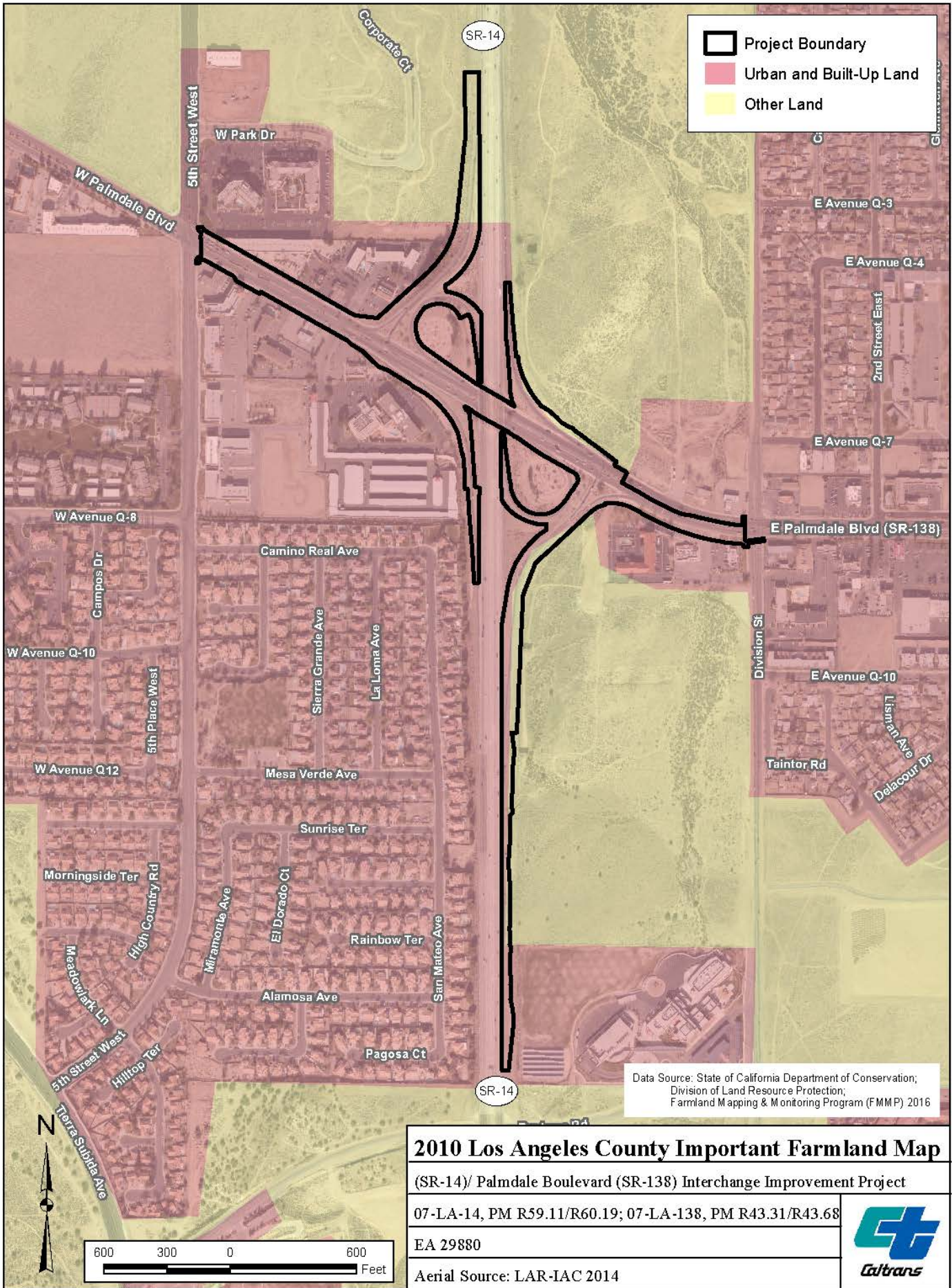


Figure 6

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Environmental Consequences

Checklist Questions a, b, c, d, e

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?**
- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The Build Alternative would not directly or indirectly impact Important Farmland, Williamson Act contract lands, or forest resources because these resources are not present in the Project study area. There are no agricultural resources in the proposed Project limits; therefore, no agricultural and forest resources would be impacted by the Build Alternative. There are no other changes anticipated to agricultural or forestry resources.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur. No agricultural or forestry resources would be impacted.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are necessary.

3.3 Air Quality

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment

The proposed Project site lies within the Mojave Desert Air Basin (MDAB) portion of the Antelope Valley Air Quality Management District (AVAQMD), which includes the desert portions of Los Angeles and San Bernardino Counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. Air quality in the MDAB is affected primarily by pollutants from other air basins and dust raised by construction, travel on unpaved roads, and travel on paved roads with silty debris. MDAB ranges from 1,000 to 4,000 feet above Mean Sea Level (msl). The topography of the MDAB includes mountain ranges interspersed with long broad valleys that often contain dry lakes. Air masses are pushed onshore in southern California by differential heating and are channeled through the MDAB. The MDAB is separated from the southern California coastal and central California Valley regions by mountains. The Antelope Valley is bordered to the northwest by the Tehachapi Mountains, separated from the Sierra Nevada Mountains to the north by the Tehachapi Pass, and bordered to the south by the San Gabriel Mountains.

Climate and Meteorology

The climate around the Project site, as with all of southern California, is controlled largely by the strength and position of a subtropical high pressure system that tends to form over the Pacific Ocean. The climate is characterized by moderate temperatures and comfortable humidity.

During the summer, a Pacific subtropical high pressure system that tends to form off the coast inhibits cloud formation and encourages daytime solar heating in the MDAB. Desert moisture primarily arrives from infrequent warm, moist, and unstable air masses from the south. An uplifting of wind masses occurs where warm moist air from Pacific Ocean storms is lifted upward by the San Gabriel Mountains and Sierra Pelona Mountains. This uplifting creates heavier precipitation in the Los Angeles Basin, and less precipitation with greater temperature variation throughout the year in the MDAB.

According to the 2017 data from Western Regional Climate Center's website, the prevailing winds in the Project study area, as measured at Palmdale Airport, are from the west and southwest with an annual average wind speed of 10.1 miles per hour. The average annual maximum temperature is 77.2 degrees Fahrenheit (°F) with a range from 58.5°F in January to 97.6 °F in July. The average annual minimum temperature is 47.2°F with a range from 32.4°F in January to 65.3°F in July. According to the Western Regional Climate Center's Period of Record Monthly Climate Summary, average annual precipitation (i.e., all rain and no snow) is 7.61 inches.

Attainment Status

Regional air quality is defined by whether the area has attained or not attained State and federal standards, as determined by monitoring. Areas that are in nonattainment are required to prepare plans and implement measures that will bring the region into attainment. When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as "maintenance", and there must be a plan and measures established that will keep the region in attainment for the following ten years. Table 3.1. below lists the current attainment designations for the MDAB.

The USEPA designates an area as "Unclassified" if, based on available information, it cannot be classified as either meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. For the California Air Resources Board (ARB), an "Unclassified" designation indicates that the air quality data for the area are incomplete and do not support a designation of attainment or nonattainment. As noted in Table 3.1, many of

the criteria pollutants have been designated as Unclassified: PM10, PM2.5, SO₂, lead, Particulate Sulfate, Hydrogen Sulfide, and visibility reducing particles.

Table 3.1. also shows that the USEPA has designated the AVAQMD portion of MDAB as being in Severe-15 Nonattainment for ambient O₃ concentrations. Pursuant to the approved 2008 Federal Ozone Attainment Plan and given the Severe-15 Nonattainment designation, the AVAQMD has 15 years from the 2004 plan approval (i.e., year 2019) to achieve attainment. To be designated as an Attainment area by the State, the AVAQMD portion of the MDAB will need to achieve both the 1-hour and 8-hour O₃ standards.

In 2007, the USEPA revoked the annual PM10 standard as research had indicated that there were no considerable health effects associated with long-term exposure to PM10. With this change, the basin is technically in attainment of the federal PM10 standards, although the re-designation process has not yet begun. The USEPA has designated the AVAQMD portion of the MDAB as being an Unclassified area for PM10. The State has designated the AVAQMD portion of the MDAB as being in nonattainment for the State PM10 standard.

**Table 3.1
State and Federal Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Ozone (O ₃)	1 hour 8 hours	0.09 ppm ³ 0.070 ppm	--- ⁴ 0.070 ppm (4 th 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 (NOx) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Federal: No Standard (O ₃ 1 hour) Nonattainment ; Severe-15 (O ₃ 8 hours) State: Nonattainment

**Table 3.1
State And Federal Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
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. Colorless, odorless.	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: Unclassified/ Attainment State: Attainment
Respirable Particulate Matter (PM ₁₀) ⁵	24 hours Annual	50 µg/m ³ ⁶ 20 µg/m ³	150 µg/m ³ (expected number of days above standard < or equal to 1) --- ⁵	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 toxic & other aerosol and solid compounds are part of PM10.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Federal: Unclassified State: Nonattainment
Fine Particulate Matter (PM _{2.5}) ⁵	24 hours Annual 24 hours (conformity process ⁷) Secondary Standard (annual; also for conformity process ⁵)	--- 12 µg/m ³ --- ---	35 µg/m ³ 12.0 µg/m ³ 65 µg/m ³ 15 µg/m ³ (98 th 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 PM2.5 size range. Many toxic & other aerosol and solid compounds are part of PM2.5.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Federal: Unclassified/ Attainment State: Unclassified
Nitrogen Dioxide (NO ₂)	1 hour Annual	0.18 ppm 0.030 ppm	0.100 ppm ⁸ 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the “NOx” group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Federal: Unclassified/ Attainment State: Attainment

**Table 3.1
State And Federal Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
Sulfur Dioxide (SO ₂)	1 hour	0.25 ppm	0.075 ppm ⁹ (99 th percentile over 3 years)	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: Unclassified State: Attainment
	3 hours	---	0.5 ppm ¹⁰			
	24 hours	0.04 ppm	0.14 ppm (for certain areas)			
	Annual	---	0.030 ppm (for certain areas)			
Lead (Pb) ¹¹	Monthly	1.5 µg/m ³	---	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 older gasoline use may exist in soils along major roads.	Federal: Unclassified State: Attainment
	Calendar Quarter	---	1.5 µg/m ³ (for certain areas)			
	Rolling 3-month average	---	0.15 µg/m ³ ¹²			
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: N/A State: Unclassified
Hydrogen Sulfide (H ₂ S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	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: N/A State: Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other	See particulate matter above. May be related more to aerosols than to solid particles.	Federal: N/A State: Unclassified

**Table 3.1
State And Federal Criteria Air Pollutant Standards, Effects, and Sources**

Pollutant	Averaging Time	State ¹ Standard	Federal ² Standard	Principal Health and Atmospheric Effects	Typical Sources	Project Area Attainment Status
				"Class I" areas. However, some issues and measurement methods are similar.		
Vinyl Chloride ¹¹	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: N/A State: Unclassified

Notes: ppm = parts per million; µg/m³ = micrograms per cubic meter; ppb = parts per billion (thousand million)

- 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.
- ppm = parts per million
- Prior to 6/2005, the 1-hour ozone 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 S.F. Bay Area.
- Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³. 24-hr. PM_{2.5} NAAQS tightened October 2006; was 65 µg/m³. Annual PM_{2.5} NAAQS tightened from 15 µg/m³ to 12 µg/m³ December 2012 and secondary annual standard set at 15 µg/m³.
- µg/m³ = micrograms per cubic meter
- The 65 µg/m³ PM_{2.5} (24-hr) NAAQS was not revoked when the 35 µg/m³ NAAQS was promulgated in 2006. The 15 µg/m³ annual PM_{2.5} standard was not revoked when the 12 µg/m³ 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 (7/20/2013). 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 an 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.
- Final 1-hour NO₂ NAAQS published in the *Federal Register* on 2/9/2010, effective 3/9/2010. 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 re-designation to nonattainment in some areas after 2016.
- EPA finalized a 1-hour SO₂ standard of 75 ppb (parts per billion [thousand million]) in June 2010. Nonattainment areas have not yet been designated as of 9/2012.
- Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
- 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 PM₁₀ and, in larger proportion, PM_{2.5}. Both the ARB and U.S. 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 adverse 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.
- Lead NAAQS are not considered in Transportation Conformity analysis.

Greenhouse Gases and Climate Change:

Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Source: Caltrans 2015a, CARB 2015, USEPA 2016

Air Quality Attainment and State Implementation Plans

The AVAQMD's current air quality planning documentation, pursuant to SIP and California Clean Air Act (CCAA) requirements applicable at the Project site, includes the following separate documents: the *AVAQMD 2004 Ozone Attainment Plan (State and Federal)*; the

AVAQMD List and Implementation Schedule for District Measures to Reduce PM Pursuant to Health & Safety Code §39614(d); the 8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis; the 2014 8-Hour Reasonably Available Control Technology RACT State Implementation Plan (SIP) Analysis – Supplemental Analysis; and the AVAQMD Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-attainment Area). The AVAQMD adopted the 2004 Ozone Plan in response to the designation of the western portions of the MDAB, including the Antelope Valley, as in nonattainment areas for the ozone NAAQS and California Ambient Air Quality Standards (CAAQS) and in accordance with the FCAA requirement to prepare plans demonstrating attainment. The overall control strategy for the 2004 Ozone Plan is to implement all federal Reasonable Available Control Technology (RACT) rules to reduce ozone precursors in the Antelope Valley. The Antelope Valley has not yet demonstrated attainment status for ozone, largely due to the transport of pollutants from the Los Angeles Basin and San Joaquin Valley.

Sensitive Receptors

According to the 2011 *Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines*, residences, schools, daycare centers, playgrounds and medical facilities are considered sensitive receptor land uses. Sensitive receptors that would be exposed to localized pollutant impacts include the following:

- Single-family homes located adjacent to the west side of SR-14 between Rayburn Road and Palmdale Boulevard. Noise wall separates the homes from the freeway.
- The Palmdale Hotel adjacent to the southbound on-ramp from Palmdale Boulevard to SR-14 (southwest interchange quadrant).
- The EZ-8 Motel adjacent to the south side of Palmdale Boulevard east of 5th Street West.
- The Motel 6 adjacent to the SR-14/SR-138 southbound off-ramp (northwest interchange quadrant).
- The Red Roof Inn adjacent to the SR-14 northbound off-ramp (southeast interchange quadrant).

Valley Fever

As defined by the Los Angeles County Department of Public Health (LACDPH), San Joaquin Fever (also known as Valley Fever; formally known as *Coccidioidomycosis*) is the common name for a fungal disease caused by inhalation of *Coccidioides immitis* spores that are carried in dust. According to the California Department of Health Services (CDHS), it is

found in parts of the southwestern United States, Mexico, and South and Central America, where soil and climactic conditions are conducive to the presence of the Valley Fever fungus.

According to the California Department of Public Health (CDPH), the fungus can become airborne when soil that contains *C. immitis* spores is disturbed, either by natural or man-made means, including wind, natural disaster (earthquakes, fires, landslides), farming, and grading. Valley Fever is diagnosed by an antibody blood test or culture and is treatable with a variety of oral and injectable anti-fungal agents. The majority of people (approximately 60 percent) exposed to Valley Fever spores develop no symptoms. Individuals who are sickened by the spores develop a mild respiratory illness with flu-like symptoms that can last about a month. A small proportion of infected individuals develop more severe symptoms that spread outside the lungs to the bone, brain, and/or skin; this is known as “disseminated Valley Fever”.

According to the CDHS, at highest risk for exposure to Valley Fever are farmers, construction workers, military personnel, archaeologists, and others who are likely to engage in activities that actively disturb soils in areas where Valley Fever may be present. The LACDPH states that persons at the highest risk of developing disseminated Valley Fever include the very young (under 1 years old); adults over 60 years; immunocompromised individuals; people with diabetes; women in the third trimester of pregnancy; and certain ethnic groups, including African-Americans and Filipinos. Generally, once an individual contracts Valley Fever, this individual will likely gain immunity to further Valley Fever contraction.

The LACDPH maintains an inventory of reported cases of notifiable diseases in Los Angeles County as a whole. From 2008 to 2013, reported cases of Valley Fever averaged 4.4 percent of all notifiable diseases reported within the County. The LACDPH emphasizes dust control in endemic areas as the primary means of prevention.

Environmental Consequences

Checklist Question a

Would the Project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. As noted above, the proposed Project is located in the MDAB and is within the jurisdiction of the AVAQMD and the California Air Resources Board (CARB). The AVAQMD is the primary agency responsible for writing the Air Quality Management Plan (AQMP) in cooperation with Southern California Association of

Governments (SCAG), local governments, and the private sector. The AQMP provides the blueprint for meeting state and federal ambient air quality standards. The Project would have no impact on traffic volumes and would generate a less than significant amount of pollutants during construction due to the relatively short duration of Project construction. The proposed Project is included in SCAG’s 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2019 Federal Transportation Improvement Plan (FTIP) both of which were found to be conforming. In the RTP/SCS, the Project is one of a group of arterial projects and is listed on Page 139 in the Financially-Constrained RTP Projects section of the RTP/SCS Project List as shown in the Table 3.2 below:

**Table 3.2
Regional Transportation Plan 2016–2040 Listing**

System	Lead Agency	RTP ID	Route #	Route Name	From	Description	Completion Year	Project Cost (\$1,000's)
Local Highway	Various Agencies	1AL04	0	Arterial Improvements	Countywide	Regional surface transportation improvements, including goods movement grade crossings	2021	\$212,900

The 2016-2040 RTP/SCS was adopted by SCAG on April 7, 2016, and the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) made a conformity determination on June 1, 2016.

Amendment #1 to the 2016–2040 RTP/SCS was approved by SCAG on April 6, 2017 and was approved by FHWA and FTA on May 12, 2017 (SCAG 2017a). RTP/SCS Amendment #2 was adopted by SCAG on July 6, 2017 and approved by FHWA on August 1, 2017. The proposed project was not addressed in Amendment #1 or Amendment #2 to the RTP/SCS. RTP/SCS Amendment #3 was adopted by SCAG on September 6, 2018 and was approved by FHWA on December 17, 2018. In Amendment #3, the project’s listing was modified to change the project completion date from 2020 to 2021.

The Project is listed on pages 3 and 4 of the Los Angeles County State Highway Project Listings, which are included in the 2019 FTIP, as amended. The Project’s FTIP listing is summarized in Table 3.3 below:

**Table 3.3
Federal Transportation Improvement Plan 2019 Listing**

Project ID	County	Air Basin	RTP ID	Program
LA0G896	Los Angeles	MDAB	1AL04	CAX62
<p>Description: Widen off-ramps to 3 lanes: 2 left, 1 right onto Palmdale Boulevard; Widen NB SR-14 for auxiliary lane; modify NB loop on-ramp for right-turn pocket; Modify 2 ramp intersections to stop left-turn movement to merge freely onto Palmdale Boulevard; Provide EB right-turn lane from Palmdale Boulevard to Division St; Modify Palmdale Boulevard for double left turns from ramps; Modify Palmdale Boulevard for 3 WB through lanes through SB ramp intersection; Modify SB off-ramp allowing widening from Ave Q - Palmdale Boulevard - under LA0G897</p> <p>ID: identification number; RTP: Regional Transportation Program; MDAB: Mojave Desert Air Basin; NB: northbound; SR: State Route; EB: eastbound; WB: westbound; SB: southbound</p>				

The 2019 FTIP was adopted by SCAG on September 17, 2018, approved by Caltrans on November 2, 2018, and approved by FHWA and FTA on December 17, 2018. Since that time, there have been 11 additional amendments to the 2019 FTIP approved by SCAG, consisting of Amendments #19-01 through #19-11, 6 of which were administrative modifications and the other 5 of which were formal amendments and were also subsequently approved by Caltrans, FHWA, and FTA. The most recent FTIP Amendment #19-09 was approved by SCAG on August 9, 2019, by Caltrans on August 15, 2019, and by FHWA/FTA on September 3, 2019. None of these amendments to the 2019 FTIP have altered the project listing for the proposed Project. The design concept and scope of the proposed Project is consistent with the Project description in the 2016–2040 RTP/SCS and the 2019 FTIP as amended.

Local

The AVAQMD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing the AVAQMD 2004 Ozone Attainment Plan (State and Federal); the List and Implementation Schedule for District Measures to Reduce PM Pursuant to Health & Safety Code §39614(d); the 8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis (RACT SIP Analysis); the 2015 Draft Staff Report [for the] Proposed Adoption of the 2015 8-Hour Reasonably Available Control Technology – State Implementation Plan Analysis (2015 RACT SIP Analysis); and the AVAQMD Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Non-attainment Area).

The main purpose of these plans is to bring the area into compliance with the requirements of federal and State air quality standards. For a project to be consistent with these plans, the pollutants emitted from the project should not (1) exceed the CEQA air quality “significance thresholds” or (2) conflict with or exceed the assumptions in the Plans.

Implementation of the Build Alternative would contribute emissions of PM₁₀, PM_{2.5}, and the O₃ precursors volatile organic compounds (VOCs) and nitrogen oxides (NO_x) to the area during short-term Project construction. Estimated pollutant emissions during construction are discussed under Question “b” below.

The proposed Project does not involve a change in General Plan designation or zoning and therefore would not exceed the assumptions in the Plans mentioned above. As mentioned in the CEQA and Federal Conformity Guidelines, “A project is deemed to not exceed this threshold [i.e., does not conform with the applicable attainment or maintenance plan(s)], and hence not be significant, if it is consistent with the existing land use plan”. No changes in land use are proposed with the proposed Project. Therefore, the proposed Project is consistent with existing land use plans. As such, no conflict with the applicable plans would occur with the proposed Project.

The Build Alternative would not conflict with or obstruct implementation of applicable air quality plans. Therefore, impacts would be less than significant.

No-Build Alternative

Less Than Significant Impact. Under the No-Build Alternative, no physical changes would occur. The interchange would continue to operate without planned improvements identified in the 2016–2040 RTP/SCS and 2019 FTIP. However, as presented in the checklist question below, the future emissions from No-Build Alternative would generally be slightly higher than for the Build Alternative. The incremental increase is not substantial and would not preclude meeting the attainment goals outlined in the AQMP. Therefore, the No-Build Alternative would not conflict with or obstruct implementation of applicable air quality plans and impacts would be less than significant.

Checklist Question b

Would the Project:

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

The Build Alternative (Preferred Alternative)

Construction Impacts – Regional Air Quality

Less Than Significant Impact. Criteria pollutant emissions would occur from operation of construction equipment; generation of fugitive dust from grading and earth-moving activities; import of construction materials; and operation of vehicles driven to and from the site by construction workers. Construction emissions were calculated with the Road Construction

Emissions Model, version 8.1.0 (SMAQMD 2016). The Road Construction Emissions Model was developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) for calculating emissions from linear construction projects and is accepted by the AVAQMD.

The Build Alternative would include demolition, shallow grading, utility relocation, curb and gutter reconstruction, import and export of soils, repaving, and restriping. The construction period for the Build Alternative is anticipated to be approximately 17 months in duration. Grubbing and land clearing is expected to last approximately 7 months. Grading and excavation activities are expected to last approximately 4 months. Utilities and sub-grade work is expected to last approximately 3 months, and paving is anticipated to last approximately 3 months. Construction is expected to start in 2019 and finish in 2021. Table 3.4 shows the estimated maximum daily construction emissions for the Build Alternative, and Table 3.5 shows the estimated total Project emissions.

**Table 3.4
Estimated Maximum Daily Construction Emissions
for the Build Alternative**

Alternative	Emissions (lbs/day)				
	VOC	NOx	CO	PM10	PM2.5
Build Alternative	7	77	56	54	14

lbs/day: pounds per day; VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; AVAQMD: Antelope Valley Air Quality Management District.

**Table 3.5
Estimated Total Construction Emissions
for the Build Alternative**

Alternative	Emissions (tons)				
	VOC	NOx	CO	PM10	PM2.5
Build Alternative	0.73	7.68	5.98	8.09	1.95

VOC: volatile organic compound(s); NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less

Long-Term Operational Impacts

Less Than Significant Impact. The Build Alternative would not generate traffic, and the traffic volumes would be the same for the Build Alternative and for the No-Build Alternative. However, the intersection LOS and delays would be different for each alternative. The differences in delays and traffic speeds are shown in Table 3.26, which is provided below as part of the Transportation/Traffic discussion.

As shown in Section 3.16, Traffic Table 3.26, the LOS for the No-Build Alternative is generally worse than for the Build Alternative (Table 3.34) for both the AM and PM peak periods with the exception of year 2040 for the PM period at Palmdale Boulevard/5th Street West intersection and the SR-14/ Palmdale Boulevard southbound ramps. The changes in LOS would result in an incremental difference in air pollutant emissions. Emissions changes were calculated based on the speed, volume, and travel distance data from the traffic study and EMFAC 2014 emissions factors for roadway vehicles. Emissions data are shown in Tables 3.6 and 3.7.

**Table 3.6
Year 2020 Peak Period Emissions
(lbs/day)**

	CO	VOC	NOx	PM10	PM2.5
Build Alternative					
Palmdale Boulevard and SR-14 NB Off-Ramp	8	<1	2	<1	<1
Division St and Palmdale Boulevard	8	1	3	<1	<1
5th St W and Palmdale Boulevard	7	1	3	<1	<1
Palmdale Boulevard and SR-14 SB Off-Ramp	8	<1	2	<1	<1
Total	31	2	11	<1	<1
No-Build Alternative					
Palmdale Boulevard and SR-14 NB Off-Ramp	7	<1	2	<1	<1
Division St and Palmdale Boulevard	8	1	3	<1	<1
5th St W and Palmdale Boulevard	8	1	3	<1	<1
Palmdale Boulevard and SR-14 SB Off-Ramp	8	<1	2	<1	<1
Total	32	2	10	<1	<1
CO: carbon monoxide; VOC: volatile organic compound(s); NOx: nitrogen oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SR: State Route; NB: northbound; SB: southbound.					

As shown in Table 3.6 in 2020, the Build Alternative and the No-Build Alternative result in very comparable emissions of Carbon Monoxide (CO), Volatile Organic Compounds (VOC), Nitrogen Oxides (NOx), Particle Matter (PM) 10 and PM2.5 emissions for all the analyzed intersections.

Year 2040 emissions are listed in Table 3.7 for the Build Alternative and the No-Build Alternative. Emissions between the Build Alternative and the No-Build Alternative are likewise very comparable for the analyzed pollutants. As shown in Table 3.7 the Build Alternative would result in slightly fewer emissions than the No-Build Alternative.

Thus, the Build Alternative would not result in the violation of air quality standards nor would it contribute substantially to an existing or projected air quality violation. Therefore, impacts would be less than significant.

**Table 3.7
Year 2040 Peak Period Emissions
(lbs/day)**

	CO	VOC	NOx	PM10	PM2.5
Build Alternative					
Palmdale Boulevard and NB Off-Ramp	5	<1	2	<1	<1
Division St and Palmdale Boulevard	5	<1	3	<1	<1
5th St W and Palmdale Boulevard	5	1	3	<1	<1
Palmdale Boulevard and SB Off-Ramp	5	<1	2	<1	<1
Total	20	2	10	<1	<1
No-Build Alternative					
Palmdale Boulevard and NB Off-Ramp	4	<1	2	<1	<1
Division St and Palmdale Boulevard	6	1	3	<1	<1
5th St W and Palmdale Boulevard	5	1	3	<1	<1
Palmdale Boulevard and SB Off-Ramp	6	1	3	<1	<1
Total	21	2	12	<1	<1
CO: carbon monoxide; VOC: volatile organic compound(s); NOx: nitrogen oxides; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; SR: State Route; NB: northbound; SB: southbound.					

No-Build Alternative

Less Than Significant Impact. Under the No-Build Alternative, no physical changes would occur, the operational LOS of the interchange would continue to deteriorate and in 2040 the emissions would be incrementally higher than if the interchange is improved under the Build Alternative. However, in 2020, the No-Build Alternative would result in slightly less NOx emissions than the Build Alternative.

The No-Build Alternative would not result in the violation of air quality standards nor would it contribute substantially to an existing or projected air quality violation. Therefore, impact would be less than significant.

Checklist Question c

Would the Project:

- 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)?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The region is a Severe-15 nonattainment area for the federal O₃ standard and a nonattainment area for the State O₃ standard. The region is in

nonattainment of the state PM10, and unclassified area for the federal PM10 standard. The Build Alternative would contribute particulates and VOC and NO_x (O₃ precursors) to the area during Project construction.

With respect to local impacts, cumulative construction particulate impacts are considered when projects may be within a few hundred yards of each other and would be constructed in the same timeframe. There are no known projects within 1,500 feet of the Project site where major construction would occur concurrently. Construction of the adjacent SR-14 mainline project will be completed before the construction of the SR-14/Palmdale Boulevard Interchange Project. The Project will also conform with the 2015 Caltrans' Standard Specifications for air pollution control and dust control techniques, which are briefly summarized below:

- Section 14-9.02 Air Pollution Control - Comply with air-pollution-control rules, regulations, ordinances, and statutes that apply to work performed under the Contract, including those provided in Government Code § 11017 (Public Contract Code § 10231).
- Section 14-11.04 Dust Control - Excavation, transportation, and handling of material containing hazardous waste or contamination must result in no visible dust migration. When clearing, grubbing, and performing earthwork operations in areas containing hazardous waste or contamination, provide a water truck or tank on the job site.

Section 14-9.02 of the Caltrans' Standard Specifications Project also require Project construction activities to comply with specific work practices and plans for dust control contained in air district or local rules. Because the Project is located in the jurisdiction of the AVAQMD, the Project is also subject to AVAQMD Rule 403, which requires development and implementation of a Dust Control Plan for construction activities. Project compliance with Caltrans' Standard Specifications and the AVAQMD's Rule 403 dust control measures will minimize any temporary fugitive dust (PM10 and PM2.5) that is produced at the Project site during construction activities and would not contribute substantially to the nonattainment of the California ambient air quality standards for PM10.

As shown in Table 3.6, in 2020 the Build Alternative would result in slightly higher NO_x emissions during peak hours when compared to both existing conditions and the No-Build Alternative. However, in 2040 (see Table 3-7) the overall emissions for the Build Alternative would be less than for the No-Build Alternative. The Build Alternative would not exceed the evaluation criteria and is consistent with the AQMP prepared for the region. Thus, the Build Alternative would not 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. Therefore, impacts would be less than significant.

No-Build Alternative

Less Than Significant Impact. Under the No-Build Alternative, no physical changes would occur, the operation of the interchange would continue to deteriorate. Compared to the Build Alternative, the No-Build Alternative would not provide the incremental reduction in certain criteria air pollutants emissions that would be realized with the Build Alternative. Though incrementally higher than those under the Build Alternative, the pollutants would not be deemed cumulatively considerable. Thus, the No-Build Alternative would not 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. Therefore, impacts would be less than significant.

Checklist Question d

Would the Project:

d) Expose sensitive receptors to substantial pollutant concentrations?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Impacts to sensitive receptors can be associated with concentrations of criteria pollutants, especially CO, or from toxic air contaminants. As discussed in checklist question (b) above, local concentrations of criteria pollutants generated during construction and operation of the Build Alternative would not exceed the ambient air quality standards. Therefore, neither Project construction nor operation would not expose any nearby sensitive receptors to substantial concentrations of criteria pollutants.

Toxic hotspots are locations where air pollution may expose local populations to elevated health risks, such as cancer. The Build Alternative was analyzed in context of carbon monoxide (CO) hotspot and toxic air contaminants to determine whether additional exposure of population would occur.

Carbon Monoxide Hotspots

A CO hotspot is an area of localized CO pollution caused by severe vehicle congestion on major roadways, typically near intersections. Local area CO concentrations for roadways were evaluated using screening level criteria, developed by the University of California, Davis in the 1997 guidance. This guidance, the *Transportation Project-Level Carbon Monoxide Protocol* (CO Protocol), is appropriate for evaluating the potential if a project poses the potential to generate a CO hotspot (UCD ITS 1997).

The Project is anticipated to result in higher CO concentrations due to the reduced LOS associated with the Build Alternative when compared to existing conditions. Specifically, the Build Alternative results in LOS E at the Palmdale Boulevard/5th St. West intersection. Therefore, a detailed CO hotspot analysis is required, which involved using the air pollutant dispersion model Caline4. This model calculates CO concentrations based on peak hour traffic volumes, emission rates, and coordinates for roadway segments and receptor locations. The Caline4 model was used to assess the potential for CO hotspots to occur under the intersection of Palmdale Boulevard (SR-138) and 5th Street for the Build Alternative. This intersection was selected based on the LOS. The CO hotspot analysis was conducted with the methodology described in the 1997 CO Protocol. Intersections with on- or off-ramps were not selected for analysis because the CO Protocol does not recommend CO hotspot modeling for "...short segments of pedestrian or bicycle access paths such as bridges, overpasses, under-crossings, etc.".

The results of the CO hotspot modeling are shown in Table 3.8. As shown in the table, CO concentrations are substantially below the CAAQS; therefore, the Build Alternative would not result in a CO hotspot and impacts would be less than significant.

**Table 3.8
Carbon Monoxide Concentrations For the Build Alternative**

1-Hour Carbon Monoxide Concentrations			
Receptor	Total Concentration (ppm)	CAAQS (ppm)	Exceeds
1	2.2	20	No
2	2.2	20	No
3	2.2	20	No
4	2.2	20	No
8-Hour Concentration*			
Receptor	Total Concentration (ppm)	CAAQS (ppm)	Exceeds
1	1.4	9	No
2	1.4	9	No
3	1.4	9	No
4	1.4	9	No

*8-hour concentrations based on a persistence factor of 0.7 applied to 1-hour CO concentrations.
ppm: parts per million; CAAQS: California Ambient Air Quality Standards; CO: carbon monoxide

PM2.5 and PM10 Hotspot Analysis

On March 10, 2006, the U.S. EPA published a Final Rule in the *Federal Register* that establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in PM2.5 and PM10

nonattainment and maintenance areas (“areas”) (USEPA and FHWA 2006). The MDAB is categorized as an attainment/unclassified area for the federal PM10 standard. To meet statutory requirements, the March 10, 2006, Final Rule requires PM2.5 and PM10 hot-spot analyses to be performed for projects of air quality concern (POAQC). A POAQC would be a facility with 125,000 annual average daily trips (AADT) and where at least 8 percent of the traffic is comprised of diesel trucks.¹ The proposed SR-14/Palmdale Boulevard (SR-138) Interchange Improvement Project would not meet any of the POAQC definitions. Future traffic volumes are not forecasted to exceed 55,000 AADT and diesel truck volumes are less than 6 percent. Therefore, the proposed Project is not a POAQC, and no qualitative or quantitative PM2.5 or PM10 analysis is required.

The MDAB is categorized as an attainment/unclassified area for the federal PM10 standard, the Build Alternative does not have the potential to violate or contribute substantially to an existing or projected violation or result in a substantial increase in PM10 pollutant emissions or result in a PM hotspot.

Toxic Air Contaminants

Pollutants Generated On Site

Construction activities from the Build Alternative would result in short-term, Project-generated emissions of diesel particulate matter (PM) from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition and grading), paving, and other miscellaneous activities. CARB identified diesel PM as a toxic air contaminant (TAC) in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30- to 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be few pieces of off-road, heavy-duty, diesel equipment in use and the approximate 17 month or less construction period for the Build Alternative would be short when compared to a 30- to 70-year exposure period. Construction-related emissions would not expose sensitive receptors to substantial emissions of TACs.

¹ The POAQC criteria are repeated in the USEPA’s 2013 document, Transportation Conformity Guidance for Quantitative Hot-Spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas.

Because the Build Alternative would not increase in traffic volumes, long-term operation of the Project would not generate additional TACs.

Mobile Source Air Toxics

The Build Alternative has a low potential for mobile source air toxic (MSAT) effects. The types of projects included in this category are those that serve to improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. The proposed Project would fall under the category of minor improvement. The maximum design year traffic is projected to be 51,268 AADT. Therefore, based on the nature of the Project, a qualitative analysis is prescribed.

The Project would not result in any appreciable changes to vehicle miles travelled (VMT). Emissions of MSATs between the alternatives are based on changes in average vehicle speeds. According to the U.S. EPA's MOBILE6.2 model, emissions of all priority MSAT (except for diesel particulate matter) decreases as speed increases. The extent to which these speed-related emissions decrease will offset any VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models. With either the Build Alternative or No-Build Alternative, emissions in the design year will likely be lower than present levels as a result of the U.S. EPA's national control programs that are projected to reduce annual MSAT emissions by 72 percent between 1999 and 2050.

The Build Alternative would not move traffic closer to nearby homes or businesses; therefore, no localized areas where ambient concentrations of MSAT could be higher are anticipated. In addition, particulate emissions associated with the Build Alternative would be comparable and differ by less than 1 pound per day.

The CARB's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions that, in almost all cases over time, will cause region-wide and local MSAT levels to be substantially lower than they are today.

Valley Fever

The greatest potential risk for Valley Fever exposure is during construction, particularly to workers on site, where construction-related activities may cause Valley Fever spores to be released from dormancy. Valley Fever fungal spores may be released through natural wind or ground-disturbing activities on undeveloped land. Valley Fever has been a concern in the Antelope Valley for many years. Although not a criteria air pollutant, Valley Fever fungal spore infections develop through inhalation of airborne fungal spores contained in windblown dust and is recognized to be endemic in areas with dry, alkaline soil conditions.

Construction activities would involve short-term bulk storage of soils, earth moving, construction and demolition, and man-made conditions that can cause fugitive dust emissions. Grading or other soil-disturbing activities have been known to release the spores into the air, thereby increasing the risk that nearby people could inhale the spores. Construction workers are at a higher risk of contracting Valley Fever, due to construction-related activities that disturb the soil on site.

All construction activity for the Project would be conducted under a Dust Control Plan prepared in accordance with the AVAQMD's Rule 403 (see Minimization Measure AQ-2). Examples of AVAQMD Rule 403 regulations include using chemical stabilizers; pre-watering the construction site; ensuring there is no visible dust outside the property line; using wind barriers, fences or tarps; limiting soil, sand, and gravel track-out to within 25 feet of the active operation; establishing vegetative ground cover within 30 days after construction has finished; and restricting periods of active construction. This standard condition requires that Project construction activities be conducted in compliance with all dust suppression measures as set forth in the Dust Control Plan.

Compliance with the adopted regulations ensures on-site construction workers' exposure to Valley Fever would be less than significant and no mitigation is required. Although the AVAQMD's Rule 403 sets rigorous regulations to minimize fugitive dust and airborne hazards, due to the potential hazards associated with exposure to Valley Fever spores and in order to provide accurate and up-to-date information about health protection measures for onsite workers, Minimization Measure AQ-3 would also be incorporated into the Project.

The Project would not expose sensitive receptors to Valley Fever in the long term because the Project proposes to pave additional areas along the Palmdale Boulevard; thus, there would be fewer opportunities for on-site soils to produce airborne dust.

In summary, the Build Alternative would not expose sensitive receptors to substantial pollutant concentrations; and therefore, impacts would be less than significant.

No-Build Alternative

No Impact. Under the No-Build Alternative, no construction would occur, and the No-Build Alternative would not expose sensitive receptors to substantial TAC pollutant concentrations. TACs from construction are related to diesel exhaust from construction off- and on-road vehicles. Diesel exhaust is also the primary pollutant of concern from MSATs. No substantial adverse effects to nearby receptors would occur.

The No-Build Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts would be less than significant.

Checklist Question e

Would the Project:

e) Create objectionable odors affecting a substantial number of people?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Project would not develop or place sensitive receptors near major odor sources such as landfills, wastewater treatment plants, and dairies. There would be no change in long-term odor exposure.

The Project construction equipment and activities would generate odors. Potential odors include diesel exhaust emissions and paving operations. There may be situations where construction activity odors would be noticeable by persons nearby. Any odors would be temporary and would dissipate rapidly from the source with an increase in distance and would not be expected to be objectionable to a substantial number of people. The Project will comply with construction standards adopted by the AVAQMD, as well as Caltrans standardized procedures for minimizing air pollutants during construction.

After completion of the road improvements, there would be no potential for increased odors attributable to the Project. Therefore, the Build Alternative would have a less than significant impact related to odor during construction.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur and would not generate construction air quality emissions. Therefore, the No-Build Alternative would not have an impact related to the exposure of a substantial number of people to odor.

Avoidance, Minimization, and/or Mitigation Measures

Construction

Minimization Measures

The Project would be subject to the following minimization measures, which are consistent with adopted regulations and Caltrans Standard Specifications, would minimization of dust emissions during demolition, excavation, grading, hauling, and various other activities:

- AQ-1** The construction contractor shall comply with Section 14 of Caltrans' 2015 Standard Specifications.
- 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.
 - Section 14-11.04 is directed at controlling dust. (If dust-palliative materials other than water are to be used, material specifications are contained in Section 18.)
- AQ-2** The construction contractor shall comply with AVAQMD Rule 403 (AVAQMD 1976).
- AVAQMD Rule 403 prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area that remains visible beyond the emission source property line.
 - A person conducting active operations shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type.
- AQ-3** The following administrative controls and hazard awareness actions will be included in the Contractor's Specifications:
- Prior to Project construction initiation, and for any personnel additions after Project construction initiation, the City's contractor shall be informed of the following California Department of Public Health (CDPH) materials on Valley Fever, or any updated materials as applicable. The following materials will be distributed to worksite supervisors:
 - CDPH pamphlet entitled "Preventing Work-Related Coccidiomycosis (Valley Fever)" available at:

<https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/OHB/HESIS/CDPH%20Document%20Library/CocciFact.pdf>

- Prior to Project construction initiation, and for any personnel additions after Project construction initiation, the City’s contractor shall be informed of the following CDPH materials on Valley Fever, as well as any updated materials as applicable. The following materials will be distributed to construction workers:
 - i. CDPH pamphlet entitled “Valley Fever Fact Sheet” available at <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/ValleyFeverFactSheet.pdf>
 - ii. CDPH pamphlet entitled “Hoja de datos de la Fiebre del Valle (Valley Fever Fact Sheet in Spanish)” available at: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/HojaDeDatosDeLaFiebreDeIValle.pdf>
 - iii. CDPH pamphlet entitled “Fact Sheet ng Valley Fever (Valley Fever Fact Sheet in Tagalog),” available at: <https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/VFFactSheetTagalog.pdf>

Operations

No avoidance, minimization or mitigation measures are required because impacts would be less than significant.

3.4 Biological Resources

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment

This section is prepared based on the Natural Environment Study – Minimal Impacts (NES-MI) report. A literature review was conducted prior to the initiation of the reconnaissance level survey in order to determine the potential for special status species reported from the Project region. The California Native Plant Society’s (CNPS’) Electronic Inventory of Rare and Endangered Vascular Plants of California and the California Department of Fish and Wildlife’s (CDFW’s) California Natural Diversity Database (CNDDDB) were reviewed prior to the site visit. An official species list was obtained from the U.S. Fish and Wildlife Service (USFWS) on February 12, 2020.

The Biological Study Area (BSA) extends north to south along SR-14 from Avenue Q (on the north) to Avenue R (Rayburn Avenue), and east to west along Palmdale Boulevard (SR-138) from 10th Street East to Division Street. The BSA encompasses 107.34 acres and extends approximately 2 miles north and south along the SR-14. Figure 7 depicts the BSA and includes all areas of potential direct effects. The BSA includes the permanent and temporary impacts of the Build Alternative and extends 250-feet around the right-of-way.

Topography in the BSA is gently sloped with an elevation of approximately 2,642 to 2,754 feet above msl.

Special Status Plant Species

In addition to those that are formally listed as Threatened or Endangered, special-status plant species include plants that occur on the CDFW's State and Federally Listed Endangered, Threatened, and Rare Plants of California; California Rare Plant Rank ([CRPR], formerly known as California Native Plant Society) species; and Palmdale Native Desert Vegetation Ordinance. No federally and/or state listed as Threatened or Endangered plant species were listed in the database search as having a potential to be on the BSA. Three non-listed, rare plant species have the potential to occur in the Project region and were evaluated in the Natural Environment Study- Minimal Impacts. These species include:

- Peirson's morning-glory (*Calystegia peirsonii*), a California endemic species that has a CRPR of 4.2, which means that it is of limited distribution and is "fairly endangered" in California.
- White pygmy-poppy (*Canbya candida*), a California endemic species that has a CRPR of 4.2.
- The Mojave spineflower (*Chorizanthe spinosa*), a California endemic species that has a CRPR of 4.2.

None of the plant species listed above were observed in the BSA during focused surveys. However, these species cannot be considered absent given the lack of rainfall prior to the focused surveys (i.e., these plants may not have germinated in 2015).

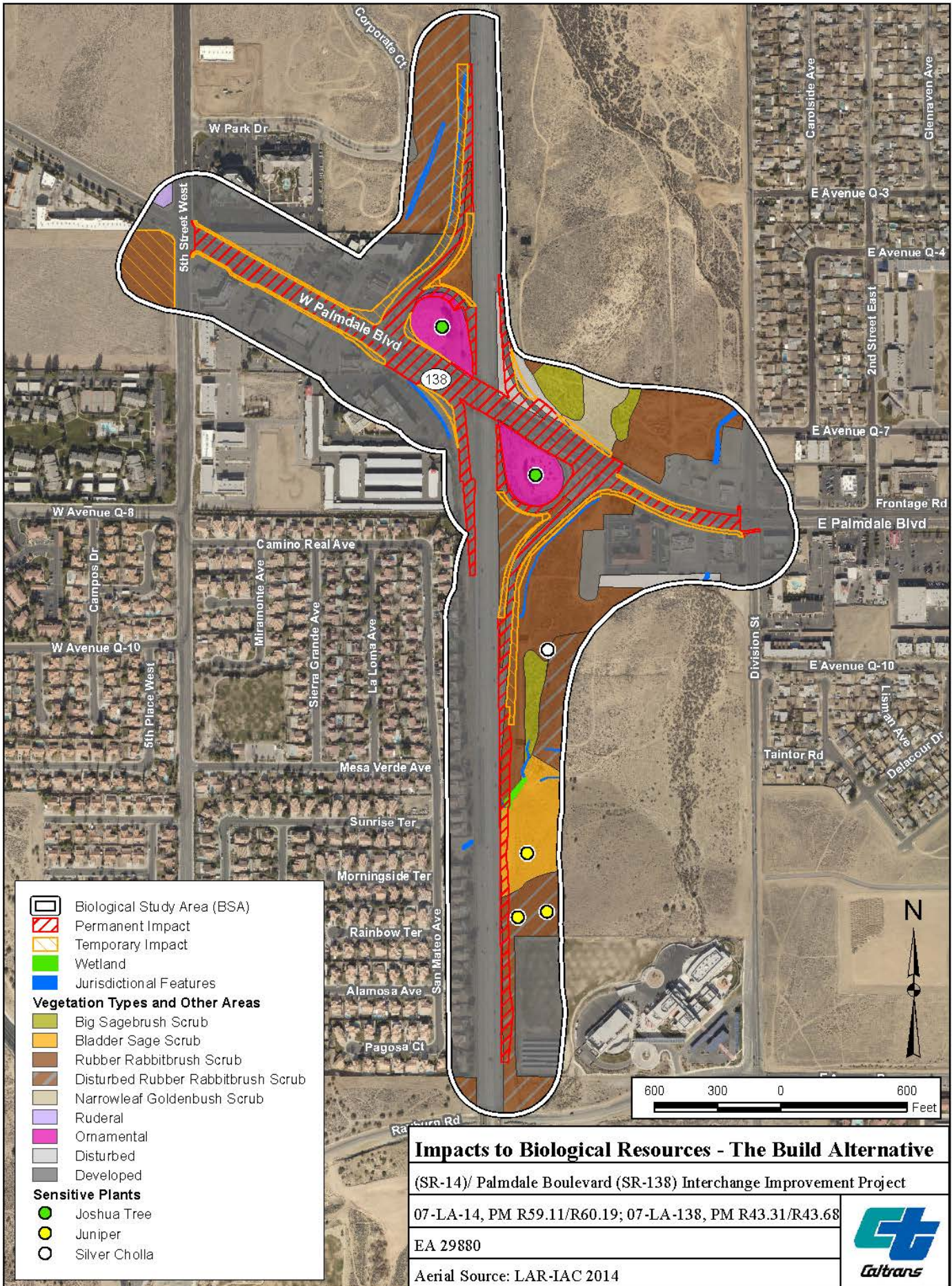


Figure 7

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Six plant species occurring on the California Invasive Plant Council's (Cal-IPC's) Invasive Plant Inventory Database were observed in the BSA. One species, red brome, is rated as "High"; two species are rated "Moderate" (shortpod mustard [*Hirschfeldia incana*, and London rocket [*Sisymbrium irio*]); and three are rated "Limited" (wise tansy mustard [*Descurainia sophia*], redstem filaree [*Erodium cicutarium*], and soft brome (*Bromus hordeaceus*)).

Palmdale Native Desert Vegetation Ordinance

The Palmdale Native Desert Vegetation Ordinance (Title 14.04 of Municipal Code) was adopted by the City of Palmdale Council in 1992. The ordinance applies to all public and private projects in the city that contain Joshua trees (*Yucca brevifolia*) or other desert vegetation. Desert vegetation in the ordinance is defined based on the State Native Plant Protection Act. Pursuant to the ordinance, projects should apply for native desert vegetation removal permit from the City Landscape Architect prior to removal of any native desert vegetation.

Communities of Special Concern

Natural communities of special concern are plant communities that are afforded special protection by either the State, regional plans, or local plans and/or ordinances. One plant community considered vulnerable by the State (status G4S3) Narrowleaf goldenbush scrub (*Ericameria linearifolia*), is located in the BSA.

Special Status Wildlife Species

Eighteen special status wildlife species are known to occur in the Project region and have potential to occur in the BSA. Four federally and/or State-listed Threatened or Endangered wildlife species have been reported from the vicinity of the BSA. These species include desert tortoise (*Gopherus agassizi*), least Bell's vireo (*Vireo bellii pusillus*), Swainson's hawk (*Buteo swainsoni*), and Mohave ground squirrel (*Xerospermophilus mohavensis*). No habitat was found present in the BSA for the desert tortoise and least Bell's vireo. Suitable habitat assessment was conducted for Swainson's hawk based on the guidance of the Swainson's Hawk Technical Advisory Committee (SHTAC), which recommend surveying all potentially suitable habitats within 0.5 mile of the Project. Suitable habitat for Swainson's hawk was found within 0.5 mile of the Project, indicating that this species has the potential to occur in the BSA and/or its vicinity. However, this species was not observed in the BSA and within the 0.5 mile radius from the Project during the focused survey. Less than suitable habitat for Mohave ground squirrel habitat was found within the BSA; and this species is not expected to be present in the area.

Eight special status species that have potential habitat present include silvery legless lizard (*Anniella pulchra pulchra*), coast horned lizard (*Phrynosoma blainvillii*), Bell's sage sparrow (*Artemisospiza belli belli*), loggerhead shrike (*Lanius ludovicianus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), and Cooper's hawk (*Accipiter cooperii*). One of these species, Bell's sage sparrow, was observed in the BSA.

Migratory Birds and Nesting Raptors

The Migratory Bird Treaty Act (MBTA) protects active nests of bird species. The MBTA makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid permit issued pursuant to federal regulations. Sections 3503, 3503.5, and 3513 of the *California Fish and Game Code* prohibit activities that “take, possess or destroy” any raptor nest or egg.

Executive Order 13112

Federal requirements prohibit the planting of exotic species (Executive Order 13112) that have been identified as invasive, as seeds from invasive species could escape to natural areas and degrade native vegetation. Plantings in any landscaped areas must be consistent with this Executive Order.

Desert Renewable Energy Conservation Plan

In response to Executive Order S-14-08, which established a target of obtaining 33 percent of the State's electricity from renewable resources by 2020, the California Energy Commission (CEC), the CDFW, the BLM, and the USFWS have started preparing the Desert Renewable Energy Conservation Plan (DRECP). The DRECP area encompasses over 22 million acres of the Mojave and Colorado Desert regions in California, including all or a portion of the following counties: Kern, Los Angeles, San Bernardino, Inyo, Riverside, Imperial, and San Diego. The species covered by the Plan include federally and State-listed desert tortoise, as well as the State-listed Swainson's hawk, Mohave ground squirrel, and other species (e.g. burrowing owl [*Athene cunicularia*]). In addition, the DRECP addresses numerous other species such as ferruginous hawk (*Buteo regalis*) and loggerhead shrike (*Lanius ludovicianus*) without further protection. The DRECP is a joint State and federal Natural Community Conservation Plan (NCCP) and part of one or more Habitat Conservation Plans (HCPs) that are intended to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. It is anticipated to provide long-term threatened and endangered species permit assurances to renewable energy developers and to provide a process for conservation funding to implement

the DRECP. It would also serve as the basis for one or more HCP under the ESA. The BLM signed the Record of Decision approving its Land Use Plan Amendment on September 14, 2016, completing Phase I of the DRECP. Phase II of the DRECP focuses on better aligning local, state, and federal renewable energy development and conservation plans, policies, and goals. This effort is still on going.

Jurisdictional Waters

A total of nine drainage features were identified in the NESMI. As a result of an approved jurisdictional determination dated June 7, 2013, the U.S. Army Corps of Engineers (USACE) considers drainages in the Antelope Valley Area to be non-jurisdictional unless they drain into Lake Palmdale. Due to the topography of the BSA sloping away from Lake Palmdale and that all mapped features are isolated from other water bodies that may drain into Lake Palmdale, no portion of the BSA contains a wetland “water of the U.S.”, or a non-wetland waters of the U.S. that is subject to the jurisdiction of the USACE.

