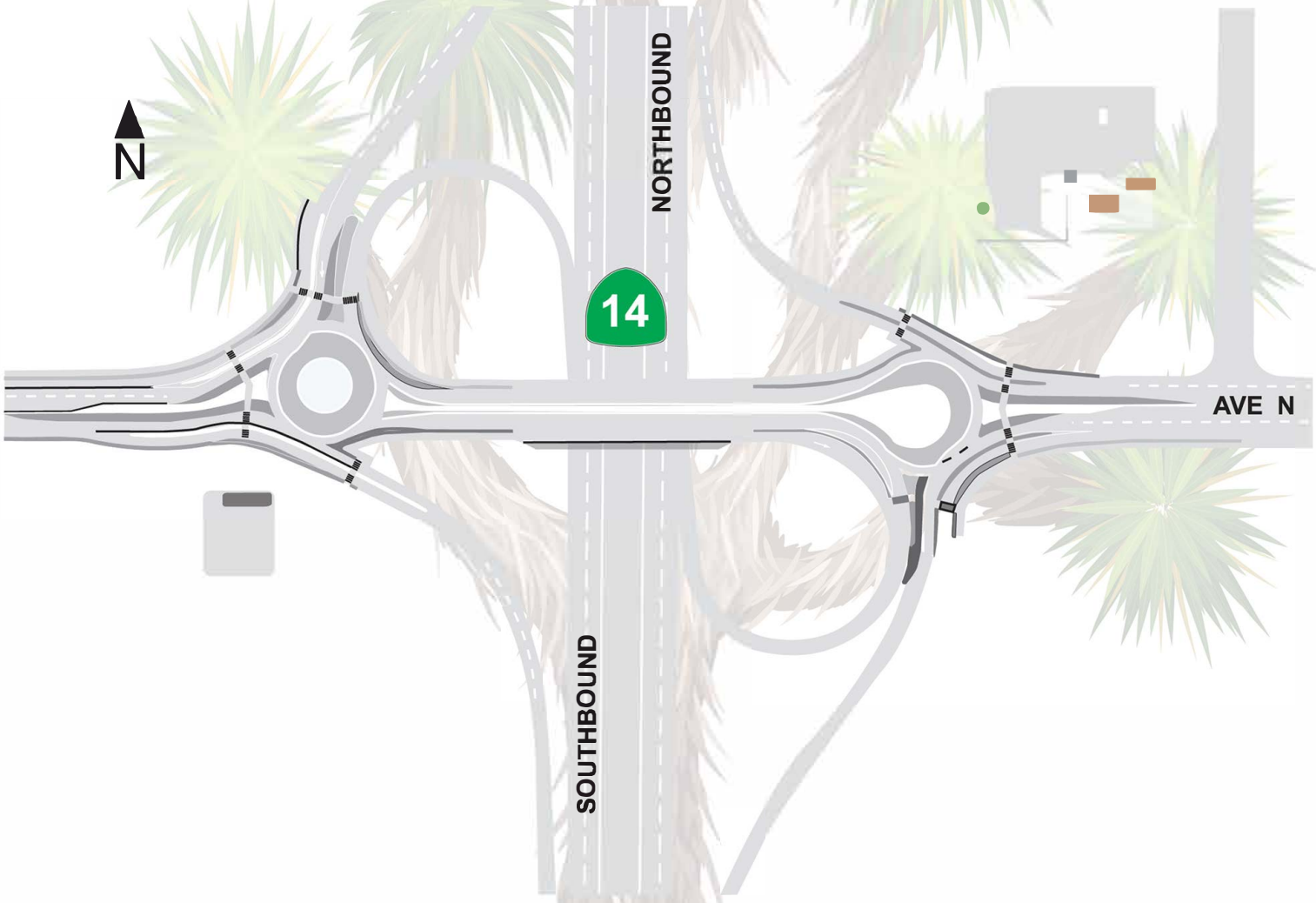
STATE ROUTE 14/ AVENUE N INTERCHANGE IMPROVEMENTS PROJECT

CITY OF PALMDALE, LOS ANGELES COUNTY, CALIFORNIA
District 7--LA-14--PM R63.4/R63.9
EA 31020--EFIS 0714000333

Initial Study with Negative Declaration/Environmental Assessment with Finding of No Significant Impact



Prepared by the State of California Department of Transportation
The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

October 2019

07-LA-14-PM R63.4/R63.9
EA: 31020/ EFIS: 0714000333

State Route-14 and Avenue N Interchange Improvements Project

INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION/ ENVIRONMENTAL ASSESSMENT

Submitted Pursuant to: (State) Division 13, California Public Resources Code (Federal) 42 USC 4332(2)(C), 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

Responsible Agencies: City of Palmdale, County of Los Angeles, and California Transportation Commission

April 24, 2019
Date of Approval

Ronald Kosinski
Ronald Kosinski
Deputy District Director
Division of Environmental Planning
California Department of Transportation

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CALIFORNIA DEPARTMENT OF TRANSPORTATION
FINDING OF NO SIGNIFICANT IMPACT (FONSI)

State Route 14/ Avenue N Interchange Improvements Project

FOR

The California Department of Transportation (Caltrans) has determined that Build Alternative 2, Hybrid Roundabout (Preferred Alternative) will have no significant impact on the human environment. This FONSI is based on the attached Environmental Assessment (EA) which has been independently evaluated by Caltrans and determined to adequately and accurately discuss the need, environmental issues, and impacts of the proposed project and the appropriate mitigation measures. It provides sufficient evidence and analysis for determining that an Environmental Impact Statement is not required. Caltrans takes full responsibility for the accuracy, scope, and content of the attached EA.

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016, and executed by the Federal Highway Administration (FHWA) and Caltrans.

Notwithstanding any other provision of law, a claim arising under federal law seeking judicial review of a permit, license, or approval issued by a federal agency for a highway or public transportation project shall be barred unless it is filled within 180 days after publication of a notice in the Federal Register announcing that the permit, license, or approval is the final pursuant to the law under which the agency is taken, unless a shorter time is specified in the federal law pursuant to which judicial review is allowed.

Oct 31, 2019

Date of Approval

Ronald Kosinski

Ronald Kosinski
Deputy District Director
Division of Environmental Planning, District 7
California Department of Transportation

SCH# 2019049144

NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), in cooperation with the City of Palmdale and County of Los Angeles, proposes to modify and improve the operational capacity of the State Route (SR)-14/ Avenue N interchange, and supporting roadways in the City of Palmdale, California. The Project limits are SR-14 Post Miles (PM) R63.4 to R63.9.

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 Agriculture and Forest Resources, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Public Services, Recreation, Population and Housing, and Tribal Cultural Resources.

In addition, the proposed project would have less than significant effects to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Noise, Transportation/Traffic, Utilities and Service Systems, and Mandatory Findings of Significance.

Ronald Kosinski

Oct 31, 2019

Ronald Kosinski
Deputy District Director
Division of Environmental Planning, District 7
California Department of Transportation

Date of Approval

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Chapter 1-Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). Caltrans is the lead agency under the California Environmental Quality Act (CEQA).

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327, for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, Caltrans entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA Assignment MOU became effective October 1, 2012 and was renewed on December 23, 2016 for a term of five years. In summary, Caltrans continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and Caltrans assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

The State Route 14 (SR-14)/Avenue N Interchange Improvements project (Project or proposed project) proposes to upgrade and improve transportation facilities at the SR-14/Avenue N on-ramps and off-ramps and along Avenue N between 17th Street West and 10th Street West. The project is located at Avenue N along SR-14 from Post Mile (PM) R63.4 to R63.9 in the City of Palmdale in Los Angeles County. This Project aims to improve mobility and enhance traffic safety for motorized and non-motorized users while alleviating the backup traffic conditions on the Avenue N on- and off-ramps. The Project would also upgrade Avenue N to be consistent with the City of Palmdale's General Plan as well as their improvement plan for Avenue N. The Project would incorporate active transportation (Complete Streets) elements and fulfill Americans with Disabilities Act (ADA) requirements. Figure 1.1-1 shows the project regional location and Figure 1.1-2 shows the Project Vicinity and Location.

This Project is funded by the Metropolitan Transportation Authority (Metro)-sponsored Measure R Initiative. However, both State and Federal environmental reviews are being conducted in case federal funds become available in the future. Project documentation has been prepared in compliance with the California Environmental Quality Act (CEQA) and the National

Environmental Policy Act of 1969 (NEPA). As the lead agency under NEPA and CEQA, Caltrans is responsible for the environmental review, consultation, and any other action required in accordance with applicable federal and state laws for this Project

The Project is included in the Fiscal Year 2019 Federal Transportation Improvement Program (FTIP) (ID LA0G898) and in the 2016-2040 Regional Transportation Plan (RTP). Both the FTIP and RTP listings can be found in Appendix D. Project construction and right-of-way (ROW) acquisition costs are estimated to cost approximately $53 million.

After evaluating the project alternatives in relation to the project purpose and need, and considering all comments received on the draft environmental document, the project development team has selected Alternative 2: Build Alternative as the Preferred Alternative.

Figure 1.1-1 Project Regional Location

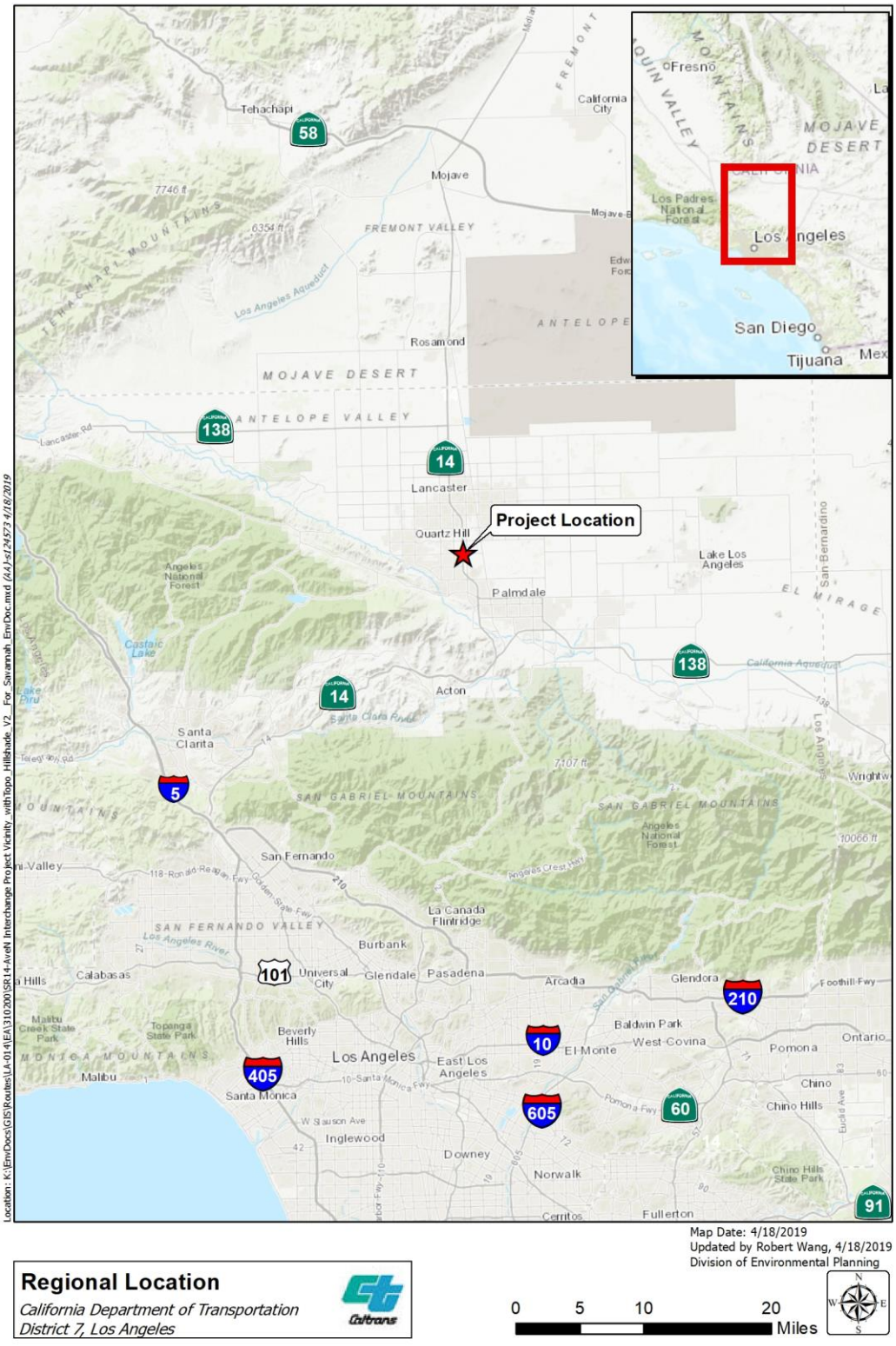
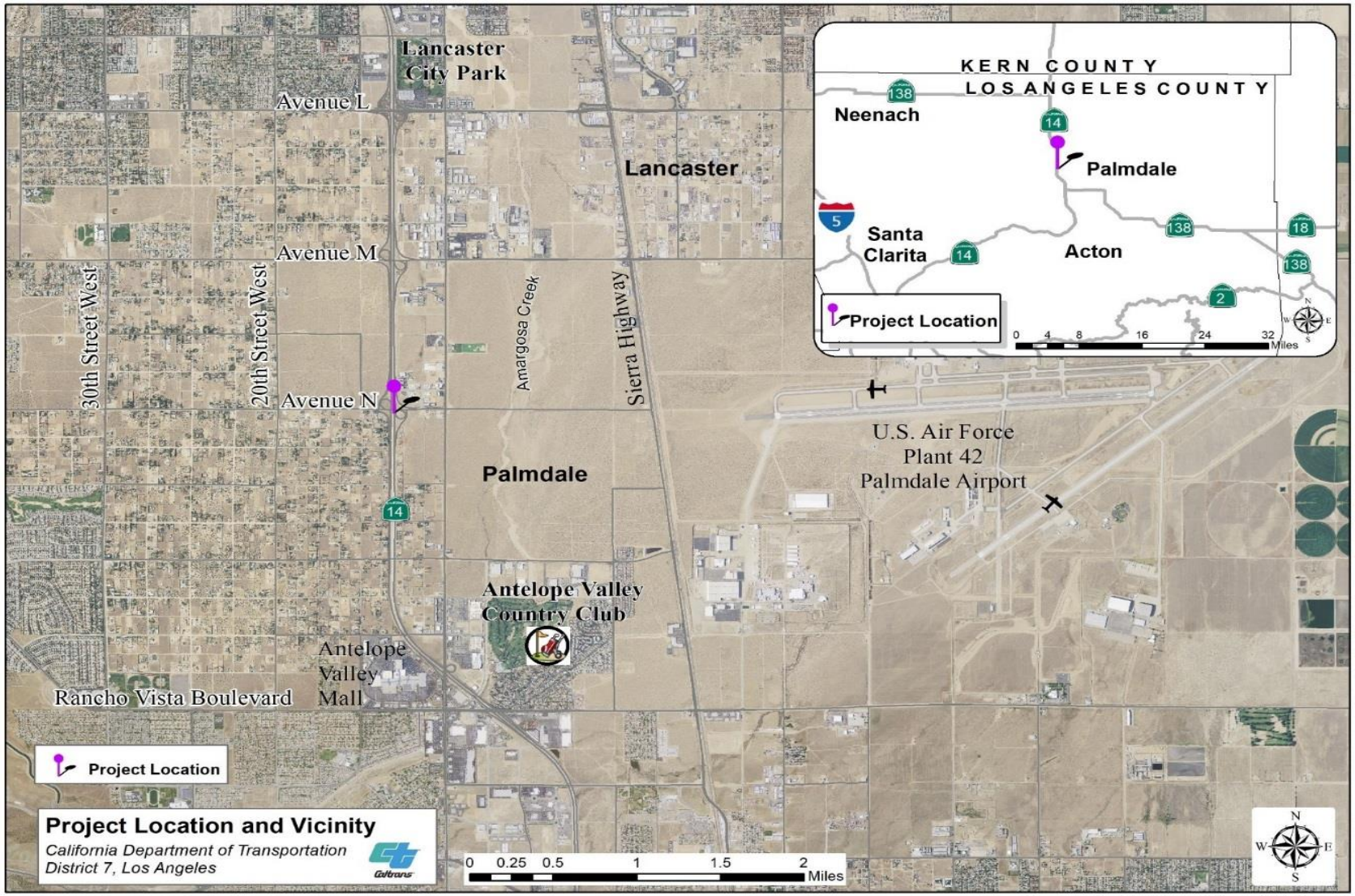


Figure 1.1-2 Project Location and Vicinity



Aerial Source: USDA, NAIP Imagery 2012.

Map Created by Robert Wang, Division of Environmental Planning, June 28, 2018

1.2 Purpose and Need

1.2.1 Purpose

The primary purpose of this Project is to alleviate the backup traffic condition at the SR-14 off ramps and improve traffic operations along Avenue N and at the SR-14/Avenue N on-and off-ramps. The proposed Project also aims to upgrade Avenue N from 17th St. West to 10th St. West in order to be consistent with the City's General Plan. The Project would implement the principles of an active transportation system (Complete Streets), while enhancing traffic safety and fulfilling Americans with Disabilities Act (ADA) requirements. Overall, the proposed Project's primary objective is to improve mobility and safety for all user types including, but not limited to, vehicles, pedestrians, and bicyclists.

1.2.2 Need

The current design of the SR-14/Avenue N interchange is insufficient to handle the existing back up traffic condition at the SB and NB off-ramps onto Avenue N. Additionally, the current interchange needs updating in order to accommodate projected increases in traffic demand. There is a lack of adequate traffic signalization and a lack of left-hand turn lanes on Avenue N between 10th Street West and 17th Street West. On Avenue N, the lane configuration needs updating in order to meet the City of Palmdale's General Plan and to accommodate the projected increase in traffic demand. The transportation facilities in the Project footprint need to be upgraded to accommodate both motorized and non-motorized users' needs, to enhance traffic safety conditions, and to improve traffic flow.

1.2.2.1 Capacity, Transportation Demand, and Safety

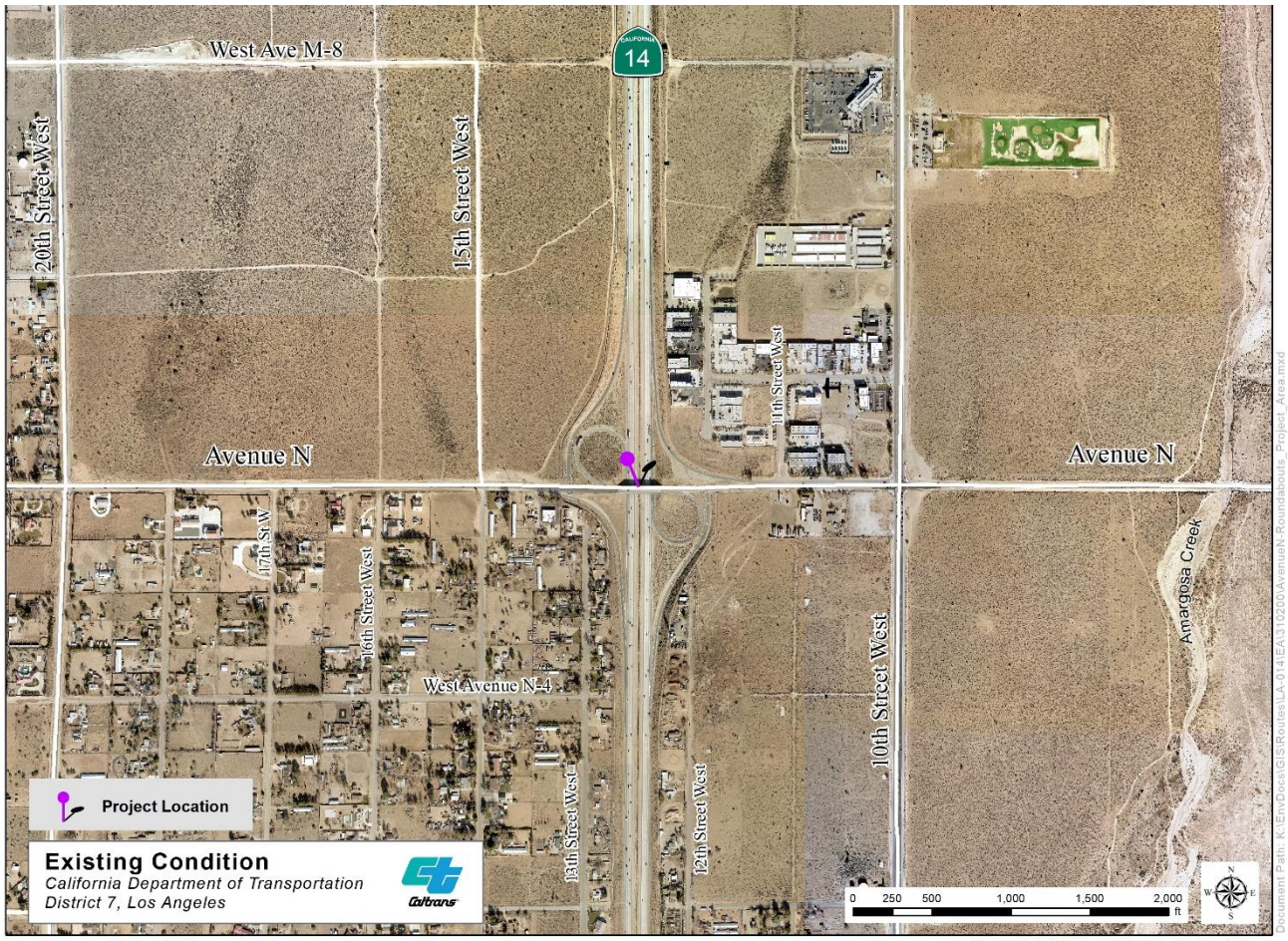
Existing Facilities

State Route (SR) -14 is the principle north-south freeway in the City of Palmdale and serves as a major regional transportation corridor in Palmdale and the greater Antelope Valley. The posted speed limit is 65 mph.

Within the Project limits, SR-14 is designated as Aerospace Highway according to the Caltrans Named Freeways Report. In each direction, it consists of a 10-foot-wide left shoulder, three 12-foot-wide mixed-flow lanes, and a 10-foot-wide right shoulder. The Avenue N interchange is a partial clover leaf design, with Northbound (NB) and Southbound (SB) off-ramps that terminate at stop sign controlled intersections. Each ramp begins as one lane and then widens to include a right-turn and a left-turn lane. The interchange also includes NB and SB slip and loop on-ramps.

Avenue N is a two-lane local roadway that runs east-west through the City of Palmdale and unincorporated Los Angeles County. Avenue N is identified as a Major Arterial in the City of Palmdale's General Plan and the posted speed limit is 55 mph. The Project limits are from 17th Street West to 10th Street West, with SR-14 serving as the boundary between the City and the County. Avenue N crosses over SR-14 and, except for the intersection at 10th St. West, there are no traffic control features to slow the flow of traffic within the Project limits. Pedestrian sidewalks can be found only along a small portion of the road and the shoulder is generally unpaved. There are no designated bike lanes along Avenue N.

Figure 1.2-1 Existing Conditions



Aerial Source: Lariac 2017.

Map Created by Robert Wang & Eunice Mendoza
Division of Environmental Planning, March 14, 2019

Existing Roadway Deficiencies

Transportation deficiencies within the Project area, identified during the initial Project scoping and based on input from the City of Palmdale staff, include the following:

- During peak hours, vehicles experience difficulty making a left turn from the stop controlled off ramps onto Avenue N due to high speed traffic on the street. Off- ramp traffic has been observed backing up onto the freeway mainline.
- Lack of dedicated left-turn lanes on Avenue N: Between 11th Street West and 20th Street West, Avenue N consists of one lane in each direction with no left-turn lanes. This creates traffic safety issues and hinders traffic flow.
- Inadequate traffic control at major intersections: A recent increase in traffic volumes has created traffic back-ups at the stop-sign controlled intersections at Avenue N and SR-14 on/off-ramps. There is a need to improve traffic flow and reduce the frequency and severity of intersection conflicts in the area.
- Incomplete streets: There are no bike lanes and only limited sidewalks along Ave. N within the Project limits. This is not consistent with Caltrans' Complete Streets policy nor the City of Palmdale's improvement plan for Avenue N.

Safety

Improving safety is one of the main objectives of the Project. The existing roadway network for the Project area consists of Avenue N and State Route-14. Avenue N consists of one lane in each direction with no median, making left hand turns difficult for motorists. Drivers who wish to make a left-hand turn must slow down and wait in the only through lane for opposing traffic to clear before they can complete the turn. The proposed project would improve traffic flow, accommodate the projected increase in traffic demand, and enhance safety for both motorized and non-motorized users.

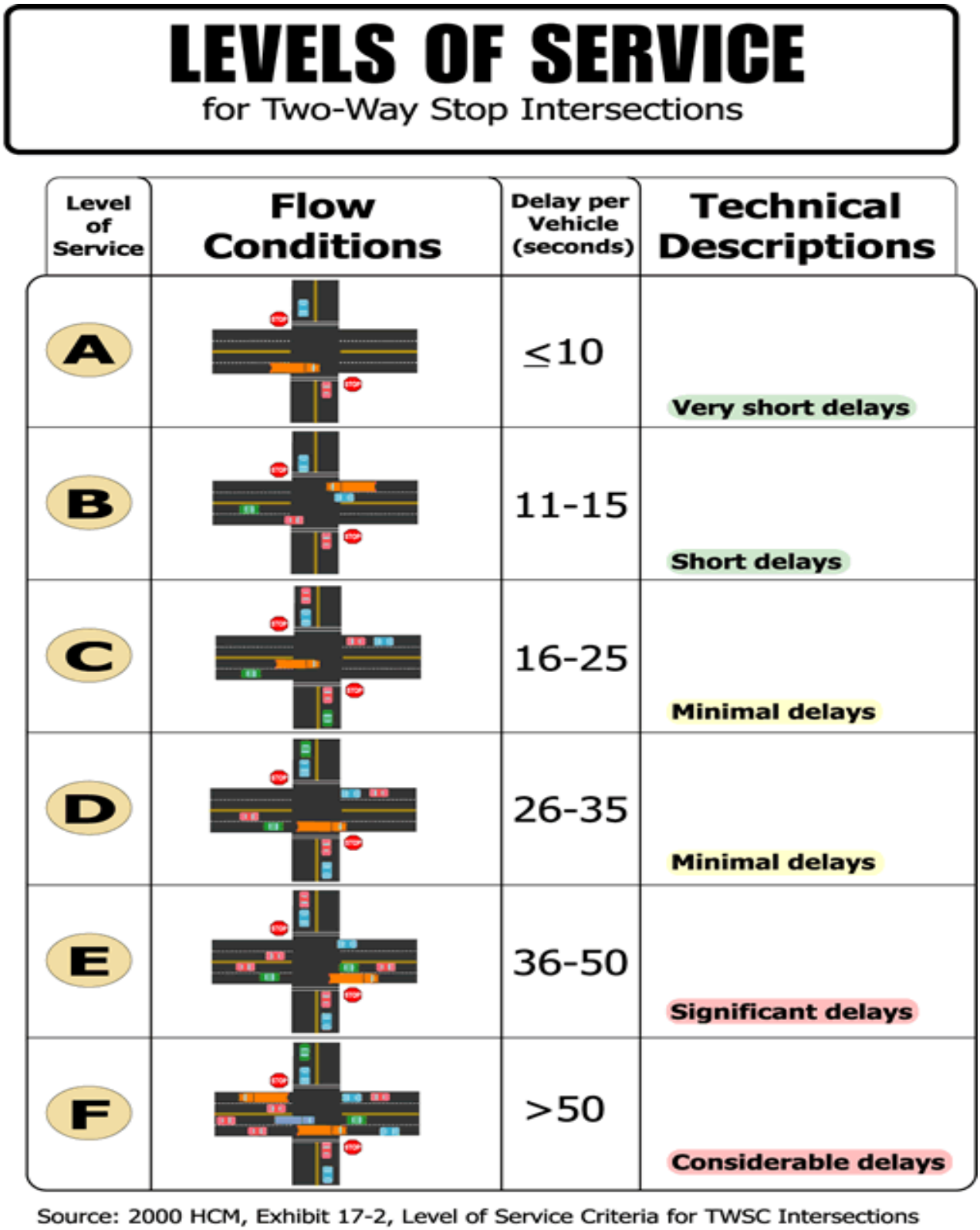
Level of Service and Projected Traffic Demand

The effectiveness of traffic operations on a transportation facility is measured in terms of "level of service", with level of service (LOS) A representing the best operating conditions and LOS F representing the worst. Figure 1.2-2 provides a graphic representation of the different Levels of Service for Freeways. Vehicle volumes are expected to increase substantially from the existing year 2017 to the design year 2040. However, within the Project segment, the lane widths are inadequate to safely accommodate a mix of bicycle and vehicle traffic. In addition, there are inadequate traffic control devices, inadequate crosswalks, and sidewalk gaps.

According to the traffic analysis conducted by Caltrans (February 2019), the intersections at Avenue N/SR-14 SB on/off-ramps and Avenue N/SR-14 NB on/off-ramps operate between LOS F and B during the current year (2017) peak AM and PM periods. If planned growth in the City occurs, these SR-14/Avenue N intersections will operate at a lower LOS in future years. With the implementation of the Build Alternative (Hybrid Roundabout) conditions would improve to LOS A and result in decreased delays at the SR-14 NB and SB on/off-ramps and Avenue N

intersections. However, the Build Alternative, at the Avenue N Bridge (in between the SB and NB on/off-ramps), would result in LOS F during opening year (2023) at the AM peak period and LOS E at the PM peak period and LOS F during the Horizon Year (2040) at the AM peak period and LOS F at the PM peak period. Table 1.2-1 shows the LOS and Delays for Existing Conditions (2017), No Build and Build Conditions for 2023, and No Build and Build Conditions for 2040.

Figure 1.2-2 LOS for Two Way Stop Intersections



Source: 2000 HCM, Exhibit 17-2, Level of Service Criteria for TWSC Intersections

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Table 1.2-1 Level of Service and Delays for Project Study Area

Alternatives	Analysis Years	Direction	NB Ramp and Avenue N				Avenue N Between NB and SB Ramps		SB Ramp and Avenue N			
			LOS/Delay (Seconds)				LOS/Delay (Seconds)		LOS/Delay (Seconds)			
			AM		PM		AM	PM	AM		PM	
			LT	RT	LT	RT	T	T	LT	RT	LT	RT
No-Build	Existing (2017)	NB	D/31.6	C/18.0	F/310.4	B/11.4						
		SB							F/109	B/10.7	F/98.2	E/36.2
		EB										
		WB										
	Opening Year (2023)	NB	E/47.1	C/21.9	F/598.9	B/12						
		SB							F/253.7	B/11.2	F/226.9	F/71.3
		EB										
		WB										
	Horizon Year (2040)	NB	F/266.9	F/55.9	F/2168.5	B/14.4						
		SB							F/1184.6	B/13.1	F/1148.1	F/401.4
		EB										
		WB										
Build (Hybrid Roundabout)	Opening Year (2023)	NB		A/6.5		A/6.9						
		SB								A/5.1		A/9.6
		EB		C/17.3		A/6.8	F/24.92	D/11.6		C/20.4		A/7
		WB		A/4.1		B/13.3	D/8.69	E/17.82		A/4.5		B/11.7
	Horizon Year (2040)	NB		A/9.0		A/9.7						
		SB								A/6.3		C/16.4
		EB		F/62.3		A/8.8	F/98.6	E/14.2		F/94.0		A/9.6
		WB		A/4.7		E/36.8	D/9.3	F/41.4		A/5.1		C/23.9

Key for Table 1.2-1: LT-Left Turn, RT-Right Turn, T-Through, AM: 6:00 to 9:00 a.m., PM: 3:00 to 7:00 p.m. The empty shaded boxes represent data unavailable:

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1.2.2.2 Social Demands or Economic Development

The City of Palmdale General Plan (General Plan) and the Antelope Valley Area Plan for Los Angeles County identify the Project study area as having both rural and business park land uses with agricultural and commercial zoning classifications. Currently, the Project study area consists of open and vacant lands, a few residential areas, and some businesses. The General Plan contains goals to implement mobility improvements along SR-14 and to increase non-motorized mobility throughout Palmdale. The proposed project is consistent with these goals and would not alter any current land uses within the Project study area.

The General Plan identifies Avenue N as a Major Arterial, which operates at LOS B, but does not propose major operational improvements along the Project segment. Some operational improvements are identified along other segments of Avenue N, outside the Project area. The General Plan recognizes the existing sidewalk deficiencies within this segment of Avenue N and recommends their improvement.

SR-14 is an interregional commuter corridor, which provides access to the Los Angeles Central Business District and other employment attractors located south of the SR-14 corridor. Commuter traffic originates from the cities of Lancaster, Palmdale, Santa Clarita, and adjacent unincorporated communities. Due to a jobs/housing imbalance, most of the residents of these developing corridor communities commute a relatively long distance to work in southern areas of Los Angeles County. Improvements along this essential corridor and its various on- and off-ramp interchanges are important transportation projects that facilitate these long-distance commutes

SCAG's regionally adopted growth projections in the 2016–2040 RTP/SCS indicate that continuing growth is forecast in Los Angeles County. Additionally, the City of Palmdale has been one of the fastest growing cities in Los Angeles County over the last quarter century. As the population grows in both Los Angeles County and Palmdale, traffic demand increases. Transportation facilities need to be upgraded to accommodate existing and future transportation demands for both motorized and non-motorized users. The SR-14/ Avenue N Interchange Project would improve traffic flow while enhancing safety for users. The proposed project would improve and update a vital connecting transportation corridor. The proposed project would not open new areas to unplanned residential or related commercial growth and would not affect the location, distribution, or projected growth rate of the population.

In November 2008, Measure R was approved, committing a projected $40 billion to traffic relief and transportation upgrades throughout Los Angeles County over a 30-year period. The Measure R expenditure plan includes funding for interchange, ramp and/or grade separation improvements. Caltrans, Metro, and the City of Palmdale jointly proposed to initiate this Project as a Measure R candidate and has been granted Measure R funds.

1.3 Independent Utility and Logical Termini

Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR 771.111(f)]) require that projects being evaluated under NEPA have "independent utility" and "logical termini". Logical termini are defined as rational end-points for transportation improvement and analysis of the potential environmental impacts of a proposed Project. A project is defined as having independent utility if it meets the project purpose regardless of other improvements in the project limits. A proposed project has independent utility and logical termini as defined under 23 CFR 771.111(f) if the following conditions are met:

1. It connects logical termini and is of sufficient length to address environmental matters on a broad scope.

2. It has independent utility or independent significance (it is usable and a reasonable expenditure of funds even if no additional transportation improvements in the area are made).

3. It does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

As discussed below, the proposed Project would comply with these requirements.

1.3.1 Independent Utility

The proposed Project would have independent utility. The proposed project would improve mobility and safety for all user types, including, but not limited to vehicles, pedestrians, and bicyclists. The Project will improve sidewalk and bike lane continuity and provide safe pedestrian crossings throughout the Project limits. The proposed project improvements would improve traffic conditions while also incorporating active transportation design features, fulfilling ADA requirements, and adhering to the City of Palmdale's General Plan. The proposed Project would fulfill its purpose, benefit the local community, and be a reasonable expenditure of funds even in the absence of other transportation improvements projects in the area.

1.3.2 Logical Termini

According to FHWA criteria, a project demonstrates logical termini if it contains (1) rational end points for transportation improvements and (2) rational end points for environmental review of the project footprint.

The goal of the Project is to upgrade and improve transportation facilities through the SR-14/Avenue N interchange and the nearby segment of Avenue N. The proposed project is located at the SR 14/Avenue N Interchange and extends along Avenue N. The on-and off-ramps at the SR-14/Avenue N interchange would extend along SR-14 from about 550 feet north of Avenue N and 550 feet south of Avenue N. The northern and southern termini Project sufficient length to successfully integrate the proposed improvements with existing facilities.

The proposed improvements along Avenue N extend from approximately 400 feet west of 17th Street West to approximately 700 feet east of 10th Street West. The Project limits provide an adequate distance to effectively integrate traffic improvements into the existing facilities and achieve the Project's purpose. It also provides sufficient length to evaluate environmental impacts associated with the proposed project. The proposed project meets the criteria for logical termini.

1.4 Project Description

This section describes the proposed action and the project alternatives developed to meet the purpose and need of the Project while avoiding or minimizing environmental impacts. The alternatives include Alternative 1 (No Build) and Alternative 2 (Hybrid Roundabout). The SR-14/Avenue N Interchange Improvements Project proposes to upgrade and improve transportation facilities at the SR-14/Avenue N on-ramps and off-ramps and along Avenue N between 17th Street West and 10th Street West. This proposed project is located at Avenue N along SR-14 from Post Mile (PM) R63.4 to R63.9 in the City of Palmdale in Los Angeles County. Avenue N currently has one traffic lane in each direction, with an existing interchange that has a southbound single-lane off-ramp, a northbound single-lane off-ramp, two single-lane southbound on-ramps, and two single-lane northbound on-ramps. Both off-ramps are controlled by stop signs and all on-ramps are uncontrolled. This proposed project aims to improve mobility and enhance traffic safety for motorized and non-motorized users while alleviating the backup traffic conditions of the Avenue N on- and off-ramps and to upgrade Avenue N to obtain consistency with the City of Palmdale's General Plan. The Project will also incorporate active transportation (Complete Streets) elements and fulfill American with Disabilities Act (ADA) requirements.

1.5 Alternatives

There are two alternatives for this Project that are evaluated in this document, No Build and one Build Alternative. The alternatives are as follows:

Alternative 1: No Build Alternative

The No Build Alternative would retain the existing on- and off-ramp configuration at the SR-14/Avenue N interchange and maintain Avenue N as it is currently. The existing condition would remain.

Alternative 2: Build Alternative: Hybrid Roundabout (Preferred Alternative)

The scope of work includes, constructing two roundabouts at the Avenue N and SR-14 Interchange, widening Avenue N to accommodate additional traffic lanes, a raised center median, sidewalks, and bike lanes. In response to public comment, the improvements along Ave N west of SR-14 have been shifted slightly to the north to reduce impacts to developed properties south of Ave N. This alternative is shown in Figures 1.5-1 through 1.5-3 and is described below:

- Construction of a single lane tear-drop shaped roundabout at the intersection of Avenue N and the NB on- and off- ramps located on the east side of the overcrossing and another single lane fully circular roundabout at the intersection of Avenue N and the SB on- and off- ramps on the west side of the overcrossing. Both roundabouts would be constructed for one lane of traffic; however, the configuration would allow for expansion to two lanes in the future with the removal of the raised asphalt concrete (AC) on the central and splitter islands, and with minor restriping. All on-and off-ramps would contain a bypass lane to increase capacity of the ramps.

- Widening of Avenue N from 17th Street West to the SR-14 SB ramps to accommodate four lanes of traffic and a 14-foot wide raised center median. A 4-foot wide bike lane and a 6-foot wide sidewalk would be located on either side of the roadway. This portion of Avenue N currently consists of one lane in each direction with approximately 26 feet of paved roadway and would be widened to a width of 80 feet of paved roadway. This portion of the project would be shifted slightly north of the existing alignment and would only require partial parcel acquisitions to the north of Avenue N and temporary partial acquisitions for construction referred to as Temporary Construction Easements (TCEs) along both sides of Avenue N. These acquisitions are discussed in Section 2.1.2.2 Relocation and Property Acquisition.

- Widening of Avenue N from the SR-14 NB ramps to 10th Street West to accommodate six lanes of traffic and an 18-foot wide raised center median. A 4-foot wide bike lane and an 8-foot wide sidewalk would be located on either side of the roadway. This portion of Avenue N currently consists of two lanes in the westbound direction and one lane in the eastbound direction with a width of approximately 60 feet of paved roadway and would be widened to a width of 114 feet of paved roadway to match the City of Palmdale General Plan. This portion of the project would require several partial acquisitions and TCEs along Avenue N.

- Widening of the Avenue N overcrossing structure by 43.5 feet on the north side to contain 2 lanes of traffic in each direction, a 36-foot wide median, and a multi-use path on either side with a width of 12.5 feet (Westbound) and 20 feet (Eastbound). This design has the ability accommodate 4 lanes of traffic (two lanes in each direction), a 14-foot median with the multi-use trail on both sides of the bridge.
- Landscaping adjacent to the roundabouts and on the central island is also proposed.
- Because Ave N between SR-14 and 15th Street West would be shifted north, no relocations would be required and access to the existing developed properties will be maintained. Because the Antelope Valley Animal Hospital (Hospital) is located so close to the SR-14 SB on-ramp, access would, however, need to be modified. Motorists coming eastbound along Ave N would be able to turn right into the Hospital parking lot. Motorists coming westbound along Avenue N need to make a U-turn near 15th Street West in order to gain access to the Hospital. When exiting, motorists would have the option to turn right onto the SR-14 SB on-ramp or could turn right and cross through a break in the splitter island to continue eastbound on Avenue N. Motorists desiring to go westbound on Avenue N when exiting the Hospital would cross the splitter island and head eastbound; they would then make a U-turn at the SB Ramp roundabout before heading westbound.
- There are four proposed soundwalls as part of the proposed project. For more detail on the soundwall locations please refer to Section 2.2.7 Noise of this document.

The proposed Build Alternative can be seen in Figures 1.5-1 through 1.5-3 which show the western, central, and eastern portions of the project area, respectively.

Project Features

The Build Alternative includes the following standardized measures that are included as part of the Project description. These standardized measures (such as Best Management Practices (BMPs)) are those measures that are generally applied to most or all Caltrans Projects. These standardized or pre-existing measures allow little discretion regarding their implementation. They were not developed in response to any specific environmental impact resulting from the proposed project nor are they specific to the circumstances of a particular project. More information on each measure can be found in the applicable sections of Chapter 2.

PF-UES-1: Utility relocation plans shall be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place.

PF-UES-2: All temporary ramp and arterial roadway closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers.

PF-T-1: A Final Transportation Management Plan (TMP) shall be developed in detail during final design.

PF-VIS-1: All areas disturbed by the proposed roadway improvements or grading operations shall receive replacement planting or appropriate ground surface treatment where feasible.

PF-CUL-1: If cultural materials are discovered during site preparation, grading, or excavation, the construction Contractor would divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, there would be coordination with the appropriate local agency.

PF-CUL-2: If human remains are discovered during site preparation, grading, or excavation, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the Los Angeles County Coroner shall be 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). At this time, the person who discovered the remains will contact Mariam Dahdul, 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.

PF-WQ-1: The proposed project will comply with the provisions of the Caltrans National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Storm water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ), and any subsequent permits in effect at the time of construction.

PF-WQ-2*:* A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. It shall be prepared per the requirements stated in the NPDES General Permit for Storm Water

Discharges of Stormwater Runoff Associated with Construction Activities and any subsequent permit in effect at the time of construction. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include the construction site BMPs to control pollutants such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs. All construction site BMPs shall follow the latest edition of the Caltrans Project Planning and Design Guide (PPDG) (2016) and Caltrans Construction Manual (2017). These include, but are not limited to, temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.

PF-WQ-3: Caltrans-approved Design Pollution Prevention BMPs shall be implemented to the maximum extent practicable (MEP), consistent with the requirements of the Caltrans Permit.

PF-WQ-4: Caltrans-approved Treatment BMPs shall be implemented to the maximum extent possible (MEP), consistent with the requirements of the Caltrans Permit.

PF-GEO-1: Revegetation of graded slopes should be performed to minimize erosion, and runoff should be diverted from each slope face using earthen berms and/or concrete swales at the top of each slope.

PF-HAZ-1: Site investigations performed at the properties for the Project will be completed during the Plans, Specifications, and Estimates (PS&E) phase to determine whether more extensive subsurface investigation will be needed.

PF-HAZ-2: If hazardous materials contamination or sources are suspected or identified during Project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the *Caltrans Construction Manual (*July 2017). Adequate protection to construction workers will be provided with the implementation of a Health and Safety Plan and Soil Management Plan.

PF-HAZ-3: If hazardous materials are discovered, the construction contractor will remove and properly dispose of any materials in accordance with the Caltrans Construction Manual (July 2017), Chapter 7, Section 7-107, Hazardous Waste and Contamination.

PF-HAZ-4: Lead Compliance Plan shall be prepared prior to the start of construction activities.

PF-AQ-1: Excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures, as specified in the Antelope Valley Air Quality Management District (AVAQMD) Rule 403.

PF-AQ-2: Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.

PF-AQ-3: All trucks that are to haul excavated or graded material on site will comply with California Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

PF-AQ-4: The Caltrans Standard Specifications for Construction (2018), Section 14.9 must be adhered to.

PF-AQ-5: If naturally occurring asbestos, serpentinite, or ultramafic rock is discovered during grading operations, Section 93105, Title 17 of the California Code of Regulations requires notification to the Antelope Valley Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).

PF-AQ-6: All construction vehicles both on and off site shall be prohibited from idling in excess of 5 minutes.

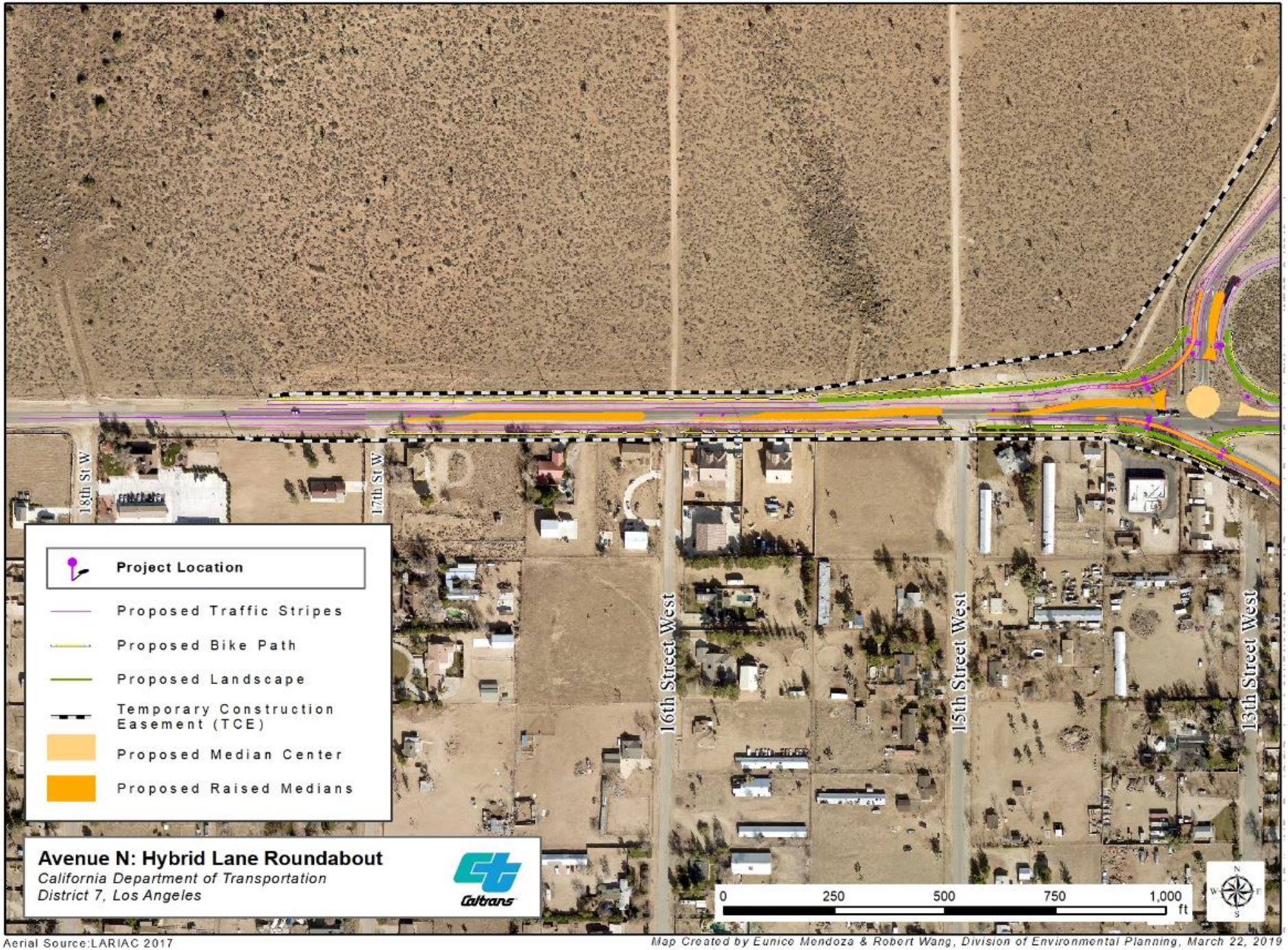
PF-NOI-1: The control of noise from construction activities shall conform to the Caltrans Standard Specifications, Section 14-8.02, "Noise Control."

PF-BIO-1: To avoid impacts to nesting birds, any native or exotic vegetation removal or tree-trimming activities will occur outside the nesting season (February 1 through September 1). If vegetation clearing is necessary during the nesting season, a preconstruction survey will be conducted by a qualified biologist within 3 days of commencement of vegetation removal or the beginning of construction activities to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist.

PF-BIO-2: The construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one Project location to another. Any plants removed, or soil disturbed during the course of construction should be contained and properly disposed of offsite. All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and erosion-control BMPs implemented will be free of invasive plant species seeds or

propagules listed on the California Invasive Plant Council (Cal-IPC) Inventory. City tree planting and removal requirements will also be adhered to.