However, the Regional Water Quality Control Board (RWQCB) and/or CDFW may still assert jurisdiction over certain drainage features. Out of nine drainages present in the BSA, six are subject to jurisdiction of either RWQCB and/or CDFW.

Environmental Consequences

Checklist Question a

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 Wildlife or U.S. Fish and Wildlife Service?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The BSA is composed of developed and undeveloped areas and is generally considered of low biological value to plant and wildlife species. Refer to Figure 7 Impacts to Biological Resources– The Build Alternative.

As described above, two State and federally-listed species, Swanson’s hawk and Mohave ground squirrel, were recorded in the CNDDDB as being present within the region. Construction of the Build Alternative would result in direct impacts to habitat within the BSA, due to habitat modification, vegetation clearing, noise, introduction of trash and construction-related odors. Operation of the Build Alternative is not expected to increase the level of impact over the existing condition.

Although Swainson's hawk occurs within the region and has habitat present in the Project area, no individuals nor sign of this species were observed within the BSA (or within 0.5 mile of the BSA) during focused surveys. The Build Alternative is therefore not expected to impact this species. Avoidance and Minimization Measures BIO-1 through BIO-3, which implement established protocols if Project construction occurs in the nesting season, shall be implemented.

Although Mohave ground squirrel occurs within the region, no individuals or sign of this species were observed in the BSA during visual surveys. The closest known occurrence of Mohave ground squirrel is 5.5 miles east of the BSA. Additionally, habitat in the BSA is largely unsuitable for Mohave ground squirrel. Implementation of the Build Alternative is therefore not expected to impact this species. However, Avoidance and Minimization Measures BIO-4 through BIO-9 shall be implemented in the event this species is discovered on the site during construction activities.

The Build Alternative would result in impacts to seven special status species:

- **Silvery legless lizard:** a total of 4.43 acres of suitable habitat would be impacted (1.44 acres permanent/2.99 acres temporary). Therefore, avoidance and minimization measure BIO-10 and BIO-13 shall be implemented.
- **Coast horned lizard:** a total of 4.43 acres of suitable habitat would be impacted (1.44 acres permanent/ 2.99 acres temporary). Therefore, avoidance and minimization measure BIO-11 and BIO-14 shall be implemented.
- **Burrowing Owl:** The Build Alternative would not impact Burrowing Owls since they have not been found during focused surveys. However, suitable habitat is present, and owls are known to occur in the region; thus, Avoidance and Minimization Measures BIO-15 and BIO-16 shall be implemented.
- **Bell's sage sparrow:** a total of 0.51 acre of suitable habitat would be impacted (0.35 acre permanent/ 0.16 acre temporary). Bell's sage sparrow was observed in the BSA. Therefore, Avoidance and Minimization Measure BIO-17 shall be implemented.
- **Ferruginous Hawk:** a total of 13.79 acre of suitable habitat would be impacted (2.76 acre permanent/ 11.04 acre temporary). No avoidance and minimization measures are required because the Ferruginous Hawk does not nest in the region.
- **Merlin:** The Project would permanently impact 2.76 acres and temporarily impact 11.04 acres of suitable foraging habitat for this species for a total of 13.79 acres of

suitable foraging habitat for this species. Because merlins only winter in California, no avoidance or minimization measures are recommended.

- **Cooper's hawk:** a total of 7.44 acres of suitable foraging habitat would be impacted (3.24 acres permanent/ 4.20 acres temporary). Therefore Avoidance and Minimization Measure BIO-18 shall be implemented.
- **Loggerhead shrike:** a total of 12.72 acres of suitable foraging habitat would be impacted (2.47 acres permanent/ 10.25 acres temporary). Therefore, Avoidance and Minimization Measure BIO-17 shall be implemented.
- **San Joaquin Pocket Mouse:** a total of 12.71 acre of suitable habitat would be impacted (2.47 acre permanent/ 10.25 acre temporary). Therefore, Avoidance and Minimization Measures BIO-4 through BIO-9 shall be implemented.

Because there are suitable habitats for several bird species within the BSA that would be impacted, a survey for the active bird nests including burrowing owls and nesting raptors, would be required within three days prior to commencement of construction activities during the peak bird nesting season (February 1 to September 1). Refer to Avoidance and Minimization Measure BIO-18.

The Build Alternative would have a less than significant 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 CDFW or USFWS. Implementation of avoidance and minimization measures would ensure compliance with all applicable laws and minimize effects to the species.

No-Build Alternative

Under the No-Build Alternative, no physical changes would occur. Therefore, the No-Build Alternative would not result in impacts to biological resources.

Checklist Question b

Would the Project:

- 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 Wildlife or U.S. Fish and Wildlife Services?**

The Build Alternative (Preferred Alternative)

Less Than Significant with Mitigation Incorporated. Natural communities of special concern are plant communities that are afforded special protection by either the state,

regional plans, or local plans and/or ordinances. One sensitive type of plant community, considered vulnerable by the State (status G4S3) Narrowleaf goldenbush scrub, is located in the BSA. The Build Alternative would result in temporary removal of 0.10 acre of Narrowleaf goldenbush scrub, and no permanent impacts. Incorporation of Mitigation Measure BIO-24 would reduce these temporary impacts related to the Build Alternative to less than significant levels.

The Build Alternative would also impact areas subject to CDFW jurisdiction including riparian areas. As shown in the Table 3.9, the Build Alternative would result in impacts to three drainages. Refer to Figures 8a through 8f Jurisdictional Features. Specifically, the Build Alternative would result in temporary impacts to 0.021 acres of waters under CDFW jurisdiction and permanent impacts to 0.181 acres of waters under CDFW jurisdiction. As a result, a Streambed Alteration Agreement may be required.

**Table 3.9
Project Impacts to CDFW Jurisdictional Areas
under the Build Alternative**

Drainages	Existing acres within the BSA	Permanent Impacts	Temporary Impacts
Feature 2	0.185	0.000ac	0.179ac
Feature 3	0.079	0.000ac	0.000ac
Feature 4	0.130	0.021ac	0.000ac
Feature 7	0.021	0.000ac	0.000ac
Feature 8	0.122	0.000ac	0.000ac
Feature 9	0.057	0.000ac	0.002ac
Total	0.595	0.021ac	0.181ac

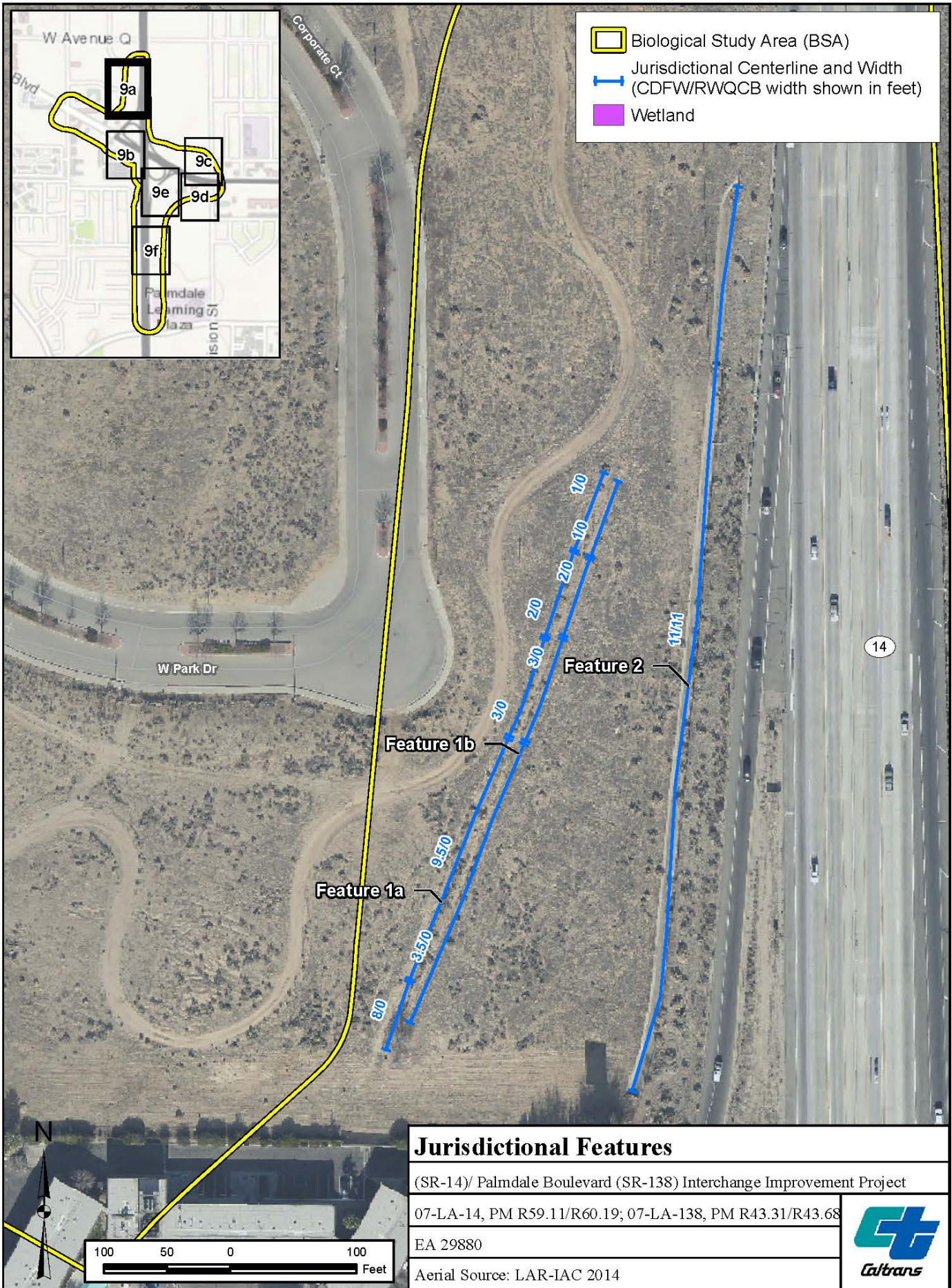


Figure 8a

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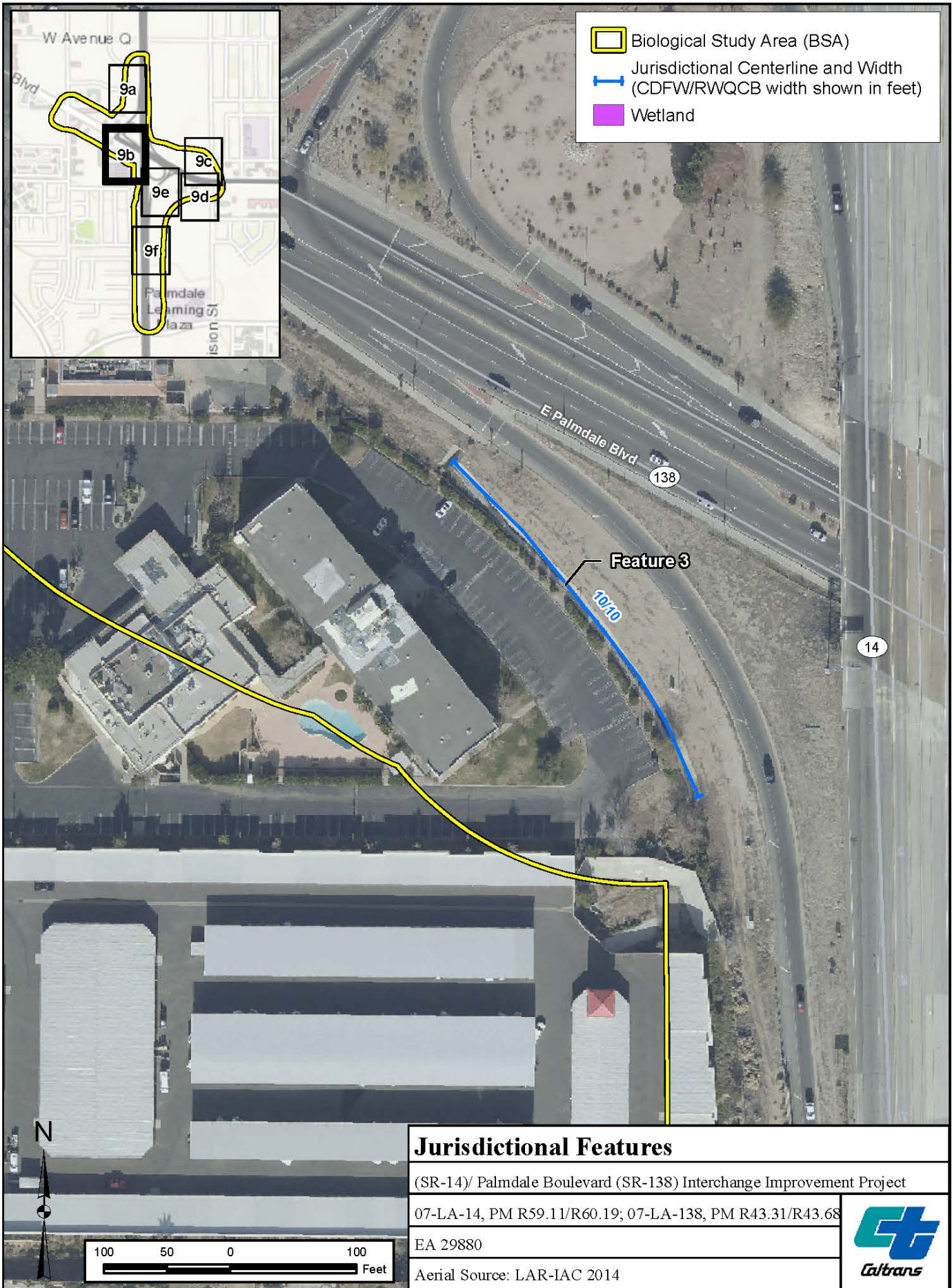


Figure 8b

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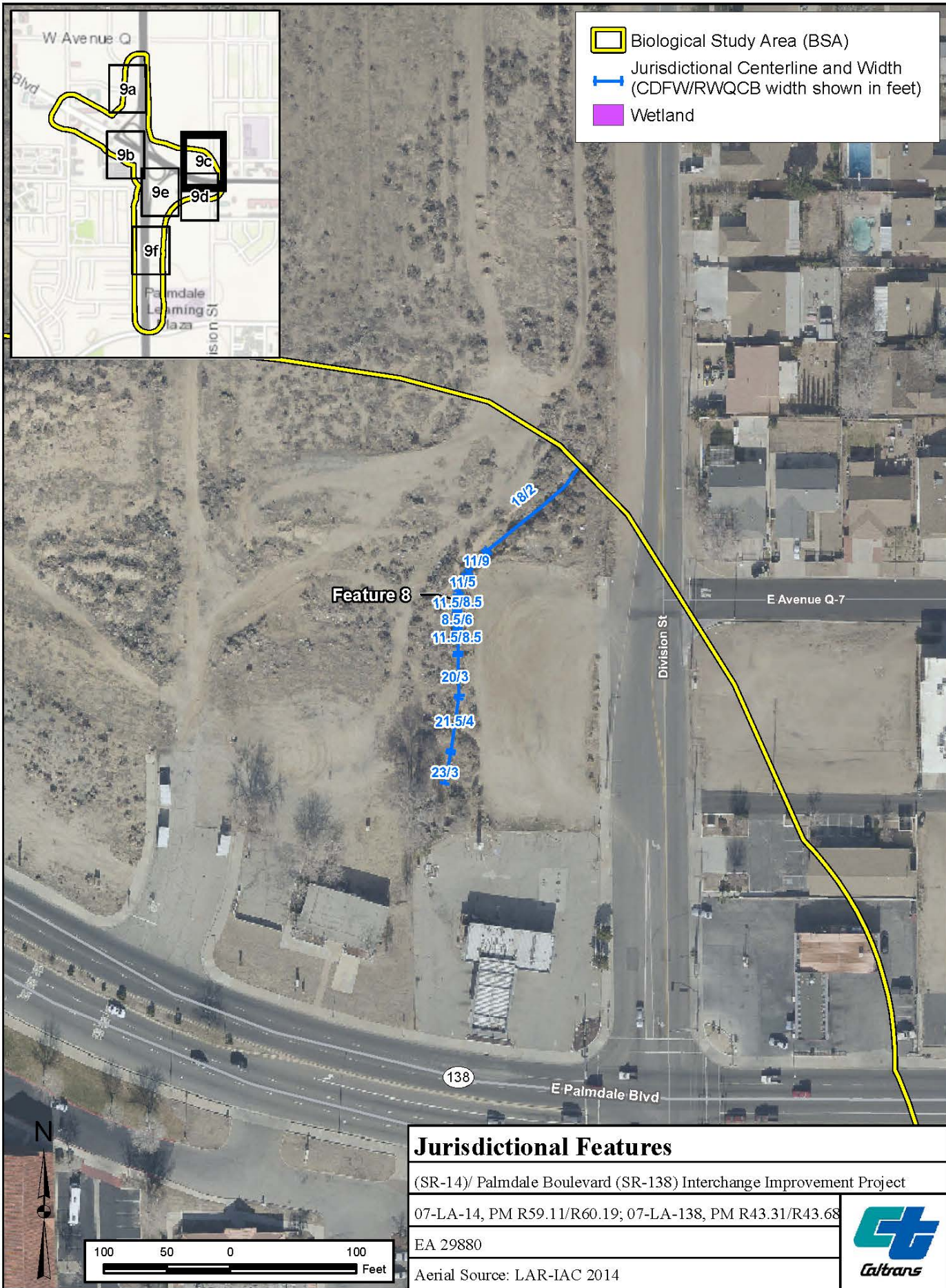


Figure 8c

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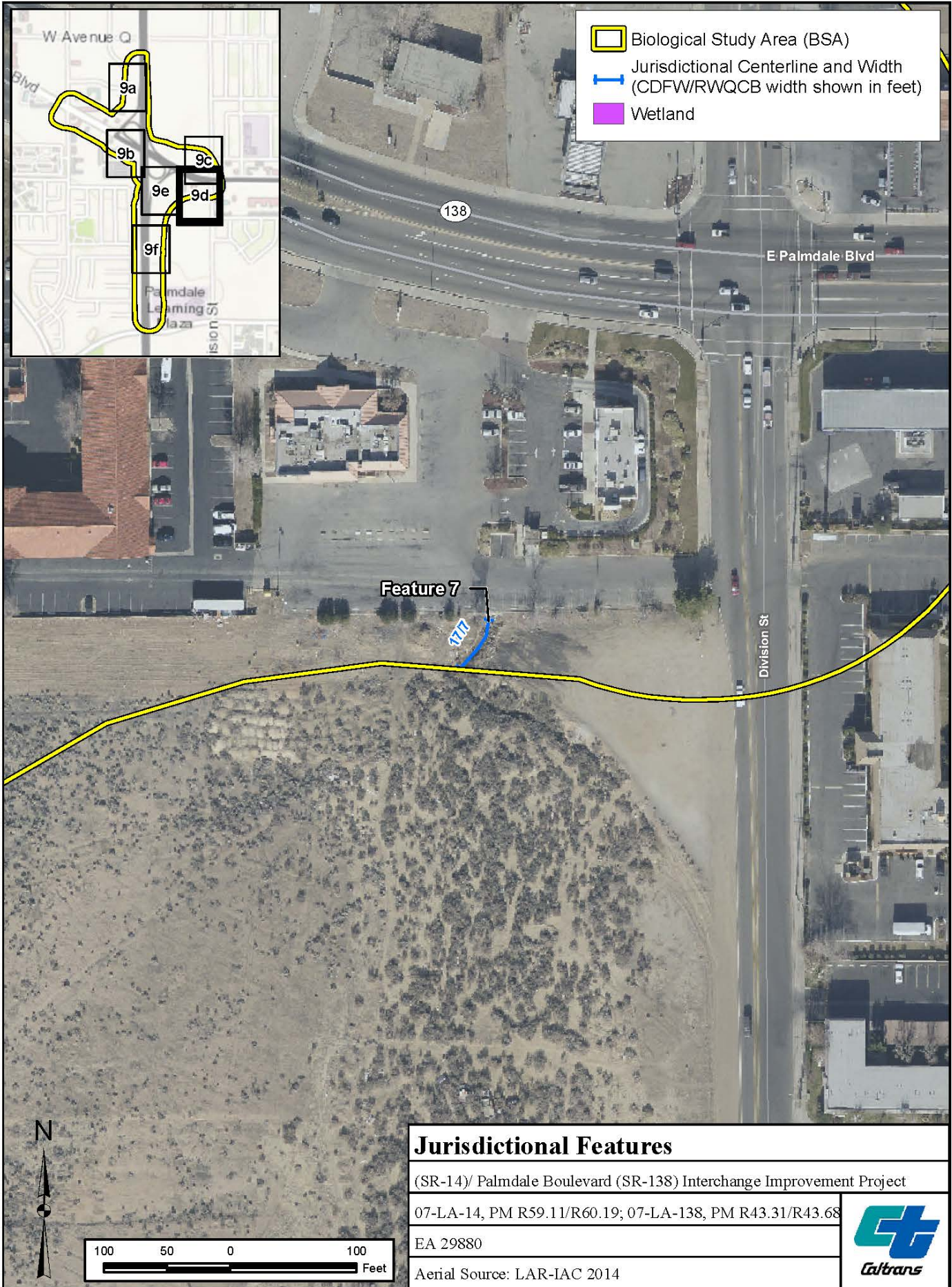


Figure 8d

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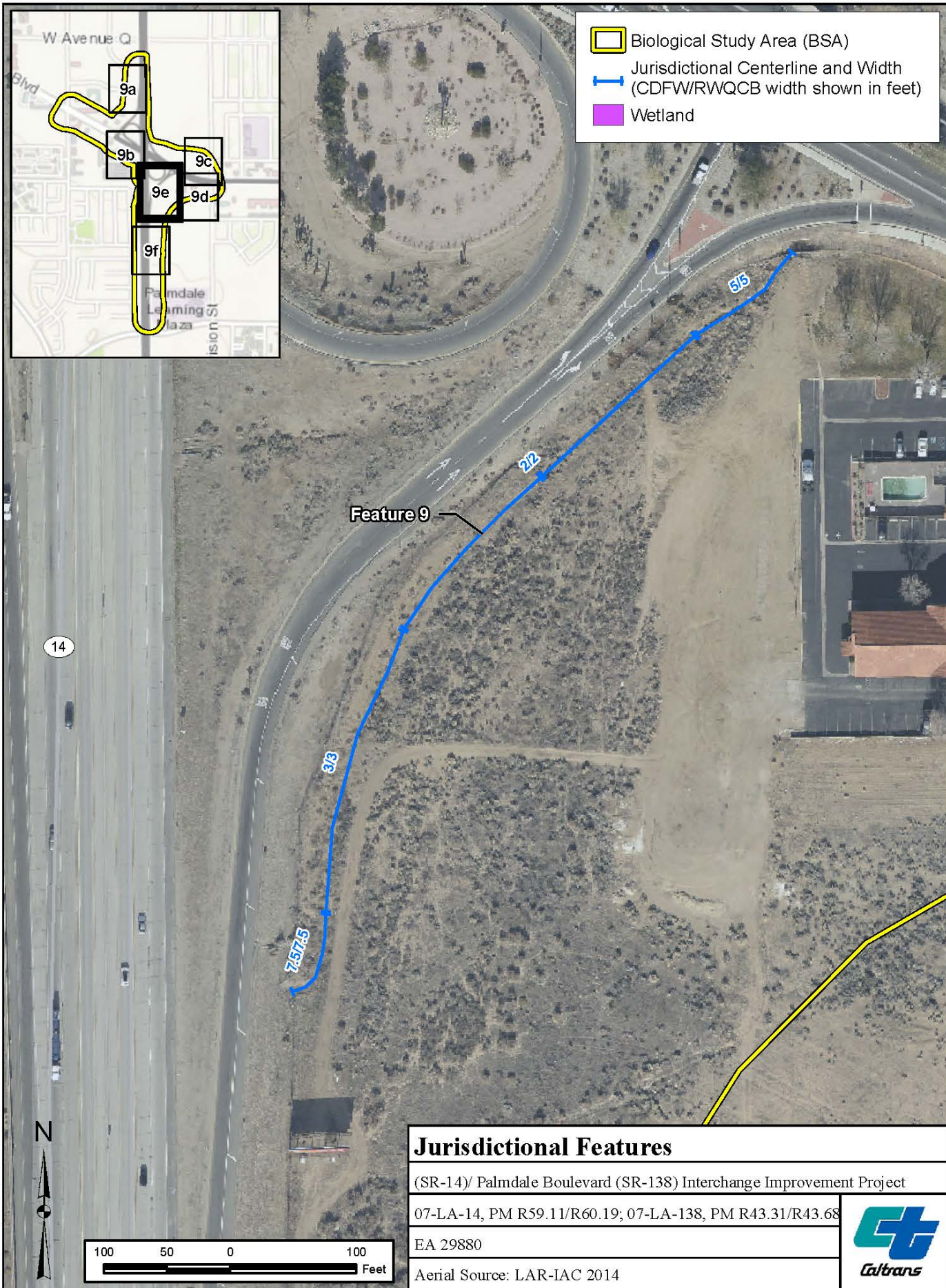


Figure 8e

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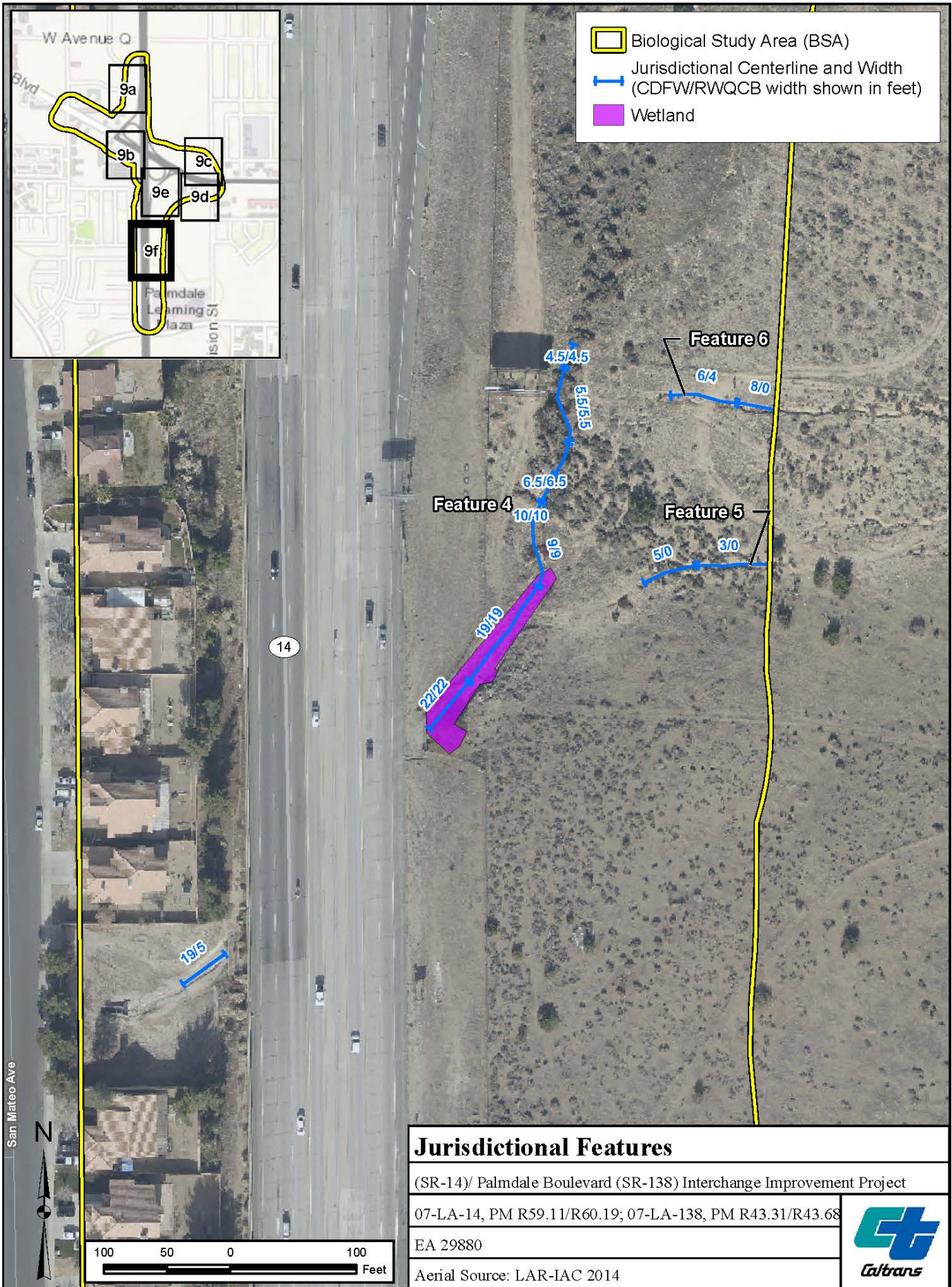


Figure 8f

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As shown in the Table 3.10 the Build Alternative would result in temporary impacts to 0.181 acres of waters under RWQCB jurisdiction and permanent impacts to 0.021 acres of waters under RWQCB jurisdiction. As shown in the table only three drainages would be affected by the Build Alternative. A Water Quality Certification (pursuant to Section 401 of the federal Clean Water Act) would be required for the Project (Refer to a Mitigation Measure BIO-24). Incorporation of Mitigation Measure BIO-24 would reduce these temporary impacts related to the Build Alternative to less than significant levels.

**Table 3.10
Project Impacts to RWQCB Jurisdictional Areas
under the Build Alternative**

Drainages	Existing acres within the BSA	Permanent Impacts	Temporary Impacts
Feature 2	0.185 ac	0.000 ac	0.179 ac
Feature 3	0.079 ac	0.000 ac	0.000 ac
Feature 4	0.110 ac	0.021 ac	0.000 ac
Feature 7	0.008 ac	0.000 ac	0.000 ac
Feature 8	0.030 ac	0.000 ac	0.000 ac
Feature 9	0.057 ac	0.000 ac	0.002 ac
Total	0.469 ac	0.021 ac	0.181 ac

No-Build Alternative

Under the No-Build Alternative, no physical changes would occur. The No-Build Alternative would not result in impacts to biological resources, including riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

Checklist Question c

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. Since drainages in the study area are surrounded by development, they have no jurisdictional connectivity with any jurisdictional water bodies including Lake Palmdale. Because of this, none of these drainages would be subject to USACE jurisdiction, and thus no impacts to “waters of the U.S.” would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur. The No-Build Alternative would not result in impacts to biological resources inside or outside of areas of potential federal jurisdiction.

Checklist Question d

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. No wildlife corridors or nursery sites exist within the BSA. The Build Alternative would not substantially modify the ability of native resident or migratory fish or wildlife species to move within, through, to, or from the BSA, nor interfere with established native resident or migratory wildlife corridors, nor impede the use of native wildlife nursery sites.

No-Build Alternative

No Impact. No-Build Alternative would not result in impacts to any native resident or migratory fish or wildlife species because none exists on the site.

Checklist Questions e and f

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The proposed Project is located in an area where several local provisions for biological resources exists. Construction of the Build Alternative would be subject to Palmdale Native Desert Vegetation Ordinance, and Federal Executive Order 13112 which aims at control of invasive plant species. In addition, the Project is located in the DRECP area.

Some desert native plant species such as Joshua trees and silver cholla (*Cylindropuntia echinocarpa*) are protected under Palmdale Native Desert Vegetation Ordinance. The Build Alternative may result in removal of Joshua trees, California juniper, and cholla planted in the landscaped areas of the SR-14 ramps, which are all subject to the ordinance. According to the ordinance “. . . the design of the project should strive to protect and maintain the most desirable and significant of the healthy desert vegetation in a manner consistent with the City General Plan and CEQA”. Removal of plant species subject to the ordinance is only allowed if a permit is obtained and if an appropriate plant relocation program is prepared. Therefore, if Joshua trees, juniper trees, or cholla are impacted by the Project, Avoidance and Minimization Measures BIO-23 through BIO-25 must be implemented.

Although not considered a covered activity in the DRECP, the Project is located within the regional area being analyzed for the DRECP. As an NCCP, the DRECP would protect, enhance, or restore natural communities and habitats within its planning boundaries and shall provide or enhance habitat linkages, where appropriate, within the Planning Area. All riparian impacts would be mitigated at the Project level and would result in a net zero loss of riparian habitat in the region.

The Project is not located within the Climate Change extension, Expansion Area, Key Population Center and Linkage Area for Mohave Ground Squirrel. Thus, the Project would not conflict with the goals of the DRECP.

The Project, which is located within the Species Distribution Model developed for the DRECP, modeled ”predicted occupied habitat” for Swainson’s Hawk in the BSA; however, Swainson’s Hawks were not found when the protocol surveys were conducted for the Project. With the implementation of Avoidance and Minimization Measures BIO-1 through BIO-3 the Project would not conflict with the goals of the DRECP.

The Species Distribution Model, modeled ”predicted occupied habitat” for Burrowing Owl in the BSA; however Burrowing Owls were not found when the protocol surveys were conducted for the Project. With the implementation of Avoidance and Minimization Measures BIO-15 through BIO-16 the Project would not conflict with the goals of the DRECP.

None of the plant species that have potential to occur on site have been identified in the DRECP, and thus the Project would not conflict with the goals of the DRECP.

Federal requirements prohibit the planting of exotic species (Executive Order 13112) that have been identified as invasive, as seeds from invasive species could escape to natural areas

and degrade native vegetation. Plantings in any landscaped areas must be consistent with this Executive Order. Six plant species [red brome (*Bromus madritensis* ssp. *rubens*), shortpod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium irio*), wise tansy mustard (*Descurainia sophia*), redstem filaree (*Erodium cicutarium*), soft brome (*Bromus hordeaceus*)] occurring on the California Invasive Plant Council's (Cal-IPC's) Invasive Plant Inventory Database were observed in the BSA. These plants would be removed and handled in accordance with BIO-20 and BIO-22. All new landscaping would adhere to Avoidance and Minimization Measure BIO-22. Impacts under the Build Alternative would be less than significant and would be further reduced by incorporation of avoidance and minimization measures.

No-Build Alternative

No Impact. No-Build Alternative would not result in any changes to physical and biological environmental thus would not result in any impacts to biological resources and ordinances that protect them.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures ensure the Project's compliance with rules and regulations applicable to the Project:

Swainson's Hawk

- BIO-1** Tree removal shall occur between September 2 and January 31 to avoid Swainson's hawk nesting season. If construction is initiated during the Swainson's hawk nesting season (i.e., February 1 to September 1), a pre-construction survey for Swainson's hawk nests shall be conducted by a qualified biologist within a 0.5-mile radius of the Project site for the presence of an active nest. The pre-construction survey shall be conducted in accordance with the Swainson's Hawk Technical Advisory Committee's (SHTAC's) *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000). A nesting raptor survey report (including mapping of any active nests if found) shall be prepared by the qualified biologist and shall be submitted to Caltrans and CDFW. If no active nests are found, no further surveys shall be required.
- BIO-2** Prior to the initiation of Project activities if a Swainson's hawk is found to be nesting within 0.5 mile of the proposed impact area, the CDFW shall be consulted by the qualified biologist to evaluate the potential for disturbance of the nesting

birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active nest site shall be protected until nesting activity has ended to ensure compliance with the California Endangered Species Act and Sections 3503.5 and 3513 of the *California Fish and Game Code*. Any Swainson's hawk nests shall be mapped on an aerial photograph by the qualified biologist, and the location information shall be given to Caltrans. The location of active nests shall be marked on applicable construction plans as an ESA.

- BIO-3** To protect an active nest site during Project construction, the following restrictions shall be observed on the Project between February 1 and September 1 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 500 feet in any direction from any occupied Swainson's hawk nest and (2) access and surveying shall be restricted within 300 feet of any occupied Swainson's hawk nest. Any encroachment into the 500-/300-foot buffer area around the known nest shall be allowed only if a Qualified Biologist determines that the proposed activity shall not disturb the nest occupants.

Mohave Ground Squirrel Measures

- BIO-4** A qualified Biologist (holding necessary permit) shall be present during native vegetation removal or ground disturbing activities. Should Mohave Ground Squirrel species be observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or authorizations to handle this species) shall capture and relocate Mohave ground squirrels to appropriate habitat outside the impact area. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.
- BIO-5** During Project construction, all vegetation cleared from the impact area shall be removed immediately by the construction contractor under the supervision of the qualified biologist. No soils excavated from the Project site shall be kept on site unless secured. Stockpiled soils shall be secured with extra strength cover foil buried at least one foot underground to discourage wildlife from burrowing.
- BIO-6** During Project construction, a worker environmental awareness program (WEAP) training shall be provided by the qualified biologist to construction personnel. The WEAP shall discuss the Mohave ground squirrel, its habitat, and BMPs to protect

it during construction. Other sensitive species potentially present on site shall also be discussed during WEAP.

- BIO-7** Prior to initiating grading activities, the construction contractor under the supervision of the qualified biologist shall install an exclusionary fencing in all areas of suitable habitat subject to impacts. A qualified biologist shall remain on the site during initial ground disturbance activities to the depth of 5 feet below ground surface. After initial ground breaking activities biological monitor shall remain on call and conduct periodic site inspections (i.e. every 10 days). The frequency of site visits shall be determined by the qualified biologist after the preconstruction survey and monitoring of the initial groundbreaking activities.
- BIO-8** During construction activities the construction contractor shall notify the biological monitor about any sensitive wildlife that is accidentally trapped within the limits of the exclusionary fencing.
- BIO-9** During construction activities if any sensitive wildlife is found trapped inside of the exclusionary fencing and is unable to leave the impact area on their own, the monitoring biologist shall be notified immediately.

Silvery Legless Lizard and Coast Horned Lizard

- BIO-10** A pre-construction survey for the silvery legless lizard shall be conducted by a qualified biologist in the Project impact area at the onset of the ground disturbing activities. If this species is observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or authorizations to handle this species) shall capture and relocate the silvery legless lizard to appropriate habitat outside the impact area. Prior to translocating any silvery legless lizards, the CDFW shall review and approve the translocation site and methods by which the animals shall be moved. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.
- BIO-11** No more than 10 days prior to construction activities, a qualified biologist shall conduct a pre-construction survey to determine if any potential sensitive species (e.g., coast horned lizard) are present on the site. If no signs of the species or species are observed, construction work can proceed.
- BIO-12** A qualified biologist shall be present during removal of native vegetation. If Coast Horned Lizard observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or

authorizations to handle this species, or having experience with the species) shall capture and relocate the coast horned lizard to appropriate habitat outside the impact area. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.

BIO-13 Prior to grading activities exclusionary fencing shall be installed in all areas of suitable habitat subject to Project impacts under the supervision of the biological monitor. A qualified biological monitor shall remain on the site during initial ground disturbance activities to the depth of 5 feet below ground surface. After initial ground breaking activities biological monitor would remain on call and conduct site checks periodically (i.e. every 10 days). The frequency of site visits shall be determined by the qualified biologist after the initial groundbreaking activities.

BIO-14 During construction activities if any sensitive wildlife (e.g. coast horned lizard) is found trapped inside of the exclusionary fencing a Project biologist shall be notified and the animal shall be allowed to leave the impact area on their own. If the animal is unable to leave the site the qualified biologist shall relocate the animal outside of the impact area.

Burrowing Owls

BIO-15 No more than 14 days prior to construction activities, a qualified biologist shall conduct a pre-construction survey to determine if there are any active burrowing owl burrows within the Project site and if any avoidance and minimization measures shall be required. A final pre-construction survey shall be conducted within 24 hours prior to ground disturbance. If no active burrows are observed, construction work shall proceed.

BIO-16 During construction activities if an active burrow is observed by construction contractor or monitoring biologist during burrowing owl non-nesting season (i.e., September 2 to January 31) and the burrow is within the impact area, standard CDFW burrowing owl burrow closing procedures shall be used to exclude burrowing owls (i.e., using passive relocation with one-way doors). Per CDFW recommendations, two artificial burrows shall be provided for each burrow that is destroyed (CDFG 1995). The location of the artificial burrows shall be determined in consultation with the CDFW.

If an active burrow is observed during burrowing owl non-nesting season (i.e., September 2 to January 31) and the burrow is not within the impact area,

construction work shall be restricted within 160 feet of the burrow (or as otherwise determined by the Project biologist in consultation with the CDFW).

If an active burrow is present and nesting is believed to be occurring during the nesting season (i.e., February 1 to September 1), construction work and access shall be restricted within 250 feet of the burrow (or as otherwise determined by the Project biologist in consultation with CDFW) until fledglings have left the burrow to ensure compliance with Section 3503.5 of the *California Fish and Game Code*. Results of the surveys shall be provided to the CDFW.

Bird Nesting

BIO-17 Any necessary vegetation removal shall be scheduled between September 2 and January 31 to avoid the nesting season. If vegetation removal activities are planned to occur during the nesting season (i.e., February 1 to September 1), a pre-construction nesting bird survey shall be conducted by a qualified biologist within three days prior to clearing of any vegetation. If any active nests are detected, the biologist shall designate a buffer area around the nest (ranging from 100 feet to 500 feet depending on the sensitivity of the species and the location of the nest), which must be protected until the chicks have fledged or until the biologist has determined that the nest has failed.

Raptor Nesting

BIO-18 Construction activities within 300 to 500 feet of potential nesting areas shall be scheduled to begin between September 2 and January 31 to avoid the raptor nesting season. If construction activities are planned to occur during the raptor nesting season (February 1 to September 1), a pre-construction survey for nesting raptors shall be conducted by a qualified biologist within seven days prior to clearing of any vegetation. If any active nests are detected, the Biologist shall designate a buffer around the nest (ranging from 300 to 500 feet depending on the sensitivity of the species and the location of the nest) that must be protected until the chicks have fledged or until the biologist has determined that the nest has failed.

Construction Related

BIO-19 During Final Project Design a construction Storm Water Pollution Prevention Plan (SWPPP) and Soil Erosion and Sedimentation Plan (SESP) shall be developed by the Project Engineer to minimize erosion and to identify specific pollution prevention measures that shall eliminate or control potential point and

non-point pollution sources on site during the Project's construction phase and during Project operation. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive habitat areas (e.g., ruderal, developed). The SWPPP shall identify specific BMPs to be implemented during Project construction to protect water quality. In addition, the SWPPP shall contain provisions for changes to the plan such that alternative mechanisms can be used, if necessary, during Project design and/or construction to achieve the stated goals and performance standards.

- BIO-20** During Project construction, invasive plant species removed by Project activities shall be handled, transported, and disposed of offsite by a qualified contractor to minimize the potential of spreading invasive species and/or their seeds off site. All plants and their seed pods shall be secured in such a manner that no contamination of native soils and natural areas would occur.
- BIO-212** Prior to ground breaking activities a qualified biologist shall monitor native vegetation removal. The biological monitor shall ensure that construction shall stay within marked boundaries; that no disturbance of ESAs occurs; and that BMPs are functioning properly. The biological monitor shall prepare weekly monitoring memos with site photographs for the duration of the native vegetation removal efforts in this segment; the weekly monitoring memos shall be submitted to Caltrans.
- BIO-22** Prior to construction, landscape designs shall be submitted to Caltrans qualified Biologist for review and approval. The review shall determine that no invasive exotic plant species are to be used in any proposed landscaping. Suitable substitutes shall be recommended by the reviewing biologist. All mulch, topsoil, and seed mixes used during landscaping activities and all erosion-control BMPs that are implemented shall be free of invasive plant species propagules.

Desert Plants Ordinance

- BIO-23** During construction activities, to the extent feasible, the construction contractor shall avoid impacts to all Joshua trees and other desert plants covered by the Palmdale Native Desert Vegetation Ordinance. If avoidance of these covered desert plants is not possible the following would apply.
- Prior to removal of desert plants (Joshua trees, cholla cactus) pursuant to the Palmdale Native Desert Vegetation Ordinance, the Joshua Tree Transplantation Plan shall be prepared by a qualified arborist and approved by

the City's landscaped architect. To the extent feasible, the plants to be removed shall be temporary relocated outside the construction zone and replanted back to the BSA after the construction is completed.

- Prior to Project construction, the City shall obtain a permit from the City's landscape architect regarding removal of the desert plant vegetation (Joshua trees).

Mitigation Measure

BIO-24 Prior to initiation of Project activities, the City shall obtain all necessary permits for impacts to RWQCB and/or CDFW jurisdictional areas. Mitigation for the loss of jurisdictional resources shall be negotiated with the resource agencies during the regulatory permitting process. Potential mitigation options shall include one or more of the following: (1) payment to a mitigation bank or regional riparian enhancement program (e.g., invasive plant or wildlife species removal) and/or (2) restoration of riparian habitat either on site or off site at a ratio of no less than 1:1, determined through consultation with the above-listed resource agencies. If in-lieu mitigation fees are required, prior to the initiation of any construction-related activities, Caltrans shall pay the in-lieu mitigation fee to a mitigation bank/enhancement program for the in-kind (equivalent vegetation type and acreage) replacement of impacted jurisdictional resources. If a Restoration Program is required, prior to the initiation of any construction-related activities, Caltrans shall prepare and submit a Riparian HMMP for RWQCB and CDFW approval. If a Riparian HMMP is required, it shall contain the following items:

- a. Responsibilities and Qualifications.** The responsibilities and qualifications of Caltrans, ecological specialists, and restoration (landscape) contracting personnel who shall implement the plan shall be specified. At a minimum, the HMMP shall specify that the ecological specialists and contractors have performed successful installation and long-term monitoring and maintenance of southern California native habitat mitigation/restoration programs, implemented under natural resource agency permit conditions. A successful program shall be defined as one that has been signed off by the resource agencies.
- b. Performance Criteria.** Mitigation performance criteria to be specified in the HMMP shall include native vegetation percent coverage and diversity (minimum), non-native vegetation percent coverage (maximum), and the

cessation of irrigation a minimum of two years prior to eligibility for sign-off.

- c. **Site Selection.** Site selection for habitat restoration and/or enhancement shall be determined in coordination with Caltrans, the RWQCB, and the CDFW.
- d. **Native Plant and Seed Materials Procurement.** One to two years prior to mitigation implementation (or as far in advance as practicable prior to planting/seeding implementation), Caltrans or its consultants/contractors shall initiate collection of the native seed materials specified in the HMMP. It is highly recommended that all seed mixes shall be of local origin (i.e., collected within the same subwatershed as the selected mitigation site).
- e. **Wildlife Surveys and Protection.** The HMMP shall specify any wildlife surveys (e.g., nesting bird surveys, focused surveys for special status species) and biological monitoring that are required to avoid adverse impacts to wildlife species during the performance of mitigation site preparation, installation, or maintenance tasks. The HMMP shall also describe potential restrictions on these tasks due to sensitive wildlife conditions on the mitigation site (e.g., suspension of these tasks during the nesting bird season).
- f. **Site Preparation and Plant Materials Installation.** Mitigation site preparation shall include (i) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (ii) installation of protective fencing and/or signage (as needed); (iii) initial trash and weed removal (during the non-nesting bird season); (iv) soil treatments, as needed (i.e., imprinting, decompacting); (v) installation of erosion-control measures (i.e., fully natural/bio-degradable [not 'photo-degradable'] fiber roll); (vi) application of salvaged native plant materials (i.e., duff) as available; (vii) temporary irrigation installation; (viii) a minimum one-year preliminary 'grow-and-kill' weed abatement program (prior to the installation of native plant and seed materials), including specification of approved herbicides; (ix) planting of container species; and (x) seed mix application.
- g. **Schedule.** An implementation schedule shall be developed that includes planting and seeding to occur in late fall and early winter (i.e., between November 1 and December 31) and the frequency of long-term

maintenance and monitoring activities (including the dates of annual quantitative surveys, as described below).

- h. **Maintenance Program.** The Maintenance Program shall include (i) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (ii) maintenance of protective fencing and/or signage; (iii) trash and weed removal, including specification of approved herbicides; (iv) maintenance of erosion-control measures; (v) inspection/repairs of irrigation components; (vi) replacement of dead container plants (as needed); (vii) application of remedial seed mixes (as needed); (viii) herbivory control; and (ix) removal of all non-vegetative materials (i.e., fencing, signage, irrigation components) upon Project completion. The mitigation site shall be maintained for a period of five years to ensure the successful establishment of riparian habitat in the restored and created areas; however, Caltrans may request to be released from maintenance requirements prior to five years if the mitigation program has achieved all performance criteria.
- i. **Monitoring Program.** The Monitoring Program shall include (i) qualitative monitoring (i.e., general habitat conditions, photo-documentation from established photo stations); (ii) quantitative monitoring (e.g., randomly placed point-intercept transects); (iii) annual monitoring reports, which shall be submitted to the resource agencies for five years or until Project completion; and (iv) wildlife surveys and monitoring, as described above. The annual monitoring reports shall include a detailed discussion of mitigation site performance (e.g., measured vegetation coverage and diversity) and compliance with required performance criteria; a discussion of wildlife species' use of the restored and/or enhanced habitat area(s); and a list of proposed remedial measures to address non-compliance with any performance criteria. The site shall be monitored for five years or until the RWQCB and CDFW have released Caltrans from maintenance requirements.
- j. **Long-Term Preservation.** Long-term site preservation shall be outlined in the HMMP to ensure the mitigation site is not impacted by future projects.

3.5 Cultural Resources

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CEQA requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as “unique” archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term “tribal cultural resources” to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and State Historic Preservation Office (SHPO), effective January 1, 2015. For most Federal-aid projects on the

State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

Although at this time there is no federal involvement, the Cultural Resources study prepared for this Project is Historic Properties Survey Report (HPSR). The HPSR is an umbrella cultural resources document. Methods for the preparation of the report included (1) establishing Area of Potential Effects (APE); (2) consulting with seven tribal groups identified by the Native American Heritage Commission under Section 106 of the National Historic Preservation Act and eight tribal groups under Assembly Bill (AB) 52 (3) conducting an archaeological records review at the South Central Coastal Information Center at California State University, Fullerton; (4) conducting an inventory of the historic built environment by Architectural Historian Pamela Daly; and (5) a performing a pedestrian survey of the APE.

Affected Environment

This section is prepared based on the HPSR, the Archaeological Survey Report (ASR), and the Historic Resources Exemption Letter, which together comprise Phase I Cultural Resources Study.

The APE was established as the disturbance/direct impact area and full and partial takes adjacent to the disturbance/direct impact area. The Direct APE is the area that will be subject to direct construction disturbance during Project construction including the freeway, interchange, and construction staging areas. Maximum vertical depth of the APE, which would be for the ground anchor/tieback walls beneath the SR-14, will not exceed 8 feet below surface. Most of the excavation will be for the roadway structural section, which is expected to a depth of 6 feet or less. The Indirect APE consists of the entire administrative boundary of a parcel that is subject to a temporary construction easement or a partial acquisition and includes the PMs on the south and north.

Field Survey

Archaeological field surveys of the APE were conducted by BonTerra Psomas archaeologists David Smith and Matheson Lowe on August 27 and October 13, 2015 respectively. Historic resources pedestrian and windshield field survey was conducted by Pamela Daly, M.S.H.P. on December 27, 2015.

Native American Consultation

Pursuant to AB 52, a Sacred Lands File Search was requested of the NAHC, which responded by faxed letter on September 29, 2015. The search did not indicate the presence of Native American cultural resources on the Project site; however, resources were identified

nearby. No Native American sacred lands were identified in the immediate vicinity of the Project site. The NAHC provided a list of Native American individuals/organizations that may have knowledge of cultural resources in the Project area and who should be invited to consult. The list included the following individuals/tribes: Lynn Valbuena, Chairwoman, San Manuel Band of Mission Indians, John Valenzuela, Chairperson, San Fernando Band of Mission Indians, Rudy Ortega Jr., President, Fernandeno Tataviam Band of Mission Indians; Delia Dominguez, Chairperson, Kitanemuk and Yowlumne Tejon Indians. All individuals and tribes on the list were mailed or emailed letters on November 30, 2015. Follow up telephone calls were made to all four tribal members on June 16, 2016. No additional comments were received. Given that no responses from any of the tribes were received in writing within 30 days of their receipt of the formal notification and request to consult, AB 52 consultation was concluded for the Project.

In January 2019 during the circulation of the Draft IS/MND, Lee Clauss, the Director of Cultural Resources Management for the San Manuel Band of Mission Indians, contacted Caltrans via email. In the email, Lee Clauss confirmed receipt of the Draft IS/MND; notified Caltrans to send future tribal consultation correspondence to her; notified Caltrans that she has no evidence of the San Manuel Band of Missions Indians having previously received the project's HPSR, ASR, or Historic Resource Exemption Letter; and requested more information on the nature and locations of construction activities to further determine the probability that the Project would encounter previously undisturbed native soils. On January 22, 2019, Caltrans sent Ms. Clauss a response email including a copy of the original AB 52 consultation letter and materials that were mailed to Chairperson Valbuena with the San Manuel Band of Mission Indians in November 2015. Caltrans also provided Ms. Clauss with the HPSR and ASR for the Project. On February 22, 2019, Ms. Clauss provided an email response to Caltrans asking for additional information. On March 27, 2019, Caltrans provided a response with clarifications to Ms. Clauss. No further correspondence has been received from the Lee Clauss as of Mach 2020.