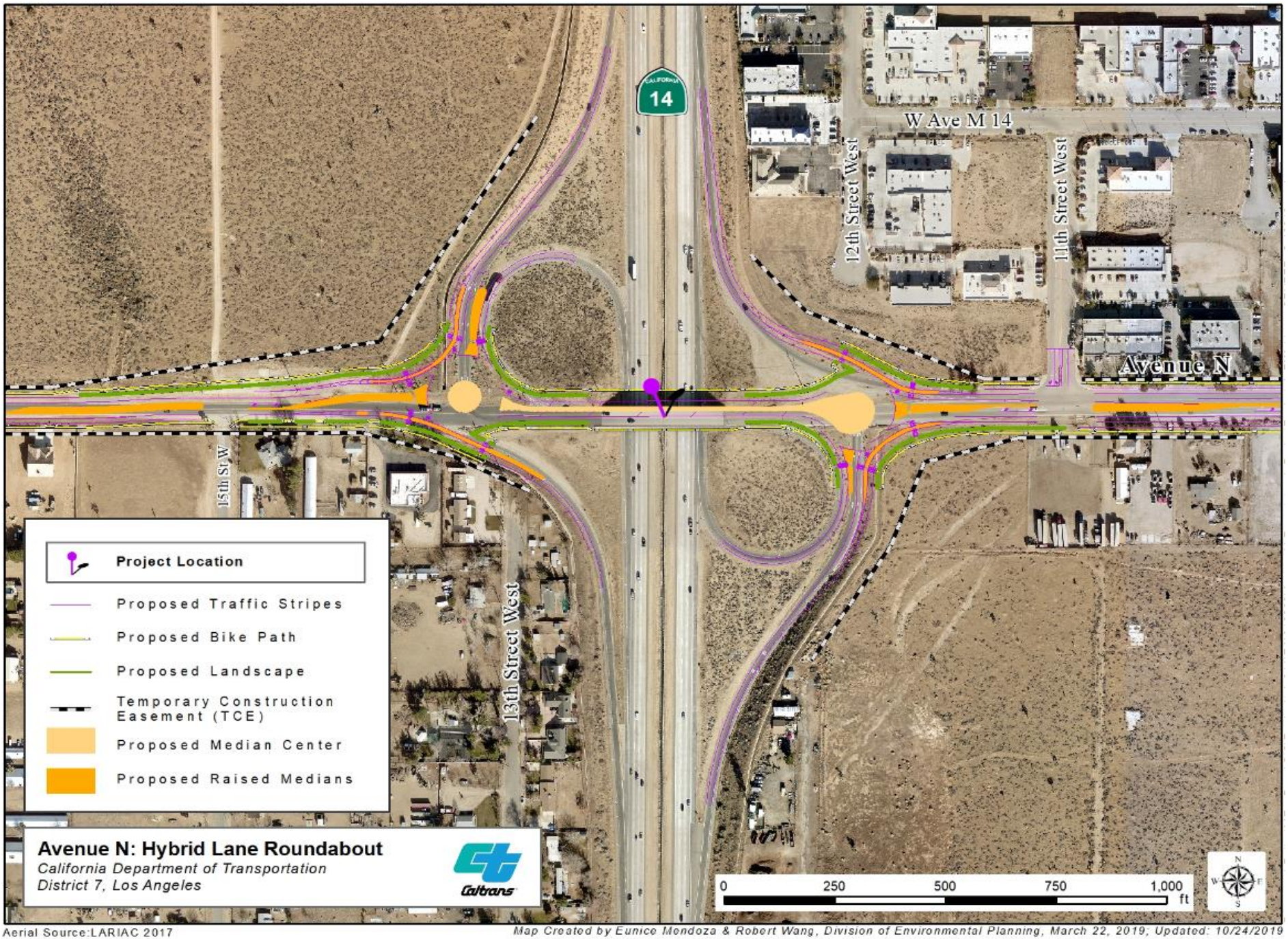
Figure 1.5-1 Hybrid Roundabout Western Portion



Aerial Source:LARIAC 2017

Map Created by Eunice Mendoza & Robert Wang, Division of Environmental Planning, March 22, 2019

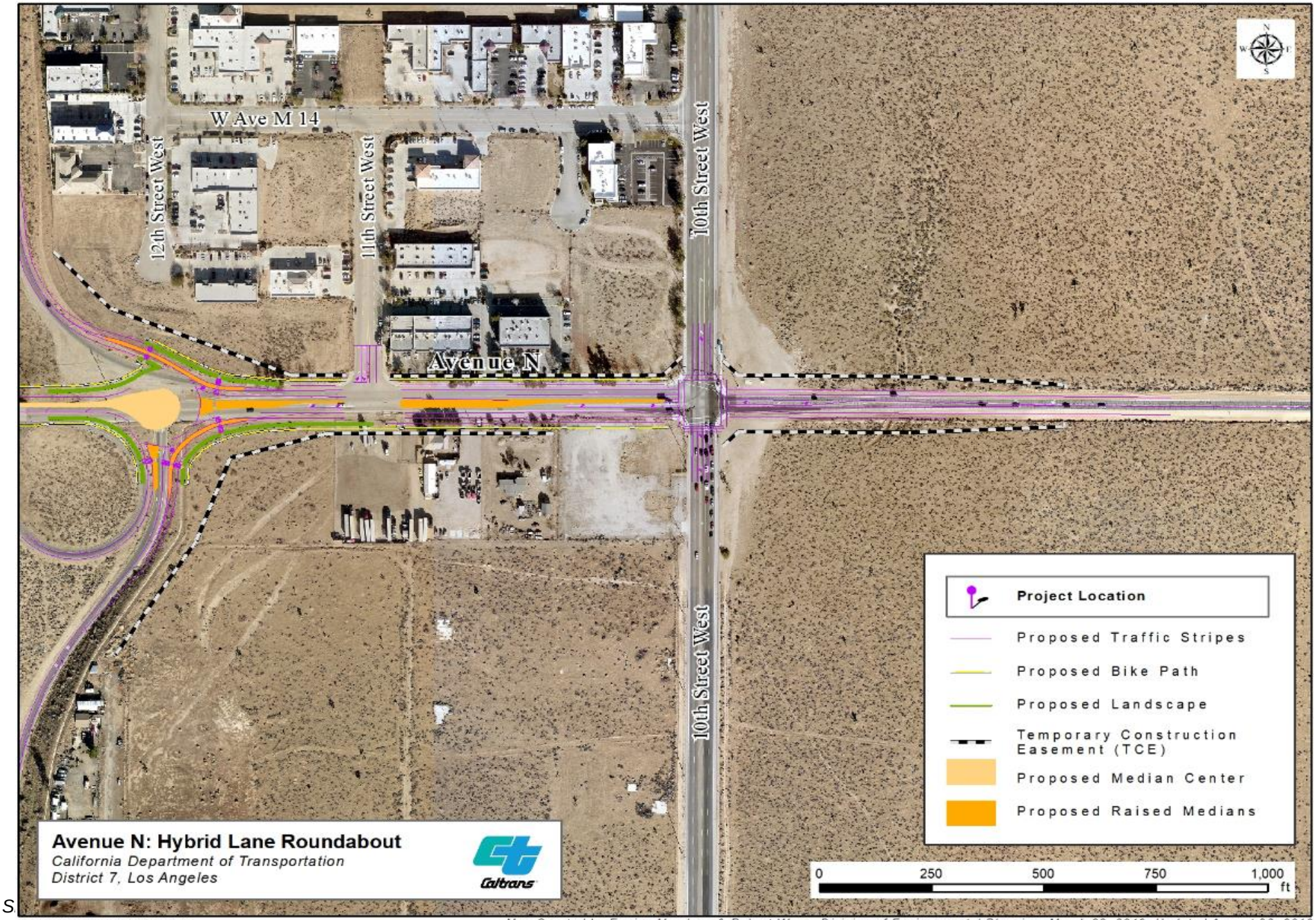
Figure 1.5-2 Hybrid Roundabout Central Portion



Aerial Source:LARIAC 2017

Map Created by Eunice Mendoza & Robert Wang, Division of Environmental Planning, March 22, 2019; Updated: 10/24/2019

Figure 1.5-3 Hybrid Roundabout Eastern Portion



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Transportation System Management (TSM) and Transportation Demand Management (TDM) Alternatives

Although Transportation System Management measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the build alternatives for this project:

- Active Transportation elements including bicycle lanes, pedestrian walkways, and pedestrian cross walks.

- Addition of left-hand turn lanes along Avenue N within the project limits

1.5.1 Identification of Preferred Alternative

The Preferred Alternative was identified after considering all information in the IS/EA and supporting technical studies. It was also based on input from the Project Development Team (PDT) members, public stakeholders, and federal, State, and local agencies during the project development process. Consideration was given to all issues raised during the public circulation period. This public outreach and coordination resulted in comments from the public and government agencies, all of which were carefully considered during the Preferred Alternative selection process. After comparing and weighing the benefits and impacts of the Build Alternative and the No Build Alternative, the PDT has identified the Build Alternative as the Preferred Alternative. Additionally, public comments received during public circulation were taken into consideration when modifying the Build Alternative to better suit the needs of the community.

The project was initiated to alleviate traffic conditions and improve safety. The Preferred Alternative meets the purpose and need.

1.5.2 Alternatives Considered but Eliminated from Further Discussion Prior to the Draft Initial Study/ Environmental Assessment

There were initially four build alternatives and one no-build alternative that were considered during the project initiation phase of this project and identified in the Project Study Report - Project Development Support (PSR-PDS) document prepared by Caltrans (February 2017). These previous alternatives and the reasoning behind their elimination is listed below:

- ***Alternative 1: No Build***

- ***Alternative 2: Minimum Roundabout***

This alternative would add two roundabouts, a 12-foot-wide median, and two 8-foot-

wide bike lanes on Avenue N. It proposes the following:

- Construction of a roundabout at the intersection of Avenue N and NB SR-14 on- and off-ramps
- Construction of a roundabout at the intersection of Avenue N and SB SR-14 on- and off-ramps
- Widening of Avenue N from 17th Street West to the Avenue N Overcrossing
- Widening of the Avenue N Overcrossing structure
- Widening of Avenue N from the Avenue N Overcrossing to 10th Street West

The Minimum Roundabout was eliminated from further consideration because the traffic analysis indicated that it would not meet the projected traffic demand in the years 2020 and 2040, which is a main objective of the project.

- ***Alternative 3: Ultimate Roundabout***

  This alternative is similar to Alternative #2, with the addition of two 12-foot-wide lanes on Avenue N between 17th Street West and the Avenue N Overcrossing. Avenue N would then have four 12-foot-wide lanes throughout the Project limits.

The Ultimate Roundabout was eliminated from further consideration because the two-lane roundabouts are not justified based on the current and projected traffic demands. The proposed two-lane roundabouts also pose a potential issue by encouraging faster travel speeds than can be accommodated.

- ***Alternative 4: Minimum Diamond***

  This alternative would reconstruct the intersections of Avenue N and SR-14 on- and off-ramps with signalized right-angle intersections in lieu of roundabouts. It proposes the following:

  - Realignment of the NB on-ramp and reconstruction of the intersection of Avenue N and NB SR-14 on- and off-ramps
  - Realignment of the SB on-ramp and reconstruction of the intersection of Avenue N and SB SR-14 on- and off-ramps
  - Widening of Avenue N from 17th Street West to the Avenue N Overcrossing
  - Widening of the Avenue N Overcrossing structure

- ***Alternative 5: Ultimate Diamond***

  This alternative is similar to Alternative #4, with the addition of two 12-foot-wide lanes on Avenue N between 17th Street West and the Avenue N Overcrossing. Avenue N would then have four 12-foot-wide lanes throughout the Project limits.

The Minimum Diamond and Ultimate Diamond were eliminated from further consideration because they required extensive right of way acquisitions (including possible relocations) and did not improve the Level of Service (LOS) to a level higher than that of the roundabout alternatives in the horizon year (2040) during the AM and PM peak traffic periods.

Following rejection of each of the previously considered build alternatives, the project development team determined, with support from a revised traffic study, that a modified combination of the Minimum Roundabout and Ultimate Roundabout alternatives, the Hybrid Roundabout, would best meet the Project purpose while addressing the Project's need and prioritizing safety.

1.6 Permits and Approvals Needed

Table 1.6-1 lists the permits, licenses, agreements, and certifications (PLACs) that are required for Project construction.

Table 1.6-1 Permits and Approvals

Agency	PLAC	Status
California Department of Fish and Wildlife (CDFW)	1602 Streambed Alteration Agreement Section 2080.1	Applications for 1602 permit and Section 2080.1 agreement expected after Final Environmental Document (FED) approval.
State Water Resources Control Board (SWRCB)	NPDES Construction General-Permit Order No. 2009-009-DWQ, Permit Order No. 2010-0014-DWG, and Permit Order No. 2012-0006-DWQ, NPDES No. CAS000002 (Section 402 of the CWA)	Application and Notice of Intent will be submitted prior to construction.
Regional Water Quality Resources Control Board (RWQCB)	National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ),	General discharge permit to be obtained prior to construction.
Utilities (e.g., electricity, water, gas, cable, communication)	Approvals to relocate, protect in place, or remove utility facilities	Prior to any construction activities that would affect utility facilities.
Federal Highway Administration (FHWA)	Air Quality Conformity Determination	Project Level Conformity met on September 9, 2019.
Los Angeles County	Permits, approvals, ROW acquisitions	Prior to construction activities.

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

This chapter discusses project impacts on the human, physical, and biological environment within the study area defined for each environmental resource. Analysis of each environmental factor includes a discussion of the affected environment, potential environmental impacts, and any avoidance, minimization, and mitigation measures for the Build Alternative and the No Build Alternative.

As part of the scoping and environmental analysis done for the project, the following environmental issues were considered, but no adverse impacts were identified. Therefore, there is no further discussion of these issues in this document.

- **Coastal Zone** -The project limits are outside the coastal zone; therefore, no adverse impacts are anticipated.
- **Wild and Scenic Rivers**-The project limits are not near any wild and scenic rivers; therefore, no adverse impacts are anticipated.
- **Farmlands/Timberlands**- In general, the study area is composed largely of rural land comprised of large vacant parcels and single-family residences on large lots. Land within the study area does not serve an agricultural purpose. According to the Farmland Mapping and Monitoring Program (FMMP) (California Department of Conservation 2016), all land within the study area is mapped as urban and built-up or other land and no FMMP farmland is designated within the study area. There are no farmlands that could potentially be affected by the proposed project. There are no Williamson Act contract lands nor Timberland Production Zones within the Project area. There are no adverse impacts to farmland or timberland anticipated.
- **Growth-** The project does not propose to modify existing highway accessibility, operation, or capacity. The project has no potential to influence growth.
- **Hydrology and Floodplain-** According to the Federal Emergency Management Agency (FEMA, FIRM 06037C10420F), the Project is located outside the regulatory 100-year floodplain. The segments of SR-14 and Avenue N that are within the project limits are located in Zone X, which is defined as an area of moderate flood hazard, usually between the limits of the 100-year and 500-year floods. As a result, no adverse impacts are anticipated. For a floodplain map, please refer to Figure 2.2-4 in the Geology/Soils/Seismic/Topography Section and in Figure 4.3-1 in the Comments and Coordination section.

- **National Marine Fisheries Service jurisdiction-** This project is located outside of NMFS jurisdiction; therefore, an NMFS species list is not required and no effects to NMFS species are anticipated.

2.1 Human Environment

2.1.1 Land Use

2.1.1.1 Existing and Future Land Use

This section addresses potential impacts to existing and planned land uses in the project area that could result from implementation of the proposed project. Much of the information for this section has been summarized from the *Community Impact Assessment (September 2019)* prepared for this project.

Affected Environment

The proposed project is located in the Antelope Valley at the Avenue N and SR-14 interchange along Avenue N between 20th Street West and a little past 10th St West. The proposed project is located in both the City of Palmdale and in unincorporated Los Angeles County. The northeast quadrant, and most of the southeast quadrant, of the interchange is within the City of Palmdale corporate boundary. The area west of SR-14 along Avenue N, and a small portion of the southeast quadrant of the interchange, is located in an unincorporated area of Los Angeles County. These designations can be seen in Figure 2.1-1 City/County Boudaries and Figure 2.1-2 Jurisdictional Boundaries.

Avenue N runs in an east-west direction in the project area and connects to SR-14 with a non-signalized partial clover leaf interchange. Avenue N consists of one lane in each direction between 11th Street West and 20th Street West, with no dedicated left-turn lane. There are two lanes in the westbound direction between 10th St. W. and 11th St W. There are currently no bicycle lanes along Avenue N within the Project limits. There is a sidewalk located on the north side of Ave N between 10th St. W and the SR-14 NB on-ramp. An additional sidewalk is located on the south side of the Avenue N bridge. The proposed project incorporates pedestrian walkways and bicycle lanes throughout the project limits.

The proposed project setting is characterized by flat terrain on either side of SR-14, with sparsely vegetated vacant land to the northwest of the interchange, business park uses to the northeast, mostly vacant land to the southeast, and an established rural residential area to the southwest. An animal hospital, medical office complex, and a parking lot for semi-trucks are located along Avenue N near the interchange. Infrastructure includes overhead utility lines and parking lots serving the commercial uses along the corridor. Several large lot, single-family residences are located along the south side of Avenue N between the interchange and 20th Street West. With the exception of the business park in the northeast quadrant of the interchange, the project area has not experienced any significant land development in the past 20 years.

Figure 2.1-1 City/County Boundaries

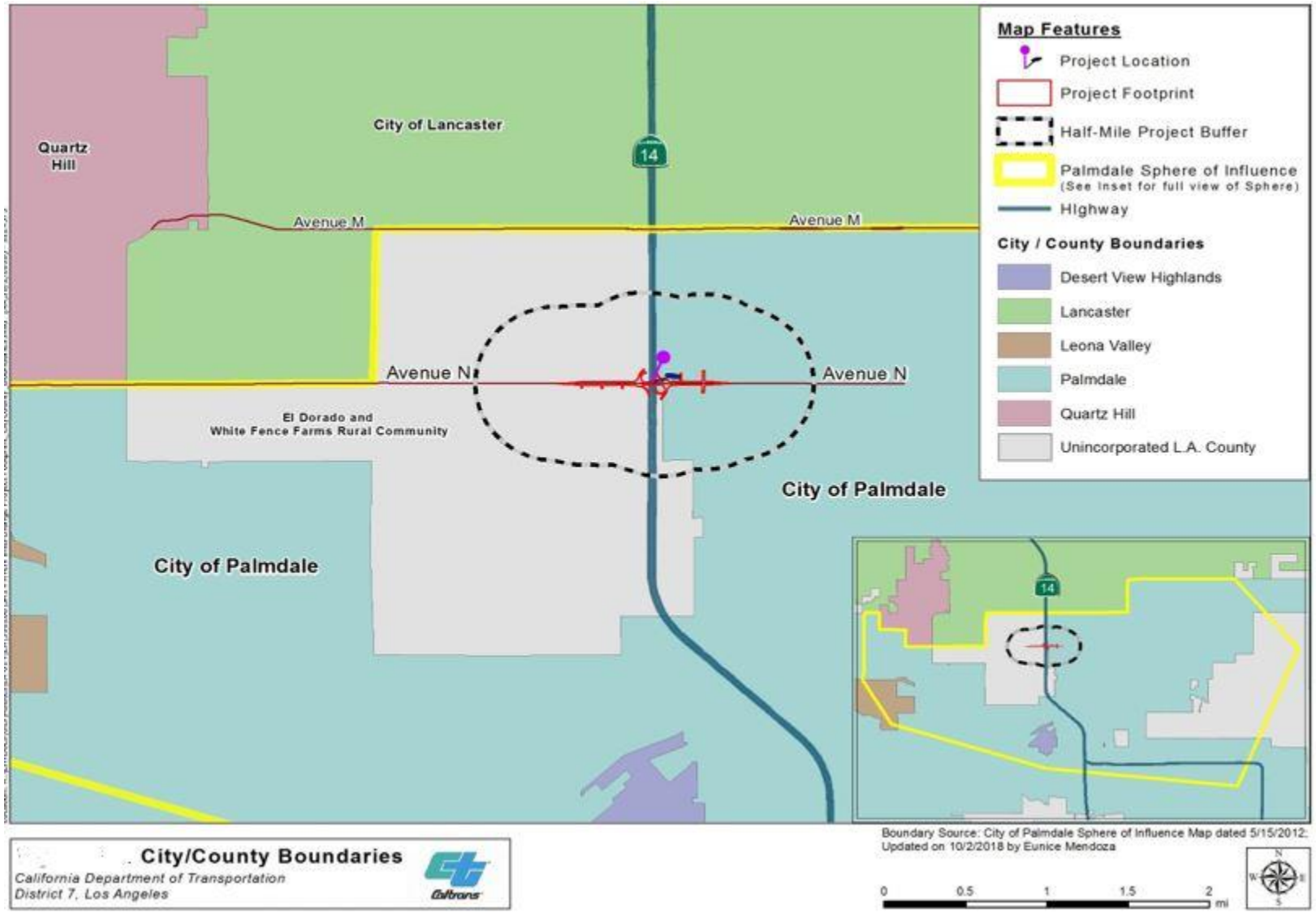


Figure 2.1-2 Jurisdictional Boundaries

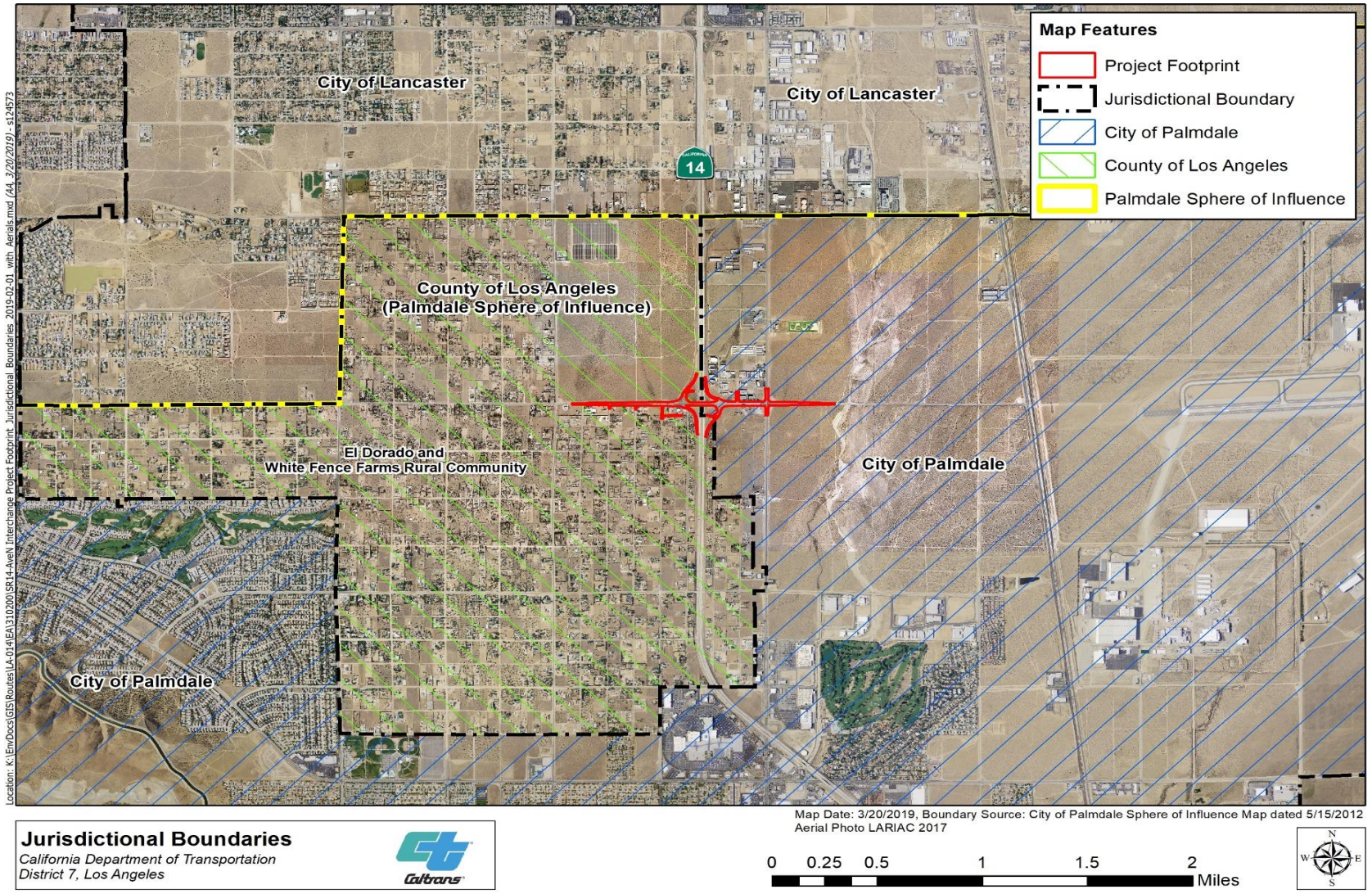


Table 2.1-1 and Table 2.1-2 shows the land uses and zoning designations of the City of Palmdale and Los Angeles County in the proposed project area. These are shown graphically in Figures 2.1-3 (Land Use) and 2.1-4 (Zoning).