Cultural Resources Records Search

An archaeological and historical resources records search for the Project APE and the surrounding one-mile radius was conducted by BonTerra Psomas staff on August 14, 2014, at South Central Coastal Information Center (SCCIC), California State University, Fullerton. The SCCIC is the designated regional repository of the California Historical Resources Information System (CHRIS) for records regarding archaeological and historical resources and associated studies in Los Angeles County. The CHRIS system provides data on the National Register of Historic Places (National Register), CRHR, California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and Historical Landmarks

of Los Angeles County, plus historical maps and photographs as needed. The records search revealed that there are no previously recorded built-environment resources within a one-quarter mile range of the current APE.

Archaeological Inventory

An archaeological and historic resources records search for the Project indicated that 30 studies have been completed within ½ mile of the APE. Of those, five included portions of the APE; however, none of those included the APE in its entirety. There have been four cultural resources recorded within a one-mile radius of the APE. These consist of a historic residence, a tract of residential lots, a concrete foundation with associated historical refuse, and an earthen ditch and reservoir with associated refuse. None of these properties are closer than ¼ mile to the APE and none of the four have been evaluated.

One historic archaeological isolated occurrence of an artifact was observed. The artifact, a milk can, was too damaged to be dated to a general time period. The artifact was not collected or recorded.

Other Historic Resources Sources

All of the properties within the APE were constructed after 1967. None of the properties within the APE have been listed in a local survey of historical properties. It can therefore be concluded that if these properties are determined "not eligible for listing in the National Register", this determination should not be considered controversial within the community. All surveyed commercial properties were determined to be properties that do not warrant evaluation pursuant to Federal Highway Administration Section 106 Programmatic Agreement; Attachment 4: Property Types 2, 3, 4, and 6. (There are three properties described as Type 2, four properties were described as Type 3, three Properties were described as Type 4, and two Properties were described as Type 6.)

The SR-14/Palmdale Boulevard (SR-138) Bridge structure has been categorized by Caltrans as not eligible for listing in the National Register. Two other bridges at Anavaerde Creek and Avenue Q are also categorized as Category 5 and thus not eligible for National Register. There are no built environment resources within the direct APE that were determined to require an intensive-level evaluation. Because of this, no review or concurrence is necessary from the SHPO.

Paleontological Resources

A Paleontological Identification Report (PIR) was prepared for this Project in 2014 and identified the need to complete a Paleontological Evaluation Report (2016) and Paleontological Monitoring Plan (2016).

The Project area is at the western edge of the Antelope Valley portion of the Mojave Desert. Sediments within the Area of Potential Effects (APE) were deposited on the distal end of alluvial fans coming off the nearby northern San Gabriel Mountains. Except for a few areas of outcrop of older alluvial units, most of the Project is underlain by Quaternary alluvium. A paleontological resources records search for the Project indicated there are no previous recorded paleontological sites within the APE, but there are 16 sites nearby and farther away in sedimentary formations that are the same or similar to those formations that occur within the APE.

A paleontological survey was conducted on August 27, 2015 by Paleontologist Mark Roeder. No paleontological resources were identified within the APE during the survey. The majority of the original ground surface of the APE was buried beneath thick deposits of engineered fill from the original construction of SR-14/ Palmdale Boulevard (SR-138) which was completed in 1964. Consequently, no paleontological resources are expected to be found in the engineered fill. However, there are three areas in the APE that may contain Quaternary alluvium and sedimentary rock units (Anaverde Formation, Quaternary older dissected surficial sediment, and Quaternary alluvium). This formation in the Palmdale area is known to generate vertebrate fossils of small fauna at depth as shallow as 3 ft below ground surface (bgs). Three areas containing Quaternary alluvium at the SR-14/Palmdale Boulevard (SR-138) interchange include: 1) SR-14/ Palmdale Boulevard (SR-138) northbound on ramp, 2) SR-14 northbound off ramp, 3) SR-14 southbound on ramp.

Environmental Consequences

Checklist Question a

Would the Project:

- a) **Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**

The Build Alternative (Preferred Alternative)

No Impact. A historic review and evaluation of the built environment within and in the vicinity of the APE was completed by Architectural Historian Pam Daly, M.S.H.P. Ms. Daly. As described above all of the commercial properties where the parcel will be directly impacted by Project activities appear to be properties that do not warrant evaluation pursuant to Federal Highway Administration Section 106 Programmatic Agreement; Attachment 4: Property Types 2, 3, 4, and 6. None of the properties within the APE have been listed in a local survey of historical properties, and it does not appear that a determination of “not eligible for listing in the National Register” for any of the properties would be considered controversial within the community.

In addition, the Build Alternative does not require demolition or removal of any built environment resource other than a soundwall. No other built environment resources were identified within the direct APE that required an intensive-level evaluation. The Build Alternative would not result in impacts to the buildings, and thus would not result in adverse change in the significance of a historic resources, as defined in Section 15064.5 of the State CEQA Guidelines.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required; therefore, the No-Build Alternative would not affect cultural resources.

Checklist Question b

Would the Project:

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

The Build Alternative (Preferred Alternative)

No Impact. As described above four cultural resources were recorded within a one-mile radius of the APE. These consist of a historic residence, a tract of residential lots, a concrete foundation with associated historical refuse, and an earthen ditch and reservoir with associated refuse. None of these properties are closer than ¼ mile to the APE and none of the four have been evaluated.

Archaeological surveys of the APE were conducted on August 27 and October 13, 2015, and no prehistoric archaeological resources were identified during the surveys.

NAHC was contacted to provide information about the cultural resource, however the NAHC did not identify the presence of any Native American cultural resources in the immediate vicinity of the APE. Additionally, none of the Native Americans contacted regarding this Project had any specific knowledge of any cultural sites in the Project APE. In addition, on September 2, 2015, the West Antelope Valley Historical Society (Society) was contacted in writing and requested to provide any background historical information relevant to the Project and vicinity. To date, no response has been received.

Based on the results of the pedestrian survey, the degree to which the APE has been previously impacted by construction greatly diminishes the likelihood that archaeological materials will be encountered during the proposed interchange improvements. Therefore, construction monitoring is not recommended.

It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. This provision is provided in Minimization Measure CUL-1. The Build Alternative would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; therefore, no impact would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required; therefore, the No-Build Alternative would not affect cultural resources.

Checklist Question c

Would the Project:

- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Project would require excavation to 6 ft bgs in the majority of the area and approximately 12 ft bgs in proximity of SR-14/Palmdale Boulevard (SR-138) bridge. As described above, the majority of the Project area is underlain by the engineered fill and thus is not expected to produce fossils. However, three areas around the interchange contain Quaternary Alluvium, and in these areas, earth-moving activities should be monitored for paleontological resources. Avoidance and Minimization, Measures CUL-2 through CUL-11 would address potential impacts should paleontological resources be found on site. Identifiable fossil remains (particularly of vertebrates) recovered in these areas of the APE will be scientifically important if they represent new or rare species; geologic (temporal) and/or geographic range extensions; age-diagnostic taxa; and/or more complete specimens than are now available for their respective taxa. It is Caltrans' policy to mitigate impacts to possible paleontological resources during construction to an insignificant level by requiring paleontological monitoring and appropriate handling of resources as outlined in the PMP.

The rest of the Project is located in an engineered fill and therefore grading in these areas does not need to be monitored.

Therefore, impacts related to paleontological resource would be less than significant. Incorporation of Avoidance and Minimization Measures CUL-2 through CUL-11 would

further reduce impacts should buried paleontological resources be found on site during construction.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur and no excavation would be required; therefore, the No-Build Alternative would not affect paleontological resources.

Checklist Question d

Would the Project:

- d) Disturb any human remains, including those interred outside of formal cemeteries?**

The Build Alternative (Preferred Alternative)

No Impact. NAHC did not identify the presence of any Native American cultural resources or cemeteries in the immediate vicinity of the APE. Additionally, none of the Native Americans contacted regarding this Project had any specific knowledge of any cultural sites including cemeteries in the Project APE.

No human remains are known to exist on the Project site, and the site is not identified as a formal cemetery. The Project site and its surrounding area are somewhat disturbed and the possibility of discovering human remains is unlikely. However, the lack of past evidence of a Native American burial ground or human remains at the Project site does not guarantee the absence of subsurface remains. Therefore, if there is an unexpected discovery of human remains, guidelines summarized in Minimization Measure CUL-12 should be followed.

In accordance with State law, if remains are discovered (to be determined by the County Coroner and a qualified archaeologist) no work will be permitted until the remains are removed from the site. Once the remains are removed, construction activities may resume. If the remains are non-Native American and of no forensic significance, the City will make the proper arrangements with a qualified archaeologist to remove the remains and have them reburied in accordance with current guidelines in the *California Health and Safety Code*. If the remains are recent, the Coroner will handle all necessary removal and reburial activities. Minimization Measure CUL -12 would ensure that impacts to any buried resources on site are minimized. The Build Alternative would not result in impacts related to the disturbance of human remains. However, in the unlikely event there is a discovery of human remains during construction, incorporation of Minimization Measure CUL -12, which requires compliance with the California Health and Safety Code, would minimize potential impacts.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required; therefore, the No-Build Alternative would not affect human remains.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures ensure the Project's compliance with rules, regulations and standard conditions that are applicable to the Project:

CUL-1 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.

CUL-2 In conjunction with the final design phase of each program-related improvement, a qualified vertebrate paleontologist will review the geotechnical report data, with particular regard to location and depth of earth moving and the rock unit(s) being encountered. The review is for the purpose of assessing potential for fossil remains being encountered by earth moving.

If previously undisturbed strata with potential for containing fossil remains will be encountered by earth moving activities, the following measures will be implemented:

CUL-3 The Natural History Museum of Los Angeles County (LACM), or another qualified repository will be the designated museum repository for any vertebrate, invertebrate, and plant fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered from the site as a result of the PMP. Prior to any earth moving at the Project site, the paleontologist will develop a formal agreement with the museum regarding final disposition and permanent storage and maintenance of the fossil collection and associated data. The agreement will cover, but not necessarily be limited to, museum requirements regarding (1) level of treatment of the collection; (2) storage and maintenance fees, if any; and (3) purchase of specimen storage cabinets and drawers, as well as specimen trays, vials, specimen data cards, and other curatorial supplies, if required.

CUL-4 As part of the PMP, the paleontologist will develop a discovery clause/treatment plan (DC/TP) to allow for the additional tasks (recovery; geologic mapping;

fossiliferous rock sample processing; specimen preparation, identification, curation, cataloguing, and data entry; specimen storage and maintenance by museum) and manpower required to treat a large or productive fossil occurrence that cannot be treated without diverting the monitor from routine monitoring. The DC/TP will also include approved procedures and lines of communication to be followed by specific individuals if fossil remains are uncovered by earth moving, particularly when a paleontological monitor is not present at the site. Names and telephone numbers of contact personnel will be included in the lines of communication.

- CUL-5** The paleontologist or field supervisor and a paleontological construction monitor will attend a preconstruction meeting to explain the PMP to the construction contractor and representatives of the California Department of Transportation (Caltrans). The presentation will summarize procedures to be employed by PMP personnel and will detail procedures and lines of communication to be followed by specific Project personnel when fossil remains are found at the site.

The paleontologist or field supervisor will inform the construction contractor and representatives of Caltrans of the following:

- 1) Routine measures (primarily monitoring and test screening) to be employed by a monitor during earth moving.
- 2) The potential for fossil remains to be uncovered by earth moving in particular areas of the site and the need to implement specific actions and additional measures when a fossil occurrence is uncovered by earth moving.
- 3) Functions and responsibilities of the monitor when fossil remains are uncovered by earth moving and can be recovered without diverting the monitor from monitoring (i.e., monitor to temporarily divert earth moving around fossil site until the remains are evaluated, recovered, and earth moving allowed to proceed). If approved by construction contractor, the monitor will enlist the assistance of earth-moving equipment and an operator to expedite recovery of remains, to obviate need for additional personnel, and to reduce any potential construction delay.
- 4) Functions and responsibilities of the monitor when a fossil occurrence is uncovered by earth moving and is sufficiently large or productive that it

cannot be recovered without diverting the monitor from monitoring. These include the following:

- a. Flag the site.
 - b. Advise the construction contractor to avoid the fossil site until further notice (probably less than two days).
 - c. Call the Project paleontologist or field supervisor to the site.
- 5) Functions and responsibilities of the paleontologist or field supervisor when notified by the monitor that a large or productive fossil occurrence has been uncovered by earth moving and cannot be recovered without diverting the monitor from monitoring. The Paleontological Monitor will monitor in previously approved areas unless there is a late discovery. The occurrence will be evaluated to determine if recovery is warranted by completing the following:
- a. If recovery of the fossil(s) is warranted, the construction contractor and Caltrans will be notified of necessity for implementing additional mitigation measures specified in DC/TP to initiate an increased level of monitoring, if not already in effect, in the immediate vicinity of the fossil site and additional personnel will be assigned to monitor the site.
 - b. Within 24 hours after Caltrans approval secured by monitoring personnel, the recovery crew will be mobilized to recover the occurrence and to supervise recovery of the occurrence and its transport to a laboratory facility or to another site approved by the construction contractor for initial/field processing of the fossiliferous rock sample or to a laboratory facility where the fossil specimen will be prepared.
 - c. If warranted and approved by the construction contractor, assistance of the earth-moving equipment operator will be enlisted to expedite recovery of the occurrence.
 - d. To obviate need for additional personnel and to reduce any potential construction delay after of the occurrence is recovered, the construction contractor will allow earth moving to proceed through fossil site.

- e. Notify Caltrans of the recovery (or of the decision not to recover fossil occurrence, if appropriate) and to obtain authorization for the contractor to proceed through fossil site.
- 6) Responsibilities of the construction contractor and earth-moving equipment operators if fossil remains are uncovered by earth moving, particularly if a monitor is not present at the site when the remains are encountered. The responsibilities are as follows:
- a. Avoid disturbance of fossil site by earth moving.
 - b. Notify the monitor, the paleontologist, or the field supervisor and Caltrans of the fossil occurrence.
 - c. Avoid the fossil site (i.e., by earth-moving activities).
 - d. Assist with equipment and expedite recovery of occurrence.

CUL-6 Earth moving will be monitored by a paleontological monitor only in those areas of the site where earth moving will disturb soils where native Quaternary alluvium is present at the surface. Monitoring will be implemented at the ground surface. Monitoring will consist of visually inspecting freshly exposed rock and debris for larger fossil remains and periodically dry test screening a small (25 pound) sample of rock and debris with a 20-mesh box screen for smaller vertebrate fossil remains. As stated above, monitoring would only occur in the Quaternary alluvium; however, if too few or no fossil remains are uncovered by earth moving in areas underlain by a particular rock unit and with the approval of Caltrans as secured by PMP personnel, monitoring time can be reduced. Generally, to half or quarter time or suspended once 50 percent of earth moving in the area underlain by the rock unit has been completed. Alternatively, if sufficient fossil remains are uncovered by earth moving and with the approval of Caltrans as secured PMP personnel, monitoring may be increased in areas underlain by the fossil-bearing rock unit, at least in the immediate vicinity of the fossil site.

CUL-7 If a large fossil specimen is found as a result of monitoring earth moving and the specimen can be recovered without significantly diverting the monitor from monitoring, earth moving will be temporarily diverted around the fossil site and the specimen will be evaluated, and, if warranted, excavated; covered with a protective plaster-impregnated burlap jacket, if required; and recovered.

If necessary and approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite recovery of the specimen and to obviate the need for additional personnel. A temporary field number will be assigned to the specimen; the field number, a preliminary field identification, and pertinent specimen information (field number, identification by taxon and element) and geologic (particularly stratigraphic level within rock unit), geographic site data (location, elevation) will be recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location plotted on a map of the site.

At the end of the day, the monitor or (following his next site inspection) the field supervisor will transport the fossil remains and associated data to a laboratory facility for further treatment (see Minimization Measure CUL-10). If appropriate, samples of fossil wood will be submitted for carbon-14 dating analysis.

- CUL-8** If a fossil specimen is found and is sufficiently large that it cannot be recovered without significantly diverting the monitor from monitoring, the fossil site will be flagged with colored survey ribbon to temporarily divert earth moving around the site, the construction contractor will be advised to avoid the site until further notice (probably less than 2 days), and the paleontologist or field supervisor will be called to the site. The grading contractor will notify Caltrans and PMP personnel of the occurrence and of the avoidance of the site. The paleontologist or field supervisor, in turn, will evaluate the specimen to determine if recovery is warranted.
- a. If specimen recovery is not warranted, no further action will be taken to preserve the fossil site or remains. The construction contractor will be allowed to have earth moving proceed through the site immediately, and Caltrans will be notified of the decision not to recover the specimen and of authorization for earth moving to proceed through the fossil site.
 - b. If specimen recovery is warranted, the paleontologist or field supervisor will notify the construction contractor and Caltrans of the necessity for implementing additional measures specified in the DC/TP, initiating full-time monitoring, if not already in effect, at least in the immediate vicinity of the site in areas underlain by the fossil-bearing rock unit, and assigning additional personnel to the PMP. Within 24 hours after Caltrans approval (as secured by PMP personnel), a recovery crew will be mobilized to

recover the specimen. The size of the crew will reflect the size of the specimen and the need to recover the specimen as quickly as possible.

- c. The specimen will be excavated with hand tools, covered with a protective plaster-impregnated burlap jacket, and recovered. If necessary and approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite recovery of the specimen; to reduce any potential construction delays; and to obviate the need for additional personnel. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the specimen. Caltrans will be notified of the recovery and of authorization for earth moving to proceed through the fossil site.
- d. A temporary field number will be assigned to the specimen; the field number, a preliminary field identification, pertinent specimen (field number, identification by taxon and element), geologic (particularly stratigraphic level within rock unit), and geographic site data (location, elevation) will be recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location will be plotted on a map of the site. The field supervisor and, if necessary, a crew member will transport the fossil specimen and associated site data to a laboratory facility for further treatment. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the specimen. (See Minimization Measure CUL-10 Fossil Treatment).

CUL-9 If a sufficient number of smaller vertebrate fossil remains are found at one site as a result of test screening by the monitor, the fossil site will be flagged with colored survey ribbon to temporarily divert earth moving around the site. The construction contractor will be advised to avoid the site until further notice (probably less than two days). If requested by the monitor, to expedite recovery of a fossiliferous rock sample, to reduce any potential construction delay, and to obviate the need for additional personnel, the construction contractor will have earth-moving equipment and an operator acquire a rock sample from the fossil site and transport the sample, if possible, to a nearby temporary location at the site approved by the construction contractor.

The construction contractor will notify Caltrans and PMP personnel of the occurrence and of the avoidance of the fossil/storage site. If a sample is

recovered, the construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the sample. The monitor will notify Caltrans of the recovery of the sample and of authorization for earth moving to proceed through the fossil site. The paleontologist or field supervisor will be called to the fossil/storage site to determine if the fossil site/sample is sufficiently productive to warrant recovery of a large sample of fossiliferous rock to process for additional small remains. Previous experience has demonstrated that only some fossil sites require sampling/sample processing. On the other hand, more than 95 percent of the specimens recovered as a result of some mitigation programs were recovered as a result of sample processing.

1. If the site/sample is determined too unproductive or the remains too poorly preserved or insufficiently diagnostic, no further action will be taken to preserve the fossil site/sample or remains, the construction contractor will be allowed to have earth moving proceed through the fossil/storage site immediately, and Caltrans will be notified of the decision not to recover/process a sample and of authorization for earth moving to proceed through the fossil/storage site.
2. If sample recovery is warranted, the paleontologist or field supervisor will notify the construction contractor and Caltrans of the necessity for implementing additional measures specified in the DC/TP and assigning additional personnel to the PMP. The following will also occur.
 - a. Within 24 hours after Caltrans approval as secured by PMP personnel, a recovery crew will be mobilized to recover the sample. The size of the crew will reflect the need to recover the sample as quickly as possible. The field supervisor will record the size and will supervise recovery of the sample. Up to three tons of fossiliferous rock will be recovered. The sample will be excavated with hand tools for recovery. If necessary and if approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite transportation of the sample to the processing facility; to obviate the need for additional personnel; and to reduce any potential construction delay. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the sample. The paleontologist or field supervisor will notify Caltrans of recovery

of the sample and of authorization for earth moving to proceed through the fossil site.

- b. A temporary field number will be assigned to the sample; the field number and pertinent specimen (field number, identification by taxon, and element) and geologic (particularly stratigraphic level within rock unit) and geographic site data (location, elevation) will be recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location plotted on a map of the site. The field supervisor and, if necessary, a crew member will transport the sample to a location elsewhere at the site approved by the construction contractor or to an off-site location for initial/field processing (wet screening) of the sample.
- c. If warranted, the field supervisor will setup a field processing facility for wet screening the sample at a site location approved by the construction contractor. Wet screening will consist of sieving rock through a 30 mesh opening per inch- (or finer) mesh box screen immersed in a tub of water to remove the smaller (clay and silt) particles from the larger (sand and rock) particles and small fossil remains and could result in a reduction in sample weight/volume in excess of 90 percent. If necessary, rock will be soaked in an environmentally safe dispersant (e.g., citrus oil) prior to screening to improve the separation of the clay particles from the rest of the sample during screening. The monitor will conduct wet screening if screening can be accomplished without diverting the monitor from monitoring. If it is not possible to have the monitor perform the wet screening, a field technician will be assigned to the task. Following the next site inspection, the field supervisor will transport the concentrate (larger particles and small fossil remains) generated by initial processing to a laboratory facility for final/laboratory processing.
- d. If the fossil remains in the concentrate are sufficiently fossilized (dense), an environmentally safe heavy liquid (e.g., sodium polytungstate), if appropriate, will be used by the senior vertebrate paleontologist to separate the remains from the remaining sand and rock particles. When added to a beaker filled with heavy liquid, the concentrate will separate, the particles will float to the surface, and

the remains will sink to the bottom, from where they are retrieved. This technique can result in a further sample weight/volume reduction in excess of 90 percent (less than 1 percent of the original sample size). The final concentrate will be examined under a microscope and fossil specimens will be recovered from any remaining sand and rock particles. If the fossil bone in the original concentrate is not sufficiently dense for use of the heavy-liquid separation technique, the entire sample of concentrate will be sorted under a microscope for fossil remains. Recovered fossil remains will then be treated (see Minimization Measure 5).

- e. During the final processing of a sample, the senior vertebrate paleontologist will continually evaluate the results of field and laboratory processing. If the sample is insufficiently productive or if the fossil remains are too poorly preserved, the senior vertebrate paleontologist will have the option of discontinuing further laboratory processing of the sample; having field processing of the remainder of the sample suspended; and disposing of the remainder of the sample and unprocessed concentrate. Similarly, processing will be discontinued if, after preliminary identification of some specimens, the remains are determined insufficiently diagnostic or diverse taxonomically or if the species represented are the same as those in another sample from the fossil-bearing rock unit. Previous experience has demonstrated that only some fossil sites require sample processing and only some of these sites of an entire three-ton sample require processing. If appropriate, small splits from one or more samples will be submitted for palynological (pollen) analysis.

CUL-10 Final treatment of all fossil specimens recovered from the site as a result of the PMP will be conducted at a laboratory facility. Larger vertebrate fossil specimens will be removed from their protective jackets; prepared to the point of identification using hand tools; and hardened or stabilized with a penetrating solution by a preparator. All recovered fossil specimens will be identified to the lowest taxonomic level possible by knowledgeable vertebrate and invertebrate paleontologists and, if required, other knowledgeable paleontologists (i.e., paleobotanists, micropaleontologists, palynologists). The specimens will then be curated (i.e., assigned and labeled with museum specimen data and corresponding

site numbers, placed in specimen trays and, if appropriate, vials with completed specimen data cards); catalogued (specimen and site numbers and specimen data and corresponding geologic and geographic site data, respectively, archived [entered into appropriate catalogs and computerized databases]); and accessioned into the museum fossil collection, where they will be permanently stored, maintained, and, along with associated data, made available for future study by qualified investigators. With the possible exception of those tasks that might be conducted by museum staff (e.g., curation, cataloging), all treatment of the fossil specimens will be conducted by a laboratory technician. Fossil specimen preparation, identification, curation, and cataloging are now required before a fossil collection will be accepted by most museum repositories, including the LACM. Moreover, the scientific importance of a fossil specimen cannot be evaluated until the specimen has been identified to the lowest taxonomic level possible, and specimen identification often is not possible without prior preparation.

- CUL-11** A Final Technical Report of Findings will be prepared by the paleontologist and will describe the site's stratigraphy; will summarize field and laboratory methods employed during the PMP; will include a taxonomic list and an inventory of catalogued fossil specimens recovered as a result of the PMP; will evaluate the scientific importance of the specimens; and will discuss the relationship of the fossil assemblage from any newly recorded fossil site at the Project site to relevant fossil assemblages from fossil sites in other areas. The report will be submitted to the contractor and to Caltrans.

Submission of the Final Report will signify completion of the PMP and will ensure Caltrans compliance.

- CUL-12** If human remains are discovered, California 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 Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). The person who discovers the remains will contact the Caltrans District 7 Native American Coordinator so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

3.6 Geology and Soils

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The information in this section has been compiled from the City of Palmdale’s 1993 General Plan, the California Division of Mines and Geology maps (1987), and the Preliminary Geotechnical Engineering Report (Earth Systems 2014).

Topography in the Project area is gently sloped with an elevation of approximately 2,642 to 2,754 feet above msl. The literature review shows the property is underlain by three

sedimentary rock units. They are the Anaverde Formation, Sandstone Member; Quaternary older dissected surficial sediment; and Quaternary alluvium. The soils around the interchange include Greenfield sandy loam, Hanford sandy loam, Hesperia fine sandy loam, Ramona coarse sandy loam, Rosamond loam, and Vernalis loams. Nine drainage features traverse the Project area.

The City of Palmdale General Plan's Exhibit S-11, Soil Erosion Potential, depicts that the SR-14/Palmdale Boulevard (SR-138) Interchange is located in a zone determined to have "Moderate" erosion potential.

SR-14/ Palmdale Boulevard Interchange is located in the southwestern corner of the Antelope Valley, which is bound by the Garlock Fault to the northwest and the San Andreas Fault to the southwest. The Tehachapi Mountains extend in northeast-southwest direction and adjoin the Garlock Fault. The San Gabriel Mountains, which extend in a northwest-southeast direction, adjoin the San Andreas Fault. Elevations within the Antelope Valley range from 2,300 to 3,500 feet above msl (San Gabriel Mountains) and 7,981 feet above msl (Tehachapi Mountains).

The area seismicity is dominated by the intersection of the northwest-trending San Andreas Fault system with the east-west-trending faults that are part of the Transverse Ranges system and the northeast-trending Garlock Fault system. These fault systems are responding to strain produced by the relative movement of the Pacific and North American crustal plates. According to the California Division of Mines and Geology According to the California Division of Mines and Geology map (1979), SR-14/Palmdale Boulevard Interchange is located approximately 1.5 mile north of the San Andreas Fault. The San Andreas Fault extends over 600 miles from the Salton Sea, northwest toward the Pacific Ocean at Point Arena. This fault is considered one of the most dangerous in the state in terms of destructive potential and has been known to generate an earthquake of Maximum Probably Magnitude (MPM) of 8+. Therefore, the site would potentially be subject to strong seismic ground shaking due to future earthquakes on regionally active faults.

Areas subject to the Alquist-Priolo Earthquake Fault Zoning (Alquist-Priolo Act) typically include zones located within $\frac{1}{8}$ mile of an active fault. The City of Palmdale implements the Alquist-Priolo Act by means of the development review process, in which every proposed development within the seismic hazard zone is required to prepare a detailed geotechnical report and fault rupture survey. Although the SR-14/ Palmdale Boulevard (SR-138) Project is not a development Project, a Geotechnical Report would be prepared prior to final plans and specifications.

Additionally, according to the 2003 California Seismic Hazard Zones Map, the Project is located outside the liquefaction and earthquake-induced landslide zones. The Project would have to comply with the requirements of the California Building Code seismic standards.

The State of California Seismic Hazards Zones map depicts the effects of earthquake-triggered ground failure as required by the Seismic Hazards Mapping Act.

Liquefaction occurs when the affected soil layer loses its primary characteristics and behaves as a liquid. Susceptibility to liquefaction is based on geologic and geotechnical data. River channels and floodplains are considered most susceptible to liquefaction, while alluvial fans have a lower susceptibility. Depth to groundwater is an additional factor in liquefaction susceptibility. Groundwater shallower than 30 feet results in high to very high susceptibility to liquefaction, while deeper water results in low and very low susceptibility.

According to the State of California Seismic Hazards Zones Map (2003), SR-14/ Palmdale Boulevard (SR-138) Interchange is located outside of areas subject to liquefaction, earthquake-induced landslides, and areas subject to both liquefaction and landslides, so called overlapping areas.

In addition, the City of Palmdale General Plan provides supplemental information of other earthquake-related effects such as soils expansion and subsidence. According to the Soil Expansion Potential Map (General Plan, Map S-10), the western leg of the interchange is located on lands with moderate soil expansion potential, whereas the eastern portion is located on lands with low soils expansion potential zone.

The City of Palmdale General Plan Subsidence Map (Exhibit S-14) depicts that the SR-14/ Palmdale Boulevard Interchange is located on soils described as “no data or unclassified for subsidence”.

Environmental Consequences

Checklist Question a

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?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Project is located in California, which is subject to seismic events as a result of numerous seismic faults in Los Angeles County and Southern California. In addition, the Project is located in close proximity to San Andreas Fault. The Build Alternative proposes interchange improvements such as ramps realignment and provision of auxiliary lane and does not propose any habitable structures that would expose people or structures to seismic events, including the risk of loss, injury, or death more than occurs under existing conditions. In addition, the Build Alternative would adhere to Caltrans standard seismic practices. Implementation of Avoidance and Minimization Measures GEO-1 and GEO-2 would ensure compliance with geotechnical specifications. With implementation of the avoidance and minimization measures the Build Alternative would not expose people or structures to potential substantial adverse effects including the risk of loss, injury, death due to rupture of known fault. Therefore, impacts related to rupture of a known earthquake fault would be less than significant. Implementation of Avoidance and Minimization Measures GEO-1 and GEO-2 would further reduce impacts related to rupture of a known earthquake fault.

The City is subject to seismic shaking from faults located nearby (i.e., San Andreas). The intensity of seismic ground shaking would depend on the distance to epicenter, depth of the earthquake, its magnitude, and the soils on site. The Project is an improvement to an existing interchange and does not propose new bridge structures or improvements to existing bridge structures. As a result of the Build Alternative, the sidewalk would be moved behind the bridge columns, however this would not change the stability of the bridge as bridge columns would remain in place and a retaining wall would be constructed to support the cut made for the sidewalk. The Project would not elevate the hazards related to seismic shaking and would be built according to Caltrans and City standards. Therefore, the Build Alternative would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic shaking. Therefore, impacts related to seismic ground shaking would be less than significant.

The interchange is not located in the liquefaction zone and thus the Build Alternative would not result in liquefaction issues. The Project does not propose habitable structures and thus would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. No substantial adverse effects are expected as a result of the Build Alternative.

The Build Alternative seismic-related impacts, such as rupture of known faults, ground shaking, and ground failure would be less than significant.

iv) Landslides?

The interchange is relatively flat and thus is located in the areas that are not subject to earthquake induced landslide zone. The Build Alternative would not introduce any new topographical features or elements that would increase the risk of landslide within the site vicinity. Therefore, no impact would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required. Therefore, the No-Build Alternative would not expose people or structures to potential landslides.

Checklist Question b

Would the Project:

b) Result in substantial soil erosion or the loss of topsoil?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The majority of the Project's site surrounding area is unpaved, therefore exposed soils are present on site. The Project would mostly occur within the paved right-of-way of an existing transportation facility and adjacent unpaved areas. Construction of the Build Alternative would result in disruption of 11.11 acres of soils underlying the existing paved intersection during construction, but the Project's operation phase would not result in any conditions that would result in substantial soil erosion or loss of top soils. Because construction phase would disturb over 1 acre, the Build Alternative would be required to comply with the Construction General Permit (Order No. 2009-009-DWQ), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The Project would also be subject to the City of Palmdale Zoning Ordinance, which outlines general standards of development, including erosion-control and water-quality protection requirements. Adhering to these standards and requirements would ensure that soil exposed or disturbed by grading activities is properly stabilized and contained on the Project during construction and after completion, thus minimizing the Project's impacts from soil erosion or loss of topsoil. The Build Alternative would not result in substantial adverse effects to loss of top soil. Therefore, impact would be less than significant.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required. Therefore, there would be no impacts from soil erosion or loss of topsoil with the No-Build Alternative.

Checklist Question c

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. Implementation of the Build Alternative would not change the existing geologic setting of the Project study area since the intersection already exists. As discussed above, the Project site is not located in the area subject to slope failure or landslides. The Project is not located on any geologic units or soils that are unstable and that could potentially result in landslides, on or off the site, nor are the soils on site prone to landslides, lateral spreading, subsidence, or collapse. The Build Alternative would not result in a substantial adverse effects to 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.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required that would result in unstable soils that have the potential to result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Therefore, there would be no impact with the No-Build Alternative.

Checklist Question d

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Soils underlying the Project site have a low expansion potential. Only Palmdale Boulevard (SR-138) west of the interchange is located within the area characterized as moderate potential for soil expansion. Implementation of the Build Alternative would not incorporate new land use types. As part of construction of the initial

improvements for SR-14/SR-138 and Palmdale Boulevard, the issue of potential stability issues associated with expansive soils were addressed. Based on preliminary geotechnical analysis, standard engineering practices can fully remediate any constraints associated with potential expansive soil without the need for substantial export or import of material would not be required. Refer to Avoidance and Minimization Measures GEO-1 through GEO-13. Therefore, the Build Alternative would not result in substantial adverse effect related to expansive soils and would not create a substantial risk to life or property.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no excavation would be required that would result in potential risks associated with expansive soils. Therefore, there would be no impact with the No-Build.

Checklist Question e

Would the Project:

- e) **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

The Build Alternative (Preferred Alternative)

No Impact. As discussed above, the Build Alternative is an improvement to the existing interchange and thus does not involve the installation or use of any septic tanks. No substantial adverse effects are expected because the Build Alternative does not support the use of septic tanks.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes and there would be no impacts associated with the use of septic tanks or alternative wastewater disposal systems.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures ensure the Project's compliance with rules, regulations and standard conditions that are applicable to the Project:

- GEO-1** Prior to construction, a geotechnical consultant shall be retained to review the final street improvement plans.
- GEO-2** During construction, a geotechnical consultant shall be retained to provide soil engineering services.

- GEO-3** Prior to construction a geotechnical consultant shall conduct a remedial excavations for proposed retaining wall foundations and pavement subgrades on the Project site. Retaining wall foundations on the site shall require two to three feet of recompacted soil below existing or finished grade, whichever is lower. Pavement improvements in the Project area typically require one foot of recompacted soil below existing or finished grade, whichever is lower.
- GEO-4** During construction any existing asphalt concrete pavement sections or Portland cement pavement material shall be "ground-up" to particle sizes less than two-inches in maximum size and used in new pavement areas of the Project. The subject material can be used as a "subbase" material for new pavement areas, placed immediately below the pavement section aggregate base material or used to adjust site grades.
- GEO-5** During construction standard construction techniques should be followed for site excavations on this Project. All excavations should be made in accordance with applicable regulations (including CAL/OSHA) for an OSHA Type "C" soil.
- GEO-6** During construction the utility trench backfill shall be moisture conditioned to near optimum moisture content and be uniformly compacted to at least 95% of maximum dry density as determined by California Test Method ("Caltest") 2L6 using mechanical compaction equipment.
- GEO-7** Prior to construction of the retaining wall, the wall foundation shall be designed to at least the minimum standards designated by the latest edition of the governing Building Code.
- GEO-8** Prior to placement of concrete, excavations for foundations should be cleaned of all loose or unsuitable soil and debris. Soil generated from the foundation excavations should not be placed below slabs or pavements unless properly moisture conditioned and compacted.
- GEO-9** During Project construction and over the entire life of the Project, roads shall be maintained to provide adequate drainage to reduce the adverse effects of long term standing water. Roadway crown and site drainage should be maintained. Runoff water should be collected and diverted away from the roadway surface and into drainage ditches or grades that convey the water away from the roadway.

- GEO-10** During Project construction, the Project fill slopes, not anticipated to exceed 10 feet in height, should be constructed at a maximum slope of 2: 1 (horizontal to vertical). Slopes shall be constructed with soils that have been properly moisture conditioned and compacted in-place to at least 90% of maximum dry density per Caltest 216 using mechanical compaction equipment. Compaction should be verified by testing.
- GEO-11** During Project construction, Project cut slopes, not anticipated to exceed 10 feet in height, should be constructed at a maximum slope gradient of 2: 1 (horizontal to vertical). Positive drainage should be provided at the tops of all cut slopes to divert runoff away from the cut face.
- GEO-12** During Project construction, swales constructed in alluvial soils should be lined with gunite, concrete, or other suitable non-erosive material. Erosion protection should be provided, especially where concentrated runoff is anticipated. Velocity reducers should be provided at the discharge points of the swales or down drains as deemed necessary by the design engineer.
- GEO-13** During and after construction drainage and infiltration structures must be protected from sediment laden water to prevent clogging of any filter medium and the bottom soils. The potential for clogging can be reduced by pre-treating structure inflow thorough the installation of maintainable forebays, biofilters, or sedimentation chambers. In addition, sediment, leaves, and debris must be removed from inlets, traps and basin bottoms on a regular basis.

3.7 Greenhouse Gas Emissions

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
GREENHOUSE GAS EMISSIONS: Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<p>Caltrans has used the best available information based to the extent possible on scientific and factual information, to describe, calculate, or estimate the amount of greenhouse gas emissions that may occur related to this project. The analysis included in the climate change section of this document provides the public and decision-makers as much information about the project as possible. It is Caltrans' determination that in the absence of statewide-adopted thresholds or GHG emissions limits, it is too speculative to make a significance determination regarding an individual project's direct and indirect impacts with respect to global climate change. Caltrans remains committed to implementing measures to reduce the potential effects of the project. These measures are outlined in the climate change section of the document. Additional information is located in Technical Studies Bound Separately (Volume II) of this document.</p>			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

Caltrans, as lead agency, conducted a quantitative analysis of operational greenhouse gas (GHG) emissions using project-specific traffic data and EMFAC 2014. A summary of results is provided in Section 3.20, Climate Change.

3.8 Hazards and Hazardous Materials

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The information in this section has been compiled from the Hazardous Waste Initial Site Assessment (ISA) by Kleinfelder. For the purpose of the ISA, a site reconnaissance survey was conducted on February 17, 2016 to visually identify areas of possible contaminated surficial soil or surface water, improperly stored hazardous materials, possible sources of polychlorinated biphenyls (PCBs), and possible risks of contamination from activities at the site and adjacent properties. In addition, a review was conducted of local regulatory agency files, historic site maps, and databases with locations of known hazardous waste sites. A search of government databases was conducted to determine the presence or absence of significant hazardous materials or conditions. Environmental Data Resources Inc. (EDR) prepared the EDR Radius Map™ with GeoCheck® for the Project site (see Appendix B of the Phase I ISA). The completed Initial Site Assessment Checklist (ISA Checklist) pursuant to Caltrans' Guidelines was also prepared. According to the ISA Checklist the Project area and/or was used for agricultural purposes from at least 1948 until at least 1968. As a result, the potential exists for persistent pesticides to be present in soil as a result of historical agricultural use of the area; and for buried asbestos-containing cementitious pipe (“transite”), which was commonly used for water transportation as part of historical agricultural practices. In addition, there is a potential for residual concentrations of hydrocarbons in the soils as a result of possible vehicle accidents and leaks, and from yellow traffic markings which could contain hazardous levels of lead chromate. The ISA reported nine gasoline stations have historically been present in the Project area, with six currently operating. The potential for these properties, both historic and extant, to have a hazardous waste impact on the Project is considered low, with the exception of the nine gasoline stations that have historically occurred near the Project, which have a risk of medium to high.

Environmental Issues

Pesticides

The Project area and/or adjoining properties were used for agricultural purposes from at least 1948 until at least 1968, and possibly through 1974. Therefore, there is a potential for persistent pesticides to be present in soil as a result of historical agricultural use of the area.

Asbestos-Containing Materials

Various structures within the Project area were built roughly around 1958. There is a potential that asbestos-containing materials have been used in the construction of the SR-14 bridge over Palmdale Boulevard. Additionally, the potential exists for buried asbestos-containing cementitious pipe (“transite”), which was commonly used for water transportation as part of historical agricultural practices, to be present within the Project area.

Aerially Deposited Lead

Aerially deposited lead (ADL) from the historic use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL on the state highway system right of way within the Project area. Based on a review of historical sources, there is a potential for ADL to be present along SR-14 and its associated on- and off-ramps, and Palmdale Boulevard.

Lead and Chromium Based Paint (LBP)

Yellow paint striping was observed on SR-14, associated on- and off-ramps, and Palmdale Boulevard, Division Street, and 5th Street West. Yellow traffic markings (thermoplastic and paint) located on Palmdale Boulevard and along the SR-14 on- and off-ramps, which are known to contain hazardous levels of lead chromate, and which are considered hazardous waste. Painted surfaces, which may contain lead-based paints, were not observed on the SR-14 bridge structure over Palmdale Boulevard. Painted surfaces, which may contain lead-based paints, were not observed on the SR-14 bridge structure over Palmdale Boulevard.

Pole-mounted transformers

Utility infrastructure (e.g., electrical boxes/vaults, lighting, irrigation, sewer, and stormdrains) is located throughout the Project area. Transformers were observed mounted on utility poles along the streets within and adjacent to the Project area. Transformers built between 1929 to 1977 are known to contain Polychlorinated biphenyls (PCBs). In addition, pad-mounted transformers were observed on properties that adjoin the Project. No evidence of leakage or staining on, or in the vicinity of, the transformers was observed. Also, utility poles are often treated with chemical preservatives to protect wood against decay. Caltrans follows regulations adopted by the DTSC when managing treated wood waste to prevent releases of hazardous chemicals and preservatives. Treated Wood Waste may be handled as a regulated solid waste; therefore, testing and sampling are not required and Treated Wood Waste can be disposed of in a State Water Resources Control Board certified solid waste landfill, rather than a hazardous waste landfill.

Hydrocarbons

Residual concentrations of hydrocarbons may be present in soil along the SR-14, SR-138, and associated on- and off-ramps as a result of possible vehicle accident/leaks in the area. If signs of potential impact (odors, discolored soil, etc.) are noted or observed during construction activity, sampling and analysis should be conducted at that time.

Gasoline Releases

Based on the ISA, nine former or existing gasoline station properties were or are located within or adjacent to the Project area and thus were subject to further evaluation. Based on a review of available agency records for these properties and a review of historical documentation, one of the listed properties (465 West Palmdale Boulevard) was concluded to be a property that was likely not ever developed as a gasoline station; however, due to conflicting records this property will be treated the same as the other gasoline station properties. These nine properties are shown in Table 3.11 below. Past releases that affected soil were reported in historical documentation at eight of these gasoline station properties. All nine of these former and existing gas stations are considered recognized environmental conditions (RECs), each with a risk of medium to high. For the seven of these properties where temporary construction easements and/or partial right-of-way takes are needed, a Phase II Site Investigation (SI) will be conducted to determine the impacts to the parcels and project area from the contaminants that may have been left in the soil after the leaking underground storage tanks (LUST) and appurtenances were removed.

**Table 3.11
Gas Station Releases in the Proximity of the Project**

Property Type	Address/ Location	Acquisition Type	Record Summary	Potential for the Project
ARCO Gasoline Station	411 West Palmdale Boulevard/ Adjoins the north side of Palmdale Boulevard , approximately 150 feet east of southbound SR-14 off-ramp	Temporary construction easement	Active gasoline service station with gasoline/diesel USTs and associated dispensers. Impacted soils were discovered during the pipeline upgrades. Total petroleum hydrocarbons as diesel (TPH-d) concentration was discovered at various levels.	Closed soil case as of February 12, 2015. Based on the anticipated depth to groundwater (greater than 200 feet bgs), direction of groundwater flow (anticipated northeast away from the Project), and soil only case and regulatory status, the potential for this property to impact the Project is considered low.
Shell Service Station	155 West Palmdale Boulevard/ Adjoins the north side of Palmdale Boulevard (SR-138), approximately 375 feet west of Division Street	Partial take	Former gasoline station that maintained three gasoline USTs, a diesel Underground storage tank (UST), and two dispenser islands. TPH-impacted soil beneath the USTs, dispensers and piping had been removed. UST was removed.	No EDR cases reported for unauthorized releases. Closure certification letter issued a January 3, 2002 indicating no further action was required for the removal/closure of the USTs. The potential for this property to impact the Project is considered medium to high. Further investigation for soil contamination (a Phase II Site Investigation) is required..

**Table 3.11
Gas Stations Releases in the Proximity of the Project**

Property Type	Address/ Location	Acquisition Type	Record Summary	Potential for the Project
Chevron Gasoline Station	468 West Palmdale Boulevard. Adjoins Palmdale Boulevard at the southeast corner of Palmdale Boulevard and 5th Street West	Temporary construction easement	Active gasoline station since 1969 that maintains gasoline/diesel USTs and dispensers. Benzene and petroleum hydrocarbons constituents were detected in several samples.	Closure certification letter on April 20, 2005 was for closure of USTs. No significant releases have been reported at this facility since 2003. The potential for this property to impact the Project is considered medium to high. Further investigation for soil contamination (a Phase II Site Investigation) is required. .
Exxon Service Station	400 West Palmdale Boulevard. Adjoins the south side of Palmdale Boulevard , approximately 350 feet west of eastbound Palmdale Boulevard on-ramp to southbound SR-14	Temporary construction easement	Former Exxon gasoline service station. Release of gasoline to soils.	Case was closed as of August 10, 1998. The potential for this property to impact the Project is considered low.
Chevron Gasoline Station	103 West Palmdale Boulevard. Adjoins the north side of Palmdale Boulevard (SR-138) at the northwest corner of Palmdale Boulevard and Division Street.	No take	Former Chevron gasoline service station with 4 USTs, 7 fuels dispensers. Petroleum-impacted soils were discovered. Remediation was deemed complete via excavation during removal of the USTs, dispensers and product lines.	Case was closed as of May 23, 2007. The potential for this property to impact the Project is considered low.
Unocal Oil Service Station	100 West Palmdale Boulevard Formerly adjoined the south side of Palmdale Boulevard (SR-138) at the southwest corner of Palmdale Boulevard and Division Street.	Partial take	Presently Taco Bell restaurant, former Unocal/76 gasoline station with 4 USTs. Concentrations of total petroleum hydrocarbons as gasoline (TPH-g), benzene, methyl tert-butyl ether (MTBE) were detected in soil vapor in 1998..	Case was closed as of November 23, 1999. The potential for this property to impact the Project is considered medium to high. . Further investigation for soil contamination (a Phase II Site Investigation) is required.

**Table 3.11
Gas Stations Releases in the Proximity of the Project**

Property Type	Address/ Location	Acquisition Type	Record Summary	Potential for the Project
Chevron Gasoline Station	465 West Palmdale Boulevard. Adjoins the north side of Palmdale Boulevard at the northwest corner of Palmdale Boulevard and Division Street	Temporary Construction Easement	Currently multi-tenant commercial/retail building. No records are available for properties at 465 West Palmdale Boulevard.	The potential for this property to impact the Project is considered medium to high. Further investigation for soil contamination (a Phase II Site Investigation) is required. .
Mobil Oil Service Station	110 East Palmdale Boulevard/ Adjoins the south side of Palmdale Boulevard (SR-134) at the southeast corner of Palmdale Boulevard and Division Street	Temporary construction easement, partial take	Currently occupied by gas station. Residual concentrations of toluene and ethylbenzene was detected in soil samples in 2004.	No further action letter was issued on December 15, 2005. The potential for this property to impact the Project is considered medium to high. Further investigation for soil contamination (a Phase II Site Investigation) is required. .
US Gas & Mini Mart	105 East Palmdale Boulevard. Adjoins the north side of Palmdale Boulevard (SR-134) at the northeast corner of Palmdale Boulevard and Division Street	No take	3 UST tanks were removed from the property. Soils sampled; low concentrations of TPH-g, xylenes, and MTBE were detected beneath the USTs. Low concentrations of TPH-g, TPH-d, BTEX, and MTBE were detected in soil beneath the dispensers. Soil used to backfill excavation from UST removal contained low concentrations of TPH-g, ethylbenzene, and xylenes.	Case closed as of January 30, 2015. The potential for this property to impact the Project is considered low.

Asbestos, PCB Oil, and VOCs in Southern California Gas Company Facilities

Based on Caltrans' prior experience with impacts to similar Southern California Gas Company (SCG) facilities, there is potential that the SCG pipelines in proximity to the Project that may be relocated could contain asbestos and could be contaminated with PCB oil and volatile organic compounds.

Environmental Consequences

Checklist Questions a and b

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?**

The Build Alternative (Preferred Alternative)

No Impact. Due to the nature of the Project, implementation of the Build Alternative would not involve the routine storage or use of hazardous materials. Due to its regional and local significance both SR-14 and Palmdale Boulevard can be used as means of transporting certain goods, including hazardous materials. However, the Build Alternative would improve the operation of the interchange and thus is expected to decrease the likelihood of accidents. The construction phase would require the use of common chemicals (e.g., fuels, lubricants, paints, and solvents) for the operation of vehicles and construction equipment. Adherence to existing regulations would ensure compliance with safety standards related to the use and storage of hazardous materials as well as the safety procedures mandated by applicable federal, State, and local laws and regulations. The Build Alternative is proposed to better accommodate existing and projected traffic volumes and to improve LOS during the PM peak hour; it is, therefore, not anticipated to create a substantial hazard to the people or environment through use of or transport of hazardous materials. The Build Alternative is not designed to increase the frequency of hazardous materials transport, nor would it directly result in the release of hazardous materials. Therefore, no impacts are expected associated with hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials or a reasonably foreseeable upset and accident conditions involving release of hazardous materials. No substantial adverse effects are expected as a result of the Build Alternative.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes and no excavation would occur and thus the No-Build Alternative would not expose people to or result in any hazards.

Checklist Question c

Would the Project:

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Build Alternative is an improvement of existing transportation and as such during the operation of the Project it would not emit hazardous pollutants or handle hazardous or acutely hazardous materials, substances, or waste. The ground-disturbance and other activities associated with construction of the Project may disturb ADL, LBP, Asbestos Containing Materials (ACM), and pesticides, which could be present in the soils, on the pavement, in existing utilities, or otherwise in the general Project area. Also, Project construction would involve the use of routine chemicals used in the building process such as solvents, paints, adhesives, concrete mixes, and generation of dust. All these types of materials are approved by state and federal agencies. All activities would be conducted in compliance with applicable regulations pertaining to the handling, transport, and disposal of hazardous materials.

Two schools are located within the 0.25 mile radius of the Project. Palmdale Learning Plaza is located adjacent to the Project within 530 feet off the SR-14 northbound off ramp. Yucca Elementary School located 0.19 miles north east of the Project. Due to the proximity of the schools the Project will be required to follow federal, state, and local standards with respect to handling, treatment, and disposal of ADL, LBP, ACM, and pesticides, which could be present in the soils. When removed or disturbed, some of these substances within the Project site will need to be handled and disposed of at a Class I landfill.

Avoidance and minimization measures HAZ-1 through HAZ-11 have been incorporated in the Project, which would each serve to address potential impacts related to the emission, handling, and use of hazardous materials in proximity to school sites.

The findings and recommendations of the ADL, ACM, LBP, and pesticides investigations that are required pursuant to HAZ-1 through HAZ-8 and HAZ-10, as well as standard construction procedures, will be incorporated into the Project Plans and Specifications to reduce potential exposure of users of the nearby school sites to hazardous materials and substances. During construction of the Project, standard regulations and Caltrans policies (avoidance and minimization measures) will be followed with respect to the use, storage, handling, disposal, and transport of potentially hazardous materials to protect human health and the environment.

Also, as required by AQ-2 and AVAQMD Rule 403, a Dust Control Plan will be developed prior to construction and avoidance and minimization measures shall be implemented during construction to suppress dust so that there is no visible dust generated.

Finally, as described in HAZ-11, the Project would implement air monitoring for the Palmdale Learning Center during Project construction, which will ensure that the school users are not exposed to any hazardous substances or waste.

With implementation of the Project avoidance and minimiaiton measures described herein, Project impacts related to acute hazardous materials, substances, or waste that could affect nearby schools would be less than significant.

No-Build Alternative

No Impact. No-Build Alternative would not involve any type of construction activities and thus would not emit hazardous emissions or handle acutely hazardous materials, substances, or waste within one-quarter mile of an existing school.

Checklist Question d

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The review of the hazardous materials databases did not reveal that the site is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Thus, the Project is not expected to create a significant hazard to the public or environment.

No-Build Alternative

No Impact. As noted above, the site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Additionally, no physical changes and no excavation would occur with the No-Build Alternative. Therefore, the No-Build Alternative would not expose people to or result in any hazards, and no impact would occur.