Table 2.1-1 Land Use Designations

West Avenue N SR-14 Interchange Quadrant	City of Palmdale (General Plan Land Use)	Los Angeles County (Antelope Valley Area Plan)
Northeast	Business Park (BP)	--
Southeast	Business Park (BP) Airport and Related Uses (AR)	RL2 - Rural Land 2
Southwest	--	RL2 - Rural Land 2
Northwest	--	RL2 - Rural Land 2 IL – Light Industrial

Table 2.1-2 Zoning Classification

West Avenue N SR-14 Interchange Quadrant	City of Palmdale Zoning	Los Angeles County Zoning
Northeast	Office Commercial (C-2) Planned Industrial (M-4)	--
Southeast	Planned Industrial (M-4) Airport Industrial (M-3)	A-2 Heavy Agricultural
Southwest	--	A-2 Heavy Agricultural
Northwest	--	A-2 Heavy Agricultural M-1 Light Manufacturing

Figure 2.1-3 Land Use

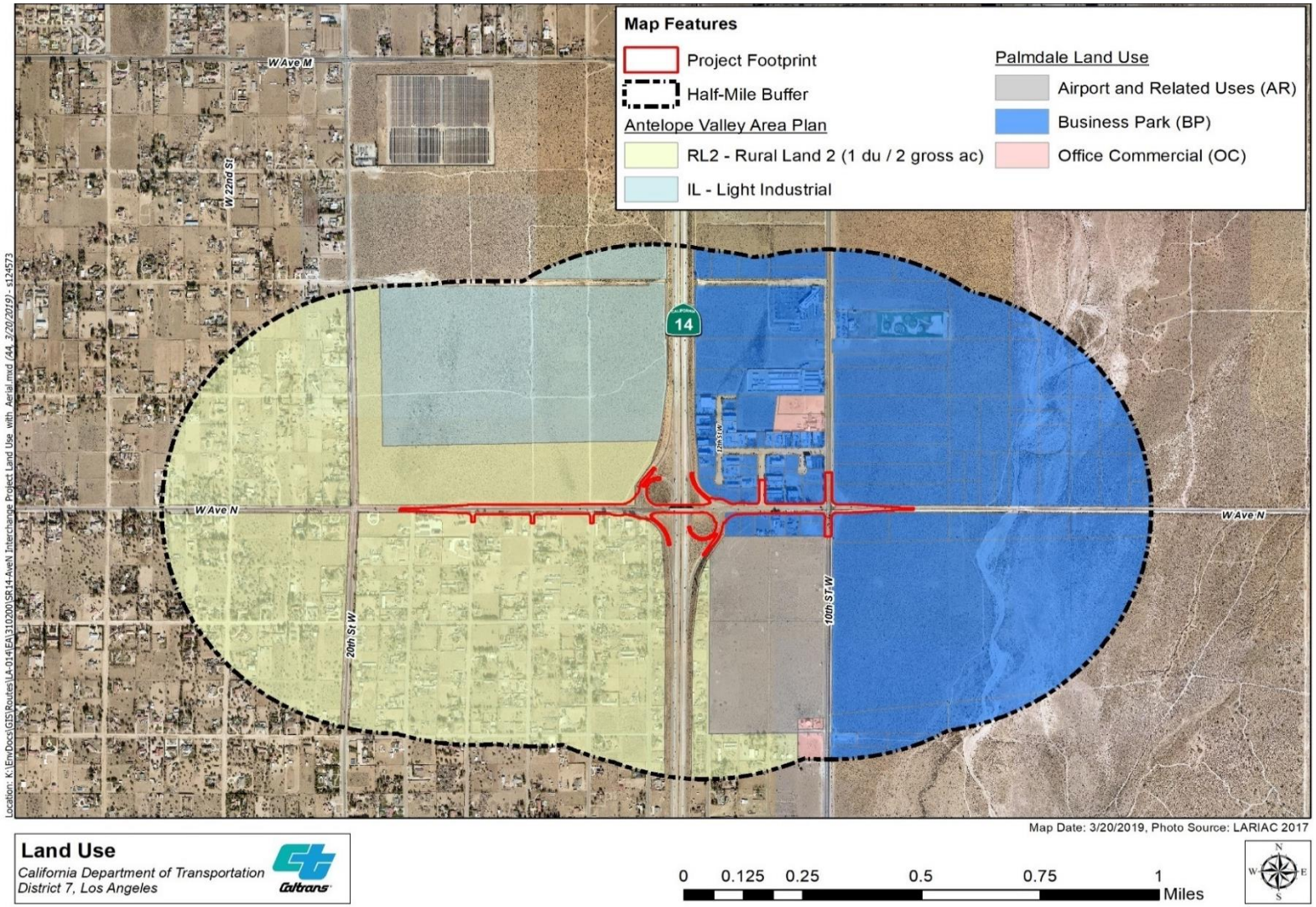
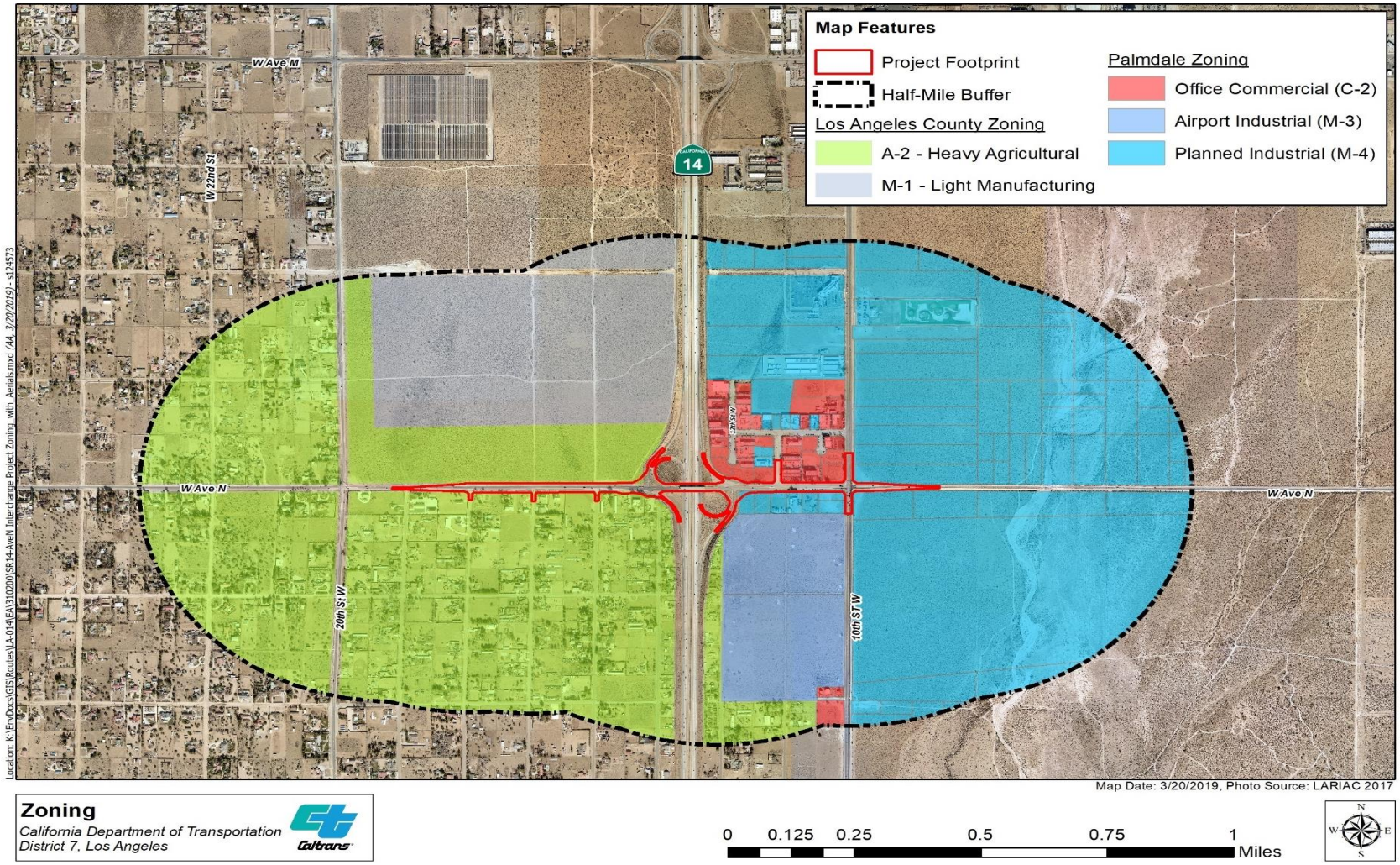


Figure 2.1-4 Zoning



Development Trends

The City of Palmdale has identified one pending development application within a 0.5-mile buffer area surrounding the proposed project. The pending development proposes a convenience store at the southwest corner of Avenue N and 10th Street West adjacent to the proposed Project.

There are a number of large-scale projects that have recently been approved or are being processed by Caltrans, City of Palmdale, the neighboring City of Lancaster, and the Antelope Valley area. Table 2.1-3 identifies these larger scale developments in the Project study area**.**

Table 2.1-3 Major Transportation/Development Projects in the Project Study Area

Number	Project Title	Project Description	Lead Agency	Project Status
Transportation Projects				
1	California High Speed Train System	The California High-Speed Rail Authority proposes a train system capable of operating at speeds of more than 125 miles-per-hour serving the major metropolitan centers of California. Project segments relevant to the proposed project include Bakersfield to Palmdale and Palmdale to Los Angeles.	California High-Speed Rail Authority and Federal Railroad Administration	The Bakersfield to Palmdale and Palmdale to Los Angeles segments are in environmental review. The statewide EIR/EIS was finalized and the Record of Decision published in November 2005.
2	High Desert Corridor	The proposed 63-mile west-east facility would provide route continuity and relieve traffic congestion between SR-14 in Los Angeles County and SR-18 and I-15 in San Bernardino County.	Caltrans	Final EIR/EIS approved June 2016. Record of Decision on hold pending identification of funding.
3	Transit Oriented Development Land Use Framework Plan	The project will evaluate land uses and modes of transportation to prepare a plan to provide multimodal connectivity near the Palmdale Transportation Center and future California High-Speed Rail Station. The project area boundaries include Rancho Vista Boulevard (north), SR-138 (Palmdale Boulevard) (south), SR-14 (west), and 10th Street East (east). The project area also includes Palmdale Regional Airport, located approximately 1-mile northeast of the Palmdale Transportation Center.	City of Palmdale	EIR approved January 2018

Number	Project Title	Project Description	Lead Agency	Project Status
4	Palmdale Station Area Plan	The City of Palmdale is undertaking station area planning around a future High-Speed Rail Multi-Modal Station in the Vicinity of Downtown Palmdale. The study area for this effort is bounded by Rancho Vista Boulevard to the north, Avenue R to the south, SR 14 to the west and 15th Street East to the east.	City of Palmdale	Approved
5	State Route 138 Improvements Project	The project will widen State Route 138 (Palmdale Boulevard) between 5th Street East and 10th Street East from two lanes to three lanes in each direction, a distance of 0.5 mile. Additionally, the project proposes to widen Sierra Highway from two lanes to three lanes in each direction between Avenue R and 500 feet south of Avenue Q, a distance of approximately 0.9 mile.	Caltrans	Approved
6	Avenue M Interchange Improvement Project	The project will upgrade the interchange at State Route 14/Avenue M and widen the existing roadway (Avenue M) and over-crossing. The proposed project will provide bike access, sidewalks and modify existing intersections.	Caltrans	Approved
7	Avenue J Interchange Improvement Project	The proposed SR-14 (SR-138)/Avenue J Interchange Improvements project proposes to improve capacity at the existing interchange and local roadway operations on Avenue J between 15th Street West and 25th Street West. The proposed project will help reduce congestion, enhance operational capacity, improve local circulation of traffic, improve wayfinding, and provide multimodal facilities in the form of bikeways and sidewalks.	Caltrans	Pending Approval

Number	Project Title	Project Description	Lead Agency	Project Status
8	Avenue K Interchange Improvement Project	The proposed SR-14 interchange project will modify the geometry and capacity of Avenue K and SR-14. The purpose of the project is to improve operational capacity at the interchange and surrounding local streets, alleviating projected congestion and bottlenecks, while improving way-finding and multi-modal operation.	Caltrans	Approved
9	SR-14 Mainline Project from Rancho Vista Blvd. to Palmdale Blvd.	New southbound auxiliary lane from Rancho Vista Blvd to Palmdale Blvd and an additional storage lane to the NB SR-14 off-ramp at Rancho Vista Blvd.	Caltrans	Pending Approval
10	State Route-14/Palmdale Boulevard (SR-138) Interchange Improvement 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.	Caltrans	DED Circulated December 2018
Other Development Projects				
9	Palmdale Energy Project (formerly Palmdale Hybrid Power Project)	The 700-megawatt Palmdale Energy Project electric generating facility is located near Palmdale Regional Airport, 0.33 mile south of Avenue M, east of Sierra Highway, adjacent to Air Force Plant 42. This hybrid facility would use a natural-gas-fired combined-cycle plant technology.	City of Palmdale	In April 2018, project received final permit decision for conditional approval from the EPA for the construction of the project.

Number	Project Title	Project Description	Lead Agency	Project Status
10	Self-Storage Facility	The Project site consists of 4.16 acres of vacant undeveloped land located southeast of the intersection of Sierra Highway and Avenue R-8, occupying the east side of Sierra Highway and the west side of 10th Street East. The Project site encompasses a small portion of the southwest quarter of Section 35, Township 6 North, Range 12 West.	City of Palmdale	Project Initial Study/MND prepared June 2018

Environmental Consequences

No Build Alternative

The No Build Alternative would not convert any existing land uses to transportation uses, nor would it have direct effects on land uses in the project area. Furthermore, the location, characteristics, and uses of existing transportation facilities generally would not change.

Build Alternative

The Build Alternative would require permanent acquisitions of up to 18 properties to accommodate widening of Avenue N. See Table 2.1-12 for a summary of impacted properties in Section 2.1.2.2 Relocation and Property Acquisition. It is anticipated that two residences would be displaced as a result of the proposed project. Except for the acquisitions, no existing land uses would be converted to a transportation use, and no changes to City or County land use designations would occur. The proposed project would not prevent the City or County from developing their future land use plans. Project implementation would not divide neighborhoods or cut off any dependent land uses from each other. Thus, there would be no impacts related to land use or planning.

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, mitigation measures are required.

Build Alternative

No avoidance, minimization, mitigation measures are required.

2.1.1.2 Consistency with State, Regional, and Local Plans

The proposed project is located within the City of Palmdale and Los Angeles County. These jurisdictions manage development through policy guidance in their respective planning documents, including general plans and zoning classifications. State law requires that city general plans be in conformance with county plans.

Affected Environment

Applicable State and Regional Plans

2019 Federal Transportation Improvement Program

The proposed project is currently included in Amendment # 19-01 of the Southern California Association of Governments (SCAG) financially constrained 2019 Federal Transportation Improvement Program (FTIP), which includes all federally funded and regionally significant projects in the 6-county SCAG planning region (SCAG, 2016). The proposed project is registered as LA0G898 in Amendment #19-01 of the 2019 FTIP. It is defined as, "Improvement of SR -14 on and off ramps at Avenue N; Install traffic signals/signal interconnect and intersection widening at SR-14/Avenue N on and off ramp locations; improve SR-14/Ave N bridge structure; Improve Avenue N between SR-14 &10th W; Construct additional mainline improvements on SR-14 near Avenue N on and off ramp approaches." The FTIP is currently being amended because current FTIP description accounts for a maximum of 4 lanes (two in each direction) along Avenue N. However, the current project proposes widening Avenue N to four lanes total from 17th Street West to the SR-14 ramps and to 6 lanes total from the SR-14 ramps to 10th Street West. Therefore, the FTIP needs to be updated to account for the 6-lane widening that is proposed for the analyzed build alternative.

Southern California Association of Governments 2016—2040 Regional Transportation Plan/Sustainable Communities Strategy

SCAG is a metropolitan planning organization representing six counties and 191 cities in Southern California. The SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted on April 7, 2016. The 2016-2040 RTP/SCS includes a network of more than 60 major interchange projects that are assumed to be operational by 2040 (SCAG 2016).

The 2016–2040 RTP/SCS includes the following regional transportation goals:

- Align investments and policies with improving regional economic development and competitiveness.
- Maximize mobility and accessibility for all people and goods in the region.
- Ensure travel safety and reliability for all people and goods in the region.
- Preserve and ensure a sustainable regional transportation system.
- Maximize the productivity of our transportation system.

- Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).
- Actively encourage and create incentives for energy efficiency, where possible.
- Encourage land use and growth patterns that facilitate transit and active transportation.
- Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.

These goals emphasize SCAG's priorities in the movement of both people and goods through the region in the safest and most energy efficient way possible.

A request for an amendment will be submitted to SCAG to amend the project description in the currently conforming 2016 RTP/SCS and 2019 FTIP. This amendment will account for the latest Build Alternative design, which proposes to widen Avenue N to 6 lanes total from SR-14 ramps to 10th Street West. When the proposed project is successfully amended into the conforming RTP/SCS and FTIP, the project will be considered to have satisfied regional conformity requirements. Both the FTIP and RTP can be seen in Appendix D.

Los Angeles County Metropolitan Transportation Authority (Metro) Measure R

Measure R is a half-cent sales tax for Los Angeles County to finance new transportation projects and programs and accelerate those projects already in the pipeline. The tax took effect in July 2009. Measure R alone does not fully fund all projects. The Measure contains an Expenditure Plan that identifies the projects to be funded and additional funding sources that will be used to complete the projects.

On September 27, 2012, the Metro Board of Directors approved $200 million in Measure R funds to be allocated towards a Capacity Enhancement Projects located on SR-14. The SR-14/Avenue N Operational Improvements Project (proposed project) is one of 11 projects along the SR-14 corridor approved by the Metro Board. A total of $20 million is allocated towards this proposed project

City of Palmdale General Plan

The City's General Plan was adopted in January 1993. Since then, the City has taken a series of actions to amend the various elements of the Plan. While specific land use designations and circulation map changes have occurred, citywide land use and circulation goals and policies that promote mobility have remained essentially the same.

Circulation Element

The 2015 Annual Report on the Implementation of the General Plan identifies Circulation Element projects undertaken to improve areawide circulation and mobility. These include various improvements associated with the proposed project at Avenue N and SR-14.

Applicable County Plans

Los Angeles County General Plan

The 2015 Los Angeles County General Plan was adopted on October 6, 2015. The 2015 General Plan includes several policies aimed at improving transportation in the county.

Antelope Valley Area Plan (also known as the Town and Country Plan)

Adopted by the County Board of Supervisors on June 16, 2015, the purpose of the Antelope Valley Area Plan (AVAP) is to achieve a shared community vision of the future through the development of specific goals, policies, land use, zoning maps and other planning instruments. The AVAP represents a refinement of the County General Plan at the area or community plan level.

Environmental Consequences

Table 2.1-4 Consistency with Local, Regional and State Plans

Goals/Objectives/Policies	No Build Alternative	Build Alternative
SCAG Regional Transportation Plan/Sustainable Communities Strategy		
Perform and support studies with the goal of identifying innovative transportation strategies that enhance mobility and air quality and determine practical steps to pursue such strategies while engaging local communities in planning efforts.	**Not Consistent**. The No Build Alternative would not enhance mobility or air quality because no improvements to SR-14 or Avenue N would occur, which would contribute to additional congestion and delay in the study area.	**Consisten**t. The Build Alternative would enhance mobility and air quality by reducing congestion and delay in the study area.
Work with relevant state and local transportation authorities to increase the efficiency of the existing transportation system.	**Not Consistent**. Under the No Build Alternative, improvements to the transportation system would not occur. Congestion and delay would continue to worsen, conditions that do not promote efficiency	**Consistent**. The Build Alternative would substantially alleviate traffic congestion, improve LOS, and reduce delay at several intersections within the project limits, which would increase the efficiency of the transportation system.
Los Angeles County General Plan		
Policy LU 5.3 Support a mix of land uses that promote bicycling and walking and reduce VMTs.	**Not consistent**. The No build Alternative would not provide bicycle lanes or sidewalks.	**Consistent**. The Build alternative would incorporate bicycle lanes and sidewalks, therefore reducing VMTs by providing options for users.

Goals/Objectives/Policies	No Build Alternative	Build Alternative
Policy M 1.1 Provide for the accommodation of all users, including pedestrians, motorists, bicyclists, equestrians, users of public transit, seniors, children, and persons with disabilities when requiring or planning for new, or retrofitting existing, transportation corridors/networks whenever appropriate and feasible. **Policy M 2.1** Provide transportation corridors/networks that accommodate pedestrians, equestrians and bicyclists, and reduce motor vehicle accidents through a context-sensitive process that addresses the unique characteristics of urban, suburban, and rural communities whenever appropriate and feasible. **Policy M 2.3** Accommodate pedestrians and bicyclists and reduce motor vehicle accidents by implementing the following intersection designs, whenever appropriate and feasible: • Traffic calming measures, such as bulb-outs, sharrows, medians, roundabouts, and narrowing or reducing the number of lanes (road diets) on streets. **Policy M 2.7** Require sidewalks, trails and bikeways to accommodate the existing and projected volume of pedestrian, equestrian and bicycle activity, considering both the paved width and the unobstructed width available for walking.	**Not Consistent**. The No Build Alternative does not incorporate bicycle lanes, pedestrian walkways, nor ADA ramps to accommodate persons with disabilities. It would also not include any traffic calming measures.	**Consistent**. The Build Alternative would incorporate bicycle lanes, pedestrian walkways, and ADA compliant walkway features. These project components meet the goals of the LACGP policies in the Mobility Element. Traffic calming measures (e.g., roundabouts) would also be included.
Antelope Valley Area Plan		
Policy M 3.3 Implement highway improvements only when necessitated by increasing traffic or new development or for safety reasons.	**Not Consistent**. The No Build Alternative would not generate any improvements.	**Consistent**. The Build Alternative proposes transportation improvements that will both accommodate increased traffic, a need identified in the Traffic Study, and enhance safety.

Goals/Objectives/Policies	No Build Alternative	Build Alternative
Goal M 9: A unified and well-maintained bicycle transportation system throughout the Antelope Valley with safe and convenient routes for commuting, recreation, and daily travel. **Policy M 9.1**: Implement the adopted Bikeway Plan for the Antelope Valley in cooperation with the cities of Lancaster and Palmdale. Ensure adequate funding on an ongoing basis. **Policy M 9.2**: Along streets and highways in rural areas, add safe bicycle routes that link to public facilities, a regional transportation hub in Palmdale, and shopping and employment centers in Lancaster and Palmdale. **Policy M 9.3:** Ensure that bikeways and bicycle routes connect communities and offer alternative travel modes within communities.	**Not Consistent**. The No Build Alternative would not incorporate any transportation elements for bicycles.	**Consistent**. The Build Alternative would incorporate bicycle lanes, thereby adding to the bicycle network within the City of Palmdale and the adjacent area.
City of Palmdale General Plan		
Goal C1: Establish, maintain and enhance a system of streets and highways which will provide for the safe and efficient movement of people and goods throughout the Planning Area, while minimizing adverse impacts on the community.	**Not Consistent**. Under the No Build Alternative, improvements to the transportation system would not be made. Congestion and delay would worsen and there would be no benefit to safety and efficiency.	**Consistent**. The Build Alternative would alleviate traffic congestion, improve LOS, and reduce delay at several intersections within the project limits, therefore increasing safety and efficiency of the transportation system.
Objective C1.2: Maintain and expand the arterial and regional roadway system to serve existing and future circulation needs. **Policy C1.2.4**: Promote development of regional arterial links within the community where needed to serve existing and future needs including, but not limited to, coordinating with Caltrans and other affected agencies to expedite rerouting of Highway 138 and widening of SR-14.	**Not Consistent**. The No Build Alternative would not expand the transportation system and would not accommodate future needs.	**Consistent**. The Build Alternative would widen Avenue N between 17th Street West and the SR-14 on-and off-ramps from one lane to two lanes in each direction and from the SR-14 on-and off-ramps to 10th Street West widen Avenue N from one lane to three lanes in each direction. Also, the roundabouts would be striped for one lane, but with the ability to accommodate two lanes in the future as traffic increases. These design features serve both existing and future circulation needs.

Goals/Objectives/Policies	No Build Alternative	Build Alternative
Goal C3: Encourage use of non-vehicular transportation throughout the Planning Area.	**Not Consistent**. The No Build Alternative does not provide improvements to facilitate the use of non-vehicular transportation.	**Consistent**. The Build Alternative would include the addition of bike lanes and sidewalks throughout the project area, thereby promoting the use of non-vehicular transportation.
Objective ER5.1: Minimize local air pollution caused by vehicles.	**Not Consistent.** Under the No Build Alternative, congestion would continue to worsen, which would contribute to additional air pollution.	**Consistent**. Under the Build Alternative, congestion and delay would improve, which would also improve air quality due to vehicles operating at more efficient speeds.
Goal CD-1: Create and maintain a well-designed built environment for the City of Palmdale, which contributes to the community's economic vitality and enhances the quality of life for its residents.	**Not Consistent**. The project area is in need of updating in order to enhance the built transportation area.	**Consistent**. The Build Alternative proposes improvements to the SR-14 and Avenue N interchange as well as improvements along Avenue N from 17th Street West to 10th Street West. These transportation improvements would contribute to enhancing the built environment. They would improve traffic flow, safety, and quality of life for the City's residents.
Goal N1: Minimize the exposure of residents to excessive noise to the extent possible, through the land planning and the development review process.	**Consistent**. Under the No Build Alternative, residents would not be exposed to additional noise.	**Consistent**. Construction of the Build Alternative would involve additional noise in the study area during the construction period. These impacts would be minimized through implementation of avoidance and minimization measures, further discussed in Section 2.2.7.
Goal PRT5: Promote bicycling as an important mode of transportation and recreation in the City of Palmdale.	**Not Consistent**. The No-Build Alternative does not provide a bike lane and thus does not promote bicycling.	**Consistent**. The Build Alternative provides a bike lane that would encourage the local community to use bicycles along the Project segment.

No Build Alternative

The No Build Alternative would not support achievement of the goals described above in Table 2.1-4 because congestion and delay would continue to worsen, safety and efficiency would not be enhanced, and pedestrian and bicycle facilities would not be constructed.

Build Alternative

As shown in Table 2.1-4, the proposed Build Alternative is consistent with planning goals, objectives, and policies expressed in local and regional plans and studies; therefore, there would be no adverse impacts.

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

The Build Alternative would be consistent with the stated objectives of these state, regional and local plans; therefore, no avoidance minimization, and/or mitigation measures would be required.

2.1.1.3 Parks and Recreation

Regulatory Setting

This project would affect facilities that are protected by the Park Preservation Act (California Public Resources Code [PRC] Sections 5400-5409). The Park Preservation Act prohibits local and state agencies from acquiring any property that is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the parkland and any park facilities on that land.