Checklist Questions e and f

Would 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 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?**

The Build Alternative (Preferred Alternative)

No Impact. Palmdale Regional Airport is located approximately 3 miles north of the Project site. There are no private airstrips, heliports, or helistops in the vicinity of the Project site. The Project site is located outside of the Palmdale Airport Influence Area as depicted by the Los Angeles County Airport Land Use Commission. The Build Alternative would not result in safety hazard for people residing or working in the Project area. No adverse effects are expected under the Build Alternative with respect to land use policies; and thus, no impact would occur.

No-Build Alternative

No Impact. As noted above, the Project site is located outside of the Palmdale Airport Influence Area. The No-Build Alternative would not expose people to or result in any airport land use plans; and thus, no impact would occur.

Checklist Question g

Would the Project:

- g) **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Palmdale Boulevard is designated as an evacuation route on the City of Palmdale Evacuation Routes map (General Plan Exhibit S-1). Construction of the Build Alternative could temporary affect traffic movement on Palmdale Boulevard potentially resulting in delays and congestion in the event of an emergency. However, at no point during construction would Palmdale Boulevard be closed. The City of Palmdale would coordinate the construction schedule with appropriate emergency services providers. Refer to Avoidance and Minimization Measure TRA-1, provided in Section 3.16, which requires the development a Traffic Management Plan (TMP) that would ensure safe and efficient traffic flow and access throughout the Project study area during all phases of construction. (

Therefore, impacts related to the impairment of the implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan would be less than significant. Incorporation of Minimization Measure TRA-1 would further reduce delays related to interference with emergency response or evacuation plans.

No-Build Alternative

No Impact. Under the No-Build Alternative, no construction would occur; thus, the No-Build Alternative would not conflict with an adopted emergency response plan; and thus, no impact would occur.

Checklist Question h

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. According to the City's General Plan Wildfire Hazards Zones (Figure S16), the Project site is not located in an area subject to wildland fires. Therefore, the Build Alternative is not expected to expose people or structures to a significant risk of loss, injury, or death involving wildland fires; and thus, no impact would occur.

No-Build Alternative

No Impact. The Project site is not located in an area subject to wildland fires; therefore, the No-Build Alternative would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires; and thus, no impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures ensure the Project's compliance with rules, regulations and standard conditions that are applicable to the Project:

- HAZ-1** Prior to ground disturbance activities, soil samples shall be conducted by an environmental professional for the potential presence of persistent pesticides. The samples should be analyzed for OCPs using US EPA Method 8081 and for Title 22 Metals. If pesticides are identified during assessment, the concentrations should be compared to California hazardous waste characteristics (which vary depending on the type of pesticide identified). Soils with non-hazardous concentrations of pesticides should be segregated from soils with hazardous

concentrations of pesticides. Non-hazardous soils can be disposed at Class II landfill, while hazardous waste soils will require disposal at a Class I landfill.

- HAZ-2** Should signs of asbestos-containing cementitious pipe (transite piping) be observed during construction activity, sampling and analysis should be conducted at that time by an environmental professional. Pipes should be removed by California-licensed asbestos abatement contractor. Due to the fact that removal of transite piping would involve cutting or other actions that the AQMD/APCD consider to result in it becoming friable. Therefore, removal of any transite pipe would require special removal, handling, packaging, labeling, transport, and disposal procedures for hazardous substances.
- HAZ-3** Prior to ground disturbance activities, soil shall be assessed for the presence of ADL prior to disposal by an environmental professional. A lead compliance plan should be prepared prior to the start of construction activities. ADL investigation should be performed in accordance with the 2016 Agreement between Caltrans and DTSC. ADL-impacted soil should be managed in accordance with Caltrans SSPs 14-11.08 (Material Containing Hazardous Waste Concentrations of ADL), 14-11.09 (Minimal Disturbance of Material Containing Hazardous Waste Concentrations of ADL), or 7-1.02K(6)(j)(iii) (Earth Material Containing Lead [for non-hazardous ADL soils]).
- HAZ-4** Residue from yellow traffic stripe removal should be sampled and tested to classify waste for proper disposal. Traffic markings with hazardous concentrations of lead should be removed consistent with Caltrans' SSP 14-11.12. Traffic markings with non-hazardous concentrations of lead should be removed consistent with SSP 34-6. A lead compliance plan will be required for either type of removal.
- HAZ-5** If signs of potential impact (odors, discolored soil, etc.) are noted or observed during construction activity by an environmental professional, sampling and analysis should be conducted at that time. Analyses should include Total Petroleum Hydrocarbons (TPH) with carbon chain analysis using US EPA Method 8015B and VOCs by US EPA Method 8260B. Also, if signs are observed as mentioned above, then sampling and analysis shall also be conducted for metals using EPA Method 6010/7000 series, for polychlorinated biphenyls (PCBs) by EPA Method 8082, and for semi-volatile organic compounds using

EPA Method 8270. Impacted soil should be segregated, and placed in the covered container until analysis and characterization is complete.

- HAZ-6** Should impacted soil (as evidenced by staining and/or odors) be encountered during construction activities by construction crew or by an environmental professional in the vicinity of these properties, or at any other areas of the Project, an environmental professional will evaluate the course of action required. This course of action will follow the Caltrans Unknown Hazards Procedures (see Figure 7-1.1, Unknown Hazards Procedure, of the Caltrans Construction Manual, July 2017). The resident engineer overseeing construction should have available field monitoring equipment (e.g., photoionization detector) to facilitate timely detection of potentially hazardous conditions in the field. 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.
- HAZ-7** Transformers. If transformer removal is required, Southern California Edison will be contacted prior to handling or removal of electric transformers. Any hazardous transformers or poles that are disturbed/removed will be disposed of in accordance with the California Health and Safety Code and in compliance with the Treated Wood Waste (TWW) regulations. Also, any transformers removed shall be sampled and analyzed for PCBs to determine proper disposal. If any stained soil is identified, it will be excavated, tested, and disposed of at an appropriate disposal facility.
- HAZ-8** During PS&E and prior to ground disturbing activities, a Phase II Site Investigation will be conducted within all areas of exposed soils, and especially on all parcels containing existing or former gas stations where temporary construction easements or right-of-way would be acquired.
- HAZ-9** To verify proper disposal of hazardous waste in a Class I Hazardous Waste Disposal facility, all hazardous waste generated by the project that requires offsite disposal will occur under a Uniform Hazardous Waste Manifest (EPA Form 8700-22) and, if necessary, the continuation sheet (EPA Form 8700-22A) for both interstate and intrastate transportation.
- HAZ-10** If Southern California Gas Company (SCG) facilities requires relocation, a Phase II will be conducted to further examine these utilities to determine if they contain asbestos, PCB oil, volatile organic compounds, or any other hazardous materials

or substances. If present in affected SCG utilities, a Work Plan would be prepared and approved by Caltrans containing appropriate measures to prevent surrounding soil from being contaminated during any required pipeline removals, tap and cap procedures, capture, containment, and testing of all liquids and solids for classification and disposal.

HAZ-11 Air quality monitoring shall be implemented for Palmdale Learning Plaza during all soil disturbance, earthmoving, and other Project construction activities that could have an air quality impact to ensure that persons at Palmdale Learning Plaza are not exposed to hazardous concentrations of particulate matter or of hazardous materials or waste that could be transported as airborne dust.

3.9 Hydrology and Water Quality

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Information in this section is compiled from the 2013 update of the Antelope Valley Integrated Regional Water Management Plan (IRWM), Water Quality Control Plan for the Lahontan Region (September 2015), and Caltrans Water Quality Planning Tool (2012), and Stormwater Data Report (2017).

The City of Palmdale is under the Jurisdiction of Lahontan Regional Water Quality Control Board (RWQCB Region 6).

The Antelope Valley Region is a closed topographic basin with no outlets to the ocean. The basin ranges in elevation from approximately 2,300 feet to 3,500 feet above msl and is generally bound by faults and their associated mountain ranges (e.g., San Andreas Fault with San Gabriel Mountains to the south; Garlock Fault with Tehachapi Mountains to the west).

The three most hydrologically critical streams in the Antelope Valley begin in the San Gabriel Mountains on the southwestern edge of the Antelope Valley and include Big Rock Creek, Littlerock Creek, and Amargosa Creek. One creek, Oak Creek, begins in the Tehachapi Mountains.

Typically, runoff from the San Gabriel Mountains in the southern portion of the basin is conveyed north through the Little Rock Wash, west of the unincorporated area of Littlerock, east of Palmdale and the Palmdale Regional Airport, to its destination at Rosamond Dry Lake. The wash is well-defined in the southern end of the valley and becomes undefined as it reaches its destination.

All water that enters Antelope Valley either infiltrates into the groundwater basin, evaporates, or flows towards three dry lakes: Rosamond Lake, Buckhorn Lake, and Rogers Lake located in the basin's northern portion (northwest of the City of Lancaster).

Lake Palmdale with the nearby Little Rock Reservoir (which is created by Little Rock Dam) is located 1.3 miles south of the Project site. However, due to topography, none of the hydrological features from the study area drain to this lake. Lake Palmdale has a surface area of 535 acres and is located at elevation of approximately 2,820 feet above msl.

Rosamond Lake, located approximately 14 miles north (making it the dry lake closest to the Project site), covers approximately 21 square miles. It is a dry flat playa that lacks vegetation and can contain a few inches or feet of water after heavy rainstorm. The soil in this lake is impervious and evaporation rates are high. Water that collects in this lake eventually evaporates rather than infiltrating into the groundwater.

Drainage Pattern in the Project Area

The existing impervious areas (i.e., roadways, commercial and residential structures, driveways, and other built hardscape) were calculated at 12.25 acres within the Project's 13.71 -acre disturbance limits. In the Project area, existing off-site drainage patterns are generally from south to north. Stormwater runoff along Palmdale Boulevard is generally captured via curb or grate inlets and discharged into the City stormdrain system. Runoff along SR-14 is generally captured and conveyed off the roadway via overside drains and downdrains. Along southbound SR-14, the pavement drainage outfalls to roadside channels which convey flow north to cross culverts then under the freeway to the east. Along northbound SR-14, stormdrains drain to the undeveloped land east of the freeway. Stormwater along the east side of the freeway is allowed to flow freely within the undeveloped land and flows to the north, being conveyed under Palmdale Boulevard and Avenue Q via cross culverts. North of Avenue Q, flows are conveyed to an engineered channel to the north.

Beneficial Uses

The Project is subject to the requirements of the Lahontan Region Water Quality Control Plan (Basin Plan) prepared by Lahontan RWQCB in 1995. The Basin Plan contains the water quality standards and control measures for surface water and groundwater of the Lahontan region. Additionally, the Basin Plan designates beneficial uses; establishes water quality objectives; and designates waste discharge prohibitions. The Basin Plan also includes Nondegradation Objectives and adopted Total Maximum Daily Loads (TMDLs) for the region.

The Basin Plan for the Lahontan Basin designates existing, potential, and intermittent beneficial uses for all water bodies in the region, including inland surface waters. These uses are the foundation of the water quality protection measures in the Basin Plan.

The drainages in the Project area do not directly connect to the Little Rock Creek or Lake Rosamond; however, due to the regional northeast-trending drainage patterns, these waterbodies can be potentially considered receiving waterbodies for the study area. The Basin Plan identified Water Quality beneficial uses for Little Rock Creek as follows: Cold Freshwater Habitat, Commercial, Groundwater Recharge, Municipal and Domestic Supply, Non-Contact and Contact Recreation, and Wildlife Habitat. Water Quality beneficial uses of Lake Rosamond include use of water for natural or artificial Groundwater Recharge, Non-Contact Water Recreation, Warm Freshwater Habitat, Saline Water Habitat, and Wildlife Habitat.

Pollutants of Concern

The Basin Plan identifies toxic pollutants that are found in the Antelope Valley Region. These pollutants are mostly associated with the mobilization of urban contaminants during storm events and can transport naturally occurring contaminants such as arsenic and other heavy metals. Contaminants such as pesticides, trash, oil, gasoline, radiator fluid, and animal wastes accumulate during dry months and are then mobilized at concentrated levels during storm events. Implementation of control measures for different types of nonpoint sources are discussed in the Basin Plan to help prevent water quality problems associated with contamination.

Section 303(d) of the Clean Water Act identifies waters that fail to meet standards for specific pollutants. If a State determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (i.e., NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed. None of the surface waters in the Antelope Valley are on the 2012 303(d) list and none have TMDLs.

Groundwater

The Antelope Valley Groundwater Basin is part of the Mojave Desert and is bordered on the southwest by the San Gabriel Mountains and on the northwest by the Tehachapi Mountains. Groundwater recharge in the basin is dependent on infiltration of return flow from agricultural irrigation and infiltration of runoff from the surrounding mountains. According to the ISA groundwater in the Project area is anticipated to be encountered at depths greater than 200 feet bgs. Groundwater in the Antelope Valley Groundwater Basin is typically calcium bicarbonate in character near the surrounding mountains and is sodium bicarbonate or sodium sulfate character in the central part of the basin. In the eastern part of the basin, the upper aquifer has sodium-calcium bicarbonate type water and the lower aquifer has sodium bicarbonate type water.

Dam Inundation and Seiches

As described in the General Plan, a seismic event could cause a water wave or seiche to occur at Lake Palmdale, located approximately 1.3 miles south of the Project site, which could potentially overtop the dam. Wave volume above the dam would not be substantial (approximately one acre-foot) and would not result in damaging floods. According to the Aqueduct Failure Flow Direction (Exhibit S-7) in the 1993 General Plan, SR-14/ Palmdale Boulevard interchange is not depicted in the zone of the aqueduct failure.

Floodplains

The SR-14/Palmdale Boulevard interchange is located mostly outside of a 100-year or 500-year flood zone. Refer to Figure 9, Flood Insurance Rate Map. However, there are three areas surrounding the interchange where 100-year and 500-year flood zones are located. These areas include:

- intersection of Palmdale Boulevard (SR-138) and Division Street (west of Division Street) are located within a 100-year flood zone;
- area east of SR-14 and south of Palmdale Boulevard (SR-138) are located within a 100-year flood zone; and
- areas east of SR-14/SR-138, north of Palmdale Boulevard (SR-138) are located within a 500-year flood zone.

Municipal Separate Storm Sewer Systems (MS4)

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).

The Storm Water Control Regional Board has identified 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 (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0077-DWQ (effective July 1, 2014) and Order No. 2015-0036-EXEC (effective April 7, 2015) 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 non-storm 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 the 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 the Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed Project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Los Angeles County, in conjunction of Los Angeles County Flood Control District, implements the Municipal Separate Storm Sewer System NPDES Permit, often referred to as the “MS4 Permit”. The most recent NPDES MS4 Permit (WQO 2013-0001-DWQ) was adopted in 2012 and regulates discharges from small municipal sewer systems. However, in a letter dated January 18, 2005, the Lahontan RWQCB indicated that it does not intend to regulate the City of Palmdale, the City of Lancaster, or unincorporated portions of Los Angeles County within the Lahontan Region under this MS4 permit.

Lahontan Water Quality Control Board Letter

The California Regional Water Quality Control Board, Lahontan Region, prepared a letter dated January 18, 2005 regarding jurisdictional findings for the Amargosa Creek Watershed. According to this letter, the Amargosa Creek Watershed is not subject to jurisdiction under Section 404 of the federal Clean Water Act, and thus construction in this watershed does not require authorization or a permit under Section 404 of the Clean Water Act. The storm water discharges generated by the city of Palmdale within the Amargosa Creek watershed are not subject to the General Permit because they do not constitute discharges to waters of the United States.

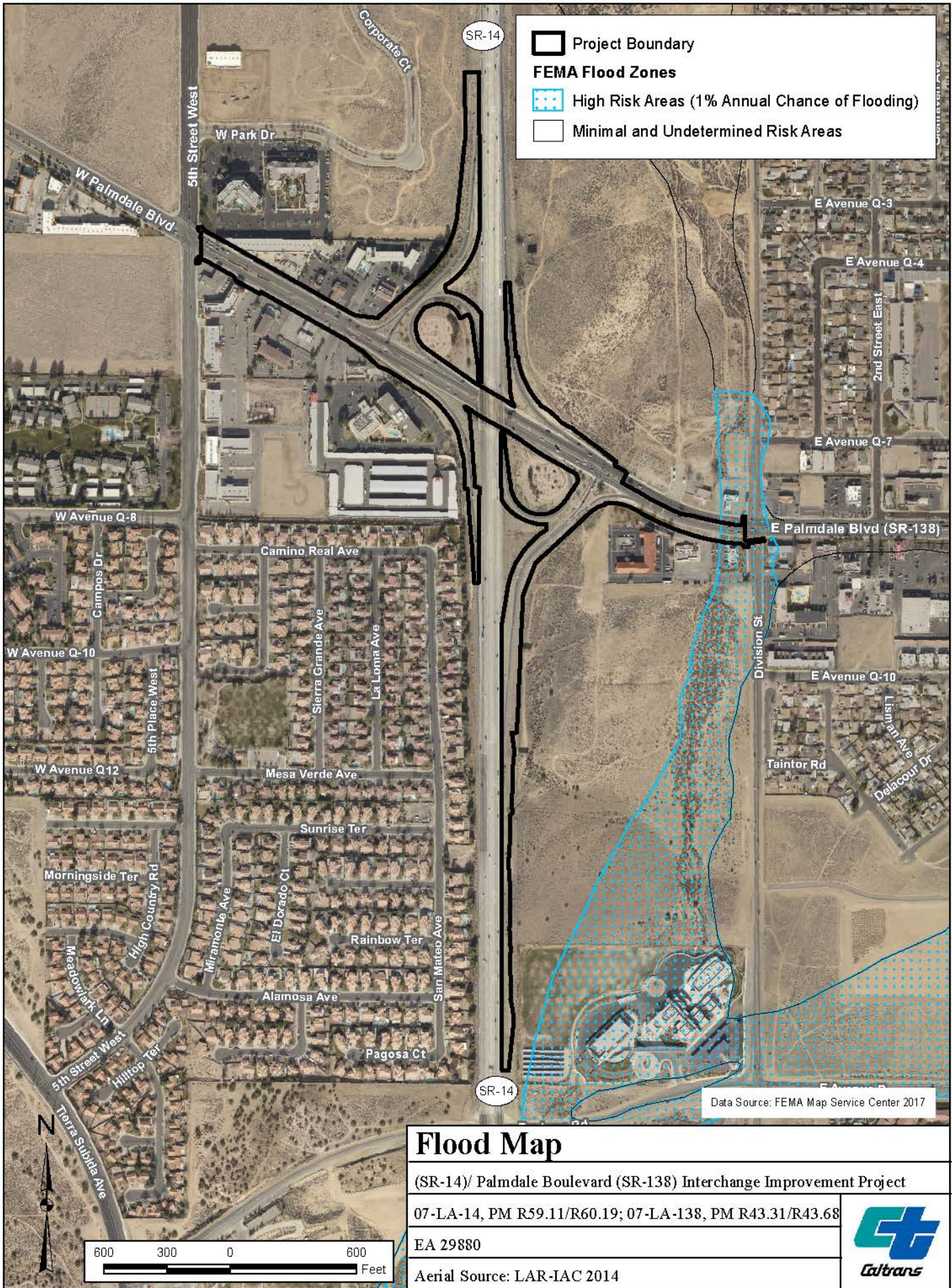


Figure 9

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Construction General Permit

Construction General Permit, Order No. 2009-2009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012) 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. The Project will be required to file a Notice of Intent with the State Water Resources Control Board (SWRCB) prior to construction. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

In addition, the Lahontan Region Water Quality Control Board (RWQCB) requires that Projects which add impervious surface and disturb over 1 acre will need to prepare a Standard Urban Stormwater Mitigation Plan (SUSMP).

Environmental Consequences

Checklist Questions a, e, and f

Would the Project:

- a) **Violate any water quality standards or waste discharge requirements?**
- 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?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Build Alternative would improve the existing interchange and would not incorporate any new land use types. Pollutants typical of urban areas and transportation land uses consist of sediments, nutrients; heavy metals; pathogens; pesticides and herbicides; oil and grease; trash and debris; and toxic organic compounds. However, the nature of the improvements and the number of trips on the roadway would not be substantially different as a result of the Build Alternative; therefore, the water quality characteristics associated with operation would not be expected to change.

Implementation of the Build Alternative may generate pollutants during construction. Additional pollutants that would be generated temporarily include paints and solvents related to proposed striping. However, with implementation of the temporary BMPs, short-term construction water quality impacts would not be substantial; thus, temporary impacts related to water quality from construction of the Build Alternative would be less than significant. In addition, incorporation of Avoidance and Minimization Measure WQ-1 would further reduce impacts related to water quality.

The proposed improvements for the Build Alternative involve widening the existing ramps, adding an auxiliary lane, installing new traffic signals, and providing right-turn only lanes from Palmdale Boulevard. In addition, Palmdale Boulevard would be widened to three lanes in each direction. The existing impervious area on the Project site equals to 12.25 acre. After the implementation of the Project improvements the impervious area would increase by 3.04 acres, to roughly 15.29 acres. This represents an increase of 24 percent over existing conditions. Because the Project would add impervious surface and disturbed over 1 acre it would be required to prepare a Standard Urban Stormwater Mitigation Plan (SUSMP) as required by the Lahontan RWQCB. Because the Project would disturb over 1 acre, A Storm Water Pollution Prevention Plan (SWPPP) will be required. The SWPPP will incorporate applicable temporary construction site BMPs (soil stabilization and sediment control) within the Project limits. Refer to Avoidance and Minimization WQ-2. There are no known existing Treatment BMPs within the Project limits. An existing City-owned and maintained detention basin is located north of the intersection of SR-14 and West Avenue Q on the east side of SR-14. The additional runoff from the Project would be treated in the detention basin, such that no additional treatment BMPs will be needed. Thus, impacts related to runoff and storm water drainage systems would be less than significant. Incorporation of Avoidance and Minimization Measure WQ-2 would further reduce impacts related to water quality.

Few drainage features also cross the site, and they will require protection. The construction for the Build Alternative would result in disturbance and reconstruction of existing 2:1 slopes which will be stabilized using erosion control BMPs such as tracking and application of temporary hydraulic mulch. The strategy guiding implementation of construction site BMPs is to protect all existing slopes from erosion and provide adequate outfall treatment during the entire construction period. Because this Project will maintain existing drainage patterns where no substantial run-off will be added, all existing drainage structures will need to be protected, including storm drain inlets and head culverts.

The Project would minimize its construction impact by minimization of cut and fill, disturbance of existing slopes only when necessary, retention of existing vegetation as much as possible, and use of flat slopes when feasible. In addition, the Project would incorporate several construction site BMPs which will reduce potential storm water impacts. All areas disturbed due to construction will utilize standard erosion control practices and will follow Caltrans Erosion Control Policy and Procedure. Proposed Construction BMPs include:

- The slopes will be stabilized using erosion control measures such as tracking and application of temporary hydraulic mulch (polymer stabilized fiber matrix)
- Minimize cut and fill areas
- Disturb existing slopes only when necessary
- Protect and retain existing vegetation as much as possible
- Use flat slopes whenever feasible
- Early reseed on impact slopes as soon as possible
- Rounding and shaping slopes to reduce concentrated flow
- Incorporate Retaining Walls to reduce steepness if possible
- Collecting concentrated flows in storm drains where feasible

Because there are no 303(d) waters in the region the Project would not contribute discharge to the 303(d) listed waters and violation of water quality standards.

A letter to the City of Palmdale from the California Regional Water Quality Control Board (CRWQCB) on January 18, 2005 indicated the Amargosa Creek watershed (and also including Neenach, Buttes, and Rock Creek Hydrologic Areas) are not intended to be regulated and thus MS4 Permit may not be needed for the Project. However, Caltrans MS4 Permit and Construction General Permit may still be needed. Thus, impacts related to water quality degradation would be less than significant.

In summary, with the implementation of the construction related stormwater BMPs, the Build Alternative would not result in violation of the water quality standards or waste discharge requirements or otherwise degrade the quality of the runoff water. Therefore, impacts would be less than significant. Incorporation of Avoidance and Minimization Measures WQ-1 and WQ-2 would further reduce impacts related to water quality.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no water pollutants would be generated other than those that are already being generated by the existing facility. The No-Build Alternative would not negatively affect water quality; thus, no impact would occur.

Checklist Question b

Would the Project:

- 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)?**

The Build Alternative (Preferred Alternative)

No Impact. Groundwater in the Project area is anticipated to be encountered at depths greater than 200 feet bgs. The depth of excavation as part of the Build Alternative is not anticipated to exceed a maximum depth of 8 to 12 feet bgs. Therefore, groundwater is not anticipated to be encountered during construction activities, and no impacts to ground water aquifer area expected. The Build Alternative would not 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. Thus, there would be no impacts related to groundwater.

No-Build Alternative

No Impact. Under the No-Build Alternative, no excavation would occur and thus no groundwater is expected to be encountered. Thus, no impacts related to groundwater would occur.

Checklist Questions c and d

Would the Project:

- 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?

The Build Alternative (Preferred Alternative)

No Impact. The Project would improve the operation of existing interchange. However, the Project would not include any design components that would substantially alter site topography or alter existing drainage in the site vicinity.

Per Caltrans' Risk Level Determination Guidelines, the Project is rated a Risk Level 1 (low risk) for combined sediment erosion risk and receiving water risk.

The Project would add 3.04 acres of impervious surface to the area and because of this, it would result in an increase in volume of the downstream flow and increase in sediment loads. However, the increase of sediment is anticipated to be minor. The Project would discharge to existing storm drains and unlined channels, and ultimately to the detention basin located north of the Project and is anticipated to result in a minor change to the hydraulic capacity.

The Project will maintain existing drainage pattern by directing runoff to existing open channel ditches and natural drainage courses. Palmdale Boulevard has an existing storm drain pipe system that this Project will tie in to. Existing pipes and drain inlets will be replaced in kind or build to standard but would be adjusted to conform to the proposed new roadway profile without disrupting the existing drainage patterns. In order to convey flows, the Build Alternative proposes to construct new dikes, curb and gutter, drainage inlets and overside drains, which would convey runoff to new and existing ditches. Surface runoff would be conveyed through existing and proposed storm drain systems and would ultimately drain into existing swales and natural drainage courses. Therefore, the Project would not result in a substantial alteration of the existing drainage pattern of the site or area, which would result in substantial erosion or siltation on- or off-site or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site.

All runoff from this Project would be treated at an existing detention basin located at the northeast quadrant of the intersection SR-14 and West Avenue Q. No other treatment BMPs are proposed. No maintenance BMPs are proposed.

As discussed, the Project would not substantially alter the existing drainage pattern of the site or area which would result in substantial erosion or siltation on or off the site, nor would it substantially increase the rate or amount of surface runoff resulting in flooding on or off the site. Therefore, the Build Alternative would have no impacts as it pertains to these issues.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no water pollutants would be generated other than those that are already being generated by the existing facility. The No-Build Alternative would not result in alternation of a drainage pattern that would result in substantial erosion or siltation on or off the site, and it would not create sources of polluted runoff. Thus, no impacts would occur.

Checklist Question g

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The nature of the Project is to improve the existing interchange and thus, the Project does not propose housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map, or other flood hazard delineation map. Because of this, the Build Alternative would not result in substantial adverse effects related to flood hazards. Therefore, no impacts related to placement of housing within a 100-year flood zone area would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and no housing would be placed in the FEMA designated Zone X. The No-Build Alternative would not elevate the exposure to flood related water hazards. Therefore, no impacts related to placement of housing within a 100-year flood zone area would occur.

Checklist Questions h and i

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The Build Alternative would not 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, because it does not include the development of housing nor would it redirect

drainage patterns. The intersection improvements would not 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 because the Build Alternative does not include modification of a levee or a dam, nor is it in the path of such structures. No substantial adverse effects related to flooding would occur. Therefore, no impacts related to the exposure of people or structures to a significant risk of loss, injury, or death involving flooding would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur, and would not include the development of housing or redirecting of drainage patterns. The No-Build Alternative would not 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. Therefore, no impacts would occur.

Checklist Question j

Would the Project:

j) Inundation by seiche or mudflow?

The Build Alternative (Preferred Alternative)

No Impact. The SR-14/ Palmdale Boulevard interchange is not located within the Coastal Zone and tsunami zone, and thus would not be subject to tsunami, seiche, mudflow. No impacts are expected. Therefore, no impacts related to tsunami, seiche, mudflow would occur.

No-Build Alternative

No Impact. Under the No-Build Alternative, no physical changes would occur and the potential for tsunami would be as it is under existing conditions. The No-Build Alternative would not elevate the exposure to water hazards such as tsunami, seiche, or mudflow. Therefore, no impacts related to tsunami, seiche, mudflow would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures are warranted to ensure the Project compliance with all rules and regulations.

- WQ-1** The City of Palmdale shall prepare and implement construction site Best Management Practices (BMPs) in compliance with the provisions of the Construction General Permit, the Municipal Separate Storm Sewer System (MS4) Permit (if applicable), the State Water Resources Control Board (SWRCB)

National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity, and any subsequent permit as they relate to construction activities for the Project. This shall include submittal of Permit Registration Documents (PRDs) on the SMARTS System in order to obtain permit coverage, preparation, and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and submission of a Notice of Construction Completion (NCC) to the California Department of Water Resources' SMARTS System upon completion of construction and stabilization of the Project site.

- WQ-2** Prior to construction, a SWPPP, along with erosion control-specific elements, shall be prepared by the contractor and submitted to the City for approval. The erosion control measures shall be designed to limit the effects of soil erosion and water degradation during construction. This plan shall be prepared and implemented in accordance with the requirements of the RWQCB's NPDES permit requirements.

3.10 Land Use and Planning

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Regional Transportation Plan

A Regional Transportation Plan (RTP) is a long-term blueprint for a region’s transportation system. Projecting up to 30 years into the future, RTPs generally are updated every five years and identify and analyze the transportation needs of a metropolitan region, supplying a framework prioritizing projects to meet anticipated regional transportation needs. The Southern California Association of Governments (SCAG) is the agency responsible for adopting the RTP that covers the Project study area. SCAG’s most recent *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS): Towards a Sustainable Future* was adopted on April 7, 2016; this RTP/SCS incorporates a list of transportation projects prepared by the Metro. This RTP/SCS applies to this Project.

The RTP/SCS includes all types of travel and freight movement projects which are consistent with air quality goals in the Air Quality Management Plan (see below). These projects are found to meet federal air quality conformity requirements.

The Federal Transportation Improvement Plan (FTIP) includes the projects that the local agencies in Los Angeles County want to implement in the next five years. In order to be eligible to receive a Measure R funding, a project must be included in both the RTP and the FTIP.

Federal State Transportation Improvement Program

The Federal/State Transportation Improvement Program (FSTIP) is a capital listing of all transportation projects proposed over a six-year period for the SCAG region. The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 191 cities in an area covering more than 38,000 square miles. The projects include highway improvements, transit, rail and bus facilities, high-occupancy vehicle lanes, signal synchronization, intersection improvements, and freeway ramp improvements, among others. In the SCAG region, a FSTIP update is produced every four years.

The FSTIP is prepared to implement projects and programs listed in the RTP and is developed in compliance with state and federal requirements. Under state law, County Transportation Commissions have the responsibility for proposing County projects, using the current RTP's policies, programs, and projects as a guide, from among submittals by cities and local agencies. The locally prioritized lists of projects are forwarded to SCAG for review. From this list, SCAG develops the FSTIP based on consistency with the current RTP, inter-county connectivity, financial constraints, and conformity satisfaction.

The City of Palmdale General Plan

The City's General Plan guides development in the Project study area. The General Plan is a comprehensive document that serves as a long-term plan for the City and addresses a range of issues associated with the City's development, including physical, social, and economic concerns. By law, the General Plan must address the following seven subject areas or elements: land use, circulation, housing, conservation, open space, noise, and safety. It may also address any other issues or include any other elements that relate to the physical development of a city or county. The City's most recent General Plan was adopted in 1993, although the Housing Element of the General Plan was updated in 2012. The General Plan Land Uses in the Project vicinity are shown on Figure 10.

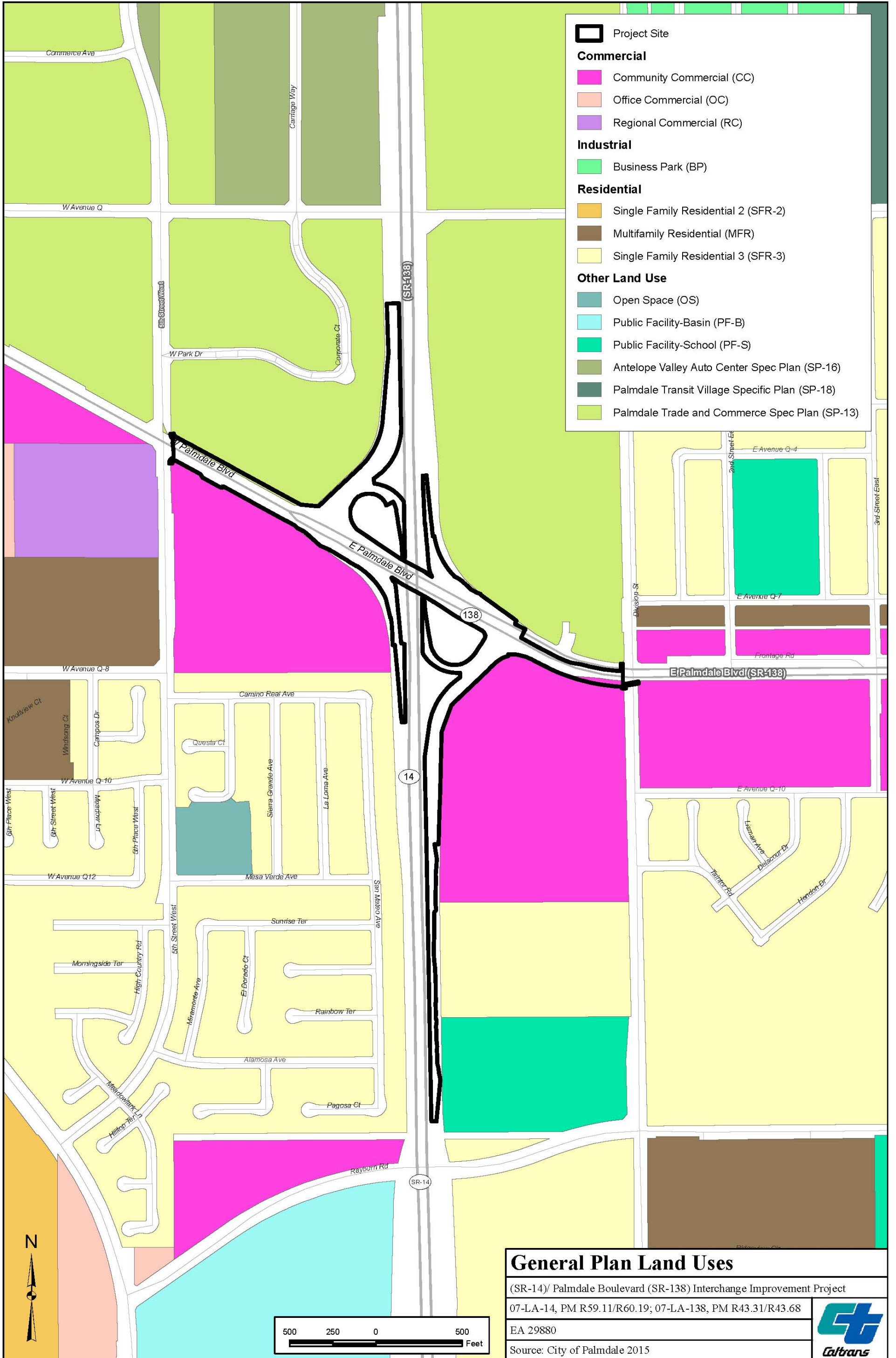


Figure 10

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Environmental Consequences

Checklist Question a

Would the Project:

- a) **Physically divide an established community?**

The Build Alternative (Preferred Alternative)

No Impact. The Project is an improvement to the existing interchange and would not divide an existing community. The Build Alternative would realign the ramps of the interchange and would require sliver acquisitions from the parcels adjacent to the ramps. These acquisitions would be either in form of the partial acquisitions or TCE and would be limited to the sliver of curb, landscaping, or fencing.

A full acquisition of a property is required when all or a substantial portion of a property is needed for right-of-way purposes and the current use can no longer operate on that site. A partial acquisition would occur when a smaller portion of a property is to be acquired, but full use of the property and its structures can remain. Generally, partial acquisitions consist of portions of a back, side, or front yard; landscaping; or parking (but not in numbers sufficient to subvert building code requirements). Another form of temporary acquisition is a TCE, which is the occupancy of a portion of a property only during project construction (typically needed for construction staging or equipment and materials storage use).

These acquisitions are listed in Table 3.12 and the locations are shown on Figure 11, The Build Alternative Potential Acquisitions. As shown, no full parcel acquisitions would be required as a result of the Build Alternative and no demolitions of existing structures would occur. Because no structures are affected and no businesses operations are expected to be impacted, no relocation of tenants is expected and there are no Relocation Assistance expenses anticipated for this alternative. Implementation of Minimization Measure LU-1 would ensure that the owners of the parcels to be affected by sliver acquisitions would be fairly compensated. As such the Build Alternative would not result in impacts to existing housing and would not divide an established community.

Implementation of Minimization Measure LU-2 would ensure that access to all the businesses affected by TCEs would be maintained at all times. No substantial adverse effects to an established community are expected.

**Table 3.12
Temporary Construction Easements and Partial Acquisitions
under the Build Alternative**

	APN	TCE (sq ft)	Partial Acquisition (sq ft)
1	3004-001-024	712.83	156.40
2	3004-001-015	3,641.49	9.22
3	3004-001-016	1,082.05	68.83
4	3004-001-011	1,487.87	237.91
5	3004-001-013	3,017.74	59.24
6	3004-001-014	3,766.91	56.92
7	3004-001-040	7,630.58	00.00
8	3004-002-029	1,730.75	00.00
9	3004-002-031	805.68	00.00
10	3004-002-014	1,330.46	61.92
11	3004-002-009	147.89	00.00
12	3004-002-003	1,209.48	00.00
13	3004-002-004	226.56	00.00
14	3004-002-008	28.93	00.00
15	3004-004-037	8,7120.00	00.00
16	3009-026-012	1,599.59	00.00
17	3009-026-004	3,776.68	00.00
18	3009-026-003	450.10	00.00
Total		123,220.35	6,582.32

No-Build Alternative

No Impact. The No-Build Alternative would not result in changes to existing land use patterns and would not divide an established community.

Checklist Question b

Would the Project:

- 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 or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

The Build Alternative (Preferred Alternative)

No Impact. The Project is listed as Project ID is LA0G896 on pages 3-4 of 15 in SCAG’s 2019 FTIP Los Angeles County, State Highway Project Listings. The Project’s design is consistent with what was presented in the FTIP listing; thus, implementation of the Build Alternative would be consistent with the RTP/SCS.



The Build Alternative Potential Acquisitions

(SR-14) Palmdale Boulevard (SR-138) Interchange Improvement Project

07-LA-14, PM R59.11/R60.19; 07-LA-138, PM R43.31/R43.68

EA 29880

Aerial Source: LAR-IAC 2014



Figure 11

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The Project is listed on page 139 of SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Project List as RTP ID 1AL04, Local Highway, Arterial Improvements. The Project's design is consistent with what was presented in the RTP/SCS listing; thus, implementation of the Build Alternative would be consistent with the RTP/SCS.

The City General Plan, Circulation Element recognizes that Palmdale Boulevard needs improvement between Elizabeth Lake Road and Division Street. The Build Alternative is located within this segment of Palmdale Boulevard. In addition, the General Plan recognizes that Palmdale Boulevard being the Major Arterial in the City would be operating at LOS D or worse. No other traffic and/or circulation policies were applicable in the General Plan to the SR-14/ Palmdale Boulevard Interchange. Implementation of the Build Alternative would alleviate the traffic congestion along Palmdale Boulevard and provide improved traffic flow along this route. Therefore, the Build Alternative would be consistent with the recommendations of the General Plan to improve Palmdale Boulevard and maintain LOS D along the route. Therefore, the Build Alternative would not conflict with applicable regional, local policies.

No-Build Alternative

No Impact. The No-Build Alternative would not comply with the implementation of the FTIP, RTP/SCS, and General Plan, because these plans call for improvement of Palmdale Boulevard.

Checklist Question c

Would the Project:

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?**

The Build Alternative (Preferred Alternative)

No Impact. No specific Habitat Management Plans and Natural Community Plans are identified in the area. The Build Alternative is not expected to conflict with any Habitat Management Plan and/or Natural Community Conservation Plan. Refer to Section 3.4, Biological Resources.

No-Build Alternative

No Impact. Under the No-Build Alternative, no construction would occur. The No-Build Alternative would not conflict with any Habitat Management Plans.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measures ensure the Project's compliance with applicable rules and regulations:

- LU-1** Prior to construction, the City would obtain all required right-of-way for the roadway improvements. Owners of property to be acquired shall be compensated for the fair market value of the property as well as damages, if any.

- LU-2** Construction contractor will make provisions to maintain public access to businesses during construction and shall not meaningfully impede business operations.

3.11 Mineral Resources

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

According to the City’s 1993 General Plan, the SR-14/ Palmdale Boulevard interchange is located outside any area zoned for mineral extraction (City of Palmdale, 1993—Sand and Gravel Resource Area Map).

Environmental Consequences

Checklist Questions a and b

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?**

The Build Alternative (Preferred Alternative)

No Impact. The SR-14/Palmdale Boulevard interchange is located outside any area zoned for mineral extraction; therefore, the Project would not necessitate use of minerals and no adverse effects on mineral resources are expected to occur.

No-Build Alternative

No Impact. No Built Alternative would not result in impacts to mineral extraction.

Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and mitigation measures are recommended.

3.12 Noise

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

This section is prepared based on the SR-14/Palmdale Boulevard Interchange Improvement Project Noise Study Report (Entech, 2016). The Noise Study Report (NSR) evaluates noise impacts and abatement under the requirements of Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772) “Procedures for Abatement of Highway Traffic Noise.” The report also provides background information for CEQA analysis.

Noise

Noise is most often defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. Sound pressure levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A doubling of the energy of a noise source,

such as doubling of traffic volume, would increase the noise level by 3 dB. The human ear is not equally sensitive to all frequencies on the sound spectrum. To accommodate this phenomenon, the A-scale was devised; the A-weighted decibel scale (dBA or dB[A]) approximates the frequency response of the average healthy ear when listening to most ordinary everyday sounds. The dominant noise in the Project area is traffic traveling on SR-14 and Palmdale Boulevard. For the purposes of the Project, short-term (15 minutes) noise monitoring was conducted at eight locations in April 2016. Long-term noise monitoring was conducted at one location. Existing peak hour noise levels in the Project area range from 54 to 66 dBA $L_{eq}(h)$.

The Noise Element of the City of Palmdale's General Plan identifies noise standards to be achieved when developing commercial, residential, institutional, and industrial properties. The City of Palmdale General Plan Noise Element recognizes 65 dBA Community Noise Equivalent Level (CNEL) as the standard for residential noise-land use compatibility. Neither the General Plan nor the noise ordinance has quantitative standards for noise level limits. An increase of 3 dBA is barely perceptible to most persons, and an increase of 5 dBA is readily perceptible.

Section 216 of the California Streets and Highways Code

Section 216 of the California Streets and Highways Code relates to the noise effects of a proposed freeway project on public and private elementary and secondary schools. Under this code, a noise impact occurs if as a result of a proposed freeway project, noise levels exceed 52 dBA $L_{eq}(h)$ in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or other noise-sensitive spaces.

If a project results in a noise impact, under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA $L_{eq}(h)$. If the classroom noise level generated from freeway and non-freeway sources exceed 52 dBA $L_{eq}(h)$ prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project.

Because there are no public or private elementary or secondary schools located within the area that would be affected by Project-related noise, this section does not apply to this Project.

City of Palmdale Municipal Code

The City of Palmdale Municipal Code (specifically Chapter 8.28 Building Construction Hours and Operation and Noise Control, Section 8.28.30) contains provisions that restrict construction between the hours of 8:00 PM and 6:30 AM in any residential zone or within

500 feet of any residence, hotel, motel or recreational vehicle park. Section 8.28.40 allows exceptions to the prescribed hours “pursuant to the express written permission of the City Engineer ...if he finds that: (A). The work proposed to be done is affected with public interest”.

Vibration

In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible. Some common sources of groundborne vibration are construction activities such as blasting, pile driving, and operating heavy earth-moving equipment.

In quantifying vibration, the peak particle velocity (ppv) is most frequently used to describe vibration impacts and is typically measured in inches per second (in/sec). Vibration levels that may cause annoyance to humans are often described using the vibration decibel (VdB). Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source.

Sensitive Receptors

Noise- and vibration-sensitive land uses include residential land uses, schools, hospitals, libraries, and open space/recreational areas where quiet environments are necessary for enjoyment, public health, and safety. Sensitivity to noise/vibration increases during the evening and at night. Noise and vibration can interfere with sleep, speech, and television/radio and can cause annoyance.

The nearest sensitive receptors to the Project site are single family residential homes located adjacent to the west side of SR-14 between Avenue R and Palmdale Boulevard. There is a noise wall separating the freeway from the homes. Hotels (Palmdale Hotel, EZ-8, Motel 6, and Red Roof Inn) adjacent to the interchange ramps are also considered sensitive receptors.

Traffic noise impacts, as defined in 23 CFR 772.5, occur when the predicted noise level in the design year approaches or exceeds the noise abatement criteria (NAC) specified in 23 CFR 772 or when a predicted noise level substantially exceeds the existing noise level (a “substantial” noise increase). Table 3.13 shows lists the noise abatement criteria for use in the 23 CFR 772 analysis.

In California, a noise level is considered to approach the NAC for a given activity category if it is within 1 dBA of the NAC and a substantial noise increase is considered to occur when the project’s predicted worst-hour design year noise level exceeds the existing worst-hour noise level by 12 dBA or more.

Table 3.13
Activity Categories and Noise Abatement Criteria

Activity Category	NAC, Hourly A- Weighted Noise Level, Leq(h)	Description of activity category
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.		

Environmental Consequences

When determining whether a noise impact is significant under CEQA, comparison is made between the baseline noise level and the noise level after Project completion. Under CEQA, the study looks at the project setting of the noise impact and then how large or perceptible any noise increase would be in the given area at sensitive receptors. Key considerations include the uniqueness of the setting, the sensitive nature of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level.

Not all land uses would be considered noise-sensitive under CEQA. Noise-sensitive land uses are generally residences, schools, hotels, churches, and libraries. The City of Palmdale General Plan Noise Element defines noise sensitive land uses as “residential (single and multi-family dwellings, mobile home parks, dormitories, and similar uses); transient lodging (including hotels, motels, and similar uses); hospitals, nursing homes, convalescent hospitals, and other facilities for long-term medical care; public or private educational facilities,

libraries, churches, and places of public assembly (Palmdale 1993). The study area is an urban environment.

Checklist Question a

Would the Project:

- a) Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?**

Construction

Chapter 8.28, Building Construction Hours of Operation and Noise Control of the City of Palmdale Municipal Code, prohibits construction “on any Sunday, or any other day after 8:00 p.m. or before 6:30 a.m., in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park” (Palmdale 2016). Section 8.28.40 allows exceptions to the prescribed hours “pursuant to the express written permission of the City Engineer . . . if he finds that: (A). The work proposed to be done is affected with public interest”.

Caltrans Standard Specification 14-8.02 “Noise Control” requires

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler.
- Do not operate an internal combustion engine on the job site without the appropriate muffler.

Operations

The City of Palmdale has developed local policies related to land use and acceptable noise levels. The table is utilized by the City to ensure integrated planning compatibility between land uses and outdoor noise compatibility guidelines. The information is used to identify projects or activities, which may require additional mitigation measures.

In addition, the Noise Element of the City of Palmdale’s General Plan identifies noise standards across property lines. Table 3.14 provides the noise standards within the City from any source, as it affects adjacent properties.

**Table 3.14
City of Palmdale Noise Standards**

Affected Land Use (Receiving Noise)	Maximum Noise Level (Exterior)	Maximum Noise Level (Interior)	Time Period	Scale
Residential (B) SFR MFR MHP	65 dBA	45 dBA	Anytime	dBA CNEL
Commercial (E) including but not limited to: Retail Services Office	A noise level which does not jeopardize health, safety, and welfare of visitors	55 dBA	Anytime	Leq(h)
Institutional (C,D) including but not limited to: Schools Hospitals Nursing Homes	A noise level which does not jeopardize health, safety, and welfare of visitors	45 dBA	Anytime	Leq(h)
Industrial (E,F) including but not limited to: Industrial Park Business Park	A noise level which does not jeopardize health, safety, and welfare of visitors	65 dBA	Anytime	Leq(h)

Sensitive receptors in the Project area include single family residential homes and hotels.

The FHWA’s TNM 2.5 noise model was used to determine existing and future noise levels. Eighteen receiver locations were modeled to represent existing conditions in the Project vicinity. Eight short-term measurement sites were utilized to assist with model calibration. As described in the Affected Environment existing peak hour noise levels in the Project area range from 54 dBA to 66 dBA Leq(h). The highest level of noise measurement of 66 dBA was recorded at Ramada Inn in the south west quadrant of the interchange. As discussed, in Section 3.16 Traffic, traffic is expected to increase over time without the Project.

The Build Alternative (Preferred Alternative)

Construction

Less Than Significant Impact. Under the Build Alternative, construction would be conducted in accordance with Chapter 8.28 of the Palmdale Municipal Code and Caltrans Standard Specification 14-8.02. If nighttime work is required Section 8.28.40 allows exceptions to the prescribed non noise hours “pursuant to the express written permission of the City Engineer”. Should that be the case the City, as the Project proponent, would file a request with the City Engineer to grant written permission for construction. It is anticipated night-time construction, if any would be very limited.

Therefore, the Build Alternative would not expose persons to or generate construction noise in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.

Operations

Less Than Significant Impact. Under the Build Alternative the design year traffic noise is predicted to range from 56 to 69 dBA $L_{eq}(h)$. Noise levels for the design year under the Build Alternative are expected to be up to 1 dB higher than design year No-Build noise levels. The maximum noise level at a residence would be 64 dBA L_{eq} and would not approach or exceed the NAC of 67 dBA L_{eq} . The maximum noise level at a hotel would be 69 dBA L_{eq} and would not approach or exceed the NAC of 72 dBA L_{eq} . The maximum noise increase from Existing to Build conditions would be 3 dBA, which would be less than the 12 dBA criterion for a substantial noise increase.

The Build Alternative would not expose persons to or generate noise in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies. Therefore, impacts would be less than significant.

No-Build Alternative

Less Than Significant Impact. Under the No-Build Alternative, there would be no Project-generated noise increases. The traffic noise modeling results for the design year No-Build Alternative range from 56 to 68 dBA $L_{eq}(h)$. Therefore, the No-Build Alternative would not expose persons to or generate noise in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies because no construction would occur. Thus, impacts would be less than significant.

Checklist Question b

Would the Project:

- b) Expose persons to or generation of excessive ground borne vibration or ground borne noise levels?**

Groundborne noise is the vibration of floors and walls that may cause items (e.g., windows or dishes on shelves) to rattle or cause a rumbling noise. The rumbling is created by the motion of the room surfaces, which act like a giant loudspeaker.

There are no applicable CEQA significance thresholds or standards for vibration. However, Caltrans in Transportation and Construction Vibration Guidance Manual (2013) has

published guideline criteria, shown in Table 3.15, for structural damage and human annoyance.

**Table 3.15
Guideline Vibration Damage Potential Threshold Criteria**

Structure and Condition	Maximum ppv (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5
ppv: peak particle velocity; in/sec: inch(es) per second Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment. Source: <i>Transportation and Construction Vibration Guidance Manual</i> (Caltrans 2013).		

The nearest structures to the Project site are the houses abutting the Project boundary. In terms of the classifications in Table 3.15, these structures are conservatively analyzed as “Older residential structures”. Therefore, the criteria for a significant impact is 0.5 peak particle velocity (ppv) inch per second (in/sec) for transient sources and 0.3 ppv in/sec for continuous or frequent intermittent sources.

There are no applicable standards for human annoyance from vibration. The Caltrans vibration annoyance potential guideline thresholds of Transient Sources are shown in Table 3.16. Based on the guidance in Table 3.16, the “strongly perceptible” vibration level of 0.9 ppv in/sec is considered as a threshold for a potentially significant vibration impact for human annoyance. However, because the structural damage thresholds of 0.5 ppv and 0.03 ppv in/sec is lower than the annoyance threshold, the structural damage thresholds govern the impact assessment.

**Table 3.16
Guideline Vibration Annoyance Potential Criteria**

Average Human Response	ppv (in/sec)
Severe	2.0
Strongly perceptible	0.9
Distinctly perceptible	0.24
Barely perceptible	0.035
ppv: peak particle velocity; in/sec: inch(es) per second	
Source: <i>Transportation and Construction Vibration Guidance Manual</i> (Caltrans 2013).	

Construction of the Project has the potential to generate vibration to the adjacent residences and their occupants. Operation of heavy construction equipment (e.g., large bulldozers) and impact equipment (e.g., pile drivers, jackhammers) creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance to structural damage. Construction that can result in significant levels of ground vibration generally falls into two categories that are best characterized by the cause of the vibration and its duration. Vibration that is steady-state and more or less continuous can be caused by vibratory compaction of soil, vibratory pile driving, movement of large equipment, and other sources. In contrast, vibration that is much more transient in nature and intermittent due to impulsive forces can be caused by pile driving and blasting. The Project would not include blasting or pile driving.

Table 3.17 summarizes Caltrans typical vibration levels measured during construction activities for various vibration-inducing pieces of equipment at a distance of 25 feet.

**Table 3.17
Vibration Levels for Construction Equipment**

Equipment		ppv at 25 ft (in/sec)
Pile driver (impact)	upper range	1.518
	typical	0.644
Pile driver (vibratory)	upper range	0.734
	typical	0.170
Vibratory roller		0.210
Large bulldozer		0.089
Caisson drilling		0.089
Loaded trucks		0.076
Jackhammer		0.035
Small bulldozer		0.003
ppv: peak particle velocity; ft: feet; in/sec: inches per second. Source: <i>Transportation and Construction Vibration Guidance Manual</i> (Caltrans 2013); <i>Transit Noise and Vibration Impact Assessment</i> (FTA 2006).		

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Operation of large bulldozers and vibratory rollers near the residences is anticipated. The distance from the residences to the roadway edge can be as close as 25 feet. The vibration levels would be 0.089 ppv in/sec and 0.210 ppv in/sec, respectively, for bulldozers and vibratory rollers. These values are less than the applicable threshold of 0.3 ppv in/sec and the impact would be less than significant, and no mitigation is required. The Build Alternative would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. Therefore, impacts would be less than significant.

No-Build Alternative

No Impact. The No-Build Alternative would not expose persons to or generate excessive groundborne vibration or groundborne noise levels because there would be no construction. Therefore, no impact would occur.

Checklist Question c

Would the Project:

- c) Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?**

As discussed under checklist question a, there are no City standards for project-generated long-term noise increases and Caltrans defines substantial noise increase when the Project’s predicted worst-hour design year noise level exceeds the existing worst-hour noise level by

12 dBA or more. An increase of 3 dBA is barely perceptible to most persons, and an increase of 5 dBA is readily perceptible.

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The dominant noise in the Project area is traffic on SR-14 and Palmdale Boulevard. The proposed improvements for the Build Alternative involve widening the ramps, adding an auxiliary lane, installing new traffic signals, replacement of 14 feet high sound wall near SR-14 slip ramp, construction of 8 retaining walls, and providing right-turn only lanes from Palmdale Boulevard to both north and southbound loop on-ramps. In addition, Palmdale Boulevard would be widened to allow for three westbound through lanes at the southbound ramp intersection with additional widening to 5th Street West to allow for standard 8-foot sidewalks and a right-turn lane for eastbound traffic to turn onto Division Street. The purpose of the Build Alternative is to improve circulation and operations for all roadway users. As a result of the improvements, the operation of this interchange and Palmdale Boulevard would improve.

As discussed in a), the design year traffic noise levels for the Build Alternative range from 56 to 69 dBA $L_{eq}(h)$. Noise levels for the design year under the Build Alternative are expected to be up to 1 dB higher than design year No-Build noise levels and up to 3 dB higher than the baseline (Existing) noise levels.

The 14-foot retaining wall on the SB slip off-ramp (in the southwest quadrant) and the retaining walls below the SR-14/ Palmdale Boulevard Interchange are not located along the noise propagation path between the roadway and nearby sensitive land uses. The existing 12-foot wall on the outside of the SR-14 SB slip on-ramp (north west quadrant) would not be changed from its current configuration. Further, new design features that occur along the northbound SR-14 slip on-ramp and off-ramps are not in the vicinity of any sensitive receivers. As a result of the Project, the proposed changes will continue to produce the same noise levels and have no effect on sensitive land uses in the area. Further, the majority of the retaining walls that occur along the SR-14 northbound slip on-ramp and off-ramps are not in the vicinity of any sensitive receivers.

Design year No-Build noise levels would increase from the existing condition gradually over time. Traffic noise increases resulting from implementation of the Build Alternative would not be perceptible to the human ear. No substantial adverse permanent noise increase in ambient noise levels would occur as a result of the Build Alternative.; and therefore, impacts would be less than significant.

No-Build Alternative

No Impact. There would be no permanent increase in ambient noise levels for the No-Build Alternative because the Project would not be implemented. Therefore, no impact would occur.

Checklist Question d

Would the Project:

d) Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

The primary noise sources during typical construction activities are the construction equipment diesel engines and the impact noise from operations such as pile driving, blasting, and jackhammering. The Project would not include pile driving or blasting.

During construction of the Project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 3.18 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 80 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance (i.e., if the noise level is 80 dBA at 50 feet, it is 74 dBA at 100 feet).

**Table 3.18
Construction Equipment Noise**

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82
<i>Source: Federal Transit Administration 2006.</i>	

Construction would be limited to the hours of 6:30 a.m. to 8:00 p.m., as required by the Palmdale Municipal Code (see Avoidance and Minimization Abatement Measure NOI-1). If nighttime construction is needed a written permission from the City Engineer will be obtained. To minimize the construction-generated noise, abatement measures from the Standard

Specification 14-8.02 “Noise Control” and SSP 14-8.02 must be followed (see Avoidance and Minimization Abatement Measures NOI-2 and NOI-3):

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler.
- Do not operate an internal combustion engine on the job site without the appropriate muffler.

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Temporary increases in noise levels would occur during construction of the Build Alternative and would be heard at nearby receptors when not overshadowed by existing traffic noise levels. The Project is a linear project; thus, the noise impact at any individual receptor would be limited to the period when construction would occur nearby. As described above, construction activities would not occur between the hours of 8:00 PM and 6:30 AM and in accordance with Caltrans noise abatement specifications. Because of the linear nature of the Project, existing traffic noise, and adherence to City and Caltrans requirements, implementation of the Build Alternative would not result in substantial temporary increase in noise levels over existing conditions. Therefore, impacts would be less than significant.

No-Build Alternative

No Impact. There would be no temporary increase in construction noise for the No-Build Alternative, because no construction work would occur. Therefore, no impacts would occur.

Checklist Question e

Would the Project:

- e) **For a Project located within an airport land use plan or, where such plan has not been adopted, within two miles of a private or public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?**

The Build Alternative (Preferred Alternative)

No Impact. The Project site is not located in an airport land use plan or within two miles of a public airport. The Build Alternative would not expose people working in the Project area to excessive aircraft noise levels; and therefore, no impact would occur.

No-Build Alternative

No Impact. No-Build Alternative would not expose people to excessive aircraft noise levels because the Project site is not located in an airport land use plan or within two miles of a public airport. Therefore, no impact would occur.

Checklist Question f

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The Project site is not located in the vicinity of the private airstrip. The Build Alternative would not expose people residing or working in the area to excessive noise levels from a nearby private airport or airstrip; and therefore, no impact would occur.

No-Build Alternative

No Impact. No-Build Alternative would not expose people to excessive aircraft noise levels because the intersection is located outside of private airport zone. No impacts are expected. Therefore, no impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Abatement Measures

The following avoidance and minimization measures ensure the Project’s compliance with applicable rules and regulations:

- NOI-1** During construction, the construction contractor will adhere to the City of Palmdale Municipal Code (Chapter 8.28 Building Construction Hours and Operation and Noise Control, Section 8.28.30). The Code contains provisions that restrict construction between the hours of 8:00 PM and 6:30 AM in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park. Section 8.28.40 allows exceptions to the prescribed hours “pursuant to the express written permission of the City Engineer ...if he finds that: (A). The work proposed to be done is affected with public interest”. If nighttime construction is proposed then the City will apply for a written permission from the City Engineer.

NOI-2 During construction, to minimize the construction-generated noise, abatement measures from Standard Specification 14-8.02 “Noise Control” and SSP 14-8.02 must be followed:

- Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer recommended muffler.
- Do not operate an internal combustion engine on the job site without the appropriate muffler.

NOI-3 The following Standard Special Provision (SSP 14-8.02) will be edited specifically for this Project during the PS&E phase (choose either par. 1 or 2):

1. Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from _____ p.m. to _____ a.m. except the following activities may be performed during the specified hours and for the days shown in the following table:

Table XXX Noise Restriction Exceptions

Activity			
Hours		Days	
From	To	From	To

2. Do not operate construction equipment or run the equipment engines from 7:00 p.m. to 7:00 a.m. or on Sundays, with the exception that equipment may be operated within the Project limits during these hours to:
 - Service traffic control facilities
 - Service construction equipment

3.13 Population and Housing

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The California Department of Finance (DOF) collects statistics from local jurisdictions throughout the state; these data were used to provide historical context for growth within the City of Palmdale. DOF reports that the City’s population nearly doubled between 1990 and 2000, from 68,946 people to 116,670. Toward the end of the 1990s, Palmdale’s annual population growth began to slow, dropping from a 6.1 percent increase in 1996 to an increase of a little more than 2 percent in the year 2000. Nevertheless, the population of Palmdale increased by 76 percent while population in the Los Angeles County as a whole grew by only 11.5 percent. Between 2000 and 2010, the population of Palmdale grew from 116,670 to 152,750 persons, an increase of 36,080 (30.9 percent). This growth was considerably less dramatic than during the previous decade but still substantial.

When the economic crisis happened in 2008, the population growth started to slow down to a rate of approximately 2 percent per year and is expected to stay low for few more years.

SCAG prepares growth projections for its entire region. According to the SCAG Growth Forecast included in the 2016 RTP/SCS, the City of Palmdale is expected to experience steady population growth of approximately 8 to 10 percent per year in the next 30 years. According to SCAG, the population in the City (154,162 as of 2012) is projected to increase by approximately 8 percent to 166,495 in 2020 and by 10 percent to 183,145 in 2035; it is expected to total 201,460 in 2040. The household numbers (43,056 as of 2012) are projected to grow slowly by 1 percent to 43,570 in 2020, and rapidly by 29 percent 55,984 in 2035 to

reach 59,252 households in 2040. SCAG projects that employment in Palmdale will grow by 10 percent over existing conditions (29,315 as of 2012) to 32,248 in 2020, by 18 percent to 38,069 in 2035, and reach 40,291 in 2040.

The area where the interchange is located is commercial in nature. No housing units exist in the Project limits. A single family residential housing is located in the south west quadrant of the interchange.

Environmental Consequences

Checklist Question a

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)?**

The Build Alternative (Preferred Alternative)

No Impact. The Project is a safety and operational improvement Project and, as such, cannot act as a catalyst to growth. The Build Alternative does not propose development and would not, therefore, generate employees, residents, or create a need for housing. The Build Alternative would not induce substantial population growth in an area, either directly or indirectly by providing needed infrastructure to a new area, thereby, allowing future development to the area. No substantial adverse growth related effects would occur as a result of the Build Alternative housing by supporting expanded growth beyond the levels planned for as part of the long-term planning programs.

No-Build Alternative

No Impact. The No-Build Alternative would not result in any construction and, as a result, would not create any substantial adverse effects to population and housing by supporting expanded growth beyond the levels planned for as part of the long-term planning programs.

Checklist Questions b and c

Would the Project:

- 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?

The Build Alternative (Preferred Alternative)

No Impact. As shown on Figure 11, the Build Alternative Potential Acquisitions and as listed in Table 3.12 in Section 3.10, Land Use, no full parcel acquisitions would occur as a result of the Build Alternative and no demolitions of existing structures would occur. Implementation of the Build Alternative would result in sliver acquisitions from six adjacent parcels. These sliver acquisitions would total 6,112 square feet and would be limited to the landscaping and curb adjacent to the roadway. None of these acquisitions would necessitate the displacement of buildings or their employees. Because no structures are affected and no businesses operations are expected to be impacted, no relocation of tenants is expected and there are no Relocation Assistance expenses anticipated for the Build Alternative. Implementation of Avoidance and Minimization Measure LU-1 would ensure that the owners of the parcels to be affected by sliver acquisitions would be fairly compensated.

The Build Alternative would not displace existing housing or buildings, nor would it result in relocations of people or result in the construction of replacement housing/employment elsewhere. No substantial adverse effects would occur as a result of the Build Alternative.

No-Build Alternative

No Impact. The No-Build Alternative would not result in any construction and, as a result, would not create any substantial adverse effects to population and housing.

Avoidance, Minimization, and/or Mitigation Measures

Refer to Avoidance and Minimization Measure LU-1. No other Avoidance, Minimization, and/or Mitigation Measures are required.

3.14 Public Services

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Fire Protection

Fire protection services for the City of Palmdale are provided by the Los Angeles County Fire Department (LACFD). The closest LACFD's Palmdale Fire station number 37, is located at 38318 9th St East, approximately 0.95 mile east of the Project site.

Police Services

The Los Angeles County Sheriff Department's (LASD's) Palmdale Station provides law enforcement services for the City. The Station is located at 750 East Avenue Q, approximately 0.9 mile north of the Project site. There are no police stations located in the Project study area.

Schools

The Project is located within the Palmdale School District. Three public schools are located in the vicinity:

- Yucca Elementary School at 38440 2nd St East, is located 0.19 miles north east of the Project,
- Palm Tree Elementary School at 326 E Ave R is located 0.51 mile east of the Project,
- Palmdale Learning Plaza at 38043 Division St adjacent to the Project and located in the south east quadrant.

Recreational Facilities

Recreational facilities have been discussed under Section 3.15 Recreation.

Other Service Providers

There are no hospitals located in the Project study area; however, Antelope Valley Community Clinic is located at 2151 East Palmdale Boulevard, approximately 2.3 miles east of the Project site; and Palmdale Regional Medical Center, is located 0.28 miles west at 38600 Medical Center Drive.

Environmental Consequences

Checklist Question a

Would the Project:

- 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, and other public facilities?**
- 1. Fire Protection**
 - 2. Police Protection**
 - 3. Schools**
 - 4. Parks**
 - 5. Other Public Facilities**

The Build Alternative (Preferred Alternative)

No Impact. The Build Alternative would not induce population growth; and thus, would not result in impacts to schools, parks, or other public facilities. No new or physically altered governmental facilities would be required to maintain acceptable service ratios. None of the Public Services identified in the checklist question would be permanently affected by the Build Alternative, although public services (e.g., fire, ambulance, police) may experience temporary delays associated with construction activities. Temporary lane closures may occur during Project construction for a short period of time. Construction of the Project would be phased to avoid construction-related impacts. A TMP would be prepared during the Plans, Specifications, and Estimates Phase that establishes the framework for proper coordination with emergency service providers to ensure that these service providers are notified of construction activities and any expected traffic shifts, thus, ensuring that emergency response times are not substantially impacted. Refer to Avoidance and Minimization Measures TRA-1, provided in Section 3.16. Therefore, impacts would not occur.

In the long-term, because the Build Alternative proposes roadway and interchange improvements, it is anticipated the Project would improve emergency response times along SR-14 and Palmdale Boulevard.

No-Build Alternative

No Impact. The No-Build Alternative would not have any direct impact on construction delays that could affect emergency services. Thus, no impact would occur.

Avoidance, Minimization, and/or Mitigation Measures

With implementation of TRA-1, no additional avoidance, minimization, or mitigation measures are required.

3.15 Recreation

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

The City of Palmdale adopted the General Plan Parks, Recreation, and Trails Element in 1993. No recreational resources such as recreational parks and bikeways were designated in the General Plan within the Project limits or exist within the Project area. However, three parks are located within the 0.5 mile of the Project:

- Manzanita Heights Park is located 0.17 mile west of the Project site. Manzanita Park is approximately 5 acres, and provides barbecue equipment, two children’s play areas, a picnic area, restrooms, and playfields.
- Pelona Vista Park is located 0.17 mile southwest from the Project. Pelona Vista encompasses 78 acres. Available recreational facilities include picnic tables, lighted soccer fields for nighttime use, and walk/jog paths.
- Desert Sands Park is located 0.46 mile northeast from the Project. Desert Sands Park encompasses approximately 20 acres. Available recreation facilities include barbecues, basketball courts, children’s play areas, a community room, picnic tables, picnic pads, soccer fields, softball and baseball fields, tennis courts, volleyball courts, and walk/jog paths.

Additionally, two roadways are located within 0.5 miles and are listed as bike lanes on the City of Palmdale, General Plan, Bikeway and Multi-Purpose Trail Plan, Adopted Master Plan Route. These roadways are:

- Avenue R, located approximately 0.25 miles to the south

- Avenue Q, located approximately 0.25 miles to the north

Environmental Consequences

Checklist Questions a and b

Would the Project:

- a) 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) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

The Build Alternative (Preferred Alternative)

No Impact. The Project would upgrade existing interchange and provide safety and operational improvements. There are no bikeways within the Project limits and no bikeways are proposed on Palmdale Boulevard on the City General Plan. No bikeways are proposed as part of the Build Alternative; however, the proposed designated shoulder on Palmdale Boulevard under the Build Alternative would be able to accommodate bicyclists.

The Project is a transportation improvement Project and as such would not modify demand for use of recreational facilities, including parks. Due to its nature, the Build Alternative is not expected to increase the use of local parks or otherwise deteriorate parks or their amenities or require construction of expansion of existing recreational facilities.

No-Build Alternative

No Impact. The No-Build Alternative does not propose any improvements; therefore, it would not impact parks or recreational facilities or the demand for recreational facilities.

Avoidance, Minimization, and/or Mitigation Measures

The Project would have no direct or indirect impacts on park and recreational facilities. No avoidance, minimization, or mitigation measures would be required.

3.16 Transportation/Traffic

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

On September 26, 2013, Governor Brown signed Senate Bill No. 99 (SB-99) creating the Active Transportation Program (ATP) funding. The purpose of the ATP is to encourage increased use of active modes of transportation.

California Department of Transportation Deputy Directive (DD-64-R2 of October 17, 2014) views all transportation improvements as opportunities to improve safety, access and mobility for all travelers in California and recognizes bicycle, pedestrian and transit modes as integral elements of the transportation system. Bicycle, pedestrian and transit travel is facilitated by creating “complete streets” beginning early in System Planning and continuing through Project delivery, maintenance and operations.

The Complete Streets Act of 2008 (AB. No. 1358 of September 30, 2008) requires cities and counties to incorporate the concept of Complete Streets into their General Plan Updates to ensure that transportation plans meet the needs of all users of our roadway system. Also, California Vehicle Code and Streets and Highway Code Section 888 states that Caltrans shall not construct a state highway as a freeway that will result in the severance or destruction of an existing major route for nonmotorized transportation traffic and light motorcycles, unless it provides a reasonable, safe, and convenient alternate route or such a route exists.

SCAG's 2016-2040 Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS) invests \$12.9 billion in active transportation strategies towards increasing bikeways, bringing sidewalks into compliance with Americans with Disabilities Act, safety improvements and other Active Transportation Strategies. Also, the United States Department of Transportation (US DOT) Policy Statement on bicycle and pedestrian accommodation (March 11, 2010) states that US DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics when appropriate.

Affected Environment

This section was prepared based on the *Traffic Study for Palmdale Boulevard* (2017) and the City of Palmdale General Plan. The *Traffic Study for Palmdale Boulevard* was prepared according to Caltrans standards and incorporated approved methodology and models for interchange projects.

The City of Palmdale is served by SR-14, which runs north to south and provides access from both the Los Angeles and Mojave Desert areas. SR-138 (Palmdale Boulevard) serves as a major route from east to west between Antelope Valley and Apple Valley. In addition, the City has rail access via the Southern Pacific Transportation Company and is served by the Palmdale Regional Airport, owned by the City of Los Angeles Department of Airports.

SR-14, where the SR-14—Palmdale Boulevard Interchange is located, has between 81,000 and 87,000 AADT, approximately 4.5 percent of which is associated with truck travel. The segment of SR-14 currently operates at LOS C or better in both peak hours.

Palmdale Boulevard connects the City of Palmdale with Victorville in east San Bernardino County. Elizabeth Lake Road, which is the westerly extension of Palmdale Boulevard, connects with Avenue D, which in turn, connects to Interstate 5, near the Ventura County border. According to the City of Palmdale General Plan, Palmdale Boulevard is not a designated truck route. Palmdale Boulevard widens from a four-lane divided roadway to a

six-lane divided roadway just west of SR-14, continuing as six lanes through Division Street. The intersections of Palmdale Boulevard with 5th Street West and Division Street are signalized.

In addition, Palmdale Boulevard has a full interchange configuration with SR-14 and a raised, landscaped median island between 10th Street West and 11th Street East. The existing SR-14/ Palmdale Boulevard interchange is a partial cloverleaf, with loop ramps for westbound traffic to travel south on SR-14 and for eastbound traffic to travel north on SR-14. There are no exclusive turn lanes on Palmdale Boulevard at the interchange.

Division Street is classified in the General Plan as a major arterial between Avenue M and Avenue R-8.

5th Street East is classified in the General Plan as a secondary arterial between Avenue Q and Avenue S.

The Level of Service Within Existing Street Network

When analyzing traffic impacts on highways and intersections a LOS concept is used to relate the quality of traffic service. The LOS is a qualitative measure that describes operational conditions in terms of travel speed (for arterials), density (for freeways and ramps), and delays (for intersections). LOS ranges from A to F, with A representing the best operating conditions and F representing the worst. Caltrans aims to maintain a LOS at the transition between LOS C and LOS D, and LOS D is generally considered acceptable for facilities in urban areas.

The City of Palmdale General Plan Circulation Element (1993) provides a blueprint for construction and maintenance of a transportation network, which will accommodate growth, support economic development, allow safe and convenient access, and meet regional transportation goals. The City of Palmdale strives to maintain LOS C or better to the extent practical on major arterials; in some circumstances, a LOS D may be acceptable for a short duration during peak periods. The General Plan recognizes that Palmdale Boulevard needs improvements between Elizabeth Lake Road and Division Street.

Table 3.19 shows the existing LOS at the SR-14 freeway mainline. The freeway LOS was determined using HCS 2010, a software package which evaluates LOS using the methods in the Highway Capacity Manual. As seen in the Table 3.19, SR-14 is currently operating at LOS C or better in both peak hours for both directions of travel north and south of the Palmdale Boulevard interchange.

**Table 3.19
Existing Level of Service on SR-14**

Existing Condition (2013)	AM Peak Hour	PM Peak Hour
	LOS	LOS
Northbound, N of Palmdale Blvd	B	C
Southbound, N of Palmdale Blvd	C	C
Northbound, S of Palmdale Blvd	B	C
Southbound, S of Palmdale Blvd	B	B
LOS: level of service; SR: State Route		
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138		

Table 3.20 shows the existing LOS at the SR-14 freeway ramps. The merge and diverge points at the on- and off-ramps, respectively, were evaluated using HCS 2010. As seen in the Table 3.20, all of the ramps currently operate at LOS B or C in the AM peak hour. Most of the ramps operate at LOS C or better in the PM peak hour with the exception of the southbound off-ramp, which operates at LOS D.

**Table 3.20
Existing Ramp Level of Service**

Existing Condition (2013)	AM Peak Hour	PM Peak Hour
	LOS	LOS
Northbound Palmdale Off-Ramp	B	C
Northbound Palmdale Loop On-Ramp	B	B
Northbound Palmdale On-Ramp	B	C
Southbound Palmdale Off-Ramp	C	D
Southbound Palmdale Loop On-Ramp	B	C
Southbound Palmdale On-Ramp	B	C
LOS: level of service; SR: State Route		
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138		

Table 3.21 shows the existing LOS at the local intersections. The traffic modeling software Synchro was used to develop a model of the Project area, and simulations were run in SimTraffic to evaluate the operations. As seen in the Table 3.21, all of the intersections currently operate at LOS B or better in the AM peak hour and LOS C or better in the PM peak hour. Tables 3.22 and 3.23 show the projected LOS at the intersections in 2020 and 2040, respectively. The LOS and delay information for the existing conditions, 2020 and 2040 is summarized in Table 3.24 for the both the Build Alternative and No-Build Alternative.

**Table 3.21
Existing Level of Service at Local Intersections**

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	A	E	B	B	D	D	B	D	D	A	B
	Delay	70.2	13.2	6.6	70.5	13.5	11.6	53.0	53.7	11.6	54.3	47.6	3.0	19.8
PM	LOS	E	B	B	E	B	B	D	E	B	D	D	A	C
	Delay	55.2	19.8	13.2	72.6	18.4	14.2	54.9	56.9	12.0	52.2	50.9	5.7	28.3
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	B	N/A	A	N/A	N/A	N/A	N/A	D	N/A	A	B
	Delay	N/A	3.9	10.4	N/A	9.6	N/A	N/A	N/A	N/A	37.6	N/A	6.9	13.1
PM	LOS	N/A	A	C	N/A	B	N/A	N/A	N/A	N/A	D	N/A	B	C
	Delay	N/A	6.6	21.1	N/A	19.2	N/A	N/A	N/A	N/A	40.4	N/A	16.2	20.1
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	6.5	N/A	N/A	1.7	3.2	48.0	N/A	N/A	N/A	N/A	N/A	7.7
PM	LOS	N/A	B	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	B
	Delay	N/A	10.9	N/A	N/A	2.6	5.9	44.9	N/A	N/A	N/A	N/A	N/A	10.3
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	B	D	A	A	D	D	A	D	C	A	B
	Delay	58.0	14.0	11.1	49.7	9.7	5.8	46.9	36.0	6.1	39.2	33.1	6.5	17.6
PM	LOS	E	B	B	D	B	A	D	D	A	D	D	A	C
	Delay	62.4	18.7	16.1	48.6	12.2	8.1	52.5	39.1	6.5	43.0	37.1	7.6	21.0

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

In addition, currently the interchange experiences some substantial weaving and queuing conditions. There are a few turn lanes which do not provide sufficient storage for existing traffic conditions. The southbound right turn queues on the SR-14 off-ramp are more than twice the length of the available turn lane storage in both peak hours. In addition, the southbound left turn queues far exceed the available right turn storage, preventing right turning vehicles from entering the turn lane and consequently increasing delays for all southbound vehicles. The southbound right turn queues on the SR-14 off-ramp are more than twice the length of the available turn lane storage in both peak hours.

**Table 3.22
2020 Level of Service at Local Intersections**

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	A	E	B	B	D	D	B	D	E	A	C
	Delay	63.1	14.1	7.2	68.4	16.6	14.3	51.5	52.2	12.9	53.5	56.5	4.4	21.1
PM	LOS	E	C	B	E	C	B	D	E	B	D	D	A	C
	Delay	60.9	25.5	16.9	66.5	24.5	19.3	51.0	56.5	15.2	54.0	44.9	7.6	32.0
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	A	N/A	B	N/A	N/A	N/A	N/A	D	N/A	B	B
	Delay	N/A	3.3	3.7	N/A	12.3	N/A	N/A	N/A	N/A	44.7	N/A	11.4	14.8
PM	LOS	N/A	A	A	N/A	C	N/A	N/A	N/A	N/A	D	N/A	C	C
	Delay	N/A	4.6	4.7	N/A	25.2	N/A	N/A	N/A	N/A	49.9	N/A	28.6	23.8
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	2.7	N/A	N/A	1.8	2.7	43.3	N/A	N/A	N/A	N/A	N/A	5.6
PM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	6.4	N/A	N/A	3.1	3.5	43.9	N/A	N/A	N/A	N/A	N/A	7.9
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	A	A	E	B	A	E	D	A	D	D	A	B
	Delay	63.9	8.3	7.6	61.5	10.7	6.8	55.2	42.1	6.8	40.2	35.7	6.8	16.4
PM	LOS	E	B	B	E	B	B	D	D	A	D	D	A	C
		65.2	15.8	14.8	61.1	14.2	11.6	54.7	40.3	7.6	42.1	38.2	7.8	20.7

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Table 3.23
2040 Level of Service at Local Intersections

		<i>Palmdale Boulevard</i>						<i>5th Street West</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	C	B	E	C	C	D	D	C	E	D	A	C
	Delay	61.7	21.0	16.1	75.1	31.6	28.3	50.6	52.3	26.5	55.1	52.1	4.6	30.5
PM	LOS	E	E	E	E	C	C	D	E	C	E	D	B	D
	Delay	79.4	77.3	69.4	77.0	29.1	23.9	54.7	56.2	28.3	62.3	45.8	10.8	54.4
		<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	A	N/A	C	N/A	N/A	N/A	N/A	F	N/A	F	D
	Delay	N/A	5.5	5.8	N/A	24.5	N/A	N/A	N/A	N/A	120.9	N/A	96.1	45.1
PM	LOS	N/A	A	A	N/A	D	N/A	N/A	N/A	N/A	F	N/A	F	D
	Delay	N/A	7.3	7.6	N/A	48.6	N/A	N/A	N/A	N/A	126.8	N/A	108.7	53.8
		<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	N/A	A	N/A	N/A	A	A	D	N/A	N/A	N/A	N/A	N/A	A
	Delay	N/A	5.7	N/A	N/A	2.6	4.0	44.4	N/A	N/A	N/A	N/A	N/A	7.5
PM	LOS	N/A	B	N/A	N/A	A	A	E	N/A	N/A	N/A	N/A	N/A	B
	Delay	N/A	11.3	N/A	N/A	5.4	5.6	60.9	N/A	N/A	N/A	N/A	N/A	12.4
		<i>Palmdale Boulevard</i>						<i>Division Street</i>						Total
		Eastbound			Westbound			Northbound			Southbound			
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
AM	LOS	E	B	B	E	B	B	D	D	A	C	C	B	C
	Delay	66.5	15.3	14.5	58.7	16.6	12.9	54.7	39.3	9.3	30.4	29.0	11.4	21.5
PM	LOS	E	C	C	E	C	B	E	D	B	C	C	B	C
	Delay	66.5	31.3	31.5	58.7	21.9	18.1	63.1	43.0	11.2	33.6	30.6	15.6	31.7

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 Shading indicates a deficient LOS.
 Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Table 3.24
Summary of Existing and Future Level of Service at Local Intersections

Intersection	Existing Conditions (2015)				2020 No-Build				2040 No-Build			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Palmdale Boulevard and 5th St West	19.8	B	28.3	C	21.1	C	32.0	C	30.5	C	54.4	D
Palmdale Boulevard and SR-14 SB Ramps	13.1	B	20.1	C	14.8	B	23.8	C	45.1	D	53.8	D
Palmdale Boulevard and SR-14 NB Ramps	7.7	A	10.3	B	5.6	A	7.9	A	7.5	A	12.4	B
Palmdale Boulevard and Division St	17.6	B	21.0	C	16.4	B	20.7	C	21.5	C	31.7	C

LOS: Level of Service

Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Queue Analysis



The Traffic Study also evaluated queues at the local intersections and freeway ramps. The Traffic Study concluded that under existing conditions, there are no queues that exceed the available storage at the intersection of Palmdale Boulevard and the SR-14 NB ramps. However, as shown in the Table 3.25 at the intersection of Palmdale Boulevard and 5th Street West, the westbound left lane storage capacity of 150 feet is dramatically exceeded. A similar queue situation occurs at the SR-14 Southbound Ramps at the right turn movements where the queues dramatically exceed the storage lane length. At Palmdale Boulevard and Division Street the capacity of the northbound left turn storage lane is exceeded by existing traffic conditions. As discussed below, overtime queuing conditions would continue to deteriorate.

Pedestrian and Bicyclists Environment

Under existing conditions, sidewalks are provided along both sides of Palmdale Boulevard throughout the entire Project area. Crosswalks are also provided at the signalized ramp intersections, and across Palmdale Boulevard at 5th Street West and Division Street (but nowhere between those two roadways). There are also six unsignalized crosswalks located on the ramps, including four which cross free-flowing traffic on the on-ramps.

**Table 3.25
Queue at Existing Conditions**

	<i>Palmdale Boulevard</i>						<i>5th Street West</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT
AM	<50	159	142	122	79	104	<50	62	88	88	<50	<50
PM	<50	211	199	232	262	205	68	<50	80	172	60	<50
Storage	150			150			255			260		240
	<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	56	168	N/A	<50	N/A	N/A	N/A	N/A	471	N/A	313
PM	N/A	165	236	N/A	132	N/A	N/A	N/A	N/A	771	N/A	347
Storage	N/A			N/A		N/A	N/A	N/A	N/A		N/A	150
	<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	N/A	<50	N/A	N/A	<50	63	210	N/A	N/A	N/A	N/A	N/A
PM	N/A	87	N/A	N/A	<50	145	265	N/A	N/A	N/A	N/A	N/A
Storage	N/A		N/A	N/A				N/A	N/A	N/A	N/A	N/A
	<i>Palmdale Boulevard</i>						<i>Division Street</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	<50	166	180	<50	102	137	238	154	<50	<50	<50	62
PM	103	271	294	79	175	188	229	206	<50	<50	64	58
Storage	215			225			150		150	160		

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 Shading indicates queues for that movement beyond the storage
 Shading indicates adjacent lanes which might block the turn lane storages
 Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

The City of Palmdale General Plan does not identify Palmdale Boulevard as designated bike route. However, several existing and/or planned routes exist within ½ mile of Palmdale Boulevard, providing access for bicyclists traveling to and from all directions in the vicinity of the Project.

Environmental Consequences

Checklist Question a

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?**

The Build Alternative (Preferred Alternative)

No Impact. Without the proposed improvements, certain traffic operations will deteriorate to unacceptable levels. These include: 1) Southbound left and right turns on the SB off-ramp will deteriorate to LOS E for both peak hours in 2040 – refer to Table 3.26; 2) Projected 2040 queues would greatly exceed the available storage on the southbound off-ramp for both peak hours and extend onto the SR-14/SR-138 mainline. (Refer to Tables 3.27 through 3.30)

The Build Alternative would add an auxiliary lane to the northbound SR-14, widen the northbound off ramp from two to three lanes, widen the southbound off-ramp to provide four lanes (two left turn lanes and two right turn lanes) and accommodate the mainline widening from Avenue Q to Palmdale Boulevard, and reconstruct the two loop on-ramps to provide a dedicated right turn lane on Palmdale Boulevard for each ramp. Additional improvements would include modification of the signal timing and phasing at ramp intersections, and provision of a fourth eastbound lane along Palmdale Boulevard between SR-14 northbound off ramp to Division Street, and addition of a fourth westbound lane on Palmdale Boulevard from the SR-14 southbound off ramp to 5th Street West. The additional lanes on Palmdale Boulevard would become exclusive eastbound and westbound right turn lanes at Division Street and 5th Street West, respectively.

As seen in the Table 3.26, SR-14 is expected to continue to operate at LOS C both north and south of Palmdale Boulevard in 2020 with or without the Project. Southbound traffic north of the interchange is expected to operate at LOS B in the

AM peak hour and LOS C in the PM peak hour with the Project in the opening year (2020).

**Table 3.26
Existing and Future Level of Service on the SR-14
with the Build Alternative**

SR-14 Level of Service										
Intersections	Existing (Year 2015)		Opening Day (Year 2020)				Horizon Year (Year 2040)			
	No-Build		No-Build		The Build Alternative		No-Build		The Build Alternative	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Northbound, N of Palmdale	B	C	C	C	C	C	D	E	D	E
Southbound, N of Palmdale	C	C	C	C	B	C	D	E	C	D
Northbound, S of Palmdale	B	C	B	C	B	C	C	D	C	D
Southbound, S of Palmdale	B	B	B	B	B	B	C	C	C	C
LOS: level of service; SR: State Route; N: north; S: south										
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138										

Table 3.27
Queue Conditions Under the No-Build Alternative (2020)

	<i>Palmdale Boulevard</i>						<i>5th Street West</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT
AM	<50	186	175	125	118	131	50	60	98	92	<50	<50
PM	<50	258	247	249	346	276	70	51	97	195	65	<50
Storage	150			150			255			260		240
	<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	<50	<50	N/A	142	N/A	N/A	N/A	N/A	648	N/A	343
PM	N/A	<50	<50	N/A	314	N/A	N/A	N/A	N/A	1,097	N/A	364
Storage	N/A			N/A		N/A	N/A	N/A	N/A		N/A	150
	<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	N/A	<50	N/A	N/A	<50	<50	199	N/A	N/A	N/A	N/A	N/A
PM	N/A	95	N/A	N/A	<50	<50	297	N/A	N/A	N/A	N/A	N/A
Storage	N/A		N/A	N/A				N/A	N/A	N/A	N/A	N/A
	<i>Palmdale Boulevard</i>						<i>Division Street</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	51	125	144	59	123	166	234	229	70	<50	<50	63
PM	106	235	260	89	200	210	243	249	51	<50	72	59
Storage	215			225			150		150	160		





LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 Shading indicates queues for that movement beyond the storage
 Shading indicates adjacent lanes which might block the turn lane storages
 Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Table 3.28
Queue Conditions Under the No-Build Alternative (2040)



	<i>Palmdale Boulevard</i>						<i>5th Street West</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT
AM	58	297	297	170	251	265	74	89	162	125	<50	<50
PM	172	753	748	251	354	288	97	81	160	275	118	<50
Storage	150			150			255			260		240
	<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	<50	<50	N/A	275	N/A	N/A	N/A	N/A	1,890	N/A	347
PM	N/A	<50	<50	N/A	557	N/A	N/A	N/A	N/A	1,661	N/A	360
Storage	N/A			N/A		N/A	N/A	N/A	N/A		N/A	150
	<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	N/A	68	N/A	N/A	<50	<50	270	N/A	N/A	N/A	N/A	N/A
PM	N/A	222	N/A	N/A	<50	79	429	N/A	N/A	N/A	N/A	N/A
Storage	N/A		N/A	N/A				N/A	N/A	N/A	N/A	N/A
	<i>Palmdale Boulevard</i>						<i>Division Street</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	61	220	247	74	206	257	263	383	104	<50	52	85
PM	163	439	444	140	295	323	256	450	198	51	85	80
Storage	215			225			150		150	160		

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 Shading indicates queues for that movement beyond the storage
 Shading indicates adjacent lanes which might block the turn lane storages
 Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

**Table 3.29
Queue Conditions Under the Build Alternative (2020)**

	<i>Palmdale Boulevard</i>						<i>5th Street West</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT
AM	<50	147	191	89	141	<50	<50	58	87	87	<50	<50
PM	<50	236	274	226	224	<50	70	55	87	196	72	<50
Storage	150			150		250	255			260		240
	<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	177	N/A	N/A	80	<50	N/A	N/A	N/A	228	N/A	84
PM	N/A	251	N/A	N/A	160	<50	N/A	N/A	N/A	224	N/A	100
Storage	N/A		N/A	N/A		210	N/A	N/A	N/A	350*	N/A	350*
	<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	70	<50	N/A	139	N/A	129	N/A	N/A	N/A	N/A	N/A
PM	N/A	107	<50	N/A	200	N/A	118	N/A	N/A	N/A	N/A	N/A
Storage	N/A		200	N/A		N/A	370*	N/A	N/A	N/A	N/A	N/A
	<i>Palmdale Boulevard</i>						<i>Division Street</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	<50	100	<50	51	87	159	215	121	<50	<50	<50	67
PM	99	220	60	95	171	255	235	224	<50	<50	71	59
Storage	215		230	225			150		150	160		

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 *One of the two turn lanes has a storage length as noted. The second turn lane is continuous along the entire ramp length.



 Shading indicates queues for that movement beyond the storage
 Shading indicates adjacent lanes which might block the turn lane storages

Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Table 3.30
Queue Conditions Under the Build Alternative (2040)

	<i>Palmdale Boulevard</i>						<i>5th Street West</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	TH-RT	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT
AM	<50	361	463	150	255	<50	65	76	137	119	<50	<50
PM	166	874	877	255	357	<50	106	71	141	271	121	<50
Storage	150			150		250	255			260		240
	<i>Palmdale Boulevard</i>						<i>SR-14 Southbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	190	N/A	N/A	135	<50	N/A	N/A	N/A	285	N/A	117
PM	N/A	311	N/A	N/A	182	<50	N/A	N/A	N/A	258	N/A	208
Storage	N/A		N/A	N/A		210	N/A	N/A	N/A	350*	N/A	350*
	<i>Palmdale Boulevard</i>						<i>SR-14 Northbound Ramps</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM	N/A	109	<50	N/A	258	N/A	163	N/A	N/A	N/A	N/A	N/A
PM	N/A	68	<50	N/A	327	N/A	138	N/A	N/A	N/A	N/A	N/A
Storage	N/A		200	N/A		N/A	370*	N/A	N/A	N/A	N/A	N/A
	<i>Palmdale Boulevard</i>						<i>Division Street</i>					
	Eastbound			Westbound			Northbound			Southbound		
	LT	TH	RT	LT	TH	TH-RT	LT	TH	RT	LT	TH	RT
AM	54	182	<50	64	123	278	256	400	150	<50	56	89
PM	142	371	123	126	316	367	261	583	262	56	85	86
Storage	215		230	225			150		150	160		

LOS: Level of Service; LT: left-through lane; TH: through lane; RT: right-through lane; N/A: Not applicable.
 *One of the two turn lanes has a storage length as noted. The second turn lane is continuous along the entire ramp length.

 Shading indicates queues for that movement beyond the storage
 Shading indicates adjacent lanes which might block the turn lane storages

Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

As shown in the Table 3.31, when the traffic study was conducted (2015), all of the ramps operated at LOS B or C in the AM peak hour. Further, most of the ramps operated at LOS C or better in the PM peak hour with the exception of the southbound off-ramp, which operated at LOS D. In the opening year (2020) ramp operation will slightly deteriorate without the Project, and in the Horizon Year (2040) the majority of ramps are expected to operate at LOS D at the PM peak hour, in one or both peak hours, with the southbound off-ramp expected to operate at LOS E in the PM peak hour.

With implementation of the Build Alternative in the opening year (2020) the ramps are expected to operate at LOS B and LOS C, with some improvement over the No-Build scenario for 2020. In the Horizon Year 2040 two ramps would operate at satisfactory LOS (LOS B and C or better) in both AM and PM hours, and the remainder of the ramps would operate at the same LOS as they would under the No-Build scenario. Therefore, with the implementation of the Build Alternative there would be an overall improvement over no-build conditions.

**Table 3.31
Existing and Future Ramp Level of Service for the Build Alternative**

Existing and Future Ramp Level of Service										
Intersections	Existing (Year 2015)		Opening Day (Year 2020)				Horizon Year (Year 2040)			
	No-Build		No-Build		The Build Alternative		No-Build		The Build Alternative	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
NB Off-Ramp	B	C	C	C	B	B	C	D	B	C
NB Loop On-Ramp	B	B	B	C	B	C	C	D	C	D
NB On-Ramp	B	C	C	C	C	C	D	D	D	D
SB Off-Ramp	C	D	C	D	B	B	D	E	C	C
SB Loop On-Ramp	B	C	B	C	B	C	C	D	C	D
SB On-Ramp	B	C	C	C	C	C	D	D	D	D

LOS: level of service; SR: State Route; NB: northbound; SB: southbound
Source: Traffic Study for Palmdale Boulevard at SR-14/SR-138

Table 3.32 below shows the Existing and Future Level of Service summary for the local area intersections with implementation of the Build Alternative. As shown in the table, without the improvements the LOS in the study area intersections would continue to deteriorate over time, with the intersection of Palmdale Boulevard and 5th Street West reaching LOS D in the PM peak hour in 2040, and the intersection of the SR-14 southbound ramps and Palmdale Boulevard expected to operate at LOS D in both peak hours in 2040.

As shown in Table 3.32, in 2020 with implementation of the Build Alternative all of the intersections in the Project area would operate at LOS B or better in the AM peak hour and at LOS C or better in the PM peak hour. In addition, all movements at the ramp intersections would operate at LOS C or better in the AM peak hour and at LOS B or better in the PM peak hour.

In 2040 all of the intersections would operate at LOS C or better in the AM peak hour with the Project. In addition, most of the intersections would operate at LOS C or better in the PM peak hour. The ramp intersections are expected to operate at LOS B or better in both peak hours, and all of the movements at those intersections are expected to operate at LOS C or better in the AM peak hour and LOS B or better in the PM peak hour.

The Table 3.32 shows that the intersection of Palmdale Boulevard and 5th Street West will operate at LOS E in the PM peak hour in 2040. However, the Project will not add traffic to the intersection, and will not decrease the capacity of the intersection in any way. Instead, the change in LOS is caused by the statistical accuracy of the traffic model, which is based on a number simulations and is therefore subject to minor variability. In this case, the average delay from the simulations went from just under 55 seconds, to just over 55 seconds. However, as an example, there is no change in the volume to capacity ratio (v/c), which is one of the criteria used to establish significant impacts for intersections. If the intersection does deteriorate to LOS E, minor signal timing changes can be implemented to improve conditions.

Table 3.32
Existing and Future Intersections Level of Service Summary
with the Build Alternative

Level of Service										
Intersections	Existing (Year 2015)		Opening Day (Year 2020)				Horizon Year (Year 2040)			
	No-Build		No-Build		The Build Alternative		No-Build		The Build Alternative	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Palmdale Boulevard /5 th Street West	B	C	C	C	B	C	C	D	C	E
Palmdale Boulevard / SR-14 Southbound Ramps	B	C	B	C	B	B	D	D	B	B
Palmdale Boulevard / SR-14 Northbound Ramps	A	B	A	A	A	A	A	B	A	A
Palmdale Boulevard /Division Street	B	C	B	C	B	B	C	C	B	C
SR: State Route										
Source: <i>Traffic Impact Analysis 2017</i>										

The Project proposes improvements that would alleviate the queuing condition on SR-14 southbound ramps in both opening and design year (2020 and 2040 respectively). There are no queues which are expected to exceed the available storage at either ramp with the Project. However, some through queues may block entrance to turn lanes at the intersections of Palmdale Boulevard/5th Street West and Palmdale Boulevard/Division Street, similar to existing conditions.

The Project also proposes the addition of a protected-only northbound and southbound left turn phase at the Palmdale Boulevard and Division Street intersection. To be consistent with the current City operations, it was assumed that the new left turn phases would operate as protected only. As a result of the improvements, the intersection of Palmdale Boulevard and Division Street is expected to operate at LOS B in the AM peak hour and LOS C in the PM peak hour in 2020 and LOS C and B in both peak hours 2040. If the improvement is not incorporated, operations at that intersection would continue to deteriorate over time.

With the implementation of the Build Alternative, the sidewalks would remain and/or be improved. Further, the design would include pedestrian crossing locations, particularly at the ramp crossings, to maximize visibility and pedestrian safety. With the Build Alternative, crosswalks would be provided across the off-ramps at signalized locations. Further, a crosswalk would be added across Palmdale Boulevard on the west leg of the Palmdale Boulevard/SR-14 SB ramp intersection. However, there would be three locations (southbound on-ramp from eastbound, northbound on-ramp from westbound, and northbound off-ramp) where pedestrians would have to cross free-flowing traffic at unsignalized crosswalks, similar to existing conditions.

Palmdale Boulevard currently does not include any bicycle facilities or multi-use lanes/striped shoulders in the Project area. Under the Build Alternative striped shoulders would be provided between SR-14 and Division Street, but the Palmdale Boulevard is not expected to be identified as a bike route on the City General Plan. Therefore, the Build Alternative would not conflict with adopted plans and policies regarding public transit, pedestrians, and bicycles.

The Build Alternative would improve the SR-14/ Palmdale Boulevard Interchange to conform to Caltrans designated standards and would not conflict with the City of Palmdale designated LOS C goal. Based on the above, the Build Alternative would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit. The Build Alternative would be in substantial compliance with all the plans and policies related to maintaining the performance of the circulation system and considers all modes of transportation. The Build Alternative would not result in substantial adverse effects related to operation of the streets and bicycle lanes. Therefore, no impact would occur.

No-Build Alternative

Table 3.32 shows the LOS for the intersections in the Project area assuming that no improvements are constructed. As seen in the table, all four of the study intersections are expected to operate at LOS C or better in both peak hours in 2020 under the No-Build Alternative. At the ramp intersections, many of the movements would operate at LOS B or better in the AM peak hour and at LOS C or better in the PM peak hour. However, the left turns from both ramps onto Palmdale Boulevard would operate at LOS D in both peak hours in 2020 (Table 3.22). In 2040, the SR-14 southbound off-ramp movements would deteriorate to LOS E in both peak hours in 2040

(Table 3.23). However, all of the intersections would operate at LOS D or better in both peak hours. In addition, the SR-14 southbound ramps queues would substantially exceed the available storage, potentially creating interference with mainline SR-14 traffic.

Checklist Question b

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The agency responsible for implementation of the congestion management program (CMP) in the Los Angeles County is the LA County Metro. The most recent CMP was adopted in 2010. The CMP recognizes that the majority of the Los Angeles freeway and roadway network operates at the LOS E and LOS F. The adopted in the CMP LOS standard in Los Angeles County is LOS E, except where base year LOS is worse than E. In such cases, the base year LOS is the standard. CMP statute requires the CMP to be developed consistent with and incorporated into the Regional Transportation Program (RTP). The SR-14 freeway – the Antelope Valley freeway is part of the CMP.

The Project is a part of the larger SR-14 Transportation Concept Report (TCR) which proposes improvements along the interregional SR-14 freeway. A TCR is a Caltrans long range (20 year) planning document for a state highway that identifies existing route conditions and future needs. As part of the TCR, several strategic interchanges in Antelope Valley are proposed to be constructed and/or improved along SR-14: Avenue G, Avenue I, Avenue J, Avenue K and Palmdale Boulevard. The improvement of the SR-14/Palmdale Boulevard Interchange would improve LOS and help ensure that the traffic flow within the SR-14 freeway segment is unobstructed. Therefore, the Build Alternative is consistent with the regional congestion management initiatives and there would be no impacts.

No-Build Alternative

No Impact. The No-Build Alternative would not change the existing traffic patterns; however, the level of service projected with the No-Build Alternative would not exceed standards in the CMP.

Checklist Question c

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. The Project would not result in changes in air traffic pattern or pose a safety risk. The Build Alternative would not result in substantial adverse effects related to change in air traffic patterns because the Project is an improvement of an intersection located four miles away from Palmdale Airport.

No-Build Alternative

No Impact. The No-Build Alternative would not increase the frequency of air traffic or alter air traffic patterns.

Checklist Question d

Would the Project:

- d) **Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?**

The Build Alternative (Preferred Alternative)

No Impact. The Project would improve traffic operation, circulation, and pedestrian and bicycle connectivity and, as such, the Build Alternative would not introduce new safety concerns different than the No-Build alternative. The Project would improve ramp geometry, which may help reduce the frequency of single vehicle collisions. The construction of the Build Alternative may also improve safety in the area. By improving the operations of the ramp intersections at Palmdale Boulevard, drivers would be less likely to attempt unsafe maneuvers that have been recently observed, such as passing on the shoulder to bypass the queue on the ramp and reach the intersection.

The day-to-day operation of the interchange and local intersections would be enhanced. Therefore, the Build Alternative would not increase hazards due to a design feature and would not result in incompatible land uses. No hazardous design features that would result in substantial adverse effects are expected from the Build Alternative. Therefore, no impact would occur with the Build Alternative.

No-Build Alternative

No Impact. The No-Build Alternative would not improve the interchange or alleviate the queuing conditions at the interchange; however, it would not change the current design or introduce safety hazards. No impacts are would occur with the No-Build Alternative.

Checklist Question e

Would the Project:

e) Result in inadequate emergency access?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. The Build Alternative would improve the operation of the interchange by widening the existing ramps, providing additional lanes on SR-14 and Palmdale Boulevard, and improving the LOS of the interchange and movements at local intersections. This, in turn, would provide better emergency access for emergency providers. During construction, the Build Alternative would result in short-term impacts (such as delays), which could temporarily affect traffic movement. Implementation of the TMP (refer to Avoidance and Minimization Measure TRA-1) would ensure that construction-related traffic impacts are alleviated and emergency access is maintained. The TMP requires that emergency service providers are made aware of each stage of construction and of any potential service delay. This would allow the responders to factor construction into their response route. Because of this, the Build Alternative would not result in substantial adverse effects related to inadequate emergency access and impacts would be less than significant.

No-Build Alternative

No Impact. No construction would occur under the No-Build Alternative and thus, would not result in potential delays to emergency responders due to construction activities. Since the No-Build Alternative would not result in changes to emergency access, no impacts would occur.

Checklist Question f

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. Traffic volume is expected to increase along SR-14 and Palmdale Boulevard over the next 25 years due to the growth in population along these routes and throughout the region. Growth in the region will continue to create mobility challenges and decrease the LOS on transportation systems in Southern California. It is critical that mobility be maintained and improved in order to sustain expected economic growth. In addition to sustaining the economic vitality of the region, mobility is also an important component in enhancing the quality of life for the residents in this region. Improvement of the SR-14/Palmdale Boulevard (SR-138) interchange is small component of the transportation infrastructure but it plays a critical role in providing mobility for the City and for the region as a whole, as it will enable an unobstructed traffic flow along these two major corridors junction while accommodating needs for alternative modes of transportation.

With implementation of the Build Alternative, the sidewalks in the Project area would remain and/or be improved. Further, the design would include pedestrian crossing locations, particularly at the ramp crossings, to maximize visibility and pedestrian safety. With the Build Alternative, crosswalks would be provided across the off-ramps at signalized locations. Further, a crosswalk would be added across Palmdale Boulevard on the west leg of the Palmdale Boulevard/SR-14 SB ramp intersection. However, there would be three locations (southbound on-ramp from eastbound, northbound on-ramp from westbound, and northbound off-ramp) where pedestrians would have to cross free-flowing traffic at unsignalized crosswalks.

Palmdale Boulevard currently does not include any bicycle facilities or multi-use lanes/striped shoulders in the Project area. Under the Build Alternative striped shoulders would be provided between SR-14 and Division Street, but the Palmdale Boulevard is not expected to be identified as a bike route. The Build Alternative would enhance the experience for pedestrians (by providing crosswalks) and for bicyclists (by providing roadway shoulders, wide enough to accommodate bicyclists). Therefore, the Build Alternative does not conflict with the applicable policies, plans,

and programs regarding public transit, or bicycle and pedestrian facilities; it also would not decrease the performance of these facilities. Therefore, no impact would occur.