Affected Environment

Parks and recreational resources include any park, recreational facility, designated public open space area, recreational bikeway, and other recreational trails within 0.5 mile of the proposed project. According to the City of Palmdale Parks and Facilities Map (2018) and review of County facilities in the area, there are no park or recreational resources within 0.5 mile of the project limits. The nearest public park and recreational facilities to the proposed project in Palmdale are: Marie Kerr Park (2.3 miles southwest); Desert Sands Park (3.0 miles southeast); and Arnie Quinones Park (3.1 miles west).

The City's Bikeway and Multi- Purpose Trails Plan (September 27, 2016), identifies an adopted Master Plan Bikeway along West Avenue N through the project limits

Environmental Consequences

No Build Alternative

The No Build Alternative does not propose any improvements and therefore would not impact parks or recreational facilities.

Build Alternative

No parkland or recreational facilities occur within 0.5 mile of the proposed project. No parkland or recreational facilities would be temporarily or permanently affected by the proposed project because of property acquisition. Operation of the completed roadway sections and interchange improvements would not have any substantial impacts on parks or recreational facilities. Implementation of the proposed project would implement the adopted Master Plan Bikeway along Avenue N within the project limits. Additionally, there are no Section 4(f) resources within or near the project vicinity.

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

The project would have no direct or indirect impacts on parks and/or recreational resources. No avoidance, minimization, and/or mitigation measures would be required

2.1.2 Community Impacts

2.1.2.1 Community Character and Cohesion

Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, established that the federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). The Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions on projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts, such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Since this project would result in physical change to the environment, it is appropriate to consider changes to community character and cohesion in assessing the significance of the project's effects.

Affected Environment

The following analysis is based on information gathered from the *Community Impact Assessment* (February 2019). It utilizes characteristics of the community such as population, age, race, ethnicity, income, and housing to evaluate the character and cohesion of the community. Community cohesion is the degree to which residents have a sense of belonging to their neighborhood, their level of commitment to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time.

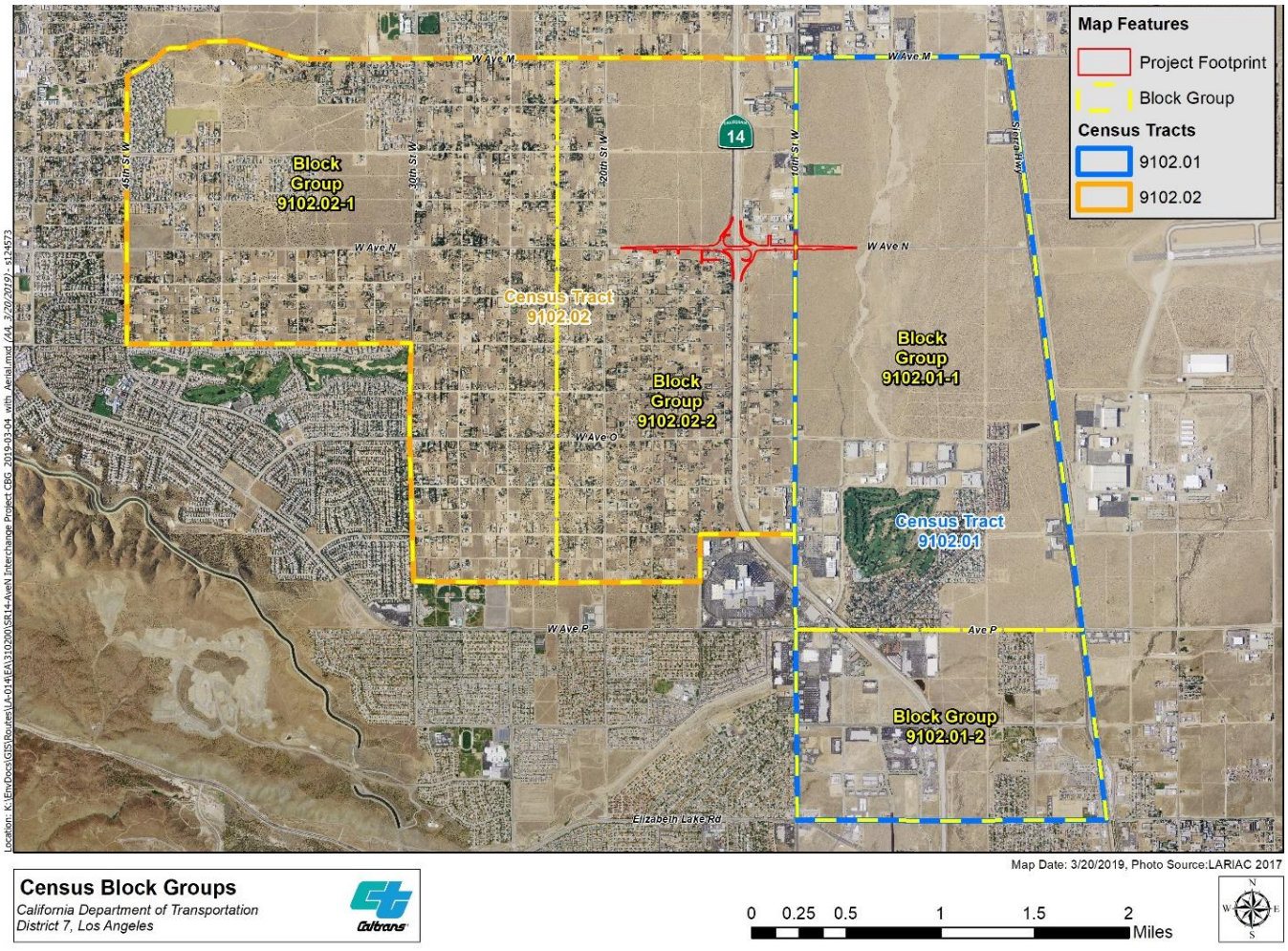
The project area is located both within the City of Palmdale to the east of SR-14 (eastern limits) and within unincorporated Los Angeles County to the west of SR-14 (western limits). The community study area was defined as the area within a 0.5-mile radius of the project footprint. Data was collected from the four census block groups within the study area. Census data was collected for both the City of Palmdale and Los Angeles County in order to compare the study area characteristics with the overall regional characteristics.

Table 2.1-5 and Figure 2.1-5 identify the census block groups that overlap within the project area.

Table 2.1-5 List of Study Area Census Block Groups

Census Block Groups	City
9102.01-1	Palmdale
9102.01-2	Palmdale
9102.02-1	Unincorporated Los Angeles County
9102.02-2	Unincorporated Los Angeles County

Figure 2.1-5 Census Block Groups



Data presented in this section used to describe the regional and community demographic characteristics within the project study area are based on census tract information from the U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimates.

Project Area

In the area north of Avenue N and east of SR-14 is a business park which includes law offices, offices for the Girl Scouts of Greater Los Angeles-Palmdale, medical offices (dentists, urgent care, chiropractic), hair salons, offices for the Los Angeles Farm Bureau, accountants, realtors, a self-storage facility, and a church.

In the area south of Avenue N and east of SR-14 there are two residential structures and a lot used as a parking area for commercial trucks. The rest of the area is mostly undeveloped. This area south of Avenue N and east of SR-14 may be affected by the widening of Avenue N as the proposed sidewalk would go onto these properties. Additionally, there is a proposed soundwall (Soundwall E) at two of the residential properties.

The areas north of Avenue N and west of SR-14 are vacant and undeveloped. However, the area south of Avenue N and west of SR-14 is a rural residential development that is characterized by single-family single-story homes typically located on parcels measuring one-acre or more. The widening of Avenue N may affect these residences as the proposed temporary construction easements would infringe on their property. Additionally, proposed soundwalls (Soundwalls B and C) would be placed in front of their view of Avenue N but would be built at the property line and would not infringe on their property. Additional development in this area includes a church at the southeast corner of Avenue N and 18th Street West and the Antelope Valley Animal Hospital located on Avenue N near the existing southbound SR-14 on-ramp.

Community Characteristics

Population and Age

Table 2.1-6 shows the age distribution of the population within the region and the community study area of the project. The data indicates that the population within the study area generally follows the City and/or County trends with the exception of Census Block Group 9102.01-2, which shows a lower percentage of population that is 64 years or older. More than half of the population in both the City and County, as well as the community study area, falls within the range of 18-64 years old.

Table 2.1-6 Age Distribution

Geography	<18 years	%	18-64 years	%	>64 years	%	Total
County							
Los Angeles	2,296,785	22.8%	6,533,168	65.0%	1,227,202	12.2%	10,057,155
City							
Palmdale	49,300	31.4%	94,707	60.4%	12,816	8.2%	156,823
Census Block Group							
9102.01-1	564	23.3%	1,392	57.5%	464	19.2%	2,420
9102.01-2	379	32.7%	730	63.0%	50	4.3%	1,159
9102.02-1	916	23.5%	2,321	59.5%	664	17.0%	3,901
9102.02-2	340	25.4%	740	55.4%	256	19.2%	1,336

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Race and Ethnicity

Table 2.1-7 presents the race and ethnic distribution of population within the region and study area. Overall, the largest ethnic group in the study is the White population; it has the highest percentages for all the Census Block Groups except for Census Block Group 9102.01-2, which has a higher Hispanic or Latino population. Additionally, the minority population in Block Group 9102.01-2 (85.9 percent) represents a higher percentage than the county (73.3 percent) and City (78.1 percent) as a whole.

Table 2.1-7 Race and Ethnic Composition

Geography	Total Population	White		Black		American Indian and Alaska Native		Asian alone		Native Hawaiian and Other Pacific Islander alone		Some other race alone		Two or more races		Hispanic or Latino		Total Minority (including Hispanic or Latino)	
		Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
County																			
Los Angeles	10,057,155	2,687,787	26.7%	801,182	8.0 %	18,765	0.2 %	1,413,105	14.1 %	24,439	0.2%	29,351	0.3 %	220,878	2.2%	4,861,648	48.3 %	7,369,368	73.3%
City																			
Palmdale	156,823	34,293	21.9%	19,432	12.4 %	564	0.4 %	6,718	4.3 %	70	0.04 %	487	0.3 %	3,389	2.2%	91,870	58.6 %	122,530	78.1%
Census Block Group																			
9102.01-1	2,420	976	40.3%	459	19.0 %	0	0.0 %	143	5.9 %	0	0.0%	0	0.0 %	65	2.7%	777	32.1 %	1,444	59.7%
9102.01-2	1,159	163	14.1%	76	6.6 %	0	0.0 %	23	2.0 %	0	0.0%	23	2.0 %	0	0.0%	874	75.4 %	996	85.9%
9102.02-1	3,901	2,282	58.5%	288	7.4 %	28	0.7 %	442	11.3 %	0	0.0%	0	0.0 %	83	2.1%	778	19.9 %	1,619	41.5%
9102.02-2	1,336	671	50.2%	31	2.3 %	11	0.8 %	66	4.9 %	0	0.0%	0	0.0 %	5	0.4%	552	41.3 %	665	49.8%

Income

The 2016 Median Household Income is presented in Table 2.1-8. The median household income in 2016 in Los Angeles County was $57,952 and in the City of Palmdale was $52,801. Census Block Group 9102.01-2 had a 2016 median household income that is lower than the United States Department of Health and Human Services (HHS) Poverty Guidelines. However, the other Census Block Groups have a similar or higher median household income than that of the County and City. The project area is not at a disproportionately low-income range as the median income on only Census Block Group 9102.01-2 is only slightly less than that of the HHS Poverty Guidelines and the average income for the City of Palmdale is considered between $20, 000 and $30,000. Additionally, Census Block Group 9102.01-2 has the lowest total population and therefore does not account for a disproportionately large percentage of the project area.

Table 2.1-8 Median Household Income (2016)

Geography	Estimate; Median household income in the past 12 months (in 2016 inflation-adjusted dollars)	HHS Poverty Guidelines (Family of Four; 2016)
County		$24,300
Los Angeles	$57,952	
City		
Palmdale	$52,801	
Census Block Group		
9102.01-1	$63,587	
9102.01-2	$23,438	
9102.02-1	$95,250	
9102.02-2	$50,500	

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, https://aspe.hhs.gov/poverty-guidelines

Notes: HHS = United States Department of Health and Human Services; Shaded numbers are lower than the HHS Poverty Guidelines.

Housing

As shown in Table 2.1-9 2015 Household Type by Household Size, most of the census block groups in the study area contain higher percentages of households with two or more people than single-person households. As a general rule, this would indicate that the area has a higher degree of community cohesion.

Compared to the City of Palmdale and Los Angeles County, the census block groups within the study area contain higher percentages of homeowners, as shown in Table 2.1-10, 2010 Total Population in Occupied Housing Units by Tenure. Census Block Group 9102.01-2, which is 47.3 percent renter occupied is the only exception and even though this represents a larger percent of renter occupied housing than the City of Palmdale (32.8 percent), it is consistent with what is found throughout Los Angeles County (49.4 percent). This higher percentage of home ownership is another indication that the study area has a higher degree of community cohesion than Los Angeles County as a whole.

Since the early 2000s, the City of Palmdale, along with the Antelope Valley, have experienced a high growth in housing. According to the City of Palmdale General Plan's Housing Element, the City experienced a 25.9 percent increase in the number of housing units in the City from January 2000 to January 2010. In comparison, Los Angeles County experienced a 4.9 percent increase during the same time period (City of Palmdale 2012). However, this growth slowed down significantly as a result of the subprime mortgage crisis and general economic slowdown of 2008. Palmdale's Housing Element indicates that there were 2,698 Palmdale homes in default, foreclosure, or bank ownership in November 2011.

Table 2.1-11, 2016 Vacancy Status, shows the total number of housing units in Palmdale and Los Angeles County and the number of vacant housing units. As shown in Table 2.1-11, the percentage of vacant housing units in Palmdale (8.2 percent) is higher than in Los Angeles County (6 percent). The higher vacancy status and decreased residential development indicate higher levels of available housing compared to the County, and slower growth in Palmdale compared to previous years.

Table 2.1-9 Household Type by Household Size

Households	Census Block Groups								Palmdale		Los Angeles County	
	9102.01-1		9102.01-2		9102.02-1		9102.02-1					
	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
Total:	1,026	--	325	--	1,152	--	494	--	43,476	--	3,281,845	--
Family households:	644	62.8%	223	68.6%	982	85.2%	351	71.1%	34,725	79.9%	2,196,172	66.9%
2-person household	348	33.9%	49	15.1%	295	25.6%	155	31.4%	8,956	20.6%	713,925	21.8%
3-person household	138	13.5%	68	20.9%	218	18.9%	58	11.7%	7,501	17.3%	516,331	15.7%
4-person household	76	7.4%	39	12.0%	241	20.9%	96	19.4%	7,960	18.3%	484,529	14.8%
5-person household	61	5.9%	0	0.0%	153	13.3%	12	2.4%	4,931	11.3%	265,483	8.1%
6-person household	21	2.0%	43	13.2%	62	5.4%	22	4.5%	2,629	6.0%	120,481	3.7%
7-or-more person household	0	0.0%	24	7.4%	13	1.1%	8	1.6%	2,748	6.3%	95,423	2.9%
Nonfamily households:	382	37.2%	102	31.4%	170	14.8%	143	28.9%	8,751	20.1%	1,085,673	33.1%
1-person household	348	33.9%	78	24.0%	116	10.1%	133	26.9%	6,942	16.0%	841,714	25.6%
2-person household	26	2.5%	24	7.4%	54	4.7%	10	2.0%	1,308	3.0%	193,309	5.9%
3-person household	8	0.8%	0	0.0%	0	0.0%	0	0.0%	271	0.6%	33,395	1.0%
4-person household	0	0.0%	0	0.0%	0	0.0%	0	0.0%	159	0.4%	11,557	0.4%
5-person household	0	0.0%	0	0.0%	0	0.0%	0	0.0%	13	0.0%	3,740	0.1%
6-person household	0	0.0%	0	0.0%	0	0.0%	0	0.0%	58	0.1%	1,011	0.0%
7-or-more person household	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	947	0.0%

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

Table 2.1-10 2010 Total Population in Occupied Housing Units by Tenure

Population in Housing Units	Census Block Groups								Palmdale		Los Angeles County	
	9102.01-1		9102.01-2		9102.02-1		9102.02-1					
	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent	Total	Percent
Total population in occupied housing units:	2,267	--	1,282	--	3,687	--	1,531	--	152,551	--	9,646,924	--
Owned with a mortgage or a loan	1,509	66.6%	566	44.1%	2,922	79.3%	1,054	68.8%	94,698	62.1%	4,148,772	43.0%
Owned free and clear	201	8.9%	110	8.6%	350	9.5%	216	14.1%	7,746	5.1%	730,073	7.6%
Renter occupied	557	24.6%	606	47.3%	415	11.3%	261	17.0%	50,107	32.8%	4,768,079	49.4%

Source: U.S. Census Bureau, 2010 Census.

Table 2.1-11 2016 Vacancy Status

Geography	Palmdale		Los Angeles County	
	Total	Percent	Total	Percent
Total Housing Units	47,363	--	3,490,118	--
Total Vacant Housing Units	3,887	8.2%	208,273	6.0%
For rent	862	1.8%	61,816	1.8%
Rented, not occupied	100	0.2%	15,195	0.4%
For sale only	462	1.0%	17,396	0.5%
Sold, not occupied	175	0.4%	9,584	0.3%
For seasonal, recreational, or occasional use	531	1.1%	31,027	0.9%
For migrant workers	0	0.0%	89	0.0%
Other vacant	1,757	3.7%	73,166	2.1%
Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates				

Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any change to the existing community and would therefore not have any effect on community character or cohesion.

Build Alternative

The proposed project is located in a sparsely populated and more rural area of Palmdale with a few businesses in the project area. It proposes to widen the existing roadway (Avenue N) and create roundabout features at the on-and off-ramps of SR-14 for the purpose of improving traffic circulation. The proposed project (1) would not bisect a neighborhood or community; (2) would not change existing commute patterns or transit routes; and (3) would not displace any community serving facilities.

Direct impacts that could affect community character and cohesion would not occur because the Build Alternative does not involve construction of a new roadway; all improvements are along existing roadways. For the same reason, the Build Alternative would not bisect an existing residential neighborhood or community.

The project design has been modified to ensure full access to the animal hospital is maintained. Please refer to Section 1.5 Alternatives for more detail. Therefore, the Antelope Valley Animal Hospital would remain in the project area and operate as normal; therefore, there would not be an impact to community character nor services.

Impacts to community services and facilities would be temporary with only minor interruptions to access. Nevertheless, a Traffic Management Plan (TMP) would be implemented and appropriate outreach efforts to those affected would be made as part of the project which would organize traffic patterns during construction and ensure that access to businesses and residences is maintained at all times during construction. There are proposed temporary construction easements (TCE), partial acquisitions, and two full acquisitions of vacant lands for the expansion of Avenue N.

Overall, the proposed project aims to provide multi-modal and community benefits by providing bike lanes, pedestrian walkways, and traffic calming features, thereby increasing safety and efficiency in the project area.

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are required.

Build Alternative

No avoidance, minimization, and/or mitigation measures are required. The design of the Preferred Alternative has been modified so it provides access to the Animal Hospital as outlined in the project description.

2.1.2.2 Relocation and Property Acquisition

Regulatory Setting

The Caltrans Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), and Title 49 Code of Federal Regulations (CFR) Part 24. The purpose of the RAP is to ensure that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Please see Appendix B for a summary of the RAP.

All relocation services and benefits are administered without regard to race, color, and national origin, persons with disabilities, religion, age, or sex. Please see Appendix A for a copy of the Department's Title VI Policy Statement.

Affected Environment

Information in this section is from the *Cost Estimate Map* (September 2019) and *Right-of-Way Data Sheet* (October 2019). It analyzes potential Right-of-way (ROW) acquisition impacts on residential and nonresidential properties within the study area under the Build Alternative. The proposed project is located in unincorporated Los Angeles County (west of SR-14) and the City of Palmdale (east of SR-14). Most of the land along this section of Avenue N consists of large vacant lots, single family homes on large lots, and a few small businesses. See the Land Use (Section 2.1.1) and Community Cohesion (Section 2.1.2.1) of this environmental document for a full description of the existing characteristics within the study area.

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 property use is a Temporary Construction Easement (TCE), which is the temporary use of a portion of a property only during project construction (typically needed for construction staging or equipment and materials storage use). Once construction is completed, property within a TCE is restored to the pre-construction state.

Environmental Consequences

No Build Alternative

No property acquisitions or relocations would occur under the No Build Alternative.

Build Alternative

Implementation of the Build Alternative would require the acquisition of property located within the proposed Avenue N right-of-way. Implementation of the Project would result in the full acquisition of two vacant land parcels, approximately 16 partial acquisitions and approximately 34 TCEs. The full, partial acquisitions, and TCEs would not result in the relocations of any businesses or residences. Details on the various acquisitions resulting from this Project are shown in Table 2.1-12 Summary of Impacted properties and in Figure 2.1-6 Affected Parcels.

Table 2.1-12 Summary of Impacted Properties

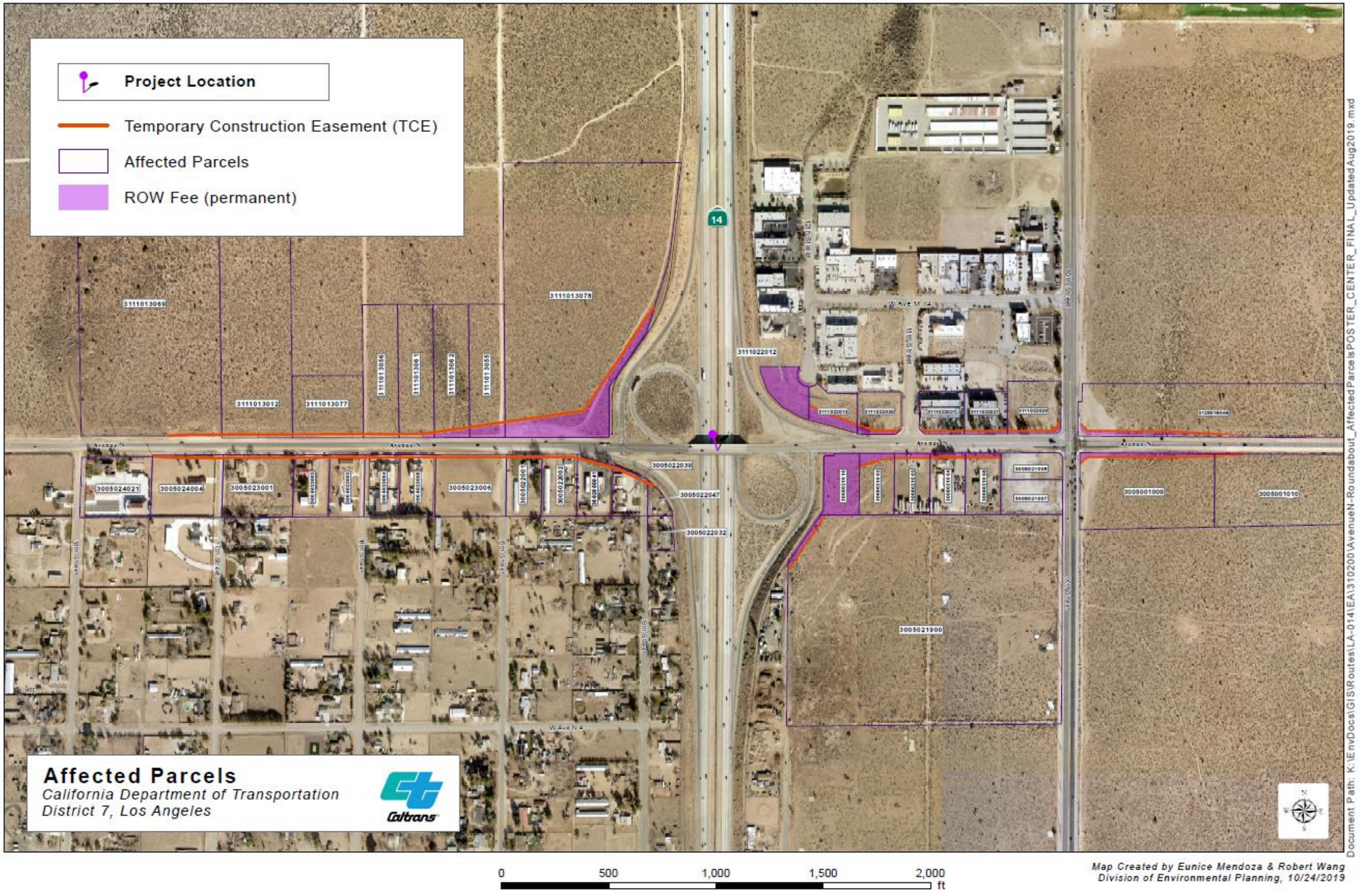
APN Number*	Address	Land Use Type	Type of Acquisition
3111-013-069	Address Not Available	Vacant Land	TCE
3005-024-004	1708 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3005-023-001	1654 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3111-013-012	Vac/Ave N/Vic Ave M12 Palmdale CA 93551	Vacant Land	TCE
3111-013-077	Vac/Ave N/Vic 17th Street West Palmdale CA 93551	Vacant Land	TCE
3005-023-002	1620 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3005-023-003	41159 16th Street West Palmdale CA 93551	Single Family Residence	TCE
3005-023-004	1546 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3111-013-056	Vac/Avenue N/Vic Ave Fwy Palmdale CA 93551	Vacant Land	TCE
3111-013-061	Vac/Avenue N/Vic 15th Street West Palmdale CA 93551	Vacant Land	Partial and TCE
3111-013-062	Vac/Ave N/Vic 15th Street West Palmdale CA 93551	Vacant Land	Partial and TCE
3111-013-055	Address Not Available	Vacant Land	Partial and TCE
3005-023-005	1532 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3005-023-006	Vac/Cir Ave N(Pav)/15th Street West White Fence Farms CA 93551	Vacant Land	TCE

APN Number*	Address	Land Use Type	Type of Acquisition
3111-013-078	Address Not Available	Vacant Land	Partial and TCE
3005-022-001	1352 W Avenue N Palmdale CA 93551	Single Family Residence	TCE
3005-022-002	1330 West Avenue N Palmdale CA 93551	Single Family Residence	TCE
3005-022-041	1326 W Avenue N Palmdale CA 93551	Commercial	TCE
3005-022-047	41128 13th Street West Palmdale CA 93551	Single Family Residence	TCE
3005-022-039	41137 13th Street West Palmdale CA 93551	Single Family Residence	TCE
3111-022-012	Vac/12TH St. W/Vic Ave N Palmdale CA 93551-0000	Vacant Land	**Full**
3111-022-013	Vac/12th Street West/Vic Ave M14 Palmdale CA 93551	Vacant Land	Partial and TCE
3005-021-010	Vac/Cor Ave N/Av Freeway Palmdale CA 93550	Vacant Land	**Full**
3005-021-900	VAC/COR 10TH St. W/Ave N4 Palmdale CA 93551	Other Property Type	Partial and TCE
3005-021-002	Vac/Ave N/Vic 11th St W Palmdale CA 93550	Vacant Land	Partial and TCE
3111-022-020	Vac/Cor Ave N/11th St W Palmdale CA 93551	Vacant Land	Partial and TCE
3111-022-021	41210 11th St W Palmdale CA 93551	Commercial	Partial and TCE
3111-022-027	1037 W Avenue N Palmdale CA 93551	Commercial	Partial and TCE
3111-022-028	Vac/Cor 10th Street West/Ave N Palmdale CA 93550	Vacant Land	Partial and TCE
3005-021-003	Vac/Cor 11th Street West/Ave N Palmdale CA 93550	Vacant Land	Partial and TCE
3005-021-004	1056 W Avenue N Palmdale CA 93551	Single Family Residence	Partial and TCE
3005-021-005	1030 W Avenue N Palmdale CA 93551	Single Family Residence	Partial and TCE
3005-001-009	Vac/Cor 10th St. West/Ave N Palmdale CA 93550	Vacant Land	Partial and TCE
3128-016-049	Vac/Cor 10th West/Ave N Palmdale CA 93550	Vacant Land	Partial and TCE

APN Number*	Address	Land Use Type	Type of Acquisition
3005-001-010	Vac/Cor 10th West/Ave N Palmdale CA 93550	Vacant Land	TCE

*APN (Accessor's Parcel Number)

Figure 2.1-6 Affected Parcels



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The Project would result in two full acquisitions:

- A vacant lot at the northeast corner of Avenue N and the SR-14 NB on-ramp
- A vacant lot at the southeast corner of Avenue N and the SR-14 NB off-ramp

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

2.1.2.3 Environmental Justice

Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services poverty guidelines. For 2016, this was $24,300 for a family of four.