No-Build Alternative

No Impact. The No-Build Alternative would not propose pedestrian and bicyclists improvements. Although the No-Build Alternative would not provide enhancements that are supportive of transit, bicycle, or pedestrian facilities, it would not conflict with adopted policies. Therefore, no impacts would occur.

Avoidance, Minimization, and/or Mitigation Measures

Avoidance and Minimization Measures

The following avoidance and minimization measure ensure the Project's compliance with standard requirements applicable to the Project:

TRA-1 A Traffic Management Plan (TMP) shall be developed during final design to ensure safe and efficient traffic flow throughout the Project study area during all phases of construction. The TMP shall optimize roadway capacity, signal phasing, and timing during construction. The TMP shall identify temporary measures such as coordination for lane closures, lane closure signage; bicycle lane/pedestrian detours; and the potential need for a construction flag person during peak traffic hours.

Caltrans, in coordination with the City of Palmdale, shall ensure that emergency service providers are aware of each stage of construction and of any potential service delays.

3.17 Tribal Cultural Resources

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>TRIBAL CULTURAL RESOURCES: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:</p>				
<p>a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<p>b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Assembly Bill (AB) 52, which went into effect on July 1, 2015, proposed to include tribal cultural resources in the CEQA analysis, and introduced a new class of resources: Tribal Cultural Resources. The California Office of Administrative Law approved the changes to the CEQA checklist to incorporate the Tribal Cultural Resources questions on September 27, 2016. The Project is subject to the requirements of AB 52, the CEQA Tribal Consultation law. As such, in addition to the initial Native American coordination conducted on prior to the AB 52 effective date of July 1, 2015, consultation under AB 52 was subsequently conducted (refer to Appendix C). Pursuant to AB 52, a Sacred Lands File Search was requested of the NAHC, which responded by faxed letter on September 29, 2015. The search did not indicate the presence of Native American cultural resources on the Project site; the NAHC had no record of any sacred lands in proximity to the APE, however resources were identified nearby. The NAHC provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the Project area and who should be invited to consult.

Caltrans requested a draft letter be prepared inviting the tribes listed on the NAHC Sacred Lands File search to consult with Caltrans. Caltrans sent the letters to the tribes on November 30, 2015. Follow up telephone calls were made to all four tribal contacts on June 16, 2016. No additional responses were received. Therefore, given that no responses from any of the tribes were received in writing within 30 days of their receipt of the formal notification and request to consult, AB 52 consultation was concluded for the Project.

In January 2019 during the circulation of the Draft IS/MND, Lee Clauss, the Director of Cultural Resources Management for the San Manuel Band of Mission Indians, contacted Caltrans via email. In the email, Lee Clauss confirmed receipt of the Draft IS/MND; notified Caltrans to send future tribal consultation correspondence to her; notified Caltrans that she has no evidence of the San Manuel Band of Missions Indians having previously received the project's HPSR, ASR, or Historic Resource Exemption Letter; and requested more information on the nature and locations of construction activities to further determine the probability that the Project would encounter previously undisturbed native soils. On January 22, 2019, Caltrans sent Ms. Clauss a response email including a copy of the original AB 52 consultation letter and materials that were mailed to Chairperson Valbuena with the San Manuel Band of Mission Indians in November 2015. Caltrans also provided Ms. Clauss with the HPSR and ASR for the Project. On February 22, 2019, Ms. Clauss provided an email response to Caltrans asking for additional information. On March 27, 2019, Caltrans provided a response with clarifications to Ms. Clauss. No further correspondence has been received from the Lee Clauss as of March 2020.

Environmental Consequences

Checklist Questions a, b

Would the project:

- a) **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**
- b) **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

The Build Alternative (Preferred Alternative)

No Impact. The Phase I Cultural Resources study (HPSR) shows that there are no known cultural resources recorded in the APE and there was no indication of any cultural resources during the pedestrian survey. The degree to which the APE has been previously impacted by construction greatly diminishes the likelihood that tribal cultural materials will be encountered during the proposed interchange improvements. In addition, no tribes expressed concerns over this area. Based on the lack of known resources and the generally shallow level of grading, tribal cultural resources are not expected to be affected by construction of the Build Alternative. Therefore, neither archaeological and/or Native American monitoring of grading is not warranted.

However, if previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional surveys will be needed if the Project limits are extended beyond the current survey limits. If human remains are unearthed during construction, Section 7050.5 of the California Health and Safety Code states that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to Section 5097.98 of the California Public Resources Code. Refer to Minimization Measure CUL-12.

The No-Build Alternative

No Impact. The No-Build Alternative does not involve any construction; as a result, there would be no impacts to tribal cultural resources.

3.18 Utilities and Service Systems

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Palmdale Water District provides water services to the City of Palmdale and has done so since 1918. Water is provided to the City from a combination of four sources: the California Aqueduct, Littlerock Dam, water wells, and the Leslie O. Carter Water Treatment Plant (LOCWTP). The LOCWTP is a conventional potable water treatment plant that has the capacity to treat 35 million gallons per day.

The Sanitation Districts of Los Angeles County provides wastewater treatment services to the City. The Sanitation Districts operate ten water reclamation plants (WRPs) and one ocean discharge facility. The City is served by the Palmdale Water

Reclamation Plan which treats water to tertiary standard. The plant currently occupies 286 acres east of SR-14 and has a capacity of 0.75 million gallons per day.

The City contracts with Waste Management of Antelope Valley to collect and dispose of the City's solid waste. The solid waste is disposed of at the Antelope Valley Recycling and Disposal Facility, located within the City. The capacity currently encompasses 185 acres of land with 125 acres permitted for waste disposal.

Several underground and above-ground utilities run along Palmdale Boulevard and/or along Division Street within the existing right of way:

- **Telecommunications:** AT&T, Time Warner Cable, Sunesys
- **Gas:** Southern California Gas (SCG) Company
- **Electricity:** Southern California Edison lines (SCE)

All potential utility conflicts will be handled prior to construction by informing utility owners about the Project to allow them to plan for the relocation of their facilities.

SCG pipelines contain asbestos and were contaminated with PCB oil and volatile organic compounds. All work on SCG pipelines must be performed under a Work Plan approved by Caltrans and contain appropriate measures to prevent surrounding soil from being contaminated during removal, tap and cap procedures, capture, containment, and testing of all liquids and solids for classification and removal.

Environmental Consequences

Checklist Questions a, b, d, and e

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?**
- 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?

The Build Alternative (Preferred Alternative)

No Impact. The Build Alternative would result in improvements to an existing interchange and would not result in any new land uses that would consume water or generate wastewater. Therefore, it would not result in a need to treat water and would not result in an exceedance of wastewater treatment requirements or require the expansion of any existing facilities. Similarly, since the Project would not result in increased demand for potable water or modify water supply chains, there would be no impact on City water supplies.

No-Build Alternative

No Impact. The No-Build Alternative would not result in construction and would not require provision of additional utilities because it would not add new land uses that would consume water or generate wastewater. Therefore, there would be no impact.

Checklist Question c

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. As discussed under checklist question “a” in Section 3.9, Hydrology and Water Quality, the Project would tie in to the existing storm drain system and utilize the basin located north of the Project area to treat pollutants.

Palmdale Boulevard has an existing storm drain pipe system that the Project will adjust and match to. Pipes and drain inlets will be replaced with in kind or build to standard improvements. The new roadway improvements would be implemented without disrupting the existing drainage patterns. No substantial amount of runoff will be added. During construction all existing drainage structures will be protected, including storm drain inlets and head culverts by incorporation of temporary storm drain inlet protection, fiber rolls, and check dams. Therefore, the Project would not require construction of new storm water facilities which could cause significant environmental effects.

No-Build Alternative

No Impact. The No-Build Alternative would not result in construction and would not require provision of additional storm drain facilities that would cause environmental impacts; therefore, there would be no impacts.

Checklist Questions f and g

Would the Project:

- 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?**

The Build Alternative (Preferred Alternative)

No Impact. Pursuant to AB 939 the City is required to divert 50 percent or more of solid waste generated by residents from disposal in a landfill. The Build Alternative would result in generation of 20,000 cubic yards of construction waste during the construction phase. This would include items such as roadway excavation (ADL material), removal of existing asphalt concrete, cold planing asphalt concrete, and removing concrete items like sidewalk, curb/gutter, median islands, and retaining walls. The City remains committed to continuing to reduce and minimize solid waste. Antelope Valley Recycling and Disposal Facility is the landfill that would serve the Project, and it has a substantial remaining capacity available to accept waste. As noted in Section 3.8, Avoidance and Minimization Measures would apply to the testing and handling of materials classified as hazardous (ADL, ACM, and LBP) to ensure they are not inappropriately deposited in a Class III landfills (i.e., a landfill not authorized to accept hazardous materials). Therefore, the Build Alternative would not conflict with federal, state, or local statutes or regulations regarding solid waste.

No-Build Alternative

No Impact. The No-Build Alternative would not result in construction or generate solid waste. Therefore, there would be no impacts.

Avoidance, Minimization, and/or Mitigation Measures

Minimization Measure

The following minimization measure ensure the Project's compliance with rules, regulations and standard conditions that are applicable to the Project:

USS-1 During Project design, the City of Palmdale and the Caltrans Right-of-Way Utilities Coordinator shall coordinate with utility providers regarding relocation of utilities without interrupting service.

3.19 Mandatory Findings of Significance

Threshold	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Checklist Question a

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, 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?

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. As described in the analysis in this IS/MND, with the incorporation of the identified avoidance and minimization measures, implementation of the proposed Project would not degrade the quality of the environment;

substantially reduce the habitats of fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal; or eliminate important examples of major periods of California history or prehistory. The Project has existed as a major arterial, providing access to neighborhoods and community schools, for the past 30 years. The Palmdale area has experienced substantial growth since 1990, which, based on growth projections, is expected to steadily continue but less rapidly than in past years. The Project is one of many infrastructure and private development projects proposed or under construction in the Project region. Refer to Table 3.33 for list of projects. All these projects would contribute to the local and regional loss of native and non-native vegetation types in the Project region that provide habitat for special-status plant and wildlife species. There are at least two regional scale projects in the study area—the High Desert Corridor Project and High Speed Rail Project—that are important for cumulative impacts, especially with respect to biological resources. However, each of the cumulative projects has prepared or is in the process of preparing its own environmental document.

The Project's contribution to the loss of plant and wildlife resources is relatively small. Based on the acreage of disturbance, the types of the habitat impacted, and the Project location in a semi-urban environment, the contribution to cumulative impacts are considered minimal. Each of the cumulative projects are required to prepare environmental documentation, and mitigation measures would be incorporated as required to protect the species. For those projects where potential impacts to Threatened and Endangered species or sensitive habitat is identified, appropriate permits would be required, which also assesses the impacts in the larger regional context. Because the Project is not located in the biological or cultural resources environment which contains and impacts large populations of the listed and/or sensitive species, or contains unique cultural resources, its contribution to the cumulative impacts is considered negligent. The Project would not substantially 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.

Checklist Question b

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the**

incremental efforts 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 probably future projects)?

Less Than Significant Impact. As discussed in this document, the Project would have the potential to temporarily impact the environment during construction (hydrology and water quality, noise, air, public services, traffic); however, these impacts would be less than significant. Implementation of avoidance and minimization measures would further reduce these less than significant impacts. The Project would have the potential to impact the environment in relation to biological resources; however, specific mitigation measures would be implemented to reduce these impacts to a less than significant level. Overall, the Project is designed to reduce traffic congestion and thus improve the operation of the intersection, which translates into congestion reduction as well as safety, noise, and air quality improvements.

In keeping with the CEQA Guidelines, the cumulative evaluation includes: (1) specific projects that, because of their size or proximity to the Project site, have the potential to cause cumulative impacts; (2) considers the adopted general plans for the affected local jurisdictions; and (3) includes regional development projections. A comprehensive list of projects that are in various stages of the planning process has been compiled. These projects, which are listed in Table 3.33, were developed from the City of Palmdale’s website, long-term growth projections for the area, and the City of Palmdale Housing Element.

The High Desert Corridor Project and High Speed Rail Project are important for cumulative impacts, especially with respect to biological and community resources.² The Build Alternative would not result in impacts on community resources; therefore, it would not contribute to cumulative impacts. Construction-related impacts were identified on RWQCB and/or CDFW jurisdictional areas. Mitigation Measure BIO-24 would reduce these to less than significant. Because of the magnitude of these two cumulative projects, it is unlikely that they would be under construction at the same time as the Build Alternative so they would not contribute to cumulative construction impacts. Additionally, CEQA/NEPA documents prepared for these projects, as well

² The High Desert Corridor (HDC) Project proposes the construction of a new, approximate 63-mile, east-west freeway/expressway linking SR-14 in Los Angeles County with SR-18 in San Bernardino County. The proposed High Speed Rail System stretches from San Francisco, Oakland, and Sacramento in the north—with service to the Central Valley—to Palmdale and Los Angeles, and eventually San Diego in the south.

as the CEQA document for the RTP/SCS have evaluated the cumulative effects of implementation of the regional infrastructure.

The following cumulative projects are local projects that have the greatest potential to influence cumulative impacts:

- The Palmdale Power Plant will be located $\frac{1}{3}$ of a mile south of Avenue M, east of Sierra Highway, adjacent to Air Force Plant 42. The plant is located in a more remote location to avoid direct impacts to communities.
- The Transportation Enhancement Project would provide a Caltrans District 7 Corridor Master Plan (CoMP) for the SR-14 corridor from I-5 on the south to the Kern County line on the north.
- The SR-14 Mainline Project from Rancho Vista Boulevard to Palmdale Boulevard proposes to relieve traffic congestion on SR-14 between Palmdale Boulevard and Rancho Vista Boulevard. It is intended to be an interim operational improvement project to relieve traffic congestion along the southbound mainline and northbound off-ramp to Rancho Vista Boulevard. Recommended improvements include a new southbound auxiliary lane from Rancho Vista Boulevard to Palmdale Boulevard and an additional storage lane to the northbound SR-14 off-ramp at Rancho Vista Boulevard.
- The SR-138 (Palmdale Boulevard) from 5th Street East to 10th Street East Improvement Project proposes to widen and restripe Palmdale Boulevard to three lanes in each direction from 5th Street East to 10th Street East along SR-138. Caltrans proposes to improve the queuing (traffic congestion) through the railroad tracks located between 6th Street East and Sierra Highway.
- Avenue R Safety Improvement Project. The City of Palmdale proposes safety, curb, and gutter improvements to an approximate two-mile segment of Avenue R from just west of Sierra Highway to just east of 25th East Street. The major Project components are the Class II bike lane on the northern and southern sides of Avenue R, new continuous sidewalks (which will close the sidewalk gaps), and ADA-compliant ramps at all intersections.

Proximity and timing are key factors on the potential to contribute to construction related impacts. A number of these cumulative projects are several miles from the Project site, thereby limiting the potential for cumulative construction related impacts.

Timing is the other key factor. Construction of the SR-14/ Palmdale Boulevard Interchange Project is expected to begin in 2019 and be completed in 2021. Based on the anticipated construction schedules for the Project and the cumulative projects proposed in the city of Palmdale and the physical dispersion of the cumulative projects, residents in the Project area would not experience a prolonged inconvenience as a result of construction of these projects. Additionally, the potential for short-term construction impacts on resources would be limited.

From an operational perspective, some of these projects would convert existing uses into transportation land uses. The Project would also require several minor property acquisitions (see Table 3.12). However, the Project would result in limited impacts, due to relatively minor physical impact on the environment and implementation of avoidance and minimization measures. The Build Alternative would not substantially contribute to a significant cumulative impact.

**Table 3.33
Cumulative Projects in Project Vicinity**

Name	Jurisdiction	Proposed Uses	Status
High Desert Corridor	City of Palmdale and Other Projects	63-mile freeway/ expressway, and possible toll or rail facility, between SR-14 in Los Angeles County and SR-18 in San Bernardino County.	CEQA document approved /Record of Decision for NEPA pending
Transportation Enhancement Project (EA28460K)	City of Palmdale	Provide a District 7 Corridor Master Plan for the SR-14 corridor from I-5 to the Kern County line.	Pending approval
SR-14 Mainline Project from Rancho Vista Boulevard to Palmdale Boulevard (EA29900K)	City of Palmdale	New southbound auxiliary lane from Rancho Vista Boulevard to Palmdale Boulevard and an additional storage lane to the NB SR-14 off-ramp at Rancho Vista Boulevard.	Approved. Construction started in 2018.
10 th Street West widening/SR 138 interchange project	City of Palmdale	The improvements include re-stripping, widening of 10th Street West, and improvements to the SR14 southbound off-ramp and northbound on-ramp.	Pending approval
SR-138 (Palmdale Boulevard) 5 th St East to 10 th St East Improvement Project (EA23620K)	City of Palmdale	Widen and restripe Palmdale Boulevard to 3 lanes in each direction from 5 th St East to 10 th St East on SR-138. Improve queuing through the railroad tracks located	Approved

**Table 3.33
Cumulative Projects in Project Vicinity**

Name	Jurisdiction	Proposed Uses	Status
		between 6 th St and Sierra Highway. Relocate utilities and purchase additional right-of-way including businesses.	
Avenue R Safety Improvement Project	City of Palmdale	Safety improvements along 2 miles segment of Avenue R.	Approved
Guidance Charter School	City of Palmdale	New charter school is proposed for a 30 acre project located south of Avenue R and west of 40 th Street East.	Approved
SR-138 Widening Project from Avenue T to SR-18	Palmdale, Little Rock, Pearblossom, Llano	Widen existing two lane highway to standard four-lane highway. This project is identified as segment 6, along SR-138.	MND
Rancho Vista Traffic Signal	City of Palmdale	Traffic Signal and left-turn lane on Rancho Vista and 10 th St East	Approved.
Rancho Vista Widening Gap Closure	City of Palmdale	Improvement of Rancho Vista Boulevard to remove gaps in the roadway width and capacity.	Approved.
Palmdale Regional Groundwater facility	City of Palmdale	The Palmdale Water District plans to develop groundwater banking programs. The recharge capacity will be 50,000-52,000AFY	NOD
Palmdale Water System Master Plan	City of Palmdale	Project would construct water system improvements such as three booster pump stations, three storage tanks, and a transmission pipeline.	NOP
Cottonwood Elementary School Modernization	City of Palmdale	Remove 37 modular classroom buildings and 3 modular toilet buildings and construct 7 replacement permanent slab-on-grade structures.	Approved.

Table 3.33
Cumulative Projects in Project Vicinity

Name	Jurisdiction	Proposed Uses	Status
Conditional Use Permit (CUP) 11-006	City of Palmdale	Develop a public park on 12.8 acres of a 24.9-acre site. Construct roadway along Ave S and Hillcrest Dr. Construct 870 sf restroom facility, and other park-related amenities.	Approved
Animal Care Center	City of Palmdale	Construction of an approximate 25,500 sf indoor animal care center facility located at 38550 Sierra Hwy.	Approved
Antelope Valley Public Landfill Expansion	City of Palmdale	Consolidate Antelope Valley Public Landfill I and II into one contiguous 125-acre landfill.	Approved
Solar Farm (Site Plan Review 13-003)	City of Palmdale	20-megawatt ground solar photovoltaic facility to be located at 110 th St East and Ave O.	Pending approval
Conditional Use Permit 08-08	City of Palmdale	Establish a new sand and gravel surface mining operation located at the 75 th St East and Ave R intersection.	Pending approval
Ave S Widening Phase II Improvements	City of Palmdale	Widen Ave S to three travel lanes in each direction and construct curbs, gutters, and sidewalks between 30 th St East and 45 th St East	Pending approval
Action Water Treatment Plan/PWD Intertie Project	City of Palmdale	Installation of a 10-inch raw water main and 20-inch potable water main along Sierra Hwy from AVEK's existing Action Water Treatment Plant to PWD points of connection at Barrel Springs Rd and Sierra Hwy.	Approved
Rancho Vista Grade Separation Project Report – Project 527A	City of Palmdale	Construction of an overpass bridge, support columns and retaining walls. Installation of paving, curbs, gutters, medians, sidewalks, streetlights, landscape and irrigation features. Relocation of utilities. Located at Rancho Vista Boulevard and Sierra Hwy.	Approved

**Table 3.33
Cumulative Projects in Project Vicinity**

Name	Jurisdiction	Proposed Uses	Status
10 th Street West Pipeline and Turnouts	City of Palmdale	A 24- or 30-inch pipeline will connect to the existing South Feeder at the intersection of Ave N and 10 th St West.	Approved
SR: State Route; I: Interstate; NB: northbound; sf: square feet; AVEK: Antelope Valley-East Kern Water Agency; PWD: [Palmdale Water District] Source: <i>Community Impact Memorandum</i> 2016.			

Checklist Question c

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

The Build Alternative (Preferred Alternative)

Less Than Significant Impact. Implementation of the Project would result in less than significant impacts related to biological resources, cultural resources, hazards and hazardous materials, paleontology, air quality, and noise thus having little potential to indirectly impact human beings. In addition, implementation of the avoidance measures described throughout this document would additionally reduce all impacts. The proposed Project is not expected to result in environmental impacts that would cause substantial adverse effects on human beings.

3.20 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 gas (GHG) emissions, 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 in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation.³ In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of GHG emissions.⁴ The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or “mitigate” the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce GHG emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices.⁵ This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of

³ <https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014>

⁴ <https://www.arb.ca.gov/cc/inventory/data/data.htm>

⁵ <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

sustainability.”⁶ Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Addressing these factors up front in the planning process will assist in decision-making and improve efficiency at the program level and will inform the analysis and stewardship needs of project-level decision-making.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

The Energy Policy Act of 1992 (EPACT92, 102nd Congress H.R.776.ENR): With this act, Congress set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the United States. EPACT92 consists of 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provide incentives for clean and renewable energy, and promote energy conservation in buildings. Title III of EPACT92 addresses alternative fuels. It gave the U.S. Department of Energy administrative power to regulate the minimum number of light-duty alternative fuel vehicles required in certain federal fleets beginning in fiscal year 1993. The primary goal of the Program is to cut petroleum use in the United States by 2.5 billion gallons per year by 2020.

Energy Policy Act of 2005 (109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the Corporate Average Fuel Economy (CAFE) program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

⁶ <https://www.sustainablehighways.dot.gov/overview.aspx>

Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, 74 *Federal Register* 52117 (October 8, 2009): This federal EO set sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. It instituted as policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities.

Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*, 80 *Federal Register* 15869 (March 2015): This EO reaffirms the policy of the United States that federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. It sets sustainability goals for all agencies to promote energy conservation, efficiency, and management by reducing energy consumption and GHG emissions. It builds on the adaptation and resiliency goals in previous executive orders to ensure agency operations and facilities prepare for impacts of climate change. This order revokes Executive Order 13514.

U.S. EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and EPA's assessment of the scientific evidence that form the basis for EPA's regulatory actions.

U.S. EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010⁷ and significantly increased the fuel economy of all new passenger cars and light trucks sold in the United States. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to average fuel economy of 54.5 miles per gallon by 2025. Because NHTSA cannot set standards beyond model year 2021 due to statutory obligations and the rules' long timeframe, a mid-term evaluation is included in the rule. The Mid-Term Evaluation is the overarching

⁷ <https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy>

process by which NHTSA, EPA, and ARB will decide on CAFE and GHG emissions standard stringency for model years 2022–2025. NHTSA has not formally adopted standards for model years 2022 through 2025. However, the EPA finalized its mid-term review in January 2017, affirming that the target fleet average of at least 54.5 miles per gallon by 2025 was appropriate. In March 2017, President Trump ordered EPA to reopen the review and reconsider the mileage target.⁸

NHTSA and EPA issued a Final Rule for “Phase 2” for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution in October 2016. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO₂ emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

State

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing GHG emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this executive order (EO) is to reduce California’s GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill 32 in 2006 and SB 32 in 2016.

Assembly Bill 32 (AB 32), Chapter 488, 2006: Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction

⁸ <http://www.nbcnews.com/business/autos/trump-rolls-back-obama-era-fuel-economy-standards-n734256> and <https://www.federalregister.gov/documents/2017/03/22/2017-05316/notice-of-intention-to-reconsider-the-final-determination-of-the-mid-term-evaluation-of-greenhouse>

goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

Senate Bill 97 (SB 97), Chapter 185, 2007, Greenhouse Gas Emissions: This bill requires the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

Senate Bill 391 (SB 391), Chapter 585, 2009, California Transportation Plan: This bill requires the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

Executive Order B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMT_{CO2e}). Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

Senate Bill 32, (SB 32) Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

Environmental Setting

In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. The Scoping Plan was first approved by ARB in 2008 and must be updated every 5 years. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32.

The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the updated Scoping Plan, ARB released the GHG inventory for California.⁹ ARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

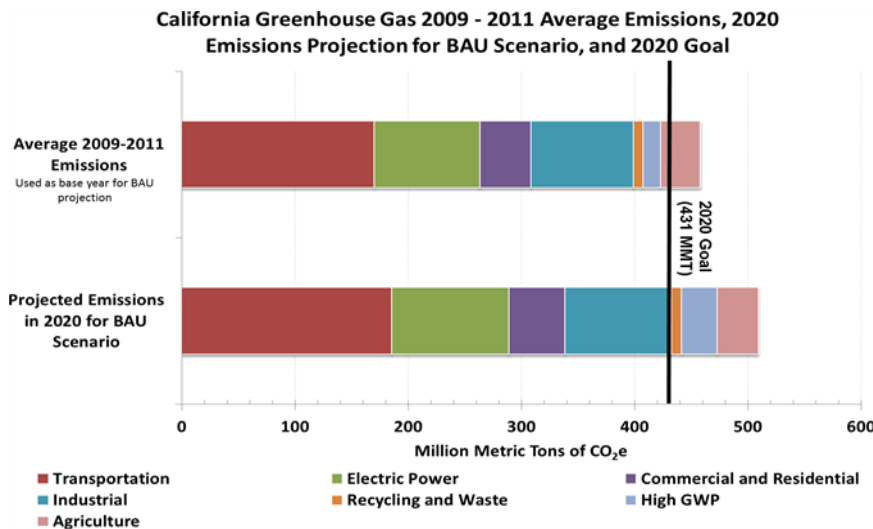
An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and

⁹ 2017 Edition of the GHG Emission Inventory Released (June 2017):
<https://www.arb.ca.gov/cc/inventory/data/data.htm>

behavioral patterns. The projected 2020 emissions provided in Figure 12 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists ARB in demonstrating progress toward meeting the 2020 goal of 431 MMTCO_{2e}.¹⁰ The 2017 edition of the GHG emissions inventory (released June 2017) found total California emissions of 440.4 MMTCO_{2e}, showing progress towards meeting the AB 32 goals.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO_{2e} total). (Refer to Figure 12). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO_{2e}.

Figure 12 2020 Business as Usual (BAU) Emissions Projection 2014 Edition



Source: <https://www.arb.ca.gov/cc/inventory/data/bau.htm>

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 contribute to a potential impact through its

¹⁰ The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)

incremental change in emissions when combined with the contributions of all other sources of GHG.¹¹ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (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 to make this determination is a difficult, if not impossible, task.

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. The following represents a best faith effort to describe the potential GHG emissions related to the proposed Project.

The Build Alternative (Preferred Alternative)

Operational Emissions

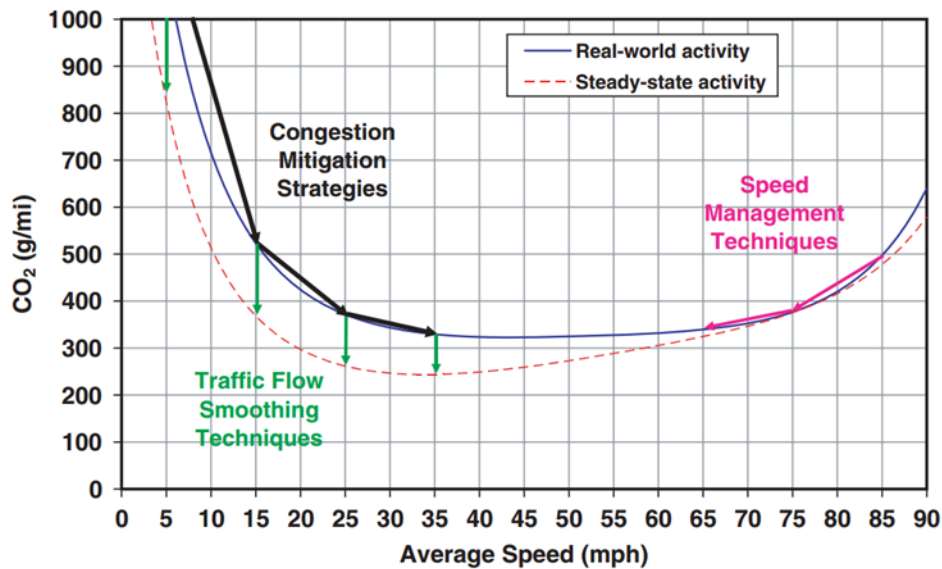
Four primary strategies can reduce GHG emissions from transportation sources: (1) improving the transportation system and operational efficiencies, (2) reducing travel activity, (3) transitioning to lower GHG-emitting fuels, and (4) improving vehicle technologies/efficiency. To be most effective all four strategies should be pursued concurrently.

FHWA supports these strategies to lessen climate change impacts, which correlate with efforts that the state of California is undertaking to reduce GHG emissions from the transportation sector.

The highest levels of CO₂ from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 13 below). To the extent that a Project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO₂, may be reduced.

¹¹ 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 South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

Figure 13 Possible Use of Traffic Operation Strategies in Reducing On-Road CO₂ Emissions



Source: Matthew Barth and Kanok Boriboonsomsin, University of California, Riverside, May 2010 (<http://uctc.berkeley.edu/research/papers/846.pdf>)

The Southern California Association of Governments (SCAG) serves as the federally designated MPO for the Southern California region. SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment.

The SCAG 2016 RTP/SCS includes proposed transportation improvements to be integrated and coordinated with proposed land use changes that would lead to reduced congestion, reduced vehicle miles traveled (VMT), and increased transit, walking, and biking options. The RTP/SCS includes integrated transportation and land use strategies to promote active transportation opportunities, compact development, car sharing and ride sourcing, and technology in zero-emission vehicles and neighborhood electric vehicles. The Program Environmental Impact Report for the 2016 RTP/SCS determined that across the six counties in the SCAG region, the 2016 RTP/SCS would result in an approximately 24 percent decrease in GHG emissions by 2040. The 2016 RTP/SCS also includes land use strategies that seek to balance the region's land use choices and transportation investments.

The proposed Project is listed in the SCAG *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), Towards a Sustainable Future*.

The 2016–2040 RTP/SCS includes major initiatives that seek to reduce vehicle miles traveled (VMT), including investment in Transportation Demand Management (TDM) strategies throughout the region and expanding transit options including light rail transit, bus rapid transit, and passenger rail. A primary goal of the 2016-2040 RTP/SCS is to reduce the number of VMT per capita by more than seven percent through the plan’s encouragement of more location efficient land use patterns and improved transit service. The design concept and scope of the proposed Project is consistent with the project description in the 2016–2040 RTP/SCS and is designed to reduce congestion along project roadway segments, which would reduce air pollutant emissions.

As discussed in the Project traffic impact analysis, the day-to-day operation and safety of the Project, including both bicycle safety and pedestrian safety, would be enhanced with implementation of the Project. Palmdale Boulevard currently does not include any bicycle facilities or multi-use lanes/striped shoulders in the Project area. Under the Build Alternative striped shoulders would be provided between SR-14 and Division Street. The Build Alternative would enhance the experience for pedestrians (by providing crosswalks) and for bicyclists (by providing roadway shoulders, wide enough to accommodate bicyclists). If the pedestrian and bicycle safety improvements encourage the use of these modes of transportation instead of driving fossil-fueled vehicles, then the Project would contribute to a reduction in GHG emissions.

Quantitative Analysis

The Project was assessed for changes in GHG emissions related to changes in the LOS, the corresponding average vehicle speeds for analyzed intersections, and fluctuation in VMT throughout the Project corridor.

To account for changes in GHG emissions related to changes in average vehicle speeds, GHG emissions were calculated for the Build Alternative and the No-Build Alternative. Table 3.34 lists the emissions by alternative. The differences in emissions between the alternatives are based on the average vehicle speeds and volume of traffic for each analyzed intersection. The Project’s Air Quality Report (October 2017) estimated the emission rates used for this analysis, which were derived from EMFAC 2014 for the opening year of 2020 and the horizon year of 2040.

As shown in Table 3.34, MTCO₂ emissions decrease in opening year 2020 for the Build Alternative and No-Build Alternative in comparison to existing conditions year

2015. These emission reductions can be attributed to advances in technology and more stringent federal and state standards on vehicle emissions from existing conditions to year of opening 2020. The advances in technology which result in emissions reductions are offset by the increase in traffic volumes that would occur by 2040 for the Build and No-Build Alternatives and consequently resulted in emissions that are higher under existing conditions.

For year 2020, the Build Alternative would have lower total GHG emissions than the No-Build Alternative. There is only a 1.4 percent difference between the highest and lowest emissions in 2020. For year 2040, the Build Alternative GHG emissions are also lower than under the No-Build Alternative. The Build Alternative results in an overall reduction in GHG emissions as compared to the No-Build Alternative.

**Table 3.34
Peak Period Greenhouse Gas Emissions**

	Existing/ Baseline 2015 Emissions (MTCO ₂ ^a)	Year 2020 GHG Emissions (MTCO ₂ ^a)	Year 2040 GHG Emissions (MTCO ₂ ^a)
The Build Alternative			
Palmdale Boulevard and SR-14 NB Off-Ramp	2,779	2,661	2,752
Division St and Palmdale Boulevard	3,339	3,054	3,442
5th St W and Palmdale Boulevard	2,919	2,951	3,418
Palmdale Boulevard and SR-14 SB Off-Ramp	3,095	2,887	2,910
Total	12,132	11,552	12,523
No-Build Alternative			
Palmdale Boulevard and SR-14 NB Off-Ramp	2,779	2,542	2,632
Division St and Palmdale Boulevard	3,339	3,197	3,569
5th St W and Palmdale Boulevard	2,919	3,065	3,564
Palmdale Boulevard and SR-14 SB Off-Ramp	3,095	2,912	3,974
Total	12,132	11,716	13,740
MTCO ₂ : metric tons of carbon dioxide; GHG: greenhouse gas emissions; SR: State Route; NB: northbound; SB: southbound			
^a Totals may not add due to rounding.			

While EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its emission rates are based on tailpipe emission test data. The numbers are estimates of CO₂ emissions and not necessarily the actual CO₂ emissions. The model does not account for factors such as the rate of acceleration and the vehicles' aerodynamics, which would influence CO₂ emissions. To account for CO₂ emissions, ARB's GHG Inventory follows the IPCC guideline by assuming

complete fuel combustion, while still using EMFAC data to calculate CH₄ and N₂O emissions. Though EMFAC is currently the best available tool for use in calculating GHG emissions, it is important to note that the CO₂ numbers provided are only useful for a comparison of alternatives.

No-Build Alternative

Under the No-Build Alternative, no construction would occur and no additional GHGs would be generated. The operational impacts for No-Build alternative are presented in Table 3.34. As shown, the No-Build Alternative would result in more GHG emissions in comparison to the Build Alternative, most likely due to the anticipated increase in congestion over time.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Construction GHG emissions were calculated with the SMAQMD Road Construction Emissions Model, version 8.1.0. GHG emissions for the Build Alternative are estimated at 1,219 MTCO_{2e} for the 17-month construction period.

The proposed Project will implement Caltrans standard conditions for air pollution control. Section 7-1.02C, Emissions Reduction, and Section 14-9.02, Air Pollution Control, require construction contractors to comply with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances. Air district regulations such as those that limit vehicle idling time and require keeping engines properly tuned and maintained help reduce GHG emissions. Compliance with these requirements are included as Avoidance and Minimization in Section 3.3, Air Quality.

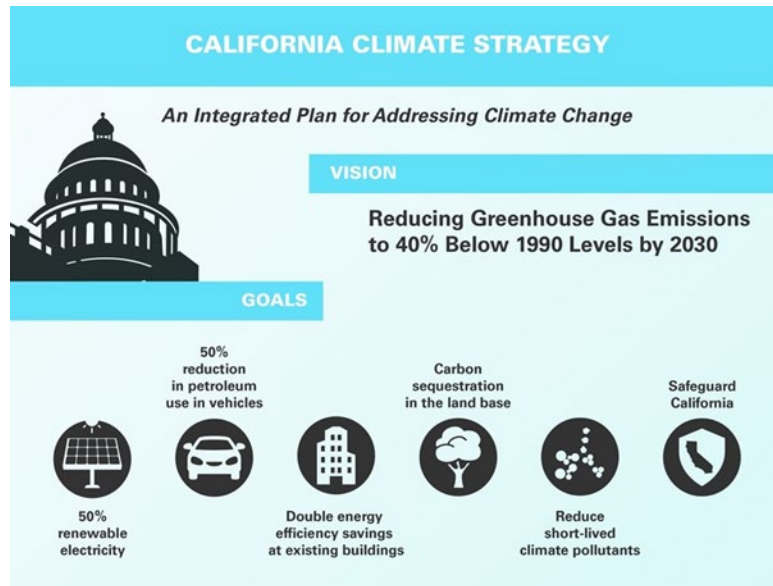
CEQA Conclusion

Greenhouse Gas Reduction Strategies

Statewide Efforts

In an effort to further the vision of California’s GHG reduction targets outlined in AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 GHG emissions target. As shown in Figure 14, these pillars are (1) reducing today’s petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farm and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

Figure 14 The Governor’s Climate Change Pillars: 2030 Greenhouse Gas Reduction Goals



The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that we build on our past successes in reducing criteria and toxic air pollutants from transportation and goods movement activities. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of Governor Brown's

key pillars sets the ambitious goal of reducing today's petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce 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. It serves as an umbrella document for all of the other statewide transportation planning documents.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT per capita

- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several funding and technical assistance programs that have GHG reduction benefits. These include the Bicycle Transportation Program, Safe Routes to School, Transportation Enhancement Funds, and Transit Planning Grants. A more extensive description of these programs can be found in Caltrans Activities to Address Climate Change (2013).

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a department policy that will ensure coordinated efforts to incorporate climate change into departmental decisions and activities.

Caltrans Activities to Address Climate Change (April 2013) provides a comprehensive overview of activities undertaken by Caltrans statewide to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

The proposed Project includes improvement to bicycle and pedestrian safety. Palmdale Boulevard currently does not include any bicycle facilities or multi-use lanes/striped shoulders in the Project area. Under the Build Alternative striped shoulders would be provided between SR-14 and Division Street. The Build Alternative would enhance the experience for pedestrians (by providing crosswalks) and for bicyclists (by providing roadway shoulders, wide enough to accommodate bicyclists). If these improvements encourage the use of these modes of transportation instead of driving fossil-fueled vehicles, then the Project would contribute to a reduction in GHG emissions.

The following Minimization Measures also contribute to reducing GHGs:

Section 7-1.02C, Emissions Reduction, requires contractors to certify they are aware of and will comply with all emissions reduction regulations being mandated by ARB.

AQ-1 The construction contractor shall comply with Section 14 of Caltrans' 2015 Standard Specifications. 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.

TRA-1 A Traffic Management Plan (TMP) shall be developed during final design to ensure safe and efficient traffic flow throughout the Project study area during all phases of construction. The TMP shall optimize roadway capacity, signal phasing, and timing during construction. The TMP shall identify temporary measures such as coordination for lane closures, lane closure signage; bicycle lane/pedestrian detours; and the potential need for a construction flag person during peak traffic hours. Minimizing delays and maintaining traffic flow will help reduce GHG emissions from idling traffic during construction.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage—or, put another way, planning and design for resilience. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their 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. These types of impacts to the transportation infrastructure may also have economic and strategic ramifications.

Federal Efforts

At the federal level, the Climate Change Adaptation Task Force, co-chaired by the CEQ, the Office of Science and Technology Policy (OSTP), and the National Oceanic and Atmospheric Administration (NOAA), released its interagency task force progress report on October 28, 2011, 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 provided an update on actions in key areas of federal adaptation, including: building resilience

in local communities, safeguarding critical natural resources such as fresh water, and providing accessible climate information and tools to help decision-makers manage climate risks.

The federal Department of Transportation issued U.S. DOT Policy Statement on Climate Adaptation in June 2011, committing to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely and that transportation infrastructure, services and operations remain effective in current and future climate conditions.”¹²

To further the DOT Policy Statement, on December 15, 2014, FHWA issued order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*).¹³ This directive established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The FHWA will work to integrate consideration of these risks into its planning, operations, policies, and programs in order to promote preparedness and resilience; safeguard federal investments; and ensure the safety, reliability, and sustainability of the nation’s transportation systems.

FHWA has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.¹⁴

State Efforts

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 and directed all state agencies planning to construct projects in areas vulnerable to future sea-level rise to consider a range of sea-level rise scenarios for the years 2050 and 2100, 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, and storm surge and storm wave data.

¹² https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm

¹³ <https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm>

¹⁴ <https://www.fhwa.dot.gov/environment/sustainability/resilience/>

Governor Schwarzenegger also requested the National Academy of Sciences to prepare an assessment report to recommend how California should plan for future sea-level rise. The final report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (Sea-Level Rise Assessment Report)¹⁵ was released in June 2012 and included relative sea-level rise projections for the three states, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; and the range of uncertainty in selected sea-level rise projections. It provided a synthesis of existing information on projected sea-level rise impacts to state infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and a discussion of future research needs regarding sea-level rise.

In response to EO S-13-08, the California Natural Resources Agency (Resources Agency), in coordination with local, regional, state, federal, and public and private entities, developed The California Climate Adaptation Strategy (Dec 2009),¹⁶ which summarized the best available science on climate change impacts to California, assessed California's vulnerability to the identified impacts, and outlined solutions that can be implemented within and across state agencies to promote resiliency. The adaptation strategy was updated and rebranded in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan).

Governor Jerry Brown enhanced the overall adaptation planning effort by signing EO B-30-15 in April 2015, requiring state agencies to factor climate change into all planning and investment decisions. In March 2016, sector-specific Implementation Action Plans that demonstrate how state agencies are implementing EO B-30-15 were added to the Safeguarding California Plan. This effort represents a multi-agency, cross-sector approach to addressing adaptation to climate change-related events statewide.

EO S-13-08 also gave rise to the State of California Sea-Level Rise Interim Guidance Document (SLR Guidance), produced by the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), of which Caltrans is a member. First published in 2010, the document provided “guidance for incorporating sea-level rise (SLR) projections into planning and decision making for projects in California,”

¹⁵ *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.

¹⁶ <http://www.climatechange.ca.gov/adaptation/strategy/index.html>

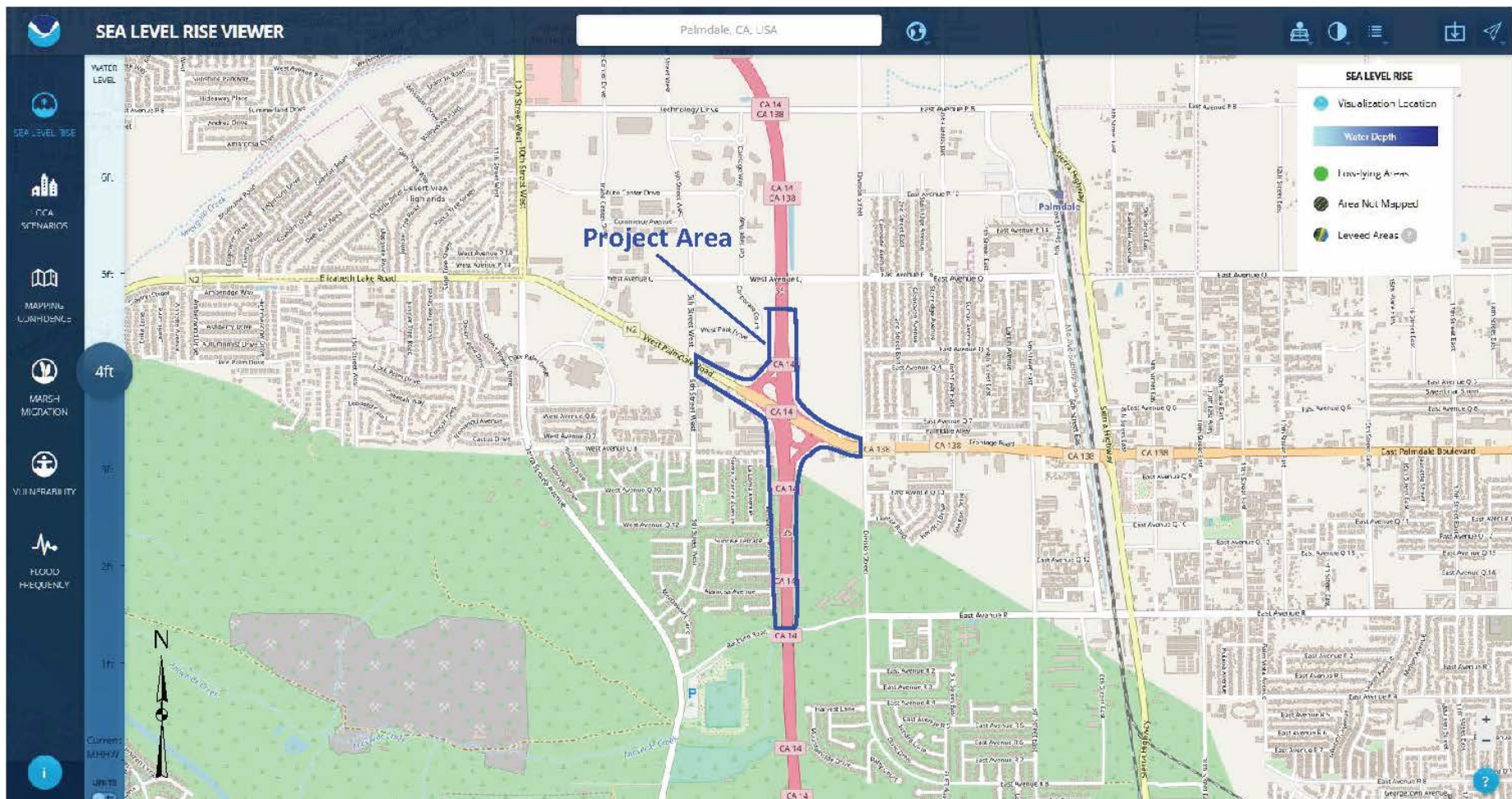
specifically, “information and recommendations to enhance consistency across agencies in their development of approaches to SLR.”¹⁷

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. Caltrans is actively engaged in working towards identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in EO B-30-15.

The proposed Project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected. Refer to Figure 15, Sea Level Rise zone.

¹⁷ <http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/>

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Source: NOAA SLR Viewer, 2018

Sea Level Rise Zone

SR-14/Palmdale Boulevard (SR-138) Interchange Improvement Project

07-LA-14, PM R. 59.11/R60.19; 07-LA-138, PM R43.32/43.68

EA 29880



Figure 15

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Chapter 4 Consultation and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process to determine the scope of environmental documentation; the level of analysis; 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 interagency coordination meetings, public meetings, public review of the CEQA document, and contact with property owners in the study area. This chapter summarizes the results of the City of Palmdale and Caltrans' efforts to fully identify, address, and resolve Project-related issues through early and continuing coordination.

Stakeholders

Stakeholders include those whose influence can significantly affect the efforts of the Project. Stakeholders include individuals, community-based organizations, and governmental agencies.

State, and local agencies involved with the Project include the California Department of Fish and Wildlife, Native American Heritage Commission, Caltrans and the City of Palmdale and. Additional agencies, such as Metro, have been consulted on specific issues associated with their area of jurisdiction.

Early Agency Consultation and Coordination

The U.S. Fish and Wildlife Service (USFWS) was consulted on May 21, 2015, for the list of the federally and State-listed species potentially occurring on the Project area, and an updated list was obtained on May 21, 2016.

- Sarah Baker, Caltrans District 7, email correspondence dated July 8 and 9, 2015, regarding the habitat assessment for Mohave ground squirrel and the level of surveys required.
- Scott Harris, CDFW, email correspondence dated April 2, and July 9, 2015, and phone conversations on April 1, and July 9, 2015 regarding the habitat assessment for Mohave ground squirrel and the level of surveys required.
- Jamie Jackson, CDFW, email correspondence dated April 2, 13, June 23, and July 9, 2015 and phone conversations April 14 and July 9, 2015, regarding the

habitat assessment for Mohave ground squirrel and the level of surveys required.

Consultation pursuant to AB 52

AB 52, which went into effect on July 1, 2015, proposes to include tribal cultural resources in the CEQA analysis and introduces a new class of resources: Tribal Cultural Resources. The Project was subject to the requirements of AB 52. As such, in addition to the initial Native American coordination conducted on prior to the AB 52 effective date of July 1, 2015, consultation under AB 52 was subsequently conducted (refer to Appendix C). Pursuant to AB 52, a Sacred Lands File Search was requested of the NAHC, which responded by faxed letter on September 29, 2015. The NAHC provided a list of Native American individuals/organizations that may have knowledge of cultural resources in the Project area and who should be invited to consult. All individuals and tribes on the list were mailed or emailed letters on November 30, 2015. Follow up telephone calls were made to all four tribal members on June 16, 2016. No additional responses were received.

In January 2019 during the circulation of the Draft IS/MND, Lee Clauss, the Director of Cultural Resources Management for the San Manuel Band of Mission Indians, contacted Caltrans via email. In the email, Lee Clauss confirmed receipt of the Draft IS/MND; notified Caltrans to send future tribal consultation correspondence to her; notified Caltrans that she has no evidence of the San Manuel Band of Missions Indians having previously received the project's HPSR, ASR, or Historic Resource Exemption Letter; and requested more information on the nature and locations of construction activities to further determine the probability that the Project would encounter previously undisturbed native soils. On January 22, 2019, Caltrans sent Ms. Clauss a response email including a copy of the original AB 52 consultation letter and materials that were mailed to Chairperson Valbuena with the San Manuel Band of Mission Indians in November 2015. Caltrans also provided Ms. Clauss with the HPSR and ASR for the Project. On February 22, 2019, Ms. Clauss provided an email response to Caltrans asking for additional information. On March 27, 2019, Caltrans provided a response with clarifications to Ms. Clauss. No further correspondence has been received from the Lee Clauss as of March 2020.

Public Outreach

The CEQA process includes public participation in the form of public review of the environmental document. Upon completion of the public review period, written responses to all substantial environmental issues raised will be prepared and made

part of the final environmental document for consideration by decision-makers for the Project.

Public Review Process

Caltrans circulated the IS for the proposed SR-14/Palmdale Boulevard Interchange Improvement Project for public review beginning December 19, 2018. The public comment period occurred between December 19, 2018 and February 1, 2019.

Notice of Intent (NOI) was sent to federal agencies, State agencies, local-regional agencies, elected officials, utility purveyors, Native American tribal contacts, and adjacent property owners and residents in the surrounding area. The NOI provided information on the physical location where the document could be reviewed during the public review period, the websites online where the document could be downloaded, and the method and timing for submitting comments on the Draft IS/MND.

During the public review period, four comment letters were received on the IS/MND. Comment letters and responses to comments are provided in Appendix G.

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Chapter 5 List of Preparers

5.1 Caltrans Staff

The following Caltrans staff members contributed to the preparation of this IS/MND:

Karl Price, Senior Environmental Planner. B.S Biology, California State Polytechnic University Pomona; 21 years of Environmental Planning experience.
Contribution: Document review.

Samer Momani, Associate Environmental Planner; Division of Environmental Planning, District 7; Master of Science, Environmental Studies, California State University, Fullerton; 10 years of experience in environmental planning.
Contribution: Environmental Document Oversight.

Arpi Kiledjian, Transportation Engineer; Civil, B.S Civil Engineering; California State University Northridge; 20 years of experience at the DOT in Noise, Construction and Stewardship. Contribution: Document review of environmental commitments.

Kristin Fusello, Associate Environmental Planner, PQS Lead Archaeological Surveyor, District Native American Coordinator. Degrees in Earth Science; 15 years of experience. Contribution: Cultural review and document review.

Andrew Yoon, Senior Transportation Engineer, Air Quality. B.S. Civil and Environmental Engineering, University of California Los Angeles; 22 years of experience in civil and environmental engineering for infrastructure and development projects. Contribution: Document review and Air Quality coordination.

Andrew Johnstone, District Biologist. B.S. Biology, San Diego State University; 8 years of experience in biology and environmental planning. Contribution: Biological review.

Jin Lee, Senior Transportation Engineer. B.S. Civil Engineering, University of Washington; 28 years of experience in civil and environmental engineering.
Contribution: Noise analysis and review.

Penny Nakashima, Senior Geologist Engineer. B.S. Geology, California State University Los Angeles; 34 years of experience in hazardous waste

assessment and investigation of air pollution control. Contribution: Oversight and review of Hazardous Waste Assessment

5.2 Consultant Staff

The following Psomas staff members contributed to the preparation of this IS/MND:

Kathleen Brady, AICP, Principal of Technical Services; Bachelor of Science, Sociology, University of California, Riverside; 40 years of environmental planning experience. Contribution: As Principal-in-Charge, managed the preparation of the IS/MND.