All considerations under Title VI of the Civil Rights Act of 1964, and related statutes, have also been included in this project. The Department's commitment to upholding the mandates of Title VI is demonstrated by its Title VI Policy Statement, signed by the Director, which can be found in Appendix A of this document.

Affected Environment

Title VI of Civil Rights Act of 1964 requires that no person, because of race, color, religion, national origin, sex, age, or handicap, be excluded from participation in, denied benefits of, or be subjected to discrimination by any federal aid activity. Executive Order 12898 broadens this requirement to require that disproportionately high and adverse health or environmental impacts to minority and low-income populations be avoided or minimized to the greatest extent feasible.

The Council on Environmental Quality (CEQ) is an advisory body that has oversight of the federal government's compliance with EO 12898 and NEPA and has developed guidance for implementing environmental justice under NEPA. CEQ guidance recommends:
(1) Minority populations should be identified where either, (a) the minority population of the affected area exceeds 50 percent or, (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis; (2) Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population.

A minority individual is defined as a person belonging to any of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander, Black; or Hispanic. Low-income is defined as those individuals whose household income is at or below the poverty guidelines set by the Department of Health and Human Services.

The presence of low-income and minority populations was determined through the use of census data collected from the U.S. Census Bureau 2012-2016 American Community Survey 5-Year Estimates. Demographic data were obtained for the various block groups within the study area and are identified in Table 2.1-7 (Section 2.1.2). Census data for the block groups were compared to the local city and countywide demographics to help determine where disproportionate impacts on low-income and minority residents may occur.

There are several minority populations in the census block groups that overlap with the Project footprint. Table 2.1-7 shows that only census block group 9102.01-2 has a higher minority percentage than Palmdale and Los Angeles County; all other census block groups in the study area have a lower percentage of minorities. Therefore, the percentage of minorities in the Project area is lower than the percentage in either Palmdale or Los Angeles County as a whole.

Table 2.1-8 in Section 2.1.2 presents the 2016 Median Household Income of the study area, and for comparison, the median household income for Palmdale and Los Angeles County is also included. Generally, all census block groups in the study area had a similar or higher median household income compared to Palmdale and Los Angeles County. Only census block group 9102.01-2 had a 2016 median household income that was $23,438 which is lower than the HHS Poverty Guidelines for a family of four at $24,300 per year.

Based on this data it can be inferred that with the exception of census block group 9102.01-2 the three other census block groups in the study area (9102.01-, 9102.02-1, and 9102.02-2) do not contain a disproportionately high number of minority or low-income individuals.

Overall, as shown in Table 2.1-13 Summary of Minority Demographics, the Palmdale Study Area has very similar averages of Minority Groups and Income factors as compared to the City of Palmdale and the County of Los Angeles.

Table 2.1-13 Summary of Minority Demographics

Geography	Total Population	White		Minority (including Hispanic or Latino)	
		Total	%	Total	%
County					
Los Angeles	10,057,155	2,687,787	26.7%	7,369,368	73.3%
City					
Palmdale	156,823	34,293	21.9%	122,530	78.1%
Census Block Group					
9102.01-1	2,420	976	40.3%	1,444	59.7%
9102.01-2	1,159	163	14.1%	996	85.9%
9102.02-1	3,901	2,282	58.5%	1,619	41.5%
9102.02-2	1,336	671	50.2%	665	49.8%

Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

However, when the Minority Factors and Low-Income/Poverty Status Population Demographics are averaged for the study area, as shown in Table 2.1-14 below, the only the Census block 9102.01-2 has a higher minority population and higher low-income status population than that of both the City of Palmdale and the County of Los Angeles at 85.9% Minority Population and 38.9% Low-Income Status Population.

Table 2.1-14 Minority Factors and Low-Income/Poverty Status Population Demographics

Geography	Minority Population	Poverty Status Population
County		
Los Angeles	73.3%[A]	17.0%[B]
City		
Palmdale	78.1%[A]	18.6%[B]
Census Block Group		
9102.01-1	59.7%[A]	1.5%[C]
9102.01-2	85.9%[A]	38.9%[C]
9102.02-1	41.5%[A]	4.0%[C]
9102.02-2	49.8%[A]	2.7%[C]

Source: A = U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates
B = U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates
C = U.S. Census Bureau, Census 2000 Summary File 3 (SF 3)

Please note that the U.S. Census Bureau's 2013-2017 American Community Survey 5-Year Estimates did not contain poverty data for the subject census block groups. Therefore, poverty data for the subject census block groups from the 2000 Census (Summary File 3) is shown in the Table 2.1-14 above.

Environmental Consequences

No Build Alternative

The No Build Alternative does not propose improvements and would therefore not result in any environmental justice impacts.

Build Alternative

Overall, the proposed project would not result in any adverse impacts and would not have any disproportionate impacts to minority and/or low-income populations. Although, minority populations exist within the project area, their percentages are similar to that of both the City of Palmdale and the County of Los Angeles.

The proposed project would have temporary impacts associated with issues such as noise, dust, construction traffic, and truck traffic along the detour routes during the construction period. These impacts would be temporary and can be avoided or minimized with implementation of BMPs such as those included in the Traffic Management Plan (TMP), which would ensure that traffic impacts would be minimized during construction.

The proposed project would be beneficial by improving overall mobility and relieving congestion at the SR-14/ Avenue N on- and off-ramps and along Avenue N while also providing benefits to travelers at local and regional levels. The proposed project would benefit the community and enhance safety by providing several improvements including upgrading traffic signal operations, adding bicycle lanes, adding pedestrian sidewalks and crossings to provide safe channelization, ensuring pedestrian features incorporate current ADA standards. Minority and low-income populations are anticipated to have equal access to the improvement benefits provided by the proposed Project.

No minority or low-income populations that would be adversely affected by the proposed project have been identified as determined above. Therefore, this project is not subject to the provisions of Executive Order 12898.

Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are required.

Build Alternative

Avoidance measures:

EJ-1 Should it be necessary, during right-of-way acquisitions, translation services shall be offered to effectively communicate with residents affected by property acquisitions.

EJ-2 Public Outreach/Notices of Project will be published in Spanish Language Newspaper such as “La Opinion”

2.1.3 Utilities/Emergency Services

This section addresses potential impacts on public utilities and emergency services that would result from construction of the proposed project. Short-term construction impacts on public utilities and emergency services are addressed in Section 2.4, Construction Impacts.

2.1.3.1 Affected Environment

Utilities

The Project is served by the following water, wastewater, electric, natural gas, and telecommunications systems providers:

Water: Palmdale Water District
Wastewater: Los Angeles County Sanitation District Number 20
Natural Gas: Southern California Gas Company (SoCalGas)
Electricity: Southern California Edison
Waste: Waste Management Inc., for disposal at Antelope Valley Public Landfill I
Telecommunications: AT&T Distribution, Level 3 Communications, MCI (Verizon Business), Sprint, Sunesys, Southern California Edison –Telecom, Time Warner, Wilshire Connection LLC

All these service providers have utilities within the Project's right-of-way. Utilities within the direct impact study area include: Southern California Edison (SCE) overhead electrical lines and electrical vaults and cabinets; an AT&T buried cable and vault; various SoCalGas gas lines (3-, 4-, and 6-inch); fire hydrant; Eastern Kern Water Agency water line (30-inch CCP) and manholes; and a Los Angeles County Waterworks water line (12-inch).

Emergency Services

There are no police or fire stations within 0.5-mile of the Project study area. The City of Palmdale contracts with Los Angeles County for most emergency services, including the Los Angeles County Sheriff's Department and the Los Angeles County Fire Department. The closest Los Angeles County Sheriff's Department station to the Project site is located approximately 1.5 mile to the northeast at 42011 4th Street West in the City of Lancaster. The closest Los Angeles County Fire Department station is Station 129 located approximately 1.5 mile to the northeast at 42110 6th Street West in the City of Lancaster. Additionally, the California Highway Patrol (CHP) Antelope Valley Area, located approximately five miles north of the Project site at 2041 West Avenue I in the City of Lancaster, is responsible for patrolling approximately 30 miles of SR-14 from Acton to the Kern County line and approximately 1,400 miles of unincorporated roadways located in various communities throughout the Antelope Valley. CHP and Caltrans

take the lead in handling transportation emergency incidents involving hazardous materials. In addition, local jurisdictions typically have several private ambulance companies that provide emergency transportation services.

There are no hospitals located within a 0.5-mile buffer of the Project area; however, there is the Antelope Valley Urgent Care located in the project area at 41210 11th St. West. The Project area is served by 2 hospitals: Palmdale Regional Medical Center, located about 5 miles southeast at 38600 Medical Center Drive, and a division of Antelope Valley Hospital, located about 5 miles northeast at 38350 40th Street East.

2.1.3.3 Environmental Consequences

No Build Alternative

The proposed project would not be built under the No Build Alternative; therefore, this alternative would have no impact on utilities or emergency services. However, as LOS on Avenue N deteriorates in the future, response times of emergency response vehicles could increase.

Build Alternative

Utilities

The proposed project would require the relocation of utilities in the project area due to placement conflicts with the proposed improvements, or proximity to proposed improvements and requirements for clearance distances. Utilities that would potentially require relocation include:

- SCE overhead electrical lines and electrical vaults and cabinets;
- AT&T buried cable and vault;
- SoCalGas gas lines (3-, 4-, and 6-inch);
- Fire hydrant;
- Eastern Kern Water Agency water line and manholes; and
- Los Angeles County Waterworks water line (12-inch)

Existing utilities and those that are relocated would be located within existing or proposed ROW limits. All utility relocations would be planned and implemented in coordination with utility providers. It is not anticipated that the proposed project would adversely affect utility services as a result of the anticipated utility relocations. City of Palmdale coordination with the utility providers is required to avoid temporary or permanent impacts on users. Additionally, any water

main relocation construction shall be included in the construction contract to ensure coordination with Waterworks District 40, Antelope Valley. See measure UES-1 for details on this commitment. Implementation of the proposed project would not result in adverse long-term impacts on utilities.

Emergency Services

Temporary and short-term traffic closures and detours during construction could result in impacts on circulation and access for emergency services. Project feature, PF-T-1, creation of a Traffic Management Plan (TMP), would be implemented as part of the project to avoid or minimize such impacts. All closures and detours would be coordinated with local jurisdictions and providers of these services in order to avoid or minimize impacts on emergency services to the community.

The proposed project would add additional capacity, providing enhanced travel conditions and access to the surrounding area including community facilities and police, fire protection, and emergency services. The Project would not affect existing community facilities and would not increase demand in a manner requiring additional facilities or services.

2.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

The following project features would be implemented as part of the proposed project:

PF-T-1: A Final Transportation Management Plan (TMP) shall be developed in detail during final design.

The TMP shall include, but not be limited to, the following features:

- Provide Project updates to the affected residents, businesses, general public, schools, and public transportation agencies via brochures and mailers, community meetings, Project website, radio and newspaper advertisements, and/or broadcasts via social media.
- Provide Project information using changeable message signs and contractor signs.
- Incorporate traffic circulation construction strategies such as night work, lane and access modifications, and temporary traffic signal modifications.

- Provide detour routes for roadways, pedestrian routes, bus services, emergency services, and residential and commercial access routes during construction.
- Ensure that business access and neighborhood access will be maintained at all times during construction.
- Establish detour routes outside residential neighborhoods, especially in the case of low-income neighborhoods, as conditions allow.
- Perform close and early coordination with utility providers during the Project design phase to identify conflicts and plan required utility relocations.

PF-UES-1: Utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place.

PF-UES-2: All temporary ramp and arterial roadway closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers.

The following avoidance measure will be implemented as part of the proposed project:

UES-1: All water main relocation construction shall be included in the construction contract and the Antelope Valley Water Works District No. 40 shall be notified for better coordination.

2.1.4 Traffic and Transportation/Pedestrian and Bicycle Facilities

2.1.4.1 Regulatory Setting

The Department, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 Code of Federal Regulations [CFR] 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (USDOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by the USDOT regulations (49 CFR 27) implementing Section 504 of the Rehabilitation Act (29 United States Code [USC] 794). The FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

2.1.4.2 Affected Environment

The information contained in this section is derived from the Final Traffic and Intersection Control Evaluation Study Report for State Route (SR)-14 and Avenue N (Parsons, January 2018) and from further traffic analysis completed by Caltrans (February 2019). This analysis determined the impacts of the project alternatives on existing and future conditions in the project area, along Avenue N from 17th Street West to 10th Street West. Analysis also included the portion of SR-14 extending from 0.25 miles south of Avenue N to 0.25 miles north of Avenue N (PM R63.4/R63.9).

Within the project area, Los Angeles County and the City of Palmdale have various land use designations. East of SR-14, within the City of Palmdale, zoning includes Business Park (BP) and Airport and Related uses (AR). West of SR-14, within Los Angeles County, zoning includes Heavy Agriculture (A-2). Much of the vehicle traffic within the project limits originates west of the project area, from the Rancho Vista and Quartz Hill communities, where housing is at greater densities than within the project limits. Palmdale Regional Airport, located to the east of the

project, also contributes to vehicle traffic as residents in the area travel from housing centers to the airport.

SR-14 is an interregional freeway that spans 77 miles of Los Angeles County and serves as a commuter corridor that provides access to the Antelope Valley communities. Near Avenue N, SR-14 has three general purpose lanes in each direction. The Avenue N interchange is currently a partial cloverleaf with stop-controlled intersections at each off-ramp termini and loop ramps for northbound and southbound on-ramp traffic.

Avenue N is an east-west two-lane local roadway in the City of Palmdale and Los Angeles County. It begins approximately 1.54 miles east of SR-14 at Sierra Highway and ends approximately 5.35 miles west of SR-14, where it curves north and transitions into Agena Rd. and then 70th St. West. Within the project limits, Avenue N crosses over SR-14 with two stop-sign controlled intersections at the ramp termini. Both eastbound and westbound directions have paved and unpaved shoulders totaling 14-feet. There is only a small portion of Avenue N that has a paved sidewalk, and most of the shoulder is unpaved. There are no designated bike lanes along Avenue N.

Avenue N consists of one lane in each direction between 11th Street West and 20th Street West, with no dedicated left-turn lane. Each of the two lanes is approximately 12 feet wide and the paved shoulders are approximately 2 feet wide to create a 28-foot section of pavement. There are also unpaved shoulders on each side of the roadway that are approximately 12 feet wide. There are no sidewalks located along this section of Avenue N.

Between 11th Street West and 10th Street West, Avenue N consists of one lane in the eastbound direction, two lanes in the westbound direction, and a two-way center left-turn lane. The lane widths vary from 10.5 feet wide to 24 feet wide, with a total pavement width of approximately 60 feet. There are sidewalks on the north side of Avenue N within this section of roadway. The posted speed limit on Avenue N is 55 miles per hour.

Below are the three main intersections/segments within the project area where traffic conditions were analyzed:

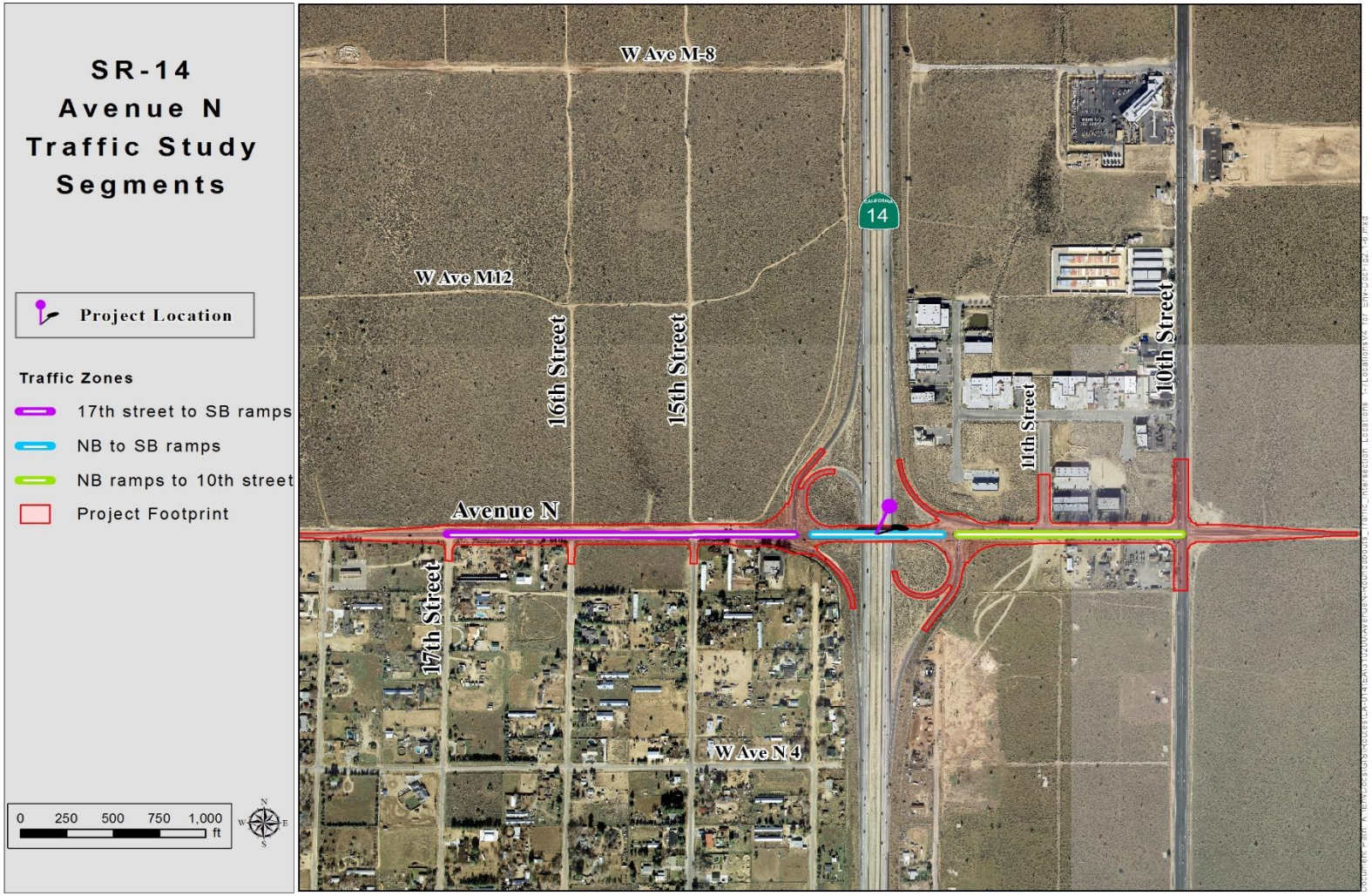
1. Along Avenue N from 17th Street West to the SB on/off-ramps – Includes the intersection of Avenue N and the southbound on/off-ramps. Avenue N and the southbound SR-14 on/off-ramps meet in a three-legged intersection with stop control on the southbound SR-14 off-ramp approach. The off-ramp has a two-lane approach that provides for left- and right-turn movements. The westbound Avenue N approach is one-lane that provides for right-turn movements onto the southbound SR-14 on-ramp. The eastbound Avenue N approach is also one-lane.

2. The Avenue N overcrossing - The segment along Avenue N between the SB on/off-ramps and NB on/off-ramps. There is one 12-foot wide lane with a 2-foot wide paved shoulder in each direction. There is also a paved sidewalk along the EB side of the bridge.

3. Along Avenue from the NB SR-14 on/off-ramps to 10th Street West – Includes the intersection of Avenue N and the northbound on/off-ramps. Avenue N and the northbound on/off-ramps meet in a three-legged intersection with stop control on the northbound SR-14 off-ramp approach. The off-ramp approach has a two-lane approach that provides for left- and right-turn movements. The eastbound Avenue N approach is one-lane that provides for right-turn movements onto the northbound SR-14 on-ramp. The westbound Avenue N approach is also one-lane.

Figure 2.1-7 below shows the intersections/segments that were analyzed in the traffic study.

Figure 2.1-7 Traffic Study Intersections/Segments



California Department of Transportation
District 7, Los Angeles

Map Created by Robert Wang, Division of Environmental Planning, July 1, 2018; Lariac 2017
Updated on 4/17/2019 by Eunice Mendoza & Robert Wang

Complete Streets

Bicycle Facilities

Bicycling conditions across the greater Antelope Valley are varied, due in part to the diverse terrain and narrow roadways. Many of the two-lane roads in the vicinity of the project area serve as either traffic corridors or residential streets with varying amounts of traffic and on street parking. The Los Angeles County Bicycle Master Plan, released March 2012, identifies Avenue N from 50th Street West to SR-14 as a proposed Class 2 bicycle facility. Class 2 bicycle facilities are defined by pavement striping and signage to delineate a portion of a roadway for bicycle travel (California Department of Transportation, July 2017). Avenue N, from SR-14 to Sierra Highway, is designated as a proposed Bikeway in the City of Palmdale's General Plan (City of Palmdale, January 1993). A bikeway is defined as all facilities that provide primarily for, and promote, bicycle travel (Sts. & High. Code. Section 890.4)

Pedestrian Facilities

At the present time, there are sidewalks located in two areas within the project limits: 1) along eastbound Avenue N from 10th Street West to the northbound SR-14 on-ramp, and 2) on the westbound side of the overcrossing bridge. Within the project limits, the intersection of Avenue N and 10th St. West is the only location where crosswalks and ADA accessible ramps are located. This lack of facilities makes it difficult for pedestrians and people with disabilities to travel safely along Avenue N.

Transit Facilities

The Antelope Valley Transit Authority, the local transit service for the project area, does not provide service along Avenue N. However, bus service does pass along 10th Street West, with a station located at the north-eastern corner of the intersection of 10th Street West and Avenue N.

Transportation Systems Management and Transportation Demand Management

The City implements Transportation System Management (TSM) techniques to increase capacity of the existing road system, including but not limited to signal coordination, access controls, and parking restrictions.

Consistent with the Congestion Management Plan (CMP) (2010 Congestion Management Program, METRO, 2010), the City has adopted and implemented a Transportation Demand Management (TDM) ordinance that includes ridesharing programs, carpool/vanpool programs, and park and ride facilities.

However, the project primarily focuses on improving circulation in the area while implementing Complete Streets features (such as pedestrian walkways, bicycle lanes, ADA features). Currently, the project area does not meet the criteria for considering TDM and Mass Transit

Alternatives because the population in the project area is less than 200,000. Also, TSM alternatives are usually only relevant in urban areas with populations over 200,000.