Agnieszka Napiatek, Project Manager; Master of Science, Environmental Studies, California State University, Fullerton; 11 years of experience in environmental planning. Contribution: prepared the IS/MND. No longer with Psomas.

Sheryl A. Kristal, Senior Word Processor, Microsoft Office Specialist. General Studies, Golden West College; 14 years of word processing experience. Contribution: Formatted the IS/MND.

James Kurtz, B.S., Director, Air Quality and Acoustical Programs. Bachelor of Science, Engineering, University of California, Los Angeles. 33 years of air quality analysis experience, and 25 years of noise analysis experience. Contribution: Prepared the Air Quality Analysis and reviewed the Noise Analysis. No longer with Psomas.

Tin Cheung has a Bachelor of Arts degree in Geography and Environmental Studies from the University of California, Santa Barbara (1993). Mr. Cheung has been working in the environmental air quality consulting business since 1995 preparing CEQA and NEPA air quality analysis in southern California.

Laura Wrenn, GIS Specialist; Bachelor of Science, Geography, University of Georgia; 5 years of professional GIS experience. Contribution: Created graphics and calculations for the IS/MND. No longer with Psomas.

Jonathan A. Zimmer, Senior GIS Analyst; Masters of Advanced Studies in Geographical Information Systems, Arizona State University; 7 years of professional GIS experience, 5 years of professional Remote Sensing

experience. Contribution: Created graphics for the IS/MND. No longer with Psomas.

Chris Starbird, Contribution: Created graphics and calculations for the IS/MND. No longer with Psomas.

Julia R. Black, Technical Writer/Editor; Bachelor of Arts, English, California State University, Fullerton; 16 years writing and editing experience. Contribution: Edited the IS/MND. No longer with Psomas.

Scott T. Graff, Technical Writer/Editor; Master of Fine Arts, Music, California Institute of the Arts; Bachelor of Arts, Religious Studies, Occidental College; 23 years writing and editing experience. Contribution: Edited the IS/MND.

Sean M. Noonan, AICP, Project Manager; Master of Urban and Regional Planning, California Polytechnic University, Pomona; Master of Arts in Geography, California State University, Fullerton; Bachelor of Arts in History, University of California, Santa Barbara; 10 years of environmental planning experience. Contribution: Prepared responses to comments and managed completion of the Final IS/MND.

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Chapter 6 **Distribution List**

The draft Initial Study/Mitigated Negative Declaration was distributed to the following agencies, elected officials, service providers, and organizations. Paper copies and CDs were provided to the public library listed.

FEDERAL AGENCIES

U.S. Army Corps of Engineers
Project Planning Branch
915 Wilshire Boulevard
Los Angeles, CA 90017-3401

U.S. Fish and Wildlife Service
Pacific Southwest Region
Headquarters and Organization
2800 Cottage Way
Sacramento, CA 95825
Attn: Ren Loehfener

Assistant Field Supervisor
Palm Springs Fish and Wildlife Office
777 East Tahquitz Canyon Way, Suite
208
Palm Springs, CA 92262

STATE AGENCIES

State Clearinghouse
Office of Planning and Research
1400 10th Street
Sacramento, CA 95814-5502

California Department of Fish and
Wildlife, Region 5
3883 Ruffin Road
San Diego, CA 92123

California Department of Parks and
Recreation
Office of Historic Preservation
1416 9th Street, Room 1442
Sacramento, CA 95814

California Highway Patrol
2041 West Avenue I
Lancaster, CA 93534

Lahontan Regional Water Quality
Control Board
14440 Civic Center Drive, Suite 200
Victorville, CA 92392

Native American Heritage
Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

LOCAL/REGIONAL AGENCIES

South Coast Air Quality Management
District
21865 Copley Drive
Diamond Bar, CA 91765

County of Los Angeles
Regional Planning Department
320 W. Temple Street, 13th Floor
Los Angeles, CA 90012

Los Angeles County Metropolitan
Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012

City of Palmdale
Development Services Director
38250 Sierra Highway
Palmdale, CA 93550

Fire Chief Daryl Osby
Los Angeles County Fire Department
1320 N. Eastern Avenue
Los Angeles, CA 90063

Fire Chief – City of Palmdale
LACFD Station 37
38318 9th Street East
Palmdale, CA 93550

LIBRARIES

Palmdale City Library
700 E. Palmdale Boulevard
Palmdale, CA 93550

The Notice of Availability was sent to elected officials, service providers, utility companies and adjacent property owners within the surrounding area. In addition, a Notice of Availability of the document was sent to adjacent property owners and residents. The Notice of Availability provided information on the location of the document and how to download the document from the Caltrans website.

ELECTED OFFICIALS

Representative Stephen Knight
25th District
1008 West Avenue M-14, Ste. E
Palmdale, CA 93551

Senator Dianne Feinstein
11111 Santa Monica Boulevard, Ste.
915
Los Angeles, CA 90025

Senator Kamala Harris
312 N. Spring St.
Suite 1748
Los Angeles, CA 90012

Assembly Member Tom Lackey
36th District
41319 12th Street West, Ste. 105
Palmdale, CA 93551

County of Los Angeles
Board of Supervisors
Kathryn Barger– District 5
42455 10th Street West, Suite 104
Lancaster, CA 93534

Councilmember Juan Carrillo
38300 Sierra Hwy., Suite A
Palmdale, CA 93550

Councilmember Laura Betterncourt
38300 Sierra Hwy., Suite A
Palmdale, CA 93550

Councilmember Steven D. Hofbauer
38300 Sierra Hwy., Suite A
Palmdale, CA 93550

Councilmember Austin Bishop
38300 Sierra Hwy., Suite A
Palmdale, CA 93550

James C. Ledford
Mayor, City of Palmdale
38300 Sierra Hwy., Suite A
Palmdale, CA 93550

UTILITIES

City of Palmdale
Public Works Department
38300 Sierra Highway
Palmdale, CA 93550

ORGANIZATIONS

West Antelope Valley Historical
Society
P.O. Box 1972
Lancaster, CA 93539

Ms. Lynn Valbuena, Chairwoman
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

**NATIVE AMERICAN
REPRESENTATIVES**

Mr. Daniel McCarthy, M.S., Director¹⁸
CRM Department
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Mr. John Valenzuela, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, CA 91322

¹⁸ Note: Per correspondence with the San Manuel Band of Mission Indians, future correspondence with the Tribe will be directed to Lee Clauss, the current Director of Cultural Resources Management.

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Appendix A Environmental Commitment Record

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Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
AESTHETICS									
Avoidance and Minimization Measures									
AE-1 During the Plans, Specifications, and Estimates (PS&E) phase of the Project, a Landscape Architect shall be secured by the City of Palmdale and final landscaping plans shall be prepared in compliance with the City of Palmdale Native Desert Vegetation Ordinance. The Plant Palette shall be approved by the City of Palmdale and Caltrans prior to Project construction.	City of Palmdale	Prior to construction							
AE-2 Prior to the approval of the final design, a Public Art Beautification Element for the Project will be approved by the City of Palmdale and Caltrans Landscape Office.	City of Palmdale	Prior to construction							
AIR QUALITY									
Minimization Measures									
AQ-1 The construction contractor shall comply with Section 14 Of Caltrans' 2015 Standard Specifications. <ul style="list-style-type: none"> 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. Section 14-11.04 is directed at controlling dust. (If dust palliative materials other than water are to be used, material specifications are contained in Section 18.) 	City of Palmdale	Prior to construction							
AQ-2 The construction contractor shall comply with AVAQMD Rule 403 (AVAQMD 1976).	City of Palmdale	Prior to construction							
AQ-3 The following administrative controls and hazard awareness actions will be included in the Contractor's Specifications: <ul style="list-style-type: none"> Prior to Project construction initiation, and for any personnel additions after Project construction initiation, the City's contractor shall be informed of the following California Department of Public Health (CDPH) materials on Valley Fever, or any updated materials as applicable. The following materials will be distributed to worksite supervisors: CDPH pamphlet entitled "Preventing Work-Related Coccidiomycosis (Valley Fever)" Prior to Project construction initiation, and for any personnel additions after Project construction initiation, the City's contractor shall be informed of the following CDPH materials on Valley Fever, as well as any updated materials as applicable. The following materials will be distributed to construction workers: <ul style="list-style-type: none"> i. CDPH pamphlet entitled "Valley Fever Fact Sheet" ii. CDPH pamphlet entitled "Hoja de datos de la Fiebre del Valle (Valley Fever Fact Sheet in Spanish)" iii. CDPH pamphlet entitled "Fact Sheet ng Valley Fever (Valley Fever Fact Sheet in Tagalog)," 	City of Palmdale	Prior to construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
BIOLOGY									
Avoidance and Minimization Measures									
BIO-1 Swainson's hawk. Tree removal shall occur between September 2 and January 31 to avoid Swainson's hawk nesting season. If construction is initiated during the Swainson's hawk nesting season (i.e., February 1 to September 1), a pre-construction survey for Swainson's hawk nests shall be conducted by a qualified biologist within a 0.5-mile radius of the Project site for the presence of an active nest. The pre-construction survey shall be conducted in accordance with the Swainson's Hawk Technical Advisory Committee's (SHTAC's) <i>Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley</i> (2000). A nesting raptor survey report (including mapping of any active nests if found) shall be prepared by the qualified biologist and shall be submitted to Caltrans and CDFW. If no active nests are found, no further surveys shall be required.	City of Palmdale	Prior to construction							
BIO-2 Swainson's hawk. Prior to the initiation of Project activities if a Swainson's hawk is found to be nesting within 0.5 mile of the proposed impact area, the CDFW shall be consulted by the qualified biologist to evaluate the potential for disturbance of the nesting birds during construction and to approve measures that would avoid impacts on the active nest; authorization to proceed shall be obtained before work starts. The active nest site shall be protected until nesting activity has ended to ensure compliance with the California Endangered Species Act and Sections 3503.5 and 3513 of the <i>California Fish and Game Code</i> . Any Swainson's hawk nests shall be mapped on an aerial photograph by the qualified biologist, and the location information shall be given to Caltrans. The location of active nests shall be marked on applicable construction plans as an ESA.	City of Palmdale	Prior to construction							
BIO-3 Swainson's hawk. To protect an active nest site during Project construction, the following restrictions shall be observed on the Project between February 1 and September 1 (or until nests are no longer active, as determined by a qualified biologist): (1) clearing limits shall be established a minimum of 500 feet in any direction from any occupied Swainson's hawk nest and (2) access and surveying shall be restricted within 300 feet of any occupied Swainson's hawk nest. Any encroachment into the 500-/300-foot buffer area around the known nest shall be allowed only if a Qualified Biologist determines that the proposed activity shall not disturb the nest occupants.	City of Palmdale	During construction							
BIO-4 Mohave Ground Squirrel. A qualified Biologist (holding necessary permit) shall be present during native vegetation removal or ground disturbing activities. Should Mohave Ground Squirrel species be observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or authorizations to handle this species) shall capture and relocate Mohave ground squirrels to appropriate habitat outside the impact area. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.	City of Palmdale	During construction							
BIO-5 Mohave Ground Squirrel. During Project construction, all vegetation cleared from the impact area shall be removed immediately by the construction contractor under the supervision of the qualified biologist. No soils excavated from the Project site shall be kept on site unless secured. Stockpiled soils shall be secured with extra strength cover foil buried at least one foot underground to discourage wildlife from burrowing.	City of Palmdale	During construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
BIO-6 Mohave Ground Squirrel. During Project construction, a worker environmental awareness program (WEAP) training shall be provided by the qualified biologist to construction personnel. The WEAP shall discuss the Mohave ground squirrel, its habitat, and BMPs to protect it during construction. Other sensitive species potentially present on site shall also be discussed during WEAP.	City of Palmdale	During construction							
BIO-7 Mohave Ground Squirrel. Prior to initiating grading activities, the construction contractor under the supervision of the qualified biologist shall install an exclusionary fencing in all areas of suitable habitat subject to impacts. A qualified biologist shall remain on the site during initial ground disturbance activities to the depth of 5 feet below ground surface. After initial ground breaking activities biological monitor shall remain on call and conduct periodic site inspections (i.e. every 10 days). The frequency of site visits shall be determined by the qualified biologist after the preconstruction survey and monitoring of the initial groundbreaking activities.	City of Palmdale Contractor	Prior to grading							
BIO-8 Mohave Ground Squirrel. During construction activities the construction contractor shall notify the biological monitor about any sensitive wildlife that is accidentally trapped within the limits of the exclusionary fencing.	City of Palmdale	During construction							
BIO-9 Mohave Ground Squirrel. During construction activities if any sensitive wildlife is found trapped inside of the exclusionary fencing and is unable to leave the impact area on their own, the monitoring biologist shall be notified immediately.	City of Palmdale	During construction							
BIO-10 Silvery legless lizard. A pre-construction survey for the silvery legless lizard shall be conducted by a qualified biologist in the Project impact area at the onset of the ground disturbing activities. If this species is observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or authorizations to handle this species) shall capture and relocate the silvery legless lizard to appropriate habitat outside the impact area. Prior to translocating any silvery legless lizards, the CDFW shall review and approve the translocation site and methods by which the animals shall be moved. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.	City of Palmdale	Prior to construction							
BIO-11 Silvery legless lizard. Coast horned lizard. At least 10 days prior to construction activities, a qualified biologist shall conduct a pre-construction survey to determine if any potential sensitive species (e.g., coast horned lizard) are present on the site. If no signs of the species or species are observed, construction work can proceed.	Construction Contractor	Prior to construction							
BIO-12 Coast horned lizard. A qualified biologist shall be present during removal of native vegetation. If Coast Horned Lizard observed and is in imminent danger from construction activities, a qualified biologist (i.e., one holding the necessary permits and/or authorizations to handle this species, or having experience with the species) shall capture and relocate the coast horned lizard to appropriate habitat outside the impact area. If animals are not in imminent danger, they shall be allowed to leave the impact area on their own.	City of Palmdale Construction	During vegetation removal							

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BIO-13 Silvery legless lizard. Coast horned lizard. Prior to grading activities exclusionary fencing shall be installed in all areas of suitable habitat subject to Project impacts under the supervision of the biological monitor. A qualified biological monitor shall remain on the site during initial ground disturbance activities to the depth of 5 feet below ground surface. After initial ground breaking activities biological monitor would remain on call and conduct site checks periodically (i.e. every 10 days). The frequency of site visits shall be determined by the qualified biologist after the initial groundbreaking activities.	City of Palmdale	Prior to grading							
BIO-14 Burrowing Owls. During construction activities if any sensitive wildlife (e.g. coast horned lizard) is found trapped inside of the exclusionary fencing a Project biologist shall be notified and the animal shall be allowed to leave the impact area on their own. If the animal is unable to leave the site the qualified biologist shall relocate the animal outside of the impact area.	City of Palmdale	During construction activities							
BIO-15 Burrowing Owls. At least 14 days prior to construction activities, a qualified biologist shall conduct a pre-construction survey to determine if there are any active burrowing owl burrows within the Project site and if any avoidance and minimization measures shall be required. A final pre-construction survey shall be conducted within 24 hours prior to ground disturbance. If no active burrows are observed, construction work shall proceed.	City of Palmdale	Prior to construction							
BIO-16 Burrowing Owls. During construction activities if an active burrow is observed by construction contractor or monitoring biologist during burrowing owl non-nesting season (i.e., September 2 to February 28) and the burrow is within the impact area, standard CDFW burrowing owl burrow closing procedures shall be used to exclude burrowing owls (i.e., using passive relocation with one-way doors). Per CDFW recommendations, two artificial burrows shall be provided for each burrow that is destroyed (CDFG 1995). The location of the artificial burrows shall be determined in consultation with the CDFW. If an active burrow is observed during burrowing owl non-nesting season (i.e., September 2 to January 31) and the burrow is not within the impact area, construction work shall be restricted within 160 feet of the burrow (or as otherwise determined by the Project biologist in consultation with the CDFW). If an active burrow is present and nesting is believed to be occurring during the nesting season (i.e., February 1 to September 1), construction work and access shall be restricted within 250 feet of the burrow (or as otherwise determined by the Project biologist in consultation with CDFW) until fledglings have left the burrow to ensure compliance with Section 3503.5 of the California Fish and Game Code. Results of the surveys shall be provided to the CDFW.	City of Palmdale	During construction							

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BIO-17 Nesting birds. Any necessary vegetation removal shall be scheduled between September 2 and January 31 to avoid the nesting season. If vegetation removal activities are planned to occur during the nesting season (i.e., February 1 to September 1), a pre-construction nesting bird survey shall be conducted by a qualified biologist within three days prior to clearing of any vegetation. If any active nests are detected, the biologist shall designate a buffer area around the nest (ranging from 100 feet to 500 feet depending on the sensitivity of the species and the location of the nest), which must be protected until the chicks have fledged or until the biologist has determined that the nest has failed.	City of Palmdale	Prior to Construction							
BIO-18 Raptor nesting. Construction activities within 300 to 500 feet of potential nesting areas shall be scheduled to begin between September 2 and January 31 to avoid the raptor nesting season. If construction activities are planned to occur during the raptor nesting season (February 1 to September 1), a pre-construction survey for nesting raptors shall be conducted by a qualified biologist within seven days prior to clearing of any vegetation. If any active nests are detected, the Biologist shall designate a buffer around the nest (ranging from 300 to 500 feet depending on the sensitivity of the species and the location of the nest) that must be protected until the chicks have fledged or until the biologist has determined that the nest has failed.	City of Palmdale	Prior to Construction							
BIO-19 During Final Project Design a construction Storm Water Pollution Prevention Plan (SWPPP) and Soil Erosion and Sedimentation Plan (SESP) shall be developed by the Project Engineer to minimize erosion and to identify specific pollution prevention measures that shall eliminate or control potential point and non-point pollution sources on site during the Project's construction phase and during Project operation. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities shall occur in developed or designated non-sensitive habitat areas (e.g., ruderal, developed). The SWPPP shall identify specific BMPs to be implemented during Project construction to protect water quality. In addition, the SWPPP shall contain provisions for changes to the plan such that alternative mechanisms can be used, if necessary, during Project design and/or construction to achieve the stated goals and performance standards.	City of Palmdale	Final Design							
BIO-20 During Project construction, invasive plant species removed by Project activities shall be handled, transported, and disposed of offsite by a qualified contractor to minimize the potential of spreading invasive species and/or their seeds off site. All plants and their seed pods shall be secured in such a manner that no contamination of native soils and natural areas would occur.	City of Palmdale	During Construction							
BIO-21 Prior to ground breaking activities a qualified biologist shall monitor native vegetation removal. The biological monitor shall ensure that construction shall stay within marked boundaries; that no disturbance of ESAs occurs; and that BMPs are functioning properly. The biological monitor shall prepare weekly monitoring memos with site photographs for the duration of the native vegetation removal efforts in this segment; the weekly monitoring memos shall be submitted to Caltrans.	City of Palmdale	During Vegetation removal							

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BIO-22 Prior to construction, landscape designs shall be submitted to Caltrans qualified Biologist for review and approval. The review shall determine that no invasive exotic plant species are to be used in any proposed landscaping. Suitable substitutes shall be recommended by the reviewing biologist. All mulch, topsoil, and seed mixes used during landscaping activities and all erosion-control BMPs that are implemented shall be free of invasive plant species propagules.	City of Palmdale	Prior to construction							
<p>BIO-23 Desert Plants Ordinance. During construction activities, to the extent feasible, the construction contractor shall avoid impacts to all Joshua trees and other desert plants covered by the Palmdale Native Desert Vegetation Ordinance. If avoidance of these covered desert plants is not possible the following should would apply.</p> <ul style="list-style-type: none"> • Prior to removal of desert plants (Joshua trees, cholla cactus) pursuant to the Palmdale Native Desert Vegetation Ordinance, the Joshua Tree Transplantation Plan shall be prepared by a qualified arborist and approved by the City's landscaped architect. To the extent feasible, the plants to be removed shall be temporary relocated outside the construction zone and replanted back to the BSA after the construction is completed. • Prior to Project construction, the City shall obtain a permit from the City's landscape architect regarding removal of the desert plant vegetation (Joshua trees). 	City of Palmdale	During construction							
Mitigation Measure									
<p>BIO-24 Prior to initiation of Project activities, Caltrans shall obtain all necessary permits for impacts to RWQCB and/or CDFW jurisdictional areas. Mitigation for the loss of jurisdictional resources shall be negotiated with the resource agencies during the regulatory permitting process. Potential mitigation options shall include one or more of the following: (1) payment to a mitigation bank or regional riparian enhancement program (e.g., invasive plant or wildlife species removal) and/or (2) restoration of riparian habitat either on site or off site at a ratio of no less than 1:1, determined through consultation with the above-listed resource agencies. If in-lieu mitigation fees are required, prior to the initiation of any construction-related activities, Caltrans shall pay the in-lieu mitigation fee to a mitigation bank/enhancement program for the in-kind (equivalent vegetation type and acreage) replacement of impacted jurisdictional resources. If a Restoration Program is required, prior to the initiation of any construction-related activities, Caltrans shall prepare and submit a Riparian HMMP for RWQCB and CDFW approval. If a Riparian HMMP is required, it shall contain the following items:</p> <ol style="list-style-type: none"> a. Responsibilities and Qualifications. The responsibilities and qualifications of Caltrans, ecological specialists, and restoration (landscape) contracting personnel who shall implement the plan shall be specified. At a minimum, the HMMP shall specify that the ecological specialists and contractors have performed successful installation and long-term monitoring and maintenance of southern California native habitat mitigation/restoration programs, implemented under natural resource agency permit conditions. A successful program shall be defined as one that has been signed off by the resource agencies. 	Caltrans/City of Palmdale	Final Design							

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<p>b. Performance Criteria. Mitigation performance criteria to be specified in the HMMP shall include native vegetation percent coverage and diversity (minimum), non-native vegetation percent coverage (maximum), and the cessation of irrigation a minimum of two years prior to eligibility for sign-off.</p> <p>c. Site Selection. Site selection for habitat restoration and/or enhancement shall be determined in coordination with Caltrans, the RWQCB, and the CDFW.</p> <p>d. Native Plant and Seed Materials Procurement. One to two years prior to mitigation implementation (or as far in advance as practicable prior to planting/seeding implementation), Caltrans or its consultants/contractors shall initiate collection of the native seed materials specified in the HMMP. It is highly recommended that all seed mixes shall be of local origin (i.e., collected within the same subwatershed as the selected mitigation site).</p> <p>e. Wildlife Surveys and Protection. The HMMP shall specify any wildlife surveys (e.g., nesting bird surveys, focused surveys for special status species) and biological monitoring that are required to avoid adverse impacts to wildlife species during the performance of mitigation site preparation, installation, or maintenance tasks. The HMMP shall also describe potential restrictions on these tasks due to sensitive wildlife conditions on the mitigation site (e.g., suspension of these tasks during the nesting bird season).</p> <p>f. Site Preparation and Plant Materials Installation. Mitigation site preparation shall include (i) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (ii) installation of protective fencing and/or signage (as needed); (iii) initial trash and weed removal (during the non-nesting bird season); (iv) soil treatments, as needed (i.e., imprinting, decompacting); (v) installation of erosion-control measures (i.e., fully natural/bio-degradable [not 'photo-degradable'] fiber roll); (vi) application of salvaged native plant materials (i.e., duff) as available; (vii) temporary irrigation installation; (viii) a minimum one-year preliminary 'grow-and-kill' weed abatement program (prior to the installation of native plant and seed materials), including specification of approved herbicides; (ix) planting of container species; and (x) seed mix application.</p> <p>g. Schedule. An implementation schedule shall be developed that includes planting and seeding to occur in late fall and early winter (i.e., between November 1 and December 31) and the frequency of long-term maintenance and monitoring activities (including the dates of annual quantitative surveys, as described below).</p> <p>h. Maintenance Program. The Maintenance Program shall include (i) protection of existing native species and habitats (including compliance with seasonal restrictions, if any); (ii) maintenance of protective fencing and/or signage; (iii) trash and weed removal, including specification of approved herbicides; (iv) maintenance of erosion-control measures; (v) inspection/repairs of irrigation components; (vi) replacement of dead container plants (as needed); (vii) application of remedial seed mixes (as needed); (viii) herbivory control; and (ix) removal of all non-vegetative materials (i.e., fencing, signage, irrigation</p>									

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<p>components) upon Project completion. The mitigation site shall be maintained for a period of five years to ensure the successful establishment of riparian habitat in the restored and created areas; however, Caltrans may request to be released from maintenance requirements prior to five years if the mitigation program has achieved all performance criteria.</p> <p>i. Monitoring Program. The Monitoring Program shall include (i) qualitative monitoring (i.e., general habitat conditions, photo-documentation from established photo stations); (ii) quantitative monitoring (e.g., randomly placed point-intercept transects); (iii) annual monitoring reports, which shall be submitted to the resource agencies for five years or until Project completion; and (iv) wildlife surveys and monitoring, as described above. The annual monitoring reports shall include a detailed discussion of mitigation site performance (e.g., measured vegetation coverage and diversity) and compliance with required performance criteria; a discussion of wildlife species' use of the restored and/or enhanced habitat area(s); and a list of proposed remedial measures to address non-compliance with any performance criteria. The site shall be monitored for five years or until the RWQCB and CDFW have released Caltrans from maintenance requirements.</p> <p>Long-Term Preservation. Long-term site preservation shall be outlined in the HMMP to ensure the mitigation site is not impacted by future projects.</p>									
CULTURAL RESOURCES									
Avoidance and Minimization Measures									
CUL-1 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.	City of Palmdale	During construction							
CUL-2 In conjunction with the final design phase of each program-related improvement, a qualified vertebrate paleontologist will review the geotechnical report data, with particular regard to location and depth of earth moving and the rock unit(s) being encountered. The review is for the purpose of assessing potential for fossil remains being encountered by earth moving. If previously undisturbed strata with potential for containing fossil remains will be encountered by earth moving activities, the following measures will be implemented:	City of Palmdale	Final design							
CUL-3 The Natural History Museum of Los Angeles County (LACM), or another qualified repository will be the designated museum repository for any vertebrate, invertebrate, and plant fossil remains and associated specimen data and corresponding geologic and geographic site data that might be recovered from the site as a result of the PMP. Prior to any earth moving at the Project site, the paleontologist will develop a formal agreement with the museum regarding final disposition and permanent storage and maintenance of the fossil collection and associated data. The agreement will cover, but not necessarily be limited to, museum requirements regarding (1) level of treatment of the collection; (2) storage and maintenance fees, if any; and (3) purchase of specimen storage cabinets and drawers, as well as specimen trays, vials, specimen data cards, and other curatorial supplies, if required.	City of Palmdale	Final design/ Prior to construction							

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<p>CUL-4 As part of the PMP, the paleontologist will develop a discovery clause/treatment plan (DC/TP) to allow for the additional tasks (recovery; geologic mapping; fossiliferous rock sample processing; specimen preparation, identification, curation, cataloguing, and data entry; specimen storage and maintenance by museum) and manpower required to treat a large or productive fossil occurrence that cannot be treated without diverting the monitor from routine monitoring. The DC/TP will also include approved procedures and lines of communication to be followed by specific individuals if fossil remains are uncovered by earth moving, particularly when a paleontological monitor is not present at the site. Names and telephone numbers of contact personnel will be included in the lines of communication.</p>	City of Palmdale	Final design/ Prior to construction							
<p>CUL-5 The paleontologist or field supervisor and a paleontological construction monitor will attend a preconstruction meeting to explain the PMP to the construction contractor and representatives of the California Department of Transportation (Caltrans). The presentation will summarize procedures to be employed by PMP personnel and will detail procedures and lines of communication to be followed by specific Project personnel when fossil remains are found at the site.</p> <p>The paleontologist or field supervisor will inform the construction contractor and representatives of Caltrans of the following:</p> <ol style="list-style-type: none"> 1) Routine measures (primarily monitoring and test screening) to be employed by a monitor during earth moving. 2) The potential for fossil remains to be uncovered by earth moving in particular areas of the site and the need to implement specific actions and additional measures when a fossil occurrence is uncovered by earth moving. 3) Functions and responsibilities of the monitor when fossil remains are uncovered by earth moving and can be recovered without diverting the monitor from monitoring (i.e., monitor to temporarily divert earth moving around fossil site until the remains are evaluated, recovered, and earth moving allowed to proceed). If approved by construction contractor, the monitor will enlist the assistance of earth-moving equipment and an operator to expedite recovery of remains, to obviate need for additional personnel, and to reduce any potential construction delay. 4) Functions and responsibilities of the monitor when a fossil occurrence is uncovered by earth moving and is sufficiently large or productive that it cannot be recovered without diverting the monitor from monitoring. These include the following: <ol style="list-style-type: none"> a. Flag the site. b. Advise the construction contractor to avoid the fossil site until further notice (probably less than two days). c. Call the Project paleontologist or field supervisor to the site. 5) Functions and responsibilities of the paleontologist or field supervisor when notified by the monitor that a large or productive fossil occurrence has been uncovered by earth moving and cannot be recovered without diverting the 	City of Palmdale	Prior to construction							

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<p>monitor from monitoring. The Paleontological Monitor will monitor in previously approved areas unless there is a late discovery. The occurrence will be evaluated to determine if recovery is warranted by completing the following:</p> <ul style="list-style-type: none"> a. If recovery of the fossil(s) is warranted, the construction contractor and Caltrans will be notified of necessity for implementing additional mitigation measures specified in DC/TP to initiate an increased level of monitoring, if not already in effect, in the immediate vicinity of the fossil site and additional personnel will be assigned to monitor the site. b. Within 24 hours after Caltrans approval secured by monitoring personnel, the recovery crew will be mobilized to recover the occurrence and to supervise recovery of the occurrence and its transport to a laboratory facility or to another site approved by the construction contractor for initial/field processing of the fossiliferous rock sample or to a laboratory facility where the fossil specimen will be prepared. c. If warranted and approved by the construction contractor, assistance of the earth-moving equipment operator will be enlisted to expedite recovery of the occurrence. d. To obviate need for additional personnel and to reduce any potential construction delay after of the occurrence is recovered, the construction contractor will allow earth moving to proceed through fossil site. e. Notify Caltrans of the recovery (or of the decision not to recover fossil occurrence, if appropriate) and to obtain authorization for the contractor to proceed through fossil site. <p>6) Responsibilities of the construction contractor and earth-moving equipment operators if fossil remains are uncovered by earth moving, particularly if a monitor is not present at the site when the remains are encountered. The responsibilities are as follows:</p> <ul style="list-style-type: none"> a. Avoid disturbance of fossil site by earth moving. b. Notify the monitor, the paleontologist, or the field supervisor and Caltrans of the fossil occurrence. c. Avoid the fossil site (i.e., by earth-moving activities). d. Assist with equipment and expedite recovery of occurrence. 									
<p>CUL-6 Earth moving will be monitored by a paleontological monitor only in those areas of the site where earth moving will disturb soils where native Quaternary alluvium is present at the surface. Monitoring will be implemented at the ground surface. Monitoring will consist of visually inspecting freshly exposed rock and debris for larger fossil remains and periodically dry test screening a small (25 pound) sample of rock and debris with a 20-mesh box screen for smaller vertebrate fossil remains. As stated above, monitoring would only occur in the Quaternary alluvium; however, if too few or no fossil remains are uncovered by earth moving in areas underlain by a particular rock unit and with the approval of Caltrans as secured by PMP personnel, monitoring time</p>	City of Palmdale	Prior to construction							

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can be reduced. Generally, to half or quarter time or suspended once 50 percent of earth moving in the area underlain by the rock unit has been completed. Alternatively, if sufficient fossil remains are uncovered by earth moving and with the approval of Caltrans as secured PMP personnel, monitoring may be increased in areas underlain by the fossil-bearing rock unit, at least in the immediate vicinity of the fossil site.									
<p>CUL-7 If a large fossil specimen is found as a result of monitoring earth moving and the specimen can be recovered without significantly diverting the monitor from monitoring, earth moving will be temporarily diverted around the fossil site and the specimen will be evaluated, and, if warranted, excavated; covered with a protective plaster-impregnated burlap jacket, if required; and recovered.</p> <p>If necessary and approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite recovery of the specimen and to obviate the need for additional personnel. A temporary field number will be assigned to the specimen; the field number, a preliminary field identification, and pertinent specimen information (field number, identification by taxon and element) and geologic (particularly stratigraphic level within rock unit), geographic site data (location, elevation) will recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location plotted on a map of the site.</p> <p>At the end of the day, the monitor or (following his next site inspection) the field supervisor will transport the fossil remains and associated data to a laboratory facility for further treatment (see Minimization Measure CUL-10). If appropriate, samples of fossil wood will be submitted for carbon-14 dating analysis.</p>	City of Palmdale	During construction							
<p>CUL-8 If a fossil specimen is found and is sufficiently large that it cannot be recovered without significantly diverting the monitor from monitoring, the fossil site will be flagged with colored survey ribbon to temporarily divert earth moving around the site, the construction contractor will be advised to avoid the site until further notice (probably less than 2 days), and the paleontologist or field supervisor will be called to the site. The grading contractor will notify Caltrans and PMP personnel of the occurrence and of the avoidance of the site. The paleontologist or field supervisor, in turn, will evaluate the specimen to determine if recovery is warranted.</p> <p>a. If specimen recovery is not warranted, no further action will be taken to preserve the fossil site or remains. The construction contractor will be allowed to have earth moving proceed through the site immediately, and Caltrans will be notified of the decision not to recover the specimen and of authorization for earth moving to proceed through the fossil site.</p> <p>b. If specimen recovery is warranted, the paleontologist or field supervisor will notify the construction contractor and Caltrans of the necessity for implementing additional measures specified in the DC/TP, initiating full-time monitoring, if not already in effect, at least in the immediate vicinity of the site in areas underlain by the fossil-bearing rock unit, and assigning additional personnel to the PMP. Within 24 hours after Caltrans approval (as secured by PMP personnel), a recovery crew will be mobilized to recover the specimen. The size of the crew will reflect the size of the specimen and the need to recover the specimen as quickly as possible.</p>	City of Palmdale	During construction							

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<p>c. The specimen will be excavated with hand tools, covered with a protective plaster-impregnated burlap jacket, and recovered. If necessary and approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite recovery of the specimen; to reduce any potential construction delays; and to obviate the need for additional personnel. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the specimen. Caltrans will be notified of the recovery and of authorization for earth moving to proceed through the fossil site.</p> <p>d. A temporary field number will be assigned to the specimen; the field number, a preliminary field identification, pertinent specimen (field number, identification by taxon and element), geologic (particularly stratigraphic level within rock unit), and geographic site data (location, elevation) will be recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location will be plotted on a map of the site. The field supervisor and, if necessary, a crew member will transport the fossil specimen and associated site data to a laboratory facility for further treatment. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the specimen. (See Minimization Measure CUL-10 Fossil Treatment)</p>									
<p>CUL-9 If a sufficient number of smaller vertebrate fossil remains are found at one site as a result of test screening by the monitor, the fossil site will be flagged with colored survey ribbon to temporarily divert earth moving around the site. The construction contractor will be advised to avoid the site until further notice (probably less than two days). If requested by the monitor, to expedite recovery of a fossiliferous rock sample, to reduce any potential construction delay, and to obviate the need for additional personnel, the construction contractor will have earth-moving equipment and an operator acquire a rock sample from the fossil site and transport the sample, if possible, to a nearby temporary location at the site approved by the construction contractor.</p> <p>The construction contractor will notify Caltrans and PMP personnel of the occurrence and of the avoidance of the fossil/storage site. If a sample is recovered, the construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the sample. The monitor will notify Caltrans of the recovery of the sample and of authorization for earth moving to proceed through the fossil site. The paleontologist or field supervisor will be called to the fossil/storage site to determine if the fossil site/sample is sufficiently productive to warrant recovery of a large sample of fossiliferous rock to process for additional small remains. Previous experience has demonstrated that only some fossil sites require sampling/sample processing. On the other hand, more than 95 percent of the specimens recovered as a result of some mitigation programs were recovered as a result of sample processing.</p> <p>1. If the site/sample is determined too unproductive or the remains too poorly preserved or insufficiently diagnostic, no further action will be taken to preserve the fossil site/sample or remains, the construction contractor will be allowed to have earth moving proceed through the fossil/storage site immediately, and</p>	City of Palmdale	During construction							

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<p>Caltrans will be notified of the decision not to recover/process a sample and of authorization for earth moving to proceed through the fossil/storage site.</p> <p>2. If sample recovery is warranted, the paleontologist or field supervisor will notify the construction contractor and Caltrans of the necessity for implementing additional measures specified in the DC/TP and assigning additional personnel to the PMP. The following will also occur.</p> <p>a. Within 24 hours after Caltrans approval as secured by PMP personnel, a recovery crew will be mobilized to recover the sample. The size of the crew will reflect the need to recover the sample as quickly as possible. The field supervisor will record the size and will supervise recovery of the sample. Up to three tons of fossiliferous rock will be recovered. The sample will be excavated with hand tools for recovery. If necessary and if approved by the construction contractor, earth-moving equipment and an operator will be enlisted to expedite transportation of the sample to the processing facility; to obviate the need for additional personnel; and to reduce any potential construction delay. The construction contractor will be allowed to have earth moving proceed through the fossil site immediately after recovery of the sample. The paleontologist or field supervisor will notify Caltrans of recovery of the sample and of authorization for earth moving to proceed through the fossil site.</p> <p>b. A temporary field number will be assigned to the sample; the field number and pertinent specimen (field number, identification by taxon, and element) and geologic (particularly stratigraphic level within rock unit) and geographic site data (location, elevation) will be recorded in the monitor's daily monitoring log; and the field number will be recorded and the fossil site location plotted on a map of the site. The field supervisor and, if necessary, a crew member will transport the sample to a location elsewhere at the site approved by the construction contractor or to an off-site location for initial/field processing (wet screening) of the sample.</p> <p>c. If warranted, the field supervisor will setup a field processing facility for wet screening the sample at a site location approved by the construction contractor. Wet screening will consist of sieving rock through a 30 mesh opening per inch- (or finer) mesh box screen immersed in a tub of water to remove the smaller (clay and silt) particles from the larger (sand and rock) particles and small fossil remains, and could result in a reduction in sample weight/volume in excess of 90 percent. If necessary, rock will be soaked in an environmentally safe dispersant (e.g., citrus oil) prior to screening to improve the separation of the clay particles from the rest of the sample during screening. The monitor will conduct wet screening if screening can be accomplished without diverting the monitor from monitoring. If it is not possible to have the monitor perform the wet screening, a field technician will be assigned to the task. Following the next site inspection, the field supervisor will transport the concentrate (larger</p>									

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance		
					Initials	Date		Initials	Date	
<p>particles and small fossil remains) generated by initial processing to a laboratory facility for final/laboratory processing.</p> <p>d. If the fossil remains in the concentrate are sufficiently fossilized (dense), an environmentally safe heavy liquid (e.g., sodium polytungstate), if appropriate, will be used by the senior vertebrate paleontologist to separate the remains from the remaining sand and rock particles. When added to a beaker filled with heavy liquid, the concentrate will separate, the particles will float to the surface, and the remains will sink to the bottom, from where they are retrieved. This technique can result in a further sample weight/volume reduction in excess of 90 percent (less than 1 percent of the original sample size). The final concentrate will be examined under a microscope and fossil specimens will be recovered from any remaining sand and rock particles. If the fossil bone in the original concentrate is not sufficiently dense for use of the heavy-liquid separation technique, the entire sample of concentrate will be sorted under a microscope for fossil remains. Recovered fossil remains will then be treated (see Minimization Measure 5).</p> <p>e. During the final processing of a sample, the senior vertebrate paleontologist will continually evaluate the results of field and laboratory processing. If the sample is insufficiently productive or if the fossil remains are too poorly preserved, the senior vertebrate paleontologist will have the option of discontinuing further laboratory processing of the sample; having field processing of the remainder of the sample suspended; and disposing of the remainder of the sample and unprocessed concentrate. Similarly, processing will be discontinued if, after preliminary identification of some specimens, the remains are determined insufficiently diagnostic or diverse taxonomically or if the species represented are the same as those in another sample from the fossil-bearing rock unit. Previous experience has demonstrated that only some fossil sites require sample processing and only some of these sites of an entire three-ton sample require processing. If appropriate, small splits from one or more samples will be submitted for palynological (pollen) analysis.</p>										
<p>CUL-10 Final treatment of all fossil specimens recovered from the site as a result of the PMP will be conducted at a laboratory facility. Larger vertebrate fossil specimens will be removed from their protective jackets; prepared to the point of identification using hand tools; and hardened or stabilized with a penetrating solution by a preparator. All recovered fossil specimens will be identified to the lowest taxonomic level possible by knowledgeable vertebrate and invertebrate paleontologists and, if required, other knowledgeable paleontologists (i.e., paleobotanists, micropaleontologists, palynologists). The specimens will then be curated (i.e., assigned and labeled with museum specimen data and corresponding site numbers, placed in specimen trays and, if appropriate, vials with completed specimen data cards); catalogued (specimen and site numbers and specimen data and corresponding</p>	City of Palmdale	During construction								

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
geologic and geographic site data, respectively, archived [entered into appropriate catalogs and computerized databases]); and accessioned into the museum fossil collection, where they will be permanently stored, maintained, and, along with associated data, made available for future study by qualified investigators. With the possible exception of those tasks that might be conducted by museum staff (e.g., curation, cataloging), all treatment of the fossil specimens will be conducted by a laboratory technician. Fossil specimen preparation, identification, curation, and cataloging are now required before a fossil collection will be accepted by most museum repositories, including the LACM. Moreover, the scientific importance of a fossil specimen cannot be evaluated until the specimen has been identified to the lowest taxonomic level possible, and specimen identification often is not possible without prior preparation.									
CUL-11 A Final Technical Report of Findings will be prepared by the paleontologist and will describe the site's stratigraphy; will summarize field and laboratory methods employed during the PMP; will include a taxonomic list and an inventory of catalogued fossil specimens recovered as a result of the PMP; will evaluate the scientific importance of the specimens; and will discuss the relationship of the fossil assemblage from any newly recorded fossil site at the Project site to relevant fossil assemblages from fossil sites in other areas. The report will be submitted to the contractor and to Caltrans. Submission of the Final Report will signify completion of the PMP and will ensure Caltrans compliance.	City of Palmdale	During construction							
CUL-12 If human remains are discovered, California 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 Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). The person who discovers the remains will contact the Caltrans District 7 Native American Coordinator 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.	City of Palmdale	During construction							
GEOLOGY									
Avoidance and Minimization Measures									
GEO-1 Prior to construction, a geotechnical consultant shall be retained to review the final street improvement plans.	City of Palmdale	Prior to construction							
GEO-2 During construction, a geotechnical consultant shall be retained to provide soil engineering services.	City of Palmdale	During construction							
GEO-3 Prior to construction a geotechnical consultant shall conduct a remedial excavations for proposed retaining wall foundations and pavement subgrades on the Project site. Retaining wall foundations on the site shall require two to three feet of recompacted soil below existing or finished grade, whichever is lower. Pavement improvements in the Project area typically require one foot of recompacted soil below existing or finished grade, whichever is lower.	City of Palmdale	Prior to construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
GEO-4 During construction any existing asphalt concrete pavement sections or Portland cement pavement material shall be "ground-up" to particle sizes less than two-inches in maximum size and used in new pavement areas of the Project. The subject material can be used as a "subbase" material for new pavement areas, placed immediately below the pavement section aggregate base material or used to adjust site grades.	City of Palmdale	During construction							
GEO-5 During construction standard construction techniques should be followed for site excavations on this Project. All excavations should be made in accordance with applicable regulations (including CAL/OSHA) for an OSHA Type "C" soil.	City of Palmdale	During construction							
GEO- 6 During construction the utility trench backfill shall be moisture conditioned to near optimum moisture content and be uniformly compacted to at least 95% of maximum dry density as determined by California Test Method ("Caltest") 2L6 using mechanical compaction equipment.	City of Palmdale	During construction							
GEO-7 Prior to construction of the retaining wall, the wall foundation shall be designed to at least the minimum standards designated by the latest edition of the governing Building Code.	City of Palmdale	Prior to construction							
GEO-8 Prior to placement of concrete, excavations for foundations should be cleaned of all loose or unsuitable soil and debris. Soil generated from the foundation excavations should not be placed below slabs or pavements unless properly moisture conditioned and compacted.	City of Palmdale	Prior to excavation							
GEO-9 During Project construction and over the entire life of the Project, roads shall be maintained to provide adequate drainage to reduce the adverse effects of long term standing water. Roadway crown and site drainage should be maintained. Runoff water should be collected and diverted away from the roadway surface and into drainage ditches or grades that convey the water away from the roadway.	City of Palmdale	During construction							
GEO-10 During Project construction, the Project fill slopes, not anticipated to exceed 10 feet in height, should be constructed at a maximum slope of 2: 1 (horizontal to vertical). Slopes shall be constructed with soils that have been properly moisture conditioned and compacted in-place to at least 90% of maximum dry density per Caltest 216 using mechanical compaction equipment. Compaction should be verified by testing.	City of Palmdale	During construction							
GEO-11 During Project construction, Project cut slopes, not anticipated to exceed 10 feet in height, should be constructed at a maximum slope gradient of 2: 1 (horizontal to vertical). Positive drainage should be provided at the tops of all cut slopes to divert runoff away from the cut face.	City of Palmdale	During construction							
GEO-12 During Project construction, swales constructed in alluvial soils should be lined with gunite, concrete, or other suitable non-erosive material. Erosion protection should be provided, especially where concentrated runoff is anticipated. Velocity reducers should be provided at the discharge points of the swales or down drains as deemed necessary by the design engineer.	City of Palmdale	During construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
GEO-13 During and after construction drainage and infiltration structures must be protected from sediment laden water to prevent clogging of any filter medium and the bottom soils. The potential for clogging can be reduced by pre-treating structure inflow thorough the installation of maintainable forebays, biofilters, or sedimentation chambers. In addition, sediment, leaves, and debris must be removed from inlets, traps and basin bottoms on a regular basis.	City of Palmdale	During construction							
HAZARDOUS WASTE OR MATERIALS									
Avoidance and Minimization Measures									
HAZ-1 Prior to ground disturbance activities, soil samples shall be conducted by an environmental professional for the potential presence of persistent pesticides. The samples should be analyzed for OCPs using US EPA Method 8081 and for Title 22 Metals. If pesticides are identified during assessment, the concentrations should be compared to California hazardous waste characteristics (which vary depending on the type of pesticide identified). Soils with non-hazardous concentrations of pesticides should be segregated from soils with hazardous concentrations of pesticides. Non-hazardous soils can be disposed at Class II landfill, while hazardous waste soils will require disposal at a Class I landfill.	Hazardous Materials Consultant	Prior to Ground Disturbance							
HAZ-2 Should signs of asbestos-containing cementitious pipe (transite piping) be observed during construction activity, sampling and analysis should be conducted at that time by an environmental professional. Pipes should be removed by California-licensed asbestos abatement contractor. Due to the fact that removal of transite piping would involve cutting or other actions that the AQMD/APCD consider to result in it becoming friable. Therefore, removal of any transite pipe would require special removal, handling, packaging, labeling, transport, and disposal procedures for hazardous substances.	Hazardous Materials Consultant	During construction							
HAZ-3 Prior to ground disturbance activities, soil shall be assessed for the presence of ADL prior to disposal by an environmental professional. A lead compliance plan should be prepared prior to the start of construction activities. ADL investigation should be performed in accordance with the 2016 Agreement between Caltrans and DTSC. ADL-impacted soil should be managed in accordance with Caltrans SSPs 14-11.08 (Material Containing Hazardous Waste Concentrations of ADL), 14-11.09 (Minimal Disturbance of Material Containing Hazardous Waste Concentrations of ADL), or 7-1.02K(6)(j)(iii) (Earth Material Containing Lead [for non-hazardous ADL soils]).	Hazardous Materials Consultant	Prior to Ground Disturbance							
HAZ-4 Residue from yellow traffic stripe removal should be sampled and tested to classify waste for proper disposal. Traffic markings with hazardous concentrations of lead should be removed consistent with Caltrans' SSP 14-11.12. Traffic markings with non-hazardous concentrations of lead should be removed consistent with SSP 34-6. A lead compliance plan will be required for either type of removal.	Hazardous Materials Consultant	During construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
HAZ-5 If signs of potential impact (odors, discolored soil, etc.) are noted or observed during construction activity by an environmental professional, sampling and analysis should be conducted at that time. Analyses should include Total Petroleum Hydrocarbons (TPH) with carbon chain analysis using US EPA Method 8015B and VOCs by US EPA Method 8260B. Also, if signs are observed as mentioned above, then sampling and analysis shall also be conducted for metals using EPA Method 6010/7000 series, for polychlorinated biphenyls (PCBs) by EPA Method 8082, and for semi-volatile organic compounds using EPA Method 8270. Impacted soil should be segregated, and placed in the covered container until analysis and characterization is complete.	Hazardous Materials Consultant	During construction							
HAZ-6 Should impacted soil (as evidenced by staining and/or odors) be encountered during construction activities by construction crew or by an environmental professional in the vicinity of these properties, or at any other areas of the Project, an environmental professional will evaluate the course of action required. This course of action will follow the Caltrans Unknown Hazards Procedures (see Figure 7-1.1, Unknown Hazards Procedure, of the Caltrans Construction Manual, July 2017). The resident engineer overseeing construction should have available field monitoring equipment (e.g., photoionization detector) to facilitate timely detection of potentially hazardous conditions in the field. 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.	Hazardous Materials Consultant / Construction Contractor	During construction							
HAZ-7 Transformers. If transformer removal is required, Southern California Edison will be contacted prior to handling or removal of electric transformers. Any hazardous transformers or poles that are disturbed/removed will be disposed of in accordance with the California Health and Safety Code and in compliance with the Treated Wood Waste (TWW) regulations. Also, any transformers removed shall be sampled and analyzed for PCBs to determine proper disposal. If any stained soil is identified, it will be excavated, tested, and disposed of at an appropriate disposal facility.	Construction Contractor	During project design							
HAZ-8 During PS&E and prior to ground disturbing activities, a Phase II Site Investigation will be conducted within all areas of exposed soils, and especially on all parcels containing existing or former gas stations where temporary construction easements or right-of-way would be acquired.	City of Palmdale/ Construction Contractor	Prior to ground distributing							
HAZ-9 To verify proper disposal of hazardous waste in a Class I Hazardous Waste Disposal facility, all hazardous waste generated by the project that requires offsite disposal will occur under a Uniform Hazardous Waste Manifest (EPA Form 8700-22) and, if necessary, the continuation sheet (EPA Form 8700-22A) for both interstate and intrastate transportation.	City of Palmdale/ Construction Contractor	Prior to ground distributing							
HAZ-10 If Southern California Gas Company (SCG) facilities requires relocation, a Phase II will be conducted to further examine these utilities to determine if they contain asbestos, PCB oil, volatile organic compounds, or any other hazardous materials or substances. If present in affected SCG utilities, a Work Plan would be prepared and approved by Caltrans containing appropriate measures to prevent surrounding soil from being contaminated during any required pipeline removals, tap and cap procedures, capture, containment, and testing of all liquids and solids for classification and disposal.	City of Palmdale/ Construction Contractor	Prior to ground distributing							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
HAZ-11 Air quality monitoring shall be implemented for Palmdale Learning Plaza during all soil disturbance, earthmoving, and other Project construction activities that could have an air quality impact to ensure that persons at Palmdale Learning Plaza are not exposed to hazardous concentrations of particulate matter or of hazardous materials or waste that could be transported as airborne dust.	City of Palmdale /Construction Contractor	Construction							
WATER QUALITY									
Avoidance and Minimization Measure									
WQ-1 The City of Palmdale shall prepare and implement construction site Best Management Practices (BMPs) in compliance with the provisions of the Construction General Permit, the Municipal Separate Storm Sewer System (MS4) Permit (if applicable), the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity, and any subsequent permit as they relate to construction activities for the Project. This shall include submittal of Permit Registration Documents (PRDs) on the SMARTS System in order to obtain permit coverage, preparation, and implementation of a Storm Water Pollution Prevention Plan (SWPPP) and submission of a Notice of Construction Completion (NCC) to the California Department of Water Resources' SMARTS System upon completion of construction and stabilization of the Project site.	City of Palmdale /Construction Contractor	Construction							
WQ-2 Prior to construction, a SWPPP, along with erosion control-specific elements, shall be prepared by the contractor and submitted to the City for approval. The erosion control measures shall be designed to limit the effects of soil erosion and water degradation during construction. This plan shall be prepared and implemented in accordance with the requirements of the RWQCB's NPDES permit requirements.	City of Palmdale/ Construction Contractor	Prior to Construction							
LAND USE									
Avoidance and Minimization Measures									
LU-1 Prior to construction, the City would obtain all required right-of-way for the roadway improvements. Owners of property to be acquired shall be compensated for the fair market value of the property as well as damages, if any.	City of Palmdale/ Construction Contractor	Final Design							
LU-2 Construction contractor will make provisions to maintain public access to businesses during construction and shall not meaningfully impede business operations.	City of Palmdale/ Construction Contractor	Construction							
NOISE									
Avoidance and Minimization Abatement Measures									
NOI -1 During construction, the construction contractor will adhere to the City of Palmdale Municipal Code (Chapter 8.28 Building Construction Hours and Operation and Noise Control, Section 8.28.30). The Code contains provisions that restrict construction between the hours of 8:00 PM and 6:30 AM in any residential zone or within 500 feet of any residence, hotel, motel or recreational vehicle park. Section 8.28.40 allows exceptions to the prescribed hours "pursuant to the express written permission of the City Engineer ...if he finds that: (A). The work proposed to be done is affected with public interest". If nighttime construction is proposed then the City will apply for a written permission from the City Engineer.	City of Palmdale/ Construction Contractor	Prior to Construction							

Task and Brief Description	Responsible Party	Timing/Phase	NSSP Req	Action Taken to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
<p>NOI-2 During construction, to minimize the construction-generated noise, abatement measures from Standard Specification 14-8.02 "Noise Control" and SSP 14-8.02 must be followed:</p> <ul style="list-style-type: none"> Do not exceed 86 dBA at 50 feet from the job site activities from 9 p.m. to 6 a.m. Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler. 	Construction Contractor/ City of Palmdale	Construction							
<p>NOI-3 The following Standard Special Provision (SSP 14-8.02) will be edited specifically for this Project during the PS&E phase (choose either par. 1 or 2):</p> <p>1. Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from ____ p.m. to ____ a.m. except the following activities may be performed during the specified hours and for the days shown in the following table:</p> <p>Table XXX Noise Restriction Exceptions</p> <p>Activity</p> <p>Hours Days</p> <p>From To From To</p> <p>2. Do not operate construction equipment or run the equipment engines from 7:00 p.m. to 7:00 a.m. or on Sundays, with the exception that equipment may be operated within the Project limits during these hours to:</p> <ul style="list-style-type: none"> Service traffic control facilities Service construction equipment 	City of Palmdale / Project Engineer	Design							
TRANSPORTATION/TRAFFIC									
Avoidance and Minimization Measure									
<p>TRA-1 A Traffic Management Plan (TMP) shall be developed during final design to ensure safe and efficient traffic flow throughout the Project study area during all phases of construction. The TMP shall optimize roadway capacity, signal phasing, and timing during construction. The TMP shall identify temporary measures such as coordination for lane closures, lane closure signage; bicycle lane/pedestrian detours; and the potential need for a construction flag person during peak traffic hours.</p> <p>Caltrans, in coordination with the City of Palmdale, shall ensure that emergency service providers are aware of each stage of construction and of any potential service delays.</p>	City of Palmdale	Vegetation Removal							
UTILITIES AND SERVICE SYSTEMS									
Avoidance and Minimization Measure									
<p>USS-1 During Project design, the City of Palmdale and the Caltrans Right-of-Way Utilities Coordinator shall coordinate with utility providers regarding relocation of utilities without interrupting service.</p>	City of Palmdale	Project Design							

Appendix B Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

Phone: (760) 431-9440 Fax: (760) 431-5901

<http://www.fws.gov/carlsbad/>



In Reply Refer To:

February 12, 2020

Consultation Code: 08ECAR00-2019-SLI-1118

Event Code: 08ECAR00-2020-E-01398

Project Name: SR-14/Palmdale Boulevard Interchange Improvement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office

2177 Salk Avenue - Suite 250

Carlsbad, CA 92008-7385

(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-1118

Event Code: 08ECAR00-2020-E-01398

Project Name: SR-14/Palmdale Boulevard Interchange Improvement Project

Project Type: TRANSPORTATION

Project Description: The Project is an existing interchange improvement project. The Project would add an auxiliary lane to northbound SR-14 off ramp, and improve SR-138 (Palmdale Boulevard) intersections with Division Street and 5 Street and include other ramps improvements to this interchange.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/34.57981767552987N118.13230371175716W>



Counties: Los Angeles, CA

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered

Reptiles

NAME	STATUS
Desert Tortoise <i>Gopherus agassizii</i> Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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Appendix C Native American Consultation

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STATE OF CALIFORNIAEdmund G. Brown, Jr., Governor**NATIVE AMERICAN HERITAGE COMMISSION**

1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710
Fax (916) 373-5471



September 9, 2014

David M. Smith
Bon Terra Psomas
2 Executive Circle, Suite 175
Irvine, CA 92614

Sent by Fax: (714) 444-9599
Number of Pages: 2

Re: SR 138 (SR-14) Palmdale Blvd. Interchange Project, Los Angeles County.

Dear Mr. Smith,

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 373-3712.

Sincerely,

A handwritten signature in cursive script that reads "Katy Sanchez".

Katy Sanchez
Associate Government Program Analyst

Native American Contact List

Los Angeles County

September 9, 2014

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.

tattnlaw@gmail.com
(310) 570-6567

Gabrielino Tongva

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson

Contact information unavailable Gabrielino

Last attempted verification
(626) 676-1184 Cell

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson

P.O. Box 693
San Gabriel, CA 91778

GTTribalcouncil@aol.com
(626) 483-3564 Cell
(626) 286-1262 Fax

Gabrielino Tongva

Gabrieleno Band of Mission Indians
Andrew Salas, Chairperson

P.O. Box 393
Covina, CA 91723

gabrielenoindians@yahoo.
(626) 926-4131

Gabrielino

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson

106 1/2 Judge John Aiso St.
Los Angeles, CA 90012

sgoad@gabrielino-tongva.com
(951) 807-0479

Gabrielino Tongva

Gabrielino-Tongva Tribe
Conrad Acuna

Contact information unavailable Gabrielino

Last attempted verification

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources

P.O. Box 490
Bellflower, CA 90707

gtongva@verizon.net
(562) 761-6417 Voice/Fax

Gabrielino Tongva

Gabrielino /Tongva Nation
Sam Dunlap, Cultural Resources Director

P.O. Box 86908
Los Angeles, CA 90086

samdunlap@earthlink.net
(909) 262-9351

Gabrielino Tongva

Gabrielino-Tongva Tribe
Bernie Acuna, Co-Chairperson

Contact information unavailable Gabrielino

Last attempted verification

(310) 428-5690 Cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SR 138 (SR-14) Palmdale Blvd. Interchange Project, Los Angeles County.



September 11, 2014

Mr. Bernie Acuña, Co-Chairperson
Gabrielino-Tongva Tribe
P.O. Box 180
Bonsall, California 92003

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Acuña:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

Location

The project location is shown on the USGS *Ritter Ridge and Palmdale, CA 7.5 Minute Quadrangle(s)* in Sections 22, 26 and 27 (Township 6 North; Range 12 West) (*S.B.B.M.*). Refer to attached exhibit.

Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural places on the project site. The NAHC also provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.

Mr. Bernie Acuña
September 11, 2014
Page 2

Records Search

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Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at david.smith@psomas.com, with a subject line referencing the "SR 138 (SR-14) Palmdale Boulevard Interchange Project".

Sincerely,

BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. Conrad Acuña
Gabrielino-Tongva Tribe
P.O. Box 180
Bonsall, California 92003

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Acuña:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

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Mr. Conrad Acuña
September 11, 2014
Page 2

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Sincerely,
BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Ms. Linda Candelaria, Co-Chairperson
Gabrielino-Tongva Tribe
P.O. Box 180
Bonsall, California 92003

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Ms. Candelaria:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

Location

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Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural places on the project site. The NAHC also provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.

Ms. Linda Candelaria
September 11, 2014
Page 2

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Sincerely,
BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. Robert Dorame, Tribal Chair/Cultural Resources
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 490
Bellflower, California 90707

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Dorame:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

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NAHC Notification

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Mr. Robert Dorame
September 11, 2014
Page 2

Records Search

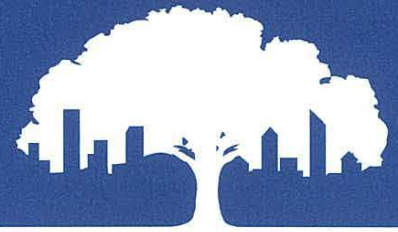
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Sincerely,
BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. Samuel H. Dunlap, Cultural Resources Director
Gabrielino Tongva Nation
P.O. Box 86908
Los Angeles, California 90086

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Dunlap:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural places on the project site. The NAHC also provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.

Mr. Samuel H. Dunlap
September 11, 2014
Page 2


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Sincerely,

BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Sandonne Goad, Chairperson
Gabrielino Tongva Nation
106 ½ Judge John Aiso Street
Los Angeles, California 90012

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Sandonne Goad:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

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Sandone Goad
September 11, 2014
Page 2

Records Search

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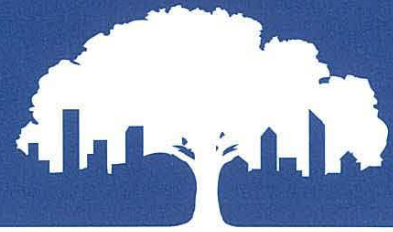
Your participation in this local planning process is important. If you have any additional knowledge of Native American Sacred Lands or other cultural resources on or near the study area, or any comment on the project, please contact me at your earliest convenience at (714) 444-9199 or via email at david.smith@psomas.com, with a subject line referencing the "SR 138 (SR-14) Palmdale Boulevard Interchange Project".

Sincerely,

BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. Anthony Morales, Chairperson
Gabrieleno/Tongva San Gabriel Board of Mission Indians
P.O. Box 693
San Gabriel, California 91778

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Morales:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

The project proposes to relieve traffic congestion on State Route 14 (SR-14) between Rayburn Road and Avenue Q and on Palmdale Boulevard/State Route 138 (SR-138) between 5th Street and Division Street.

NAHC Notification

A Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural places on the project site. The NAHC also provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.

Mr. Anthony Morales
September 11, 2014
Page 2

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Sincerely,
BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. John Tommy Rosas, Tribal Administrator
Tongva Ancestral Territorial Tribal Nation

VIA EMAIL
tattnlaw@gmail.com

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Rosas:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Project

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Mr. John Tommy Rosas
September 11, 2014
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Sincerely,

BonTerra Psomas



David M. Smith
Senior Archaeologist



September 11, 2014

Mr. Andrew Salas, Chairperson
Gabrieleno Band of Mission Indians
P.O. Box 393
Covina, California 91723

Subject: SR 138 (SR-14) Palmdale Boulevard Interchange Project

Dear Mr. Salas:

BonTerra Psomas has been retained to complete a cultural resources study for the proposed SR 138 (SR-14) Palmdale Boulevard Interchange Project located in the City of Palmdale, Los Angeles County, California. This project does not require a General or Specific Plan amendment or adoption; therefore, the project is not subject to the statutory requirements of Senate Bill 18 (Tribal Consultation Guidelines). However, as part of the background cultural resources research being conducted, this letter is to inform you of the proposed project and to request any relevant information you may have regarding cultural resources on or near the project site.

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Mr. Andrew Salas
September 11, 2014
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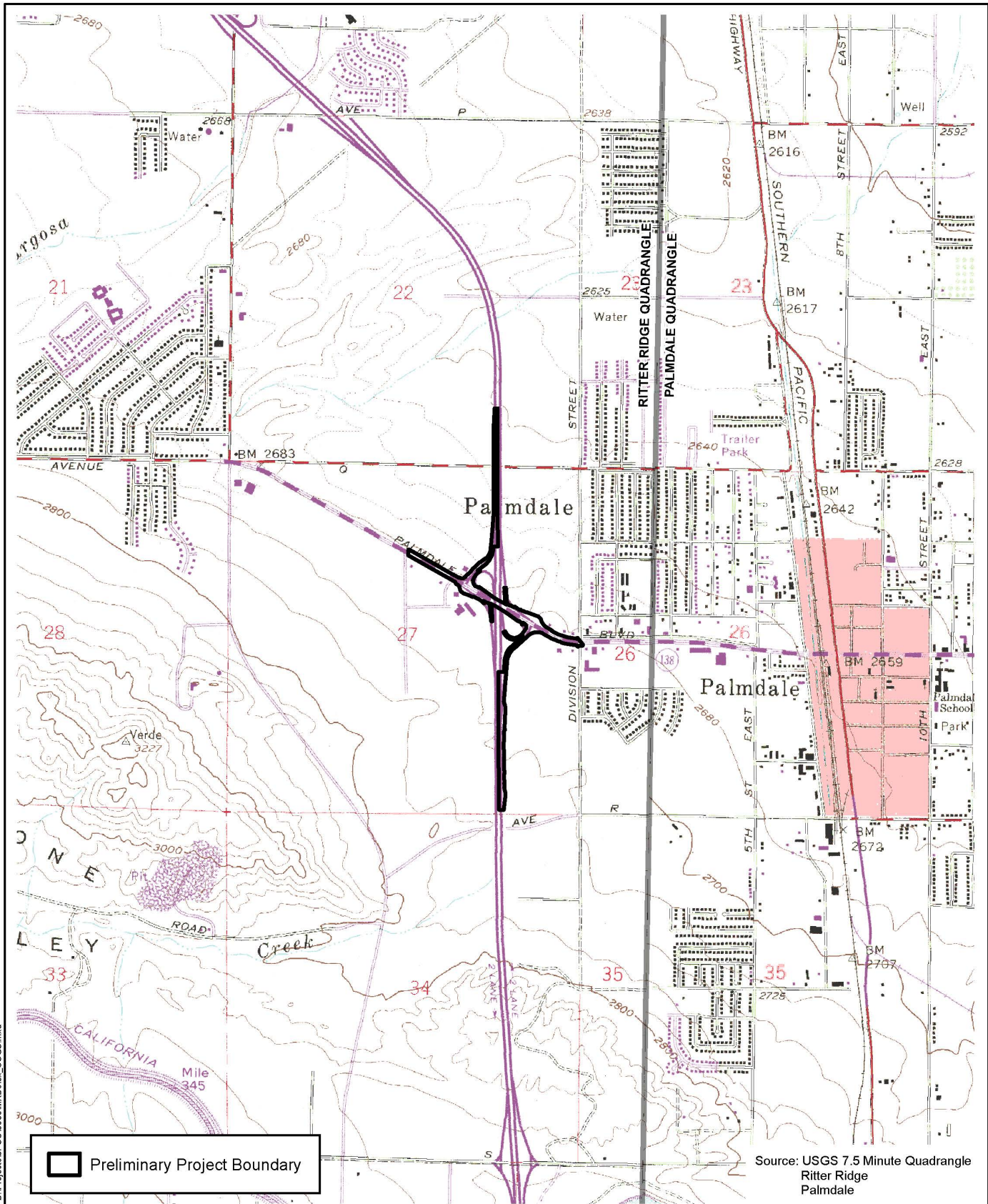
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Sincerely,
BonTerra Psomas



David M. Smith
Senior Archaeologist



D:\Projects\3P\SO\030\030\MXD\lex_USGS.mxd

 Preliminary Project Boundary

Source: USGS 7.5 Minute Quadrangle
Ritter Ridge
Palmdale

Project Site

SR 138 (SR-14) PALMDALE BOULEVARD INTERCHANGE PROJECT

Exhibit 1



NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710
(916) 373-5471 FAX



November 30, 2015

Patrick Maxon
BonTerra Psomas

Sent by Email: patrick.maxon@psomas.com
Number of Pages: 3

RE: SR 138 (SR-14) Palmdale Blvd. Interchange Project, Palmdale, Los Angeles County

Dear Mr. Maxon:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced project. Government Code §65352.3 requires local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of protecting, and/or mitigating impacts to tribal cultural resources in creating or amending general plans, including specific plans. As of July 1, 2015, Public Resources Code Sections 21080.1, 21080.3.1 and 21080.3.2 require public agencies to consult with California Native American tribes identified by the NAHC for the purpose mitigating impacts to tribal cultural resources under the California Environmental Quality Act (CEQA). In accordance with Public Resources Code Section 21080.1(d):

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The law does not preclude agencies from initiating consultation with the tribes that are culturally and traditionally affiliated with their jurisdictions. The NAHC believes that in fact that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

In accordance with Public Resources Code Section 21080.1(d), formal notification must include a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation. The NAHC believes that agencies should also include with their notification letters information regarding any cultural resources assessment that has been completed on the APE, such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:
 - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE;
 - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the potential APE; and

- If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.
2. The results of any archaeological inventory survey that was conducted, including:
 - Any report that may contain site forms, site significance, and suggested mitigation measures.

All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.
 3. The results of any Sacred Lands File (SLF) check conducted through Native American Heritage Commission. A SLF search was completed with negative results.
 4. Any ethnographic studies conducted for any area including all or part of the potential APE; and
 5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a cultural place. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the case that they do, having the information beforehand will help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance we are able to assure that our consultation list contains current information.

If you have any questions, please contact me at my email address: rw_nahc@pacbell.net.

Sincerely,



Rob Wood
Associate Environmental Planner

**Native American Heritage Commission
Tribal Consultation List
Los Angeles County
November 30, 2015**

San Manuel Band of Mission Indians
Lynn Valbuena, Chairwoman
26569 Community Center Serrano
Highland , CA 92346
(909) 864-8933

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega Jr., President
1019 2nd Street Fernandeno
San Fernando , CA 91340 Tataviam
(818) 837-0794 Office

Kitanemuk & Yowlumne Tejon Indians
Delia Dominguez, Chairperson
115 Radio Street Yowlumne
Bakersfield , CA 93305 Kitanemuk
deedominguez@juno.com
(626) 339-6785

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838 Fernandeno
Newhall , CA 91322 Tataviam
tsen2u@hotmail.com Serrano
(661) 753-9833 Office Vanyume
(760) 885-0955 Cell Kitanemuk

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.
This list is applicable only for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed SR 138 (SR-14) Palmdale Blvd. Interchange Project, Palmdale, Los Angeles County.



November 30, 2015

Ms. Delia Dominguez, Chairperson
Kitanemuk & Yowlumne Tejon Indians
115 Radio Street
Bakersfield, California 93305

Subject: Invitation to Consult under Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52) for the SR-138 (SR-14) Palmdale Boulevard Interchange Project, Los Angeles County

Dear Ms. Dominguez:

Please consider this letter as formal notification of a proposed project as required under the California Environmental Quality Act, specifically PRC § 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC § 21080.3.1(d), if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already. The California Department of Transportation (Caltrans) is the lead agency on this project; however, this scoping and consultation effort is being facilitated by BonTerra Psomas.

The City of Palmdale, in coordination with Caltrans, proposes to relieve traffic congestion on SR-14 between Avenue R and Avenue Q and on Palmdale Boulevard (SR-138) between 5th Street West and Division Street. Specifically, the Proposed Project would improve the on- and off-ramps to improve traffic circulation, level of service (LOS), and safety and to reduce traffic congestion. There are two Build Alternatives and one No Build Alternative considered for this interchange. Alternative 1 proposes to add off-ramp auxiliary and turn lanes to both the northbound and southbound SR-14. Alternative 2 is similar to Alternative 1, but replaces the off-ramp intersection traffic signals with two lane roundabouts.

The project location is shown on the USGS Ritter Ridge, CA 7.5 Minute Quadrangle in Section 27 (Township 6 North; Range 12 West) (S.B.B.M) (see attached Figures 1 and 2).

The scope of work would include an Archaeological Survey Report (ASR), Historic Resources Evaluation Report (HRER), Historic Property Survey Report (HPSR), and Paleontological Investigation Report (PIR).

Cultural resources investigations have previously occurred for this project, conducted largely by BonTerra Psomas, for compliance with Section 106 of the National Historic Preservation Act. As part of these cultural resource investigations, a cultural resources records search was conducted at the South Central Coastal Information (SCCIC) at California State University, Fullerton on August 25, 2014 to evaluate the existing conditions of the project site; however, no recorded prehistoric Native American sites were identified on the project site.

Ms. Delia Dominguez
November 30, 2015
Page 2

Additionally, a Sacred Lands File Search conducted by the Native American Heritage Commission (NAHC) failed to indicate the presence of Native American cultural places on the project site. The NAHC provided BonTerra Psomas with a list of Native American individuals/organizations that may have knowledge of cultural resources in the project area. Your name and contact information was included on the list and serves as the basis for this letter.

If you have any questions or concerns with the project, or would like to consult under the requirements of AB 52, please contact me via email at Patrick.maxon@psomas.com or by telephone at (714) 751-7373. Alternatively, you can contact the Caltrans archaeologist and District Native American Coordinator, Alex Kirkish, directly via email at alex.kirkish@dot.ca.gov or by telephone at (619)-417-3201 or (213) 897-2795.

Sincerely,

BonTerra Psomas



Patrick O. Maxon
Director – Cultural Resources

Attachments: Figures 1 and 2

cc: Alex Kirkish Caltrans District 7



November 30, 2015

Mr. Rudy Ortega, Jr., President
Fernandeno Tataviam Band of Mission Indians
1019 2nd Street, Suite 1
San Fernando, California 91340

Subject: Invitation to Consult under Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52) for the SR-138 (SR-14) Palmdale Boulevard Interchange Project, Los Angeles County

Dear Mr. Ortega:

Please consider this letter as formal notification of a proposed project as required under the California Environmental Quality Act, specifically PRC § 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC § 21080.3.1(d), if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already. The California Department of Transportation (Caltrans) is the lead agency on this project; however, this scoping and consultation effort is being facilitated by BonTerra Psomas.

The City of Palmdale, in coordination with Caltrans, proposes to relieve traffic congestion on SR-14 between Avenue R and Avenue Q and on Palmdale Boulevard (SR-138) between 5th Street West and Division Street. Specifically, the Proposed Project would improve the on- and off-ramps to improve traffic circulation, level of service (LOS), and safety and to reduce traffic congestion. There are two Build Alternatives and one No Build Alternative considered for this interchange. Alternative 1 proposes to add off-ramp auxiliary and turn lanes to both the northbound and southbound SR-14. Alternative 2 is similar to Alternative 1, but replaces the off-ramp intersection traffic signals with two lane roundabouts.

The project location is shown on the USGS Ritter Ridge, CA 7.5 Minute Quadrangle in Section 27 (Township 6 North; Range 12 West) (S.B.B.M) (see attached Figures 1 and 2).

The scope of work would include an Archaeological Survey Report (ASR), Historic Resources Evaluation Report (HRER), Historic Property Survey Report (HPSR), and Paleontological Investigation Report (PIR).

Cultural resources investigations have previously occurred for this project, conducted largely by BonTerra Psomas, for compliance with Section 106 of the National Historic Preservation Act. As part of these cultural resource investigations, a cultural resources records search was conducted at the South Central Coastal Information (SCCIC) at California State University, Fullerton on August 25, 2014 to evaluate the existing conditions of the project site; however, no recorded prehistoric Native American sites were identified on the project site.

Mr. Rudy Ortega, Jr.
November 30, 2015
Page 2

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Sincerely,
BonTerra Psomas



Patrick O. Maxon
Director – Cultural Resources

Attachments: Figures 1 and 2

cc: Alex Kirkish Caltrans District 7



November 30, 2015

Hon. Lynn Valbuena, Chairwoman
San Manuel Band of Mission Indians
26569 Community Center
Highland, California 92346

Subject: Invitation to Consult under Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52) for the SR-138 (SR-14) Palmdale Boulevard Interchange Project, Los Angeles County

Dear Hon. Valbuena:

Please consider this letter as formal notification of a proposed project as required under the California Environmental Quality Act, specifically PRC § 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days, pursuant to PRC § 21080.3.1(d), if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already. The California Department of Transportation (Caltrans) is the lead agency on this project; however, this scoping and consultation effort is being facilitated by BonTerra Psomas.

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Hon. Lynn Valbuena
November 30, 2015
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Sincerely,

BonTerra Psomas



Patrick O. Maxon
Director – Cultural Resources

Attachments: Figures 1 and 2

cc: Alex Kirkish Caltrans District 7



November 30, 2015

Mr. John Valenzuela, Chairperson
San Fernando Band of Mission Indians
P.O. Box 221838
Newhall, California 91322

Subject: Invitation to Consult under Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52) for the SR-138 (SR-14) Palmdale Boulevard Interchange Project, Los Angeles County

Dear Mr. Valenzuela:

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Mr. John Valenzuela
November 30, 2015
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Sincerely,
BonTerra Psomas



Patrick O. Maxon
Director – Cultural Resources

Attachments: Figures 1 and 2

cc: Alex Kirkish Caltrans District 7

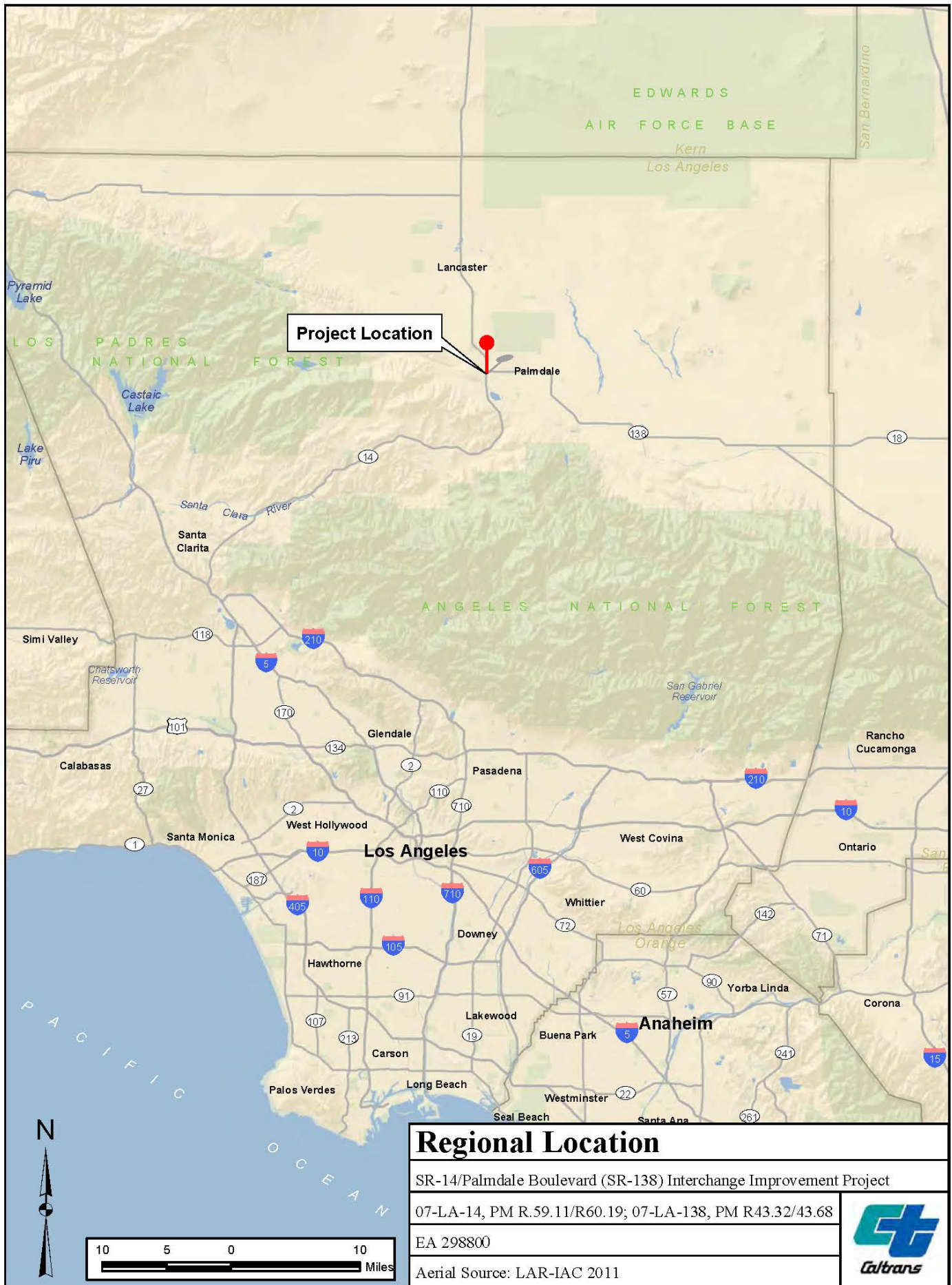


Figure 1

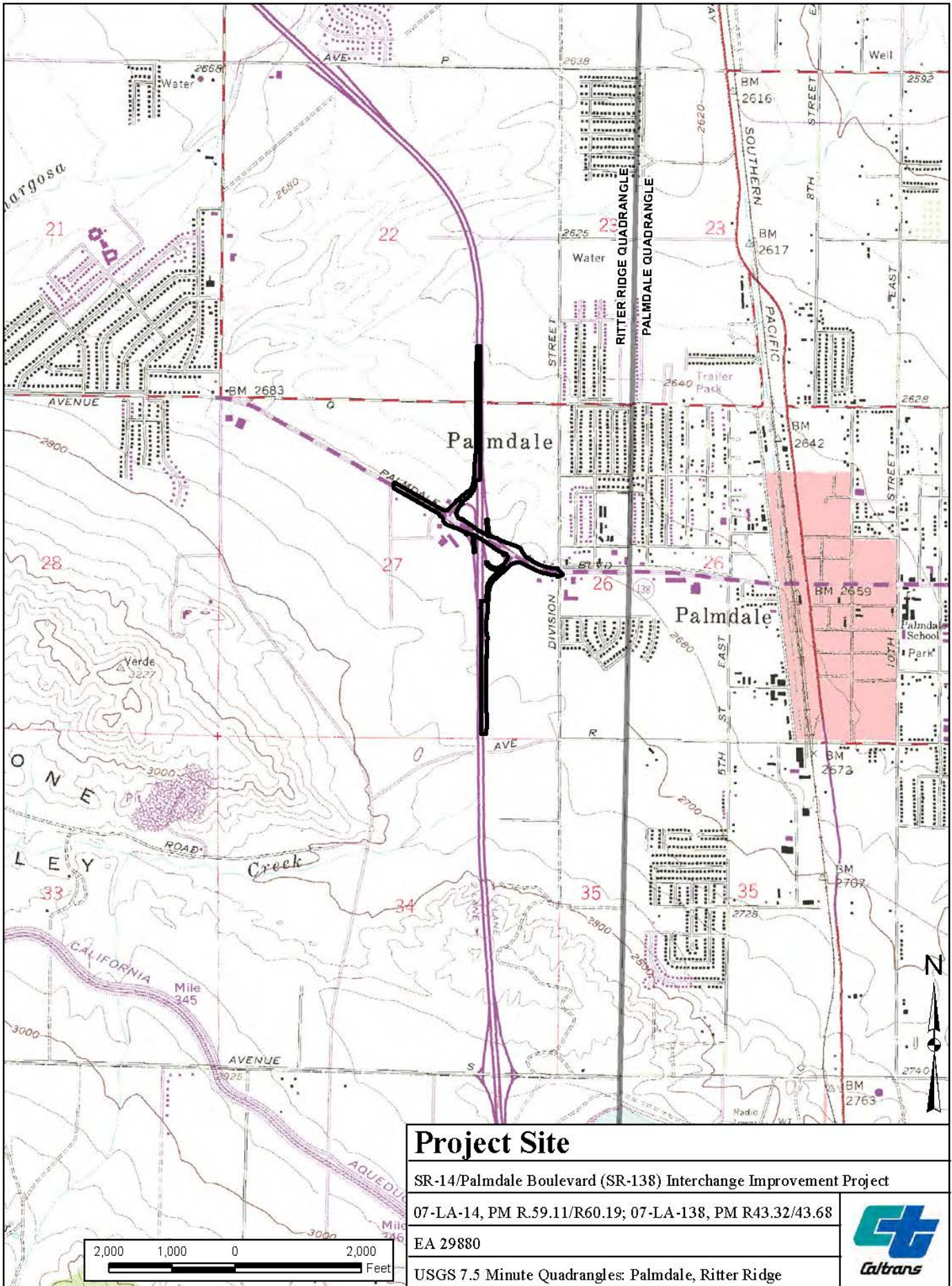


Figure 2

Appendix D Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov



Making Conservation
a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in blue ink, appearing to read "Toks Omishakin".

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

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Appendix E List of Technical Studies

List of Technical Studies that are Bound Separately

Air Quality Technical Report	October 2017
Hazardous Waste Initial Site Assessment	March 2016
Historic Property Survey Report	June 2016
Natural Environment Study-Minimal Impact	June 2016
Noise Study Report	July 2016
Preliminary Interchange Drainage Study	June 2017
Stormwater Data Report	August 2017
Traffic Engineering Study	February 2017

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Appendix F References

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Appendix G Responses to Comments

This Appendix contains the written comments received during the public circulation and comment period that occurred for the Project from December 19, 2018, to February 1, 2019. Comments were received from the four agencies and organizations listed below. Each comment letter is provided on the following pages, followed by a response to comments.

- Comment Letter 1 – County of Los Angeles Fire Department (comment dated January 16, 2019)
- Comment Letter 2 – San Manuel Band of Mission Indians (original comment dated January 18, 2019 with additional correspondence from the tribe received on February 22, 2019)
- Comment Letter 3 – U.S. Fish and Wildlife Service (USFWS) (comment dated January 28, 2019)
- Comment Letter 4 – State Clearinghouse (comment dated February 4, 2019)

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Comment Letter 1



**COUNTY OF LOS ANGELES
FIRE DEPARTMENT**

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294
(323) 881-2401
www.fire.lacounty.gov

"Proud Protectors of Life, Property, and the Environment"

DARYL L. OSBY
FIRE CHIEF
FORESTER & FIRE WARDEN

BOARD OF SUPERVISORS

HILDA L. SOLIS
FIRST DISTRICT

MARK RIDLEY-THOMAS
SECOND DISTRICT

SHEILA KUEHL
THIRD DISTRICT

JANICE HAHN
FOURTH DISTRICT

KATHRYN BARGER
FIFTH DISTRICT

January 16, 2019

Karl Price, Senior Environmental Planner
Department of Transportation
Environmental Planning District 7
100 South Main Street
Los Angeles, CA 90012

Dear Mr. Price:

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION, "SR-138 INTERCHANGE IMPROVEMENT PROJECT," PROPOSES THE AUXILIARY LANES TO THE NORTHBOUND SR-14, RECONFIGURATION OF THE EXISTING TRAFFIC SIGNALS TO IMPROVE THE RAMP INTERSECTION CAPACITY, AND IMPROVEMENTS ON THE RAMPS TO ADDRESS SOME OF THE EXISTING GEOMETRIC CONCERNS, PALMDALE, FFER 201800143

The Notice of Intent to Adopt a Mitigated Negative Declaration has been reviewed by the Planning Division, Land Development Unit, Forestry Division, and Health Hazardous Materials Division of the County of Los Angeles Fire Department.

The following are their comments:

PLANNING DIVISION:

We have no comments.

1-1

LAND DEVELOPMENT UNIT:

The County of Los Angeles Fire Department Fire Prevention Land Development Unit has no objection to the proposed reconfiguration of the existing traffic signals to improve the ramp intersection capacity and improvements. Any changes to existing fire hydrant(s) shall be submitted to the County of Los Angeles Fire Department's Fire Prevention, Land Development Unit for review and approval prior to removal, relocation, installation.

1-2

SERVING THE UNINCORPORATED AREAS OF LOS ANGELES COUNTY AND THE CITIES OF:

AGOURA HILLS	CALABASAS	EL MONTE	INDUSTRY	LAWNDALE	PARAMOUNT	SIGNAL HILL
ARTESIA	CARSON	GARDENA	INGLEWOOD	LOMITA	PICO RIVERA	SOUTH EL MONTE
AZUSA	CERRITOS	GLENDORA	IRVINDALE	LYNWOOD	POMONA	SOUTH GATE
BALDWIN PARK	CLAREMONT	HAWAIIAN GARDENS	LA CANADA-FLINTRIDGE	MALIBU	RANCHO PALOS VERDES	TEMPLE CITY
BELL	COMMERCE	HAWTHORNE	LA HABRA	MAYWOOD	ROLLING HILLS	WALNUT
BELL GARDENS	COVINA	HERMOSA BEACH	LA MIRADA	NORWALK	ROLLING HILLS ESTATES	WEST HOLLYWOOD
BELLFLOWER	CUDAHY	HIDDEN HILLS	LA PUENTE	PALMDALE	ROSEMEAD	WESTLAKE VILLAGE
BRADBURY	DIAMOND BAR	HUNTINGTON PARK	LAKEWOOD	PALOS VERDES ESTATES	SAN DIMAS	WHITTIER
	DUARTE		LANCASTER		SANTA CLARITA	

Karl Price, Senior Environmental Planner
January 16, 2019
Page 2

Should any questions arise regarding subdivision, water systems, or access, please contact the County of Los Angeles Fire Department Land Development Unit's, Inspector Nancy Rodeheffer at (323) 890-4243.

1-2 cont.

The County of Los Angeles Fire Department's Land Development Unit appreciates the opportunity to comment on this project.

FORESTRY DIVISION – OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department's Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones, archeological and cultural resources, and the County Oak Tree Ordinance. Potential impacts in these areas should be addressed.

Under the Los Angeles County Oak tree Ordinance, a permit is required to cut, destroy, remove, relocate, inflict damage or encroach into the protected zone of any tree of the Oak genus which is 25 inches or more in circumference (eight inches in diameter), as measured 4 1/2 feet above mean natural grade.

1-3

If Oak trees are known to exist in the proposed project area further field studies should be conducted to determine the presence of this species on the project site.

The County of Los Angeles Fire Department's Forestry Division has no further comments regarding this project.

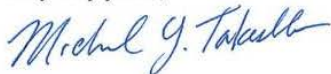
HEALTH HAZARDOUS MATERIALS DIVISION:

The Health Hazardous Materials Division of the Los Angeles County Fire Department has no comments or requirements for the project at this time.

1-4

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,



MICHAEL Y. TAKESHITA, ACTING CHIEF, FORESTRY DIVISION
PREVENTION SERVICES BUREAU

MYT:ac

*Response to Comment Letter 1 from County of Los Angeles Fire
Department Dated January 16, 2019*

Response to Comment 1-1

The County of Los Angeles Fire Department Planning Division's review of the Draft IS/MND and lack of comments is noted and is included in the Project record. Since the comment does not question the content or conclusions of the Draft IS/MND, no further response is required.

Response to Comment 1-2

The County of Los Angeles Fire Department Land Development Unit's comment is noted and is included in the Project record. Since the letter does not question the content or conclusions of the Draft IS/MND, no further response is required.

Response to Comment 1-3

The County of Los Angeles Fire Department Forestry Division's comment is noted and is included in the Project record. The comment mentions the Los Angeles County Oak Tree Ordinance and states that if oak trees are known to exist in the proposed project area, further studies should be conducted. No oak trees meeting the requirements of the Los Angeles County Oak Tree Ordinance would be removed as part of the Project, as documented in the Project's NES (MI). No new environmental issues have been raised by this comment and no additional mitigation measures or modification of the Draft IS/MND are required per this comment.

Response to Comment 1-4

The County of Los Angeles Fire Department Health Hazardous Materials Division's review of the Draft IS/MND and lack of comments is noted and is included in the Project record. Since the comment does not question the content or conclusions of the Draft IS/MND, no further response is required.

Comment Letter 2

From: Dahdul, Mariam@DOT <Mariam.Dahdul@dot.ca.gov>
Sent: Wednesday, March 27, 2019 1:12 PM
To: Lee Clauss
Cc: Fusello, Kristin M@DOT; Ewing-Toledo, Kelly@DOT; Price, Karl F@DOT; Momani, Samer I@DOT; Aimee Frappied
Subject: RE: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

Hi Lee,

As per the email below, Caltrans requested that Psomas address the comments you provided on February 22 regarding the cultural resources sensitivity for three locations that were identified in the 2016 Archaeological Survey Report (ASR) for the SR-14/Palmdale Blvd. Interchange Improvement project.

After a review of the environmental and cultural documents and discussions with their cultural staff, Psomas determined that there is an error in the Environmental Setting section of the 2016 ASR. The second paragraph that presents the information on Quaternary alluvium at the three locations and the assessment of cultural sensitivity actually pertains to paleontological sensitivity. That is, this paragraph was taken from the conclusions of the paleontological study and copied to the Setting section, and references to paleontological resources were changed to cultural resources. You may find a similar paragraph in the Environmental Document (Initial Study) under the Paleontological Resources section on pp. 106 and 107. On page 109 of the same document, Caltrans recommends paleontological monitoring for those three locations.

2-1

In short the preparers of the 2016 ASR copied part of the environmental setting from the paleontological report and erroneously changed the sensitivity assessment for paleo to cultural.

We apologize for this error and any confusion it has caused; I also apologize for the length of time it has taken to identify this error and provide a response to the Tribe.

Sincerely,

Mariam Dahdul
Associate Environmental Planner (Archaeology)
District Native American Coordinator
California Department of Transportation
100 S. Main Street, MS 16A
Los Angeles, CA 90012
(213) 897-5743 | mariam.dahdul@dot.ca.gov

From: Dahdul, Mariam@DOT <Mariam.Dahdul@dot.ca.gov>
Sent: Tuesday, February 26, 2019 12:12 PM
To: Lee Clauss <L.Clauss@sanmanuel-nsn.gov>
Cc: Fusello, Kristin M@DOT <kristin.wilson@dot.ca.gov>; Ewing-Toledo, Kelly@DOT <kelly.ewing-toledo@dot.ca.gov>; Price, Karl F@DOT <karl.price@dot.ca.gov>
Subject: RE: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

Hi Lee,

Thank you for providing us the comments to the technical documents prepared for SR-14/Palmdale Boulevard Interchange Improvement Project. I forwarded your email to the project archaeologist, Kristin Fusello, and she will be working with Psomas to address these. We hope to be able to provide a response to San Manuel within the next two weeks.

Regards,

Mariam

From: Lee Clauss <LClauss@sanmanuel-nsn.gov>
Sent: Friday, February 22, 2019 7:36 PM
To: Dahdul, Mariam@DOT <Mariam.Dahdul@dot.ca.gov>
Subject: RE: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

Good evening, Mariam,

The Cultural Resources Management Department for San Manuel Band of Mission Indians appreciates you supplying the Draft Initial Study and HPSR/ASR for the above-referenced project. We have reviewed both documents and have the following comments to provide:

1. We would concur that based on the results of the background research, pedestrian survey, and degree to which the APE has been previously impacted by construction, the likelihood of encountering intact archaeological deposits is diminished. Additionally, at this time, the CRM Department has no additional internal knowledge of resources being present within the APE (archaeological or otherwise—such as a TCR or TCP with no archaeological manifestation).
2. That said, when reading the ASR prepared in June 2016 by BonTerra Psomas, the authors noted that there are three distinct areas within the project APE where Quaternary alluvium is present and may hold potential for the presence of cultural resources. Per the ASR these areas are as follows: (1) the northbound on-ramp to SR-14 from westbound Palmdale Boulevard (Station No. 3050+00-3153+00); (2) the northbound off-ramp on northbound SR-14 (Station No. 3129+00-3132+00); and (3) on the southbound on-ramp to SR-14 from the eastbound Palm dale Boulevard (Station No. 3155+00-3158+00).
3. Based on the above comments, while the CRM Department does not think archaeological monitoring during construction is warranted for the totality of the project, we would like for Caltrans to address the potential need for monitors in the three specific locations noted above. Specifically, are the project designs in these locations planning for ground disturbance? Would the ground disturbance be to the same depth as soil layers that could potentially contain cultural deposits? Would there be an opportunity to conduct limited sub-surface testing in these locations prior to construction to better ascertain the viability of intact deposits to rule out the need for construction-based monitoring?

2-1 cont.

Once again, San Manuel Band of Mission Indians appreciates the opportunity to review the project documentation and consult about this proposed undertaking. Please let us know your thoughts on the comments/questions posed above and we will work with District 7 to close out consultation on this project in the near future.

Should you have any questions as you construct a response, please do not hesitate to contact me at your convenience, as I will continue to be your Point of Contact (POC) for this project.

Respectfully,
Lee

Lee Clauss

DIRECTOR, CULTURAL RESOURCES MANAGEMENT
O: (909) 864-8933 x503248
Internal: 50-3248
M: (909) 633-5851
26569 Community Center Drive Highland California 92346



From: Dahdul, Mariam@DOT <Mariam.Dahdul@dot.ca.gov>
Sent: Tuesday, January 22, 2019 12:11 PM
To: Lee Clauss <LClauss@sanmanuel-nsn.gov>
Subject: FW: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

Hi Lee,

The email below was not delivered because of file size. Hopefully this one goes through.

Mariam

From: Dahdul, Mariam@DOT
Sent: Tuesday, January 22, 2019 11:56 AM
To: 'Lee Clauss' <LClauss@sanmanuel-nsn.gov>; Ewing-Toledo, Kelly@DOT <kelly.ewing-toledo@dot.ca.gov>
Cc: Price, Karl F@DOT <karl.price@dot.ca.gov>; Fusello, Kristin M@DOT <kristin.wilson@dot.ca.gov>
Subject: RE: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

2-1 cont.

Hi Lee,

Thank you for contacting us about the Initial Study document for SR-14/Palmdale Interchange project.

We checked our files and noted that the project is CEQA only and Caltrans is the lead agency. As you stated below, PSOMAS mailed a letter to Chairperson Valbuena in November 2015 (attached) inviting the Tribe to consult under AB-52. Also attached is the HPSR and ASR prepared for the project. We think an HPSR was prepared (rather than an HRCR) in anticipation of Federal involvement, but that is not the case.

Please let us know if, after reviewing the documents, the Tribe has any concerns or questions. I am cc'ing the project archaeologist, Kristin Fusello, so that she can be included in our communications.

Regards,

Mariam Dahdul
Associate Environmental Planner (Archaeology)
District Native American Coordinator
California Department of Transportation
100 S. Main Street, MS 16A
Los Angeles, CA 90012
(213) 897-5743 | mariam.dahdul@dot.ca.gov

From: Lee Clauss <LClauss@sanmanuel-nsn.gov>
Sent: Friday, January 18, 2019 8:56 AM
To: Ewing-Toledo, Kelly@DOT <kelly.ewing-toledo@dot.ca.gov>; Dahdul, Mariam@DOT <Mariam.Dahdul@dot.ca.gov>
Cc: Price, Karl F@DOT <karl.price@dot.ca.gov>
Subject: SR-14/Palmdale Boulevard (SR-138) Interchange Improvement MND

Good morning, Kelly and Mariam,

San Manuel Band of Mission Indians (SMBMI) is in receipt of a letter from Caltrans-District 7 regarding the above referenced project. SMBMI appreciates the opportunity to be informed of this proposed project via the documentation received by our Cultural Resources Management Department on December 19, 2018. And, by this e-mail, SMBMI requests to consult with Caltrans-District 7 pursuant to CEQA (as amended, 2014) and CA PRC 21080.3.1, as well as Section 106 of the National Historic Preservation Act (NHPA). The proposed project area exists within Serrano ancestral territory and, therefore, is of interest to the Tribe.

That said, our staff was a bit perplexed by the correspondence as (1) it was directed to Daniel McCarthy, a prior CRM Director who has not been at San Manuel for nearly 3 years; (2) we have no record of receiving prior communication from the City of Palmdale regarding their CEQA-based tribal consultation requirements or any Section 106-based correspondence from Caltrans on this subject and; (3) we are not in possession of the HPSR, ASR, or Historic Resources Exemption Letter mentioned in the IS/MND. I realize the IS/MND indicates preliminary project scoping information was supplied to SMBMI by BonTerra Psomas in November 2015, but we do not have any physical evidence of its receipt.

Our department is also concerned about the assumption made in the IS/MND that reconnaissance-level surveys in the midst of a built environment can fully ascertain the presence or likelihood for the presence of archaeological resources within the projected vertical APE for the project (upwards of 12-ft BGS). In order to more fully ascertain the cultural sensitivity of this location, we are asking that Caltrans please supply a copy of the HPSR and ASR at this time. Please also supply additional information about the nature and exact location of the construction activities to be undertaken and these activities' probability to encounter previously undisturbed native soils.

2-1 cont.

Once again, the San Manuel Band of Mission Indians appreciates the opportunity to comment on this proposed project. Should you have any questions about the content of this communication, please do not hesitate to contact me at your convenience as I will be your Point of Contact (POC) for this project.

Best regards,

Lee

Lee Clauss
DIRECTOR, CULTURAL RESOURCES MANAGEMENT
O: (909) 864-8933 x503248
Internal: 50-3248
M: (909) 533-5851
26569 Community Center Drive Highland California 92346
**SAN MANUEL**
BAND OF MISSION INDIANS

*Response to Comment Letter 2 from San Manuel Band
of Mission Indians*

Dated January 18 and February 22, 2019

Response to Comment Letter 2

In January 2019 during the circulation of the Draft IS/MND, Lee Clauss, the Director of Cultural Resources Management for the San Manuel Band of Mission Indians, contacted Caltrans via email. In the email, Lee Clauss confirmed receipt of the Draft IS/MND; notified Caltrans to send future tribal consultation correspondence to her; notified Caltrans that she has no evidence of the San Manuel Band of Missions Indians having previously received the project's HPSR, ASR, or Historic Resource Exemption Letter; and requested more information on the nature and locations of construction activities to further determine the probability that the Project would encounter previously undisturbed native soils. On January 22, 2019, Caltrans sent Ms. Clauss a response email including a copy of the original AB 52 consultation letter and materials that were mailed to Chairperson Valbuena with the San Manuel Band of Mission Indians in November 2015. Caltrans also provided Ms. Clauss with the HPSR and ASR for the Project. On February 22, 2019, Ms. Clauss provided an email response to Caltrans asking for additional information. On March 27, 2019, Caltrans provided a response with clarifications to Ms. Clauss. No further correspondence has been received from the Lee Clauss as of March 2020.

Comment Letter 3

From: Ray Bransfield <ray_bransfield@fws.gov>
Sent: Monday, January 28, 2019 3:32 PM
To: Price, Karl F@DOT <karl.price@dot.ca.gov>
Subject: FW: NOI for MND for the SR 14/138 interchange project

Karl,
I confirmed with the boss that we have no comment on this one.

Thanks for the chance to comment.
Ray

From: Ray Bransfield [mailto:ray_bransfield@fws.gov]
Sent: Monday, January 28, 2019 11:28 AM
To: 'Price, Karl F@DOT'
Subject: NOI for MND for the SR 14/138 interchange project

Karl,
I just received the disk for the NOI in our office. We also received a separate but identical package that was addressed to the California Department of Fish and Wildlife at the FWS's address. You might want to check your records to ensure you actually got a copy of the NOI to the CDFW.

3-1

I suspect that we will not have any comments on this NOI. I will confirm that once I talk to my supervisor.

In the NES, I looked at the sections on the Endangered Species Act and the Migratory Bird Treaty Act. The ESA section has several errors. In particular, the paragraph that begins with "Whenever Federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat" is pretty far off base. If you want me to correct it for future NOIs, let me know.

The section on the MBTA does not include the policy adopted by the current administration that one's intent is important when considering whether illegal take of a migratory bird has occurred. Let me know if you would like a copy of that guidance. Finally, most of the second and third paragraphs are unnecessary. I suggest, for future discussions of the MBTA, deleting all but the last sentence of these two paragraphs and then including the citation for the Code of Federal Regulations that lists all migratory birds, which is 50 CFR 10.13.

Ray

*Response to Comment Letter 3 from U.S. Fish and Wildlife Service (USFWS)
Dated January 28, 2019*

Response to Comment Letter 3

The email correspondence received from USFWS during the comment period is noted and included in the Project record. Since the email does not question the content or conclusions of the Draft IS/MND, no further response is required.

Comment Letter 4



Gavin Newsom
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Kate Gordon
Director

February 4, 2019

Karl Price
California Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, CA 90012

Subject: State Route 14/Palmdale Boulevard (SR-138) Interchange Improvement Project
SCH#: 2018121050

Dear Karl Price:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on February 1, 2019, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

4-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL 1-916-445-0613 state.clearinghouse@opr.ca.gov www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2018121050
Project Title State Route 14/Palmdale Boulevard (SR-138) Interchange Improvement Project
Lead Agency Caltrans #7

Type MND Mitigated Negative Declaration
Description Note: Review Per Lead

Caltrans, the lead agency pursuant to the CEQA on this project, proposes to reduce existing and expected future traffic congestion along the SR-14/SR-138 mainline and Palmdale Boulevard; to improve safety and operations along Palmdale Blvd (SR-138); and to improve traffic circulation along northbound and southbound SR-14/SR-138.

Lead Agency Contact

Name Karl Price
Agency California Department of Transportation, District 7
Phone (213) 897-0362 **Fax**
email
Address 100 South Main Street, MS-16A
City Los Angeles **State** CA **Zip** 90012

Project Location

County Los Angeles
City Palmdale
Region
Lat / Long 34° 34' 52.83" N / 118° 8' 1.58" W
Cross Streets SR 14/Palmdale Blvd (SR138)
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways SR 138
Airports
Railways
Waterways
Schools Yucca ES; Palm Tree ES, Palmdale Learning Plaza
Land Use Public ROW and community commercial

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Coastal Zone; Cumulative Effects; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Landuse; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Tribal Cultural Resources; Other Issues

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Native American Heritage Commission; Regional Water Quality Control Bd., Region 6 (Victorville); San Gabriel & Lower Los Angeles Rivers & Mountains Conservancy; Air Resources Board, Transportation Projects

Date Received 12/19/2018 **Start of Review** 12/19/2018 **End of Review** 02/01/2019

*Response to Comment Letter 4 from the State Clearinghouse
Dated February 4, 2019*

Response to Comment Letter 4

The Governor's Office of Planning and Research, State Clearinghouse and Planning Unit's letter confirms that the Project has complied with the State Clearinghouse review requirements for environmental documents pursuant to CEQA. Since the letter from the State Clearinghouse does not question the content or conclusions of the Draft IS/MND, no further response is required.

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