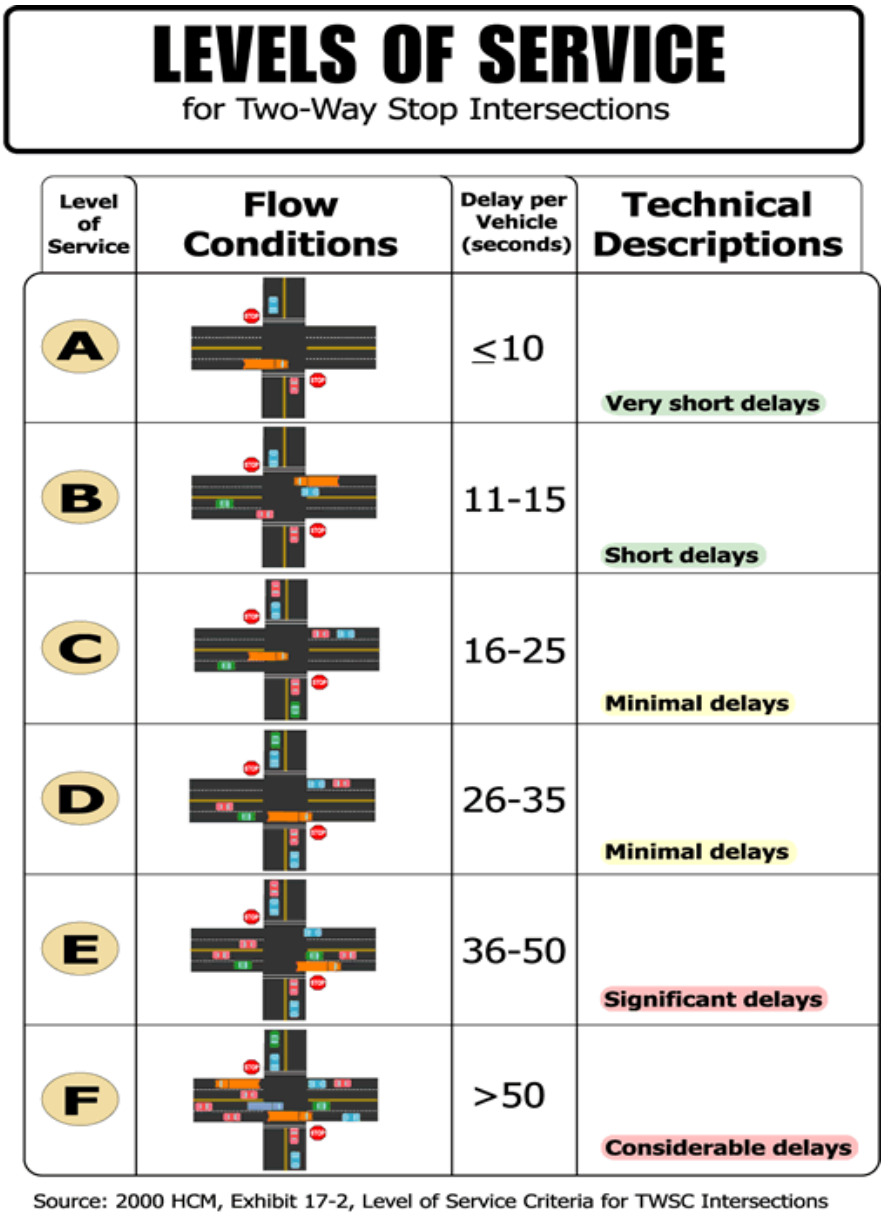
Level of Service

Current year (2017) Level of Service (LOS) analysis for the study intersections along Avenue N was conducted during the weekday morning and evening peak hour. LOS is defined in terms of delay, and delay is a measure of driver/passenger discomfort, frustration, fuel consumption and lost travel time. Figure 2.1-8 illustrates the six levels of service that are recognized by transportation agencies for two-way intersections like those in the project area, where LOS A represents the best operating conditions (free flow) and LOS F represents the worst (severely congested)

Level of Service County of Los Angeles General Plan

According to the County of Los Angeles General Plan, the Department of Public Works (DPW), uses level of service to assess congestion of roadways in the transportation system. Based on a roadway's volume-to-capacity ratio (the number of vehicles currently using the roadway compared to the ideal maximum number of vehicles that can efficiently use the roadway), a letter designation is assigned that represents the traffic flow conditions, or LOS. Letter designations "A" through "F" represent progressively declining traffic flow conditions. LOS designations indicate whether the roadways are operating in excess of their intended capacity. Acceptable LOS is determined on a case by case basis, but generally, Level D is the desired minimum LOS. In some instances, a LOS below D will be deemed acceptable in order to further other Los Angeles County General Plan goals and policies, such as those that protect environmentally sensitive areas, promote active transportation, and encourage infill development, particularly within the Transit Orientated Districts. For the freeway system, DPW will work closely with Caltrans to identify potential significant traffic impacts and traffic mitigations to alleviate traffic congestion within the unincorporated areas.

Figure 2.1-8 LOS for Two- Way Intersections



Source: 2000 HCM, Exhibit 17-2, Level of Service Criteria for TWSC Intersections

Based on the traffic analysis conducted by Caltrans (February 2019), the intersections at Avenue N and the SR-14 NB and SB off-ramps during the current year (2017) AM and PM peak hours operate between LOS F and B (Table 2.1-15). In particular, the SB ramps generally operate with "significant" or "considerable" delays (LOS E or F). If planned growth in the City occurs, the LOS will continue to deteriorate in future years. The City of Palmdale's General Plan states that Avenue N should maintain a LOS C or better.

Table 2.1-15 LOS and Delay (seconds) Existing Conditions (2017)

	NB Ramp and Avenue N				**SB Ramp and Avenue N**			
Direction	**LOS/ Delay (seconds)**				**LOS/ Delay (seconds)**			
	AM		**PM**		**AM**		**PM**	
	LT	RT	LT	RT	LT	RT	LT	RT
NB	D/31.6	C/18.0	F/310.4	B/11.4	n/a	n/a	n/a	n/a
SB	n/a	n/a	n/a	n/a	F/109	B/10.7	F/98.2	E/36.2

Traffic Volumes

Traffic volumes were evaluated for three different years as part of the analysis: 2017 (Existing Conditions); 2023 (Opening Year); and 2040 (Horizon Year/Project Design Life).

Morning and Evening peak hour traffic volumes were derived from the Annual Average Daily Traffic (AADT). Existing traffic volumes through the project area were assessed during morning and evening conditions along SR-14. Historically, traffic volumes in this area are composed of commuter traffic to other parts of the Antelope Valley and southern Los Angeles County. Table 2.1-16 shows the existing conditions of SR-14 through the project area.

Table 2.1-16 Existing Conditions (2017)- Weekday AM/PM Peak Hour Traffic Volumes

Location	ADT	AM (3 Hours)		PM (4 Hours)	
		Vol	VMT	Vol	VMT
Ave N between 10th St. & NB Ramps	13,700	2,320	348	4,670	701
Ave N between NB & SB Ramps	13,800	3,040	304	4,440	444
Ave N between SB Ramps and 20th St	17,000	3,600	360	5,190	519

Safety

Traffic Accident Surveillance and Analysis System

To identify critical intersections for safety improvements, Caltrans utilizes an electronic database of accident history called the Traffic Accident Surveillance and Analysis System (TASAS). TASAS tabulates accident rates for all highways in California, identified by post mile. Data are shown based on the number of lanes, whether the accident occurred on wet or dry pavement, whether it occurred during day or night, and whether the accident resulted in fatalities.

Existing traffic safety data were reviewed for a five-year period from July 1, 2010 to June 30, 2015. A total of 18 collisions were reported to occur on the northbound and southbound SR-14/Avenue N on/off-ramps. These included five (5) injury collisions and no fatalities. The following ramps experienced collision rates higher than the statewide average for similar facilities:

- Northbound SR-14 off-ramp to Avenue N. At this location, 50 percent of the collisions were attributed to failure to yield and 50 percent due to speeding. Regarding type of collision, 50 percent involved a broadside or T-bone collision, 25 percent involved a rear end collision, and 25 percent involved hitting an object.
- Southbound SR-14 off-ramp to Avenue N. At this location, 50 percent of the collisions were attributed to speeding and 33 percent due to failure to yield. Regarding type of collision, 58 percent involved rear end collisions, and 25 percent involved broadside or T-bone collisions.

The crash characteristics are consistent with noted transportation deficiencies in the project corridor, particularly vehicles experiencing difficulty making a left turn from the stop-controlled off-ramps onto Avenue N, as well as off-ramp traffic backing up onto the freeway mainline. The proposed build alternative is expected to improve operations at the off-ramp intersections with Avenue N, which could potentially improve safety conditions on this segment.

The TASAS traffic accident data can be seen in Table 2.1-17

Table 2.1-17 TASAS Accident Data Summary

Location	Number of Collisions			Collision Rates per Million Vehicle Miles Traveled					
				Actual			Average		
	Fatal	Fatal and Injury	Total	Fatal	Fatal and Injury	Total	Fatal	Fatal and Injury	Total
Northbound State-Route 14 Ramps									
LA 014 R63.471 NB Off-ramp to Ave N	0	2	4	0	0.38	0.77	0.003	0.35	1.01
LA 014 R63.628 NB On-ramp from EB Ave N	0	0	0	0	0	0	0.002	0.21	0.73
LA 014 R63.810 NB On-ramp from WB Ave N	0	1	1	0	0.16	0.16	0.003	0.18	0.57
Southbound State-Route 14 Ramps									
LA 014 R63.506 SB On-ramp from EB Ave N	0	0	1	0	0	0.24	0.003	0.18	0.57
LA 014 R63.717 SB On-ramp from WB Ave N	0	0	0	0	0	0	0.002	0.21	0.73
LA 014 R63.874 SB Off-ramp to Ave N	0	2	12	0	0.26	1.55	0.003	0.35	1.01
Total Crashes	**0**	**5**	**18**	**-**	**-**	**-**	**-**	**-**	**-**

Source: California Department of Transportation Traffic Accident Surveillance and Analysis System (TASAS) – Transportation Systems Network (TSN) Reports, Date Range: 7/1/2010 to 6/30/2015
Notes: Collision rate in terms of collisions per million vehicle miles traveled. Bold indicates the actual collision rate exceeds the statewide average collision rate for a similar facility.

2.1.4.3 Environmental Consequences

No Build Alternative

Complete Streets

Bicycle Facilities, Pedestrian Facilities, Transit Facilities

The No Build Alternative would not incorporate any improvements; therefore, Avenue N would remain without complete pedestrian facilities and no bike lanes. This would not comply with the City of Palmdale's long-term plan, the regional master bike plan, nor Complete Streets and ADA requirements.

Traffic Volumes

As seen in Table 2.1-18 below, traffic volumes would increase over time. Traffic volumes and vehicle miles traveled would remain the same for the Build vs. No Build Alternative; however, the No Build Alternative does not propose any improvements and therefore would not accommodate the future increase in traffic volumes. Without any improvements, traffic congestion and delays would worsen as volumes increase.

Table 2.1-18 Traffic Volumes and VMT for Project Study Area

Location	Year	ADT	Peak Period			
			AM (3 Hours)		PM (4 Hours)	
			Vol	VMT	Vol	VMT
Ave N between 10th St. & NB Ramps	Existing (2017)	13700	2320	348	4670	700
	Opening year (2023)	15100	2600	390	5200	780
	Horizon Year (2040)	19200	3410	511	6880	1032
Ave N between NB & SB Ramps	Existing (2017)	13900	3040	304	4440	444
	Opening year (2023)	15400	3400	340	5000	500
	Horizon Year (2040)	19800	4470	447	6530	653
Ave N between SB Ramps and 15th St	Existing (2017)	17000	3600	360	5190	519
	Opening year (2023)	19100	4000	400	5800	580
	Horizon Year (2040)	25000	5300	530	7640	764

Level of Service

The No Build alternative proposes no improvements. The result would be that both LOS and delay would remain the same or worsen between Opening Year (2023) and Horizon Year (2040) (Table 2.1-19).

		NB Off-Ramp at Avenue N				SB Off-Ramp at Avenue N			
Analysis Years	**Direction**	**LOS/Delay (seconds)**				**LOS/Delay (seconds)**			
		AM		**PM**		**AM**		**PM**	
		LT	RT	LT	RT	LT	RT	LT	RT
Opening Year (2023)	NB	E 47.1	C 21.9	F 598.9	B 12.0	-	-	-	-
	SB	-	-	-	-	F 253.7	B 11.2	F 226.9	F 71.3
Horizon Year (2040)	NB	F 266.9	F 55.9	F 2168.5	B 14.4	-	-	-	-
	SB	-	-	-	-	F 1184.6	B 13.1	F 1148.1	F 401.4

Table 2.1-19 LOS and Delay for No-Build, Opening Year (2023) and Horizon Year (2040)

Safety

If no enhancements are made, the deficiencies of the SR-14/Avenue N intersections and remaining project limits would remain the same.

Build Alternative

Complete Streets

Bicycle Facilities, Pedestrian Facilities, Transit Facilities

The proposed project would include the construction of bike lanes, sidewalks and curb ramps. These components would comply with the City of Palmdale's long-term plan for Avenue N as well as Caltrans' Complete Streets and ADA policies.

The project would be consistent with the regional master bike plan by including two eight-foot wide bike lanes on Avenue N within the project limits; it would address key system deficiencies and help improve connectivity for bicyclists. Sidewalks would be built throughout the Project limits and crosswalks with ADA curb ramps would be included at intersections to improve mobility and safety for pedestrians and those with disabilities. The Antelope Valley Transit

Authority has one bus stop at the Avenue N and 10th Street West intersection. This bus stop may be affected temporarily during construction; however, Caltrans will coordinate with the Antelope Valley Transit Authority to ensure continuity of service both during and after construction.

Traffic Volumes

As seen in Table 2.1-18, traffic volumes would increase between 2017 and 2023; additional increases would occur between 2023 and 2040. The Build alternative proposes an increase in the number of lanes on Ave. N and improvements to the intersections that would address the increase in traffic volumes.

Level of Service

According to the City of Palmdale's General Plan, the circulation element strives to maintain a LOS C or better on the City's roadways. LOS D may be acceptable for a short duration during peak periods. According to the County of Los Angeles General Plan, the desired minimum acceptable LOS is generally Level D. In some cases, LOS below D will be deemed acceptable in order to further other Los Angeles County General Plan goals and policies..

Table 2.1-20 shows the future LOS and Delay for the Build Alternative. All four directions were analyzed (as appropriate) because drivers could approach the roundabouts from multiple directions. The Build Alternative would result in an acceptable LOS at the roundabouts during all but three turn movements (in 2040). However, these delays are substantially lower than the future No-Build conditions shown in Table 2.1-19. The section of Avenue N in between the NB and SB ramps would experience delays resulting in a LOS that does not meet the goals of the City's General Plan nor the County of Los Angeles General Plan. However, the total time it would take to travel through the project area (through both roundabouts) is anticipated to be less than it would be under the No Build condition in both 2023 and 2040, resulting in an overall improved driver experience.

Table 2.1-20 LOS and Delay for Build Alternative (Hybrid Roundabout), Opening Year (2023) and Horizon Year (2040)

		NB Ramp at Avenue N		Avenue N Between NB and SB Ramps		SB Ramp at Avenue N	
Analysis Years	**Direction**	**LOS/Delay (seconds)**		**LOS/Delay (seconds)**		**LOS/Delay (seconds)**	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
		RT	RT	T	T	RT	RT
Opening Year (2023)	NB	A 6.5	A 6.9	-	-	-	-
	SB	-	-	-	-	A 5.1	A 9.6
	EB	C 17.3	A 6.8	F 24.92	D 11.6	C 20.4	A 7.0
	WB	A 4.1	B 13.3	D 8.69	E 17.82	A 4.5	B 11.7
Horizon Year (2040)	NB	A 9.0	A 9.7	-	-	-	-
	SB	-	-	-	-	A 6.3	C 16.4
	EB	F 62.3	A 8.8	F 98.6	E 14.2	F 94.0	A 9.6
	WB	A 4.7	E 36.8	D 9.3	F 41.4	A 5.1	C 23.9

Safety

Several system deficiencies have been identified within the project area due to population growth and increased traffic demands. Some of these deficiencies include: vehicles experience unsafe conditions making a left turn from the stop-controlled off-ramps onto Avenue N; the lack of a dedicated left turn lane along Avenue N between 11th Street W. and 20th Street W.; the lane configuration for Avenue N is inconsistent with the City's General Plan; Ave. N does not comply with the Complete Streets and ADA requirements due to a lack of bike lanes, sidewalks, and ADA curb ramps. All of these deficiencies reduce safety for motorists, bicyclists, and pedestrians. The proposed improvements would illuminate these deficiencies and greatly improve safety in the project area.

2.1.4.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

The project would generally improve traffic operations, reduce delay and improve safety within the project limits. Avoidance, minimization, and/or mitigation measures are not required. However, the following project feature would be incorporated as part of the project:

PF-T-1 A Final Transportation Management Plan (TMP) shall be developed in detail during final design.

2.1.5 Visual/Aesthetics

2.1.5.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of aesthetic, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] Section 21001[b]).

2.1.5.2 Affected Environment

The information for the following section was obtained from the *Minor Level Visual Impact Assessment* (October 2019). The visual impact assessment follows the guidance outlined in the publication Visual Impact Assessment for Highway Projects published by the Federal Highway Administration (FHWA) in March 1981. The proposed project is not located within any portion of an officially designated State Scenic Highway nor are there any scenic resources within the corridor of the project area.

Visual Environment

The proposed project is located in the City of Palmdale, in Los Angeles County, at the intersection of SR-14 and Avenue N which sits in the Mojave Desert of Southern California. The landscape is characterized by flat plains of sand with scattered desert scrub vegetation, open spaces, and few trees. The surrounding area is largely rural and/or suburban with large single-family homes on large plots of land, light industrial areas, and some businesses.

Visual Resource Change

Visual resources are unique features that define and/or contribute to the visual environment. Visual resources of the project setting are defined and identified by assessing *visual character* and *visual quality* in the project corridor. *Resource change* is assessed by evaluating the visual

character and the visual quality of the project corridor before and after the construction of the proposed project.

The following terms, identified in Visual Impact Assessment for Highway Projects (FHWA, 1981), can be used to describe the degree of visual quality in a view:

- **Vividness**: Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns (e.g., Niagara Falls is a highly vivid landscape component).
- **Intactness**: Intactness is the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes and natural settings (e.g., a two-lane road that meanders through the countryside).
- **Unity**: Unity is the visual coherence and compositional harmony of the landscape considered as a whole; it frequently attests to the careful design of individual components in the landscape (e.g., an English or Japanese garden).

The visual character of the proposed project would not be compatible with the existing visual character of the corridor. The proposed project would introduce sidewalks, bicycle lanes, and concrete gutters that would increase the reflectance of the roadside as well as rigid lines along the edge of the roadway. This is different from the current visual character, as the lack of sidewalks creates that soft lines along the edge of the roadway. The proposed medians and splitter islands would create lines and narrow geometric shapes that are not present in the current viewshed. Additionally, proposed soundwalls will change the rural character of the street as homes would be blocked from the view of travelers on Avenue N and views from residents south of the soundwalls looking north would be blocked. *Vividness* in the form of memorability will be increased due to the uniqueness of walls on this street. Unity and intactness will be decreased in contrast to the open views all around. The short spans of each wall will limit the monotony of walls.

From the viewpoint of SR-14, the only portion of the project that is visible would be the widened bridge and bridge railing. The amount of shade under the bridge would approximately double as a result of its widening. The *vividness* of the new bridge rail would increase and create a landmark distinguishing this interchange from others on the route. The existing conditions display a fairly high level of *unity* with consistent desert plant growth visible on the slopes. The *intactness* of the desert is affected by a few buildings and utility poles seen at the top of the slopes outside the right-of-way of both the City of Palmdale and the County of Los Angeles

The visual quality of the existing corridor will be altered by the proposed project. The vividness of the road and roadside would increase due to the widening of the bridge and road, installation of roundabouts, paved median, sidewalks, bicycle lanes, soundwalls, and concrete gutters while

the intactness of the rural neighborhood would decrease. The proposed project would give the road and roadside greater unity with the houses, in contrast to the open desert and the roundabouts at the SR-14/Avenue N intersections would become landmark features.

The proposed project would affect the existing visual character and quality of Avenue N; however, the proposed improvements are compatible with the ongoing development of Palmdale. As other areas of the city are developed with similar aesthetics and features such as waking paths and landscaping consistent with the city's General Plan, Avenue N will be visually compatible. The resource change for the project would be moderate as a result of the proposed project.

Viewer Response

Changes to the existing viewshed's quality and/or character may affect viewer groups. 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 impacts occurring from the Project to the visual environment can be described as follows:

- Low: Minor adverse change to the existing visual resource with low viewer response to a change in the visual environment.
- Moderate: Moderate adverse change to the visual resource with moderate viewer response.
- Moderately High: Moderate adverse visual resource change with high viewer response or high adverse visual resource change with moderate viewer response.
- High: Excessive adverse visual change to the resource or a high level of viewer response to visual change such that architectural design and landscape treatment cannot mitigate the impacts. Viewer response level is high.

The *viewers* include neighbors (people with views *to* the road), highway users (people with views *from* the road), users of Avenue N, and bicycle users and pedestrians

Neighbors have high sensitivity as they would have frequent exposure to the changes brought about by the SR-14/ Avenue N interchange improvements, although some neighbors would not have a direct view from their home or business. Highway users would have moderate- low sensitivity because they would be traveling on SR-14 and would only have a view of soundwall D, the widened bridge, and its patterned bridge rail. Users of Avenue N would have moderate-high sensitivity as they would have high exposure to the visual changes while traveling at lower speeds and the increased focus on the visual environment at roundabouts. Bicycle users and pedestrians (low speed users) would have high sensitivity because they have the greatest views of the project. Overall, the anticipated average response of all viewer groups will be moderate.

2.1.5.3 Environmental Consequences

No Build Alternative

If the project were not built, there would be no short-term nor temporary impacts. In the long term, however, failure to modernize the existing roadway would result in it becoming outdated so the unity that currently exists with the surrounding area would be lost as that area develops over time.

Build Alternative

The Build Alternative proposes the widening of the bridge and roadway, installation of roundabouts, raised and paved medians, sidewalks, soundwalls, and concrete gutters, which would alter the visual quality of the project area. These proposed features would increase the vividness of the roadway while creating a greater unity with the surrounding built environment. The proposed roundabouts would open up the driver's viewshed, which is compatible with the wide-open views of the desert. The Project would create sound walls higher than one foot which would block some views of the desert. The median and center of the roundabouts would include colored concrete and patterns to soften the visual impact of the additional concrete and provide aesthetic value to the new construction. Viewer sensitivity for both neighbors and highway users would result in moderate-to-low changes as a result of the proposed project. The changes to visual resources would be moderate as both the visual character and visual quality would be altered as a result of the proposed project. Additionally, temporary construction impacts may result due to detours, signage and fencing.

The Build Alternative would not result in: (1) changes to scenic vistas nor (2) a significant increase in light and glare.

The Build Alternative would result in the formalization of roadway edges, creation of new visual landmarks, addition of landscaping, and increased visual complexity at intersections. The change in visual character in the project area will be necessary to maintain context sensitivity with the surrounding growth.

All of the added aesthetic features incorporated as a result of the proposed project would improve and modernize the overall aesthetics of the project area. The updates to the roadways in the project area would be compatible with ongoing neighborhood and city development. Overall, the Build Alternative would result in moderate visual impacts.

2.1.5.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative
No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

The following project feature would be implemented as part of the proposed project:

PF-VIS-1 All areas disturbed by the proposed roadway improvements or grading operations shall receive replacement planting or appropriate ground surface treatment where feasible.

The following Minimization Measures would be incorporated as part of the proposed project:

VIS-1 Aesthetic features will be incorporated on the bridge rail of the proposed bridge expansion. Aesthetic features will be incorporated on the walls of the proposed bridge expansion, slope paving, soundwalls, and fencing.

VIS-2: Disturbed soil will be mulched or treated to reduce reflectance and better match adjacent undisturbed soils.

VIS-3: Light fixtures shall be dark-sky compliant. Light fixtures will minimize light escape into the sky.

VIS-4: Glare will be minimized by staining concrete surfaces in an earthy color similar to adjacent undisturbed soil.

VIS-5: Modifications to the design should be considered in order to avoid damaging existing Joshua trees.

VIS-**6**: Corridor consistency, the project will implement aesthetic recommendations from the Caltrans Project Landscape Architect relating to corridor consistency.

VIS-7: Context sensitive design, colored textured concrete will be used to add aesthetic value to new horizontal concrete surfaces consistent with local values. Soundwalls will be designed to include local values and aesthetic concerns as recommended by the Caltrans Project Landscape Architect.

2.1.6 Cultural Resources

2.1.6.1 Regulatory Setting

The term “cultural resources,” as used in this document, refers to the “built environment” (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including “historic properties,” “historic sites,” “historical resources,” and “tribal cultural resources.” Laws and regulations dealing with cultural resources include: The National Historic Preservation Act (NHPA) of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 Code of Federal Regulations [CFR] 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the Federal Highway Administration (FHWA), the ACHP, the California State Historic Preservation Officer (SHPO), and the Department went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP’s regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA’s responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (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 the Department to inventory

state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between the Department and 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.

2.1.6.2 Affected Environment

The following documents provide information on historic properties within the original and Supplemental Areas of Potential Effects (hereinafter APEs) and serve as the basis for the analysis in this section:

- Historic Property Survey Report (HPSR) (April 2019)
- Archaeological Survey Report (ASR) (April 2019)
- Supplemental HPSR (October 2019)
- Supplemental ASR (October 2019)

Area of Potential Effects

The APEs were established to identify the geographic area within which the proposed project may directly or indirectly affect any significant historic, architectural, and archaeological resources, if any such resources exist. The Direct APE includes areas where physical impacts from the project would occur. These are generally limited to the project's proposed footprint and include the horizontal and vertical limits associated with ground-disturbing activities. Excavation to a maximum depth of 10 feet is proposed to construct the spread footings for the new bridge columns; excavation to a depth of eight (8) feet would be required for utility relocation. Areas of indirect effects generally include properties directly adjacent to the proposed rights-of-way, unless they are undeveloped or unless potential effects would be unlikely due to sufficient distance between the construction footprint and any existing development. The original APE was approved on April 16, 2019. Based on project changes the supplemental APE was approved on September 23, 2019.

Records Search

An archaeological and historical resources records search for the APE and the surrounding 1-mile (1.6 kilometer) radius was performed on June 13, 2018 at the South-Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) after (SCCIC) at California State University, Fullerton. Included in the site records and reports on file at SCCIC, the California Historic Property Data File (HPDF) for Los Angeles County was

consulted for the APEs. The HPDF provides information about resources determined eligible for, or listed in, the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). It also provides information on resources that are California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and provides a search of the California Historic Resources Inventory (HRI). A records search of the Caltrans Cultural Resources Database (CCRD) was also conducted. The record search found that there are no previously identified historic, architectural, or archaeological resources located within the APEs.

Field Surveys

Two intensive pedestrian archaeological surveys of the APE were conducted in May and August 2018. The surveys consisted of walking parallel 10 meter (33 feet) wide transects within the APE, while closely inspecting the ground surface. No new archaeological resources were identified as a result of the survey, and the potential for buried archaeological deposits or other cultural resources appears to be low because of the nature of the proposed work, the area's geomorphology, and previous disturbance from construction of buildings, structures, and facilities.

Intensive surveys of the built environment were conducted in May 2018 and April 2019 using the Office of Historic Preservation's (OHP) *Guidelines for Recording Historical Resources* following *The Secretary of the Interior's Standards and Guidelines* and Attachment 4 of the Caltrans First Amended Section 106 PA. Properties that were not exempt from evaluation would have been included in the inventory. Of the properties in the APEs, none required intensive evaluation for historic significance.

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted requesting a search of their Sacred Lands Files. The results of the search indicated that no sacred lands are recorded in the project area. The NAHC provided a list of Native American individuals/organizations (contacts) for the project area. Letters describing the project and a map of the study area were mailed to the contacts provided by the NAHC. Of the eight contacts, two responded. The Fernandeño Tataviam Band of Mission Indians (FTBMI) and the San Manuel Band of Mission Indians (SMBMI) had no comments regarding the outcome of the assessment or concerns with the project. Consultation has concluded. Caltrans Professionally Qualified Staff (PQS) determined that the conditions for monitoring had not been met because no archaeological resources were identified in the APE and because the project possesses a low potential for encountering buried resources. However, as outlined in project feature PF-CUL-2, should there be any discovery of any artifacts or remains that are determined to be Native American, construction activities shall halt and the NAHC shall be contacted.

2.1.6.3 Environmental Consequences

No Build Alternative

Under the no-build conditions, there would be no improvements to the project area nor alterations to lane configurations; besides routine maintenance of the project corridor, there would be no actions that would impact cultural resources within the project area. Therefore, there would be no effects to cultural resources under the No Build Alternative.

Build Alternative

Architectural Resources
There are no known historic properties in the APEs. The proposed project finding for the project is No Historic Properties Affected. The Build Alternative is not expected to affect any Section 4(f) historic properties because none were found in the supplemental APE.

Archaeological Resources

No prehistoric or historic archaeological resources have been previously recorded or were observed within the APEs during the pedestrian surveys. The potential for discovery of buried archaeological deposits or other cultural resources is very low considering previous disturbances to this area from construction of the existing roadways, utilities, and commercial development, as well as a lack of identified archaeological resources from similar projects in the vicinity.

Archaeological resources would not be affected by operation of the project. However, should archeological resources be encountered during construction, both project features PF-CUL-1 PF-CUL-2 would ensure they are properly handled.

Tribal Cultural Resources

The NAHC did not identify the presence of any Native American cultural resources in the immediate vicinity of the APEs. Additionally, none of the Native Americans contacted in regard to this Project had any specific knowledge of any cultural sites in the supplemental Project APE. Native American consultation has been finalized. However, the project feature (PF-CUL-2) listed below would ensure that, should unknown tribal resources be encountered the appropriate tribes would be consulted.

2.1.6.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative
No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative
The following project features will be implemented as part of the proposed project:

PF-CUL-1: If cultural materials are discovered during site preparation, grading, or excavation, all earthmoving activity within and around the immediate discovery area shall be diverted until a qualified archeologist can assess the nature and significance of the find. At that time, there would be coordination with the appropriate local agency.

PF-CUL-2: If human remains are discovered during site preparation, grading, or excavation, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the Los Angeles County Coroner shall be 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). At this time, the person who discovered the remains will contact Mariam Dahdul, 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.

2.2 Physical Environment

2.2.2 Water Quality and Storm Water Runoff

2.2.2.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the U.S. to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., such as groundwater and surface waters, which are not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge

[2] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect those uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

- National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (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). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified 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. 2014-0006-EXEC (effective January 17,

2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and 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 Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 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). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined. 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.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are based on potential erosion and

transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project

2.2.2.2 Affected Environment

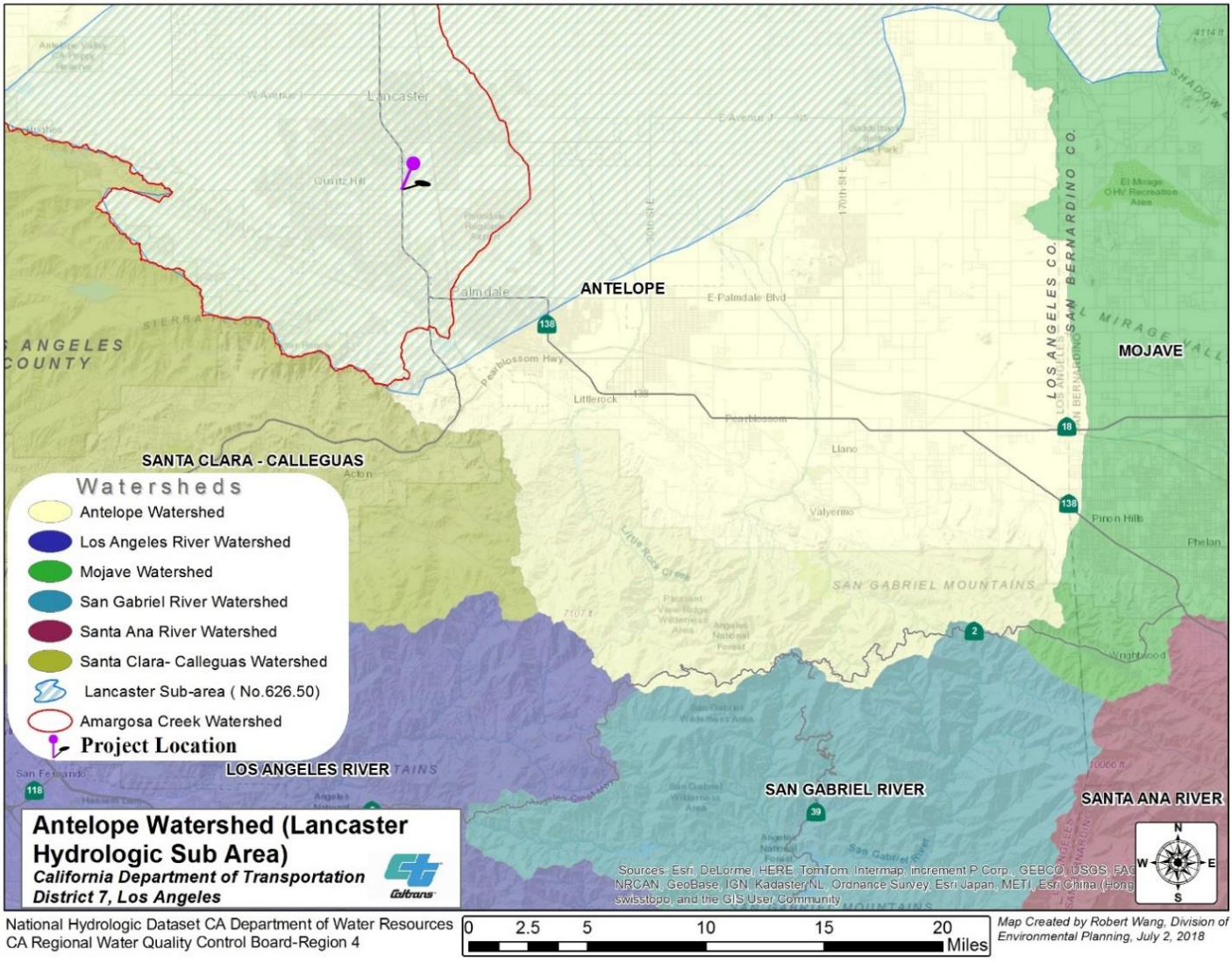
This section describes the affected environment for water quality and stormwater runoff within the project area and immediate vicinity. It includes a range of topics related to water resources, including receiving bodies of water and water quality. The discussion has been excerpted from multiple sources, including the Water Quality Control Plan for the Lahontan Region (September 2015), Draft Storm Water Data Report prepared by Caltrans Office of Design (February 2019) Caltrans Preliminary Hydraulic Report (January 2019), Caltrans Water Quality Assessment Memorandum (February 2019) and independent research performed by the Caltrans Division of Environmental Planning.

The proposed project is located in the Antelope Valley area of Los Angeles County. The City of Palmdale and the project study area are under the regulatory jurisdiction of the Lahontan Regional Water Quality Control Board (RWQCB Region 6). The project area lies in the Antelope Valley Watershed. Within the Antelope Valley Watershed, the project sits in the Lancaster Hydrologic Sub-area (No. 626.50). Within the Lancaster Sub-area, the project is located in the Amargosa Creek Watershed. The levels can be viewed as follows:

➔ Antelope Valley Watershed
→ Lancaster Hydrologic Sub-Area
→Amargosa Creek Watershed

Additionally, Figure 2.2-1 below outlines the levels of watersheds in which the proposed project is located.

Figure 2.2-1 Antelope Watershed



The Antelope Valley Watershed encompasses approximately 1,220 square miles in Los Angeles County and is geographically unique because it is a “closed basin” system, meaning it has no outlets to the Pacific Ocean nor any other river system. Numerous streams originating in the mountains and foothills flow across the valley floor and eventually pond in several dry lakes to the north, including Rosamond Lake and Rogers Lake. The topography near and within the project area is generally flat with a slope incline of approximately 1% to the north. The

Amargosa Creek channel (i.e., a sandy flat floodplain) crosses Avenue N approximately 2000 feet east of the project area; it is about 100 feet wide and level with Avenue N.

The proposed project is located within an area/subarea known as the Lancaster Hydrologic Sub-area. Lands within this subarea are largely undeveloped (90 %) while most of the terrain is covered in brush. Some of the undeveloped land is used for rangeland or agricultural purposes. The sub-area is located north of the San Gabriel Mountains and sand and gravel deposits are found extensively in floodplains and stream channels in that area.

The climate of the region is generally variable with the season. In the spring and the fall, the weather is usually mild with cold nights. In the summer, the weather is dry, with temperatures from warm to hot and it is often breezy. Winter is generally cold, with breezy moist to wet conditions.

Drainage Patterns

In general, the hydrologic regime along the entire Antelope Valley Watershed exhibits the characteristics of an alluvial fan, with several incised (ephemeral) streams and channels located to the east of the project site including Amargosa Creek, Big Rock and Little Rock Creeks, Oak Creek, and Cottonwood Creek. These ephemeral streams only flow in response to heavy rain events, such as thunderstorms. Ephemeral streams also tend to lose their water to the streambed which causes flood discharge downstream to be less than flood discharge upstream. Amargosa Creek, the closest creek to the project site (east) collects runoff from the Sierra Pelona Mountain Range, initially flowing eastward and then draining northerly through Palmdale and Lancaster. The creek eventually ends at Rosamond Dry Lake. Sheet flow during heavy rainstorms is also a common occurrence in the project area (due to lack of prior saturation of the ground) but generally does not occur during light to moderate rain events.

A review of the Lahontan basin plan revealed that there are no special requirements and/or concerns listed by the Lahontan Regional Water Quality Control Board or local agencies in the project study area. The nearest and only receiving water body is Amargosa Creek, which is not on the 303 (d) list of impaired receiving water bodies.

There are two small mechanically bladed roadway drainage ditches that occur along Avenue N. These roadway drainages do not connect to any natural desert washes nor any jurisdictional waters of the U.S. or of the State of California. These drainages do not connect to Amargosa Creek and exclusively purvey sheet flow; especially in the area between 20th Street West and SR-14. A concrete flood control channel is located parallel to SR- 14 on the West side of the SR-14/Avenue N interchange and continues both north and south through the project limits to manage and contain stormwater within the Caltrans highway system along SR-14. This flood

control channel is not jurisdictionally connected to Amargosa Creek, but eventually empties into a detention basin several miles north of the project.

Pollutants

Most pollutants present in the Antelope Valley Region are naturally occurring contaminants such as arsenic and other heavy metals that are mobilized during storm events. During dry months, additional contaminants such as trash, oils, gasoline, animal wastes and pesticides accumulate and are then later transported at highly concentrated levels during storm events. Nevertheless, implementation of control measures for different types of nonpoint sources are discussed in the RWQCB Basin Plan to help prevent water quality problems associated with contamination. A Total Maximum Daily Load (TMDL) is a regulatory term in the U.S. Clean Water Act, describing a plan for restoring impaired waters that identifies the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards. However, Amargosa Creek is the nearest and only receiving water body in the project area and it is not on the 303 (d) list of impaired receiving water bodies. There are no Total Maximum Daily Load (TMDL) thresholds that have been established within this watershed.

Groundwater

The project is located in the Antelope Valley Groundwater Basin (AVG Basin). The AVG Basin is part of the Mojave Desert, includes portions of Los Angeles, Kern, and San Bernardino counties and has a surface area of 1,580 square miles. Groundwater recharge in the AVG Basin is dependent on infiltration of return flow from agricultural irrigation and infiltration of runoff from the surrounding mountains. Because of recent groundwater pumping, groundwater levels have been declining and flow has been altered along SR-14 corridor from Palmdale through Lancaster to Rosamond. Groundwater pumping has caused subsidence of the ground surface, as well as earth fissures, to appear in Lancaster and surrounding areas.

There are no known Drinking Water Reservoirs and/or Recharge Facilities within project limits.

Soils

Soils are classified into four hydrological soil groups (United States Department of Agriculture, Soil Conservation Service/Natural Resources Conservation Service): A, B, C, and D, where Type A is the most pervious with low runoff potential (e.g., sand and gravel), and Type D is the least pervious with high runoff potential (e.g., clay soils). In the project area, Types A and B generally follow the alluvial deposits along the creeks and the alluvial fans of major streams such as Big Rock and Little Rock Washes. Types C and D are generally found along the hillsides in the upper watersheds of Little Rock and Big Rock Washes. Near the project location the soil is characterized as type B (fine sandy loam to loamy sand). The total disturbed soil area

by the project's proposed improvements, including construction activities, is estimated at approximately 17 acres.

Beneficial Uses

All projects within the Lahontan region are also subject to requirements of the Lahontan RWQCB. The Lahontan RWQCB has prepared the Water Quality Control Plan for the Lahontan Region (Basin Plan) to help preserve and enhance water quality and to protect the beneficial uses of State waters. The Basin Plan designates beneficial uses for surface and ground waters, and it sets qualitative and quantitative water quality objectives (WQOs) that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy. WQOs are intended (1) to protect public health and welfare; and (2) to maintain or enhance water quality in relation to the designated existing and potential beneficial uses of the water. The Basin Plan also describes implementation programs to protect the beneficial uses of all waters in the region and surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (Lahontan RWQCB, 1995).

The existing drainages on the project site include a combination of man-made roadside drainages and one concrete channel. The drainages in the project area drain into the vacant undeveloped land and only purvey sheet flow and are not connected to Amargosa Creek. The fully concrete-lined box channel, designed to capture stormwater runoff from the freeway, runs parallel to SR-14 on the west side; this channel runs through the project area and continues both north and south for several miles. This is not jurisdictionally connected to Amargosa Creek, but eventually empties to a detention basin 11.5 miles north of the project (which may eventually discharge stormwater to Piute Ponds and ultimately to Rosamond Dry Lake).

The direct and indirect receiving water bodies within the proposed project area with designated beneficial uses are displayed in Table 2.2-1

Table 2.2-1 Beneficial Uses

Beneficial Uses	MUN	AGR	COLD	COMM	FLD	GWR	IND	REC-1	REC-2	WARM	WILD
Antelope Valley Hydrologic Unit (626.00) Minor Surface Waters	X	X	X	X		X		X	X	X	X
Lancaster Hydrologic Area (626.50) Minor Surface Waters	X	X	X	X		X		X	X	X	X
Antelope Valley Groundwater Basin (DWR No. 6-44)	X	X			X		X				

MUN = Municipal and Domestic Supply; AGR= Agricultural Supply; GWR = Groundwater Recharge; REC-1 = Water Contact Recreation; REC-2 = Noncontact Water Recreation; COMM = Commercial and Sports Fishing; WARM = Warm Freshwater Habitat; FLD = Flood Peak Attenuation/Flood Water Storage; COLD = Cold Freshwater Habitat; WILD = Wildlife Habitat; IND= Industrial Service Supply

2.2.2.3 Environmental Consequences

No-Build Alternative

If the proposed project is not built, there would be no alterations or improvements to the existing interchange structure, thereby posing no changes to the existing environment, and requiring no disturbance of soils nor increase in impervious areas. Therefore, the No-Build Alternative would not present any potential impacts in terms of water quality or stormwater runoff.

Build Alternative

Drainage Patterns

Based on the interchange modifications (roundabouts/ curbs/new pavement/widening of Avenue N/ sidewalks, etc.) the project is anticipated to increase storm water volume due to increase of impervious surface area upon completion of the project. The total area of new pavement has been estimated by accumulating all proposed widening areas within the project limits. The new pavement areas within the project limits would be approximately 7.5 acres. Additionally, the changes to the existing topography and the street improvements would result in an increase in the velocity of flow within the project limits.

To minimize potential sheet flow/roadway flooding due to ramp modifications, ac dikes and shoulders would be built with inlets that will connect to the existing storm drain system. Furthermore, where there are slopes that need to be disturbed during construction, or for ramp modifications to accommodate the roundabouts at the northbound and southbound ramps at SR-14/Avenue N and or column work would revert to the pre-construction condition to match existing slope condition.

The existing interchange/bridge is built on fill material and is higher (approximately 20 feet above SR-14) than its surroundings. In addition, Avenue N is higher than the adjacent terrain, approximately two to four feet. As previously discussed, the proposed project does not cross any major drainage facility therefore could not affect water quality.

Furthermore, drainage improvements would be made to the box culvert which runs parallel to and west of SR-14 to accommodate the alignment shift of the ramps because of the roundabouts. Drainage improvements call for extending the box culvert at the begin point (at West Avenue O), north of the project location and end point (Avenue K and 15th Street West), south of the project location at 125 feet. If the project impacts this concrete box channel, then a 1600 Lake and Streambed Agreement from the California Department of Fish & Wildlife may be required.

The center area of the roundabouts would remain unpaved (except for the truck apron) and is generally landscaped to match the surrounding area (e.g. Joshua Trees) to create a permeable area for water to percolate to minimize runoff.

Overall, the Risk Level Determination for this project is Level 1. This is based on calculated Site Sediment Risk Factor of "Low" and Receiving Water Risk Factor of "Low". This determination considers rain fall data and construction duration, soil type and erodibility, topography, in addition to receiving water designated beneficial uses and impairment conditions. The project disturbed areas won't discharge to 303(d) listed watersheds impaired by sediments or to a waterbody with designated beneficial uses of spawn or migratory patterns.

The project will comply with the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 2012-0011-DWQ from July 2012, NPDES No. CAS000003, as amended by Orders WQ 2014-0006-EXEC, WQ 2014-0077-DWQ and WQ 2015-0036-EXEC), and how it will address the requirements of the State Water Resources Control Board (SWRCB) NPDES Construction General Permit (CGP) (Order No. 2009-0009-DWQ, NPDES No. CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ).

No permits from the U.S. Army Corps of Engineers nor the California Water Quality Control Board will be required for this project.

Pollutants

Runoff quality from roadways is highly variable depending on various factors, including climatic conditions; annual average daily traffic (AADT); roadway and shoulder material and conditions; surrounding land uses; and other factors. Pollutants of concern such as heavy metals, pesticides, debris, and organic compounds are already present in the Project area, and the Project would not result in additional new pollutants to the Project site.

Asbestos Containing Material (ACMs) may be present on the existing bridge, particularly in the caulking, which separates the bridge sections and attachments for bridge guard-rails. Further detailed studies to determine the levels of contamination and efforts to mitigate or avoid these hazardous water materials will be specified during the design phase. If hazardous waste levels are above the allowable concentrations, then coordination with the Stormwater Coordinator and the Hazardous Waste Branch will take place to ensure that runoff during construction will not further impact downstream water bodies or groundwater.

Groundwater

The depth to the historical shallowest occurrence of groundwater in the area is approximately 243.78 feet. Due to the depth to the groundwater, impacts are not anticipated due to the limited grading required for Project construction. No dewatering would be required. Should it be determined that dewatering is required, the dewatered effluent shall be trucked off site and disposed of according to existing laws and regulations. Since the Project does not anticipate any contact with groundwater, there would be no impacts associated with exposure to the contaminants in the groundwater

The proposed improvements 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.

Soils

There are no contaminated soils, other than Aerially Deposited Lead (ADL), identified within the project limits. A site investigation (SI) will be required for this project during the project's Plans, Specifications and Estimates (PS&E) phase to determine the actual levels of contamination so that provisions can be made for handling and disposal of the contaminated soils. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control.

Overall, with the implementation of Caltrans Standard Specifications and project design standards and features, including environmental commitment measures and applicable stormwater Best Management Practices (BMPs), the proposed project's construction, design, and facility operation will result in no adverse impacts to water quality.

Beneficial Uses

During construction, Caltrans standard construction Best Management Practices (BMPs), the Stormwater Pollution Prevention Plan (SWPPP), and the National Pollutant Discharge Elimination System (NPDES) General Permit regulations will be applied in order to prevent construction discharge from contaminating any waters in the project area. After construction, permanent treatment BMPs will further prevent contamination from affecting water sources in the project area.

The proposed project will feature drainage inlets, catch basins, storm drain pipes, drainage culverts and permanent treatment BMPs. All of these drainage features will prevent any substantial impacts to the Beneficial Uses within the project area.

2.2.2.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

As part of the Caltrans NPDES Permit requirements to implement the Storm Water Management Plan (SWMP), selected construction site, design pollution prevention, and treatment BMPs would be considered in the final design of the proposed project. The following Construction Site BMPs are recommended for implementation:

- Minimize cut and fill areas. Disturb existing slopes only when necessary.

- Protect and retain top soil and existing vegetation as much as possible.
- Hydroseed impacted slopes as soon as possible.
- Reduce concentrated flow by rounding and shaping slopes.
    - Follow Caltrans provisions related to preventing the introduction of invasive or noxious species.
    - Landscaped areas (e.g. Joshua Trees) within the roundabout to minimize impermeable surface.

Compliance with the standard requirements of the SWMP for potential short-term (during construction) and long-term (post-construction/maintenance) the following project features will be implemented as part of the project:

PF-WQ-1: The proposed project will comply with the provisions of the Caltrans National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Storm water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ), and any subsequent permits in effect at the time of construction.

PF-WQ-2: A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. It shall be prepared per the requirements stated in the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities and any subsequent permit in effect at the time of construction. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include the construction site Best Management Practices (BMPs) to control pollutants such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs. All construction site BMPs shall follow the latest edition of the Caltrans Project Planning and Design Guide (PPDG) (2016) and Caltrans Construction Manual (2017). These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.

PF-WQ-3: Caltrans-approved Design Pollution Prevention Best Management Practices (BMPs) shall be implemented to the maximum extent practicable (MEP), consistent with the requirements of the Caltrans Permit.

PF-WQ-4: Caltrans-approved Treatment BMPs shall be implemented to the MEP, consistent with the requirements of the Caltrans Permit.

2.2.3 Geology/Soils/Seismic/Topography

2.2.3.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under the California Environmental Quality Act (CEQA).

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Structures are designed using the Caltrans Seismic Design Criteria (SDC). The SDC provides the minimum seismic requirements for highway bridges designed in California. A bridge's category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans' Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

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2.2.3.2 Affected Environment

The Information in this section is based on the District Preliminary Geotechnical Report (DPGR), The City of Palmdale's 1993 General Plan, and data from the California Department of Conservation.

Geologic Formations and Soils

This project is located in Northern Los Angeles County within the western portion of the Mojave Geomorphic Province (Mojave Desert). This region is bounded by the Garlock Fault to the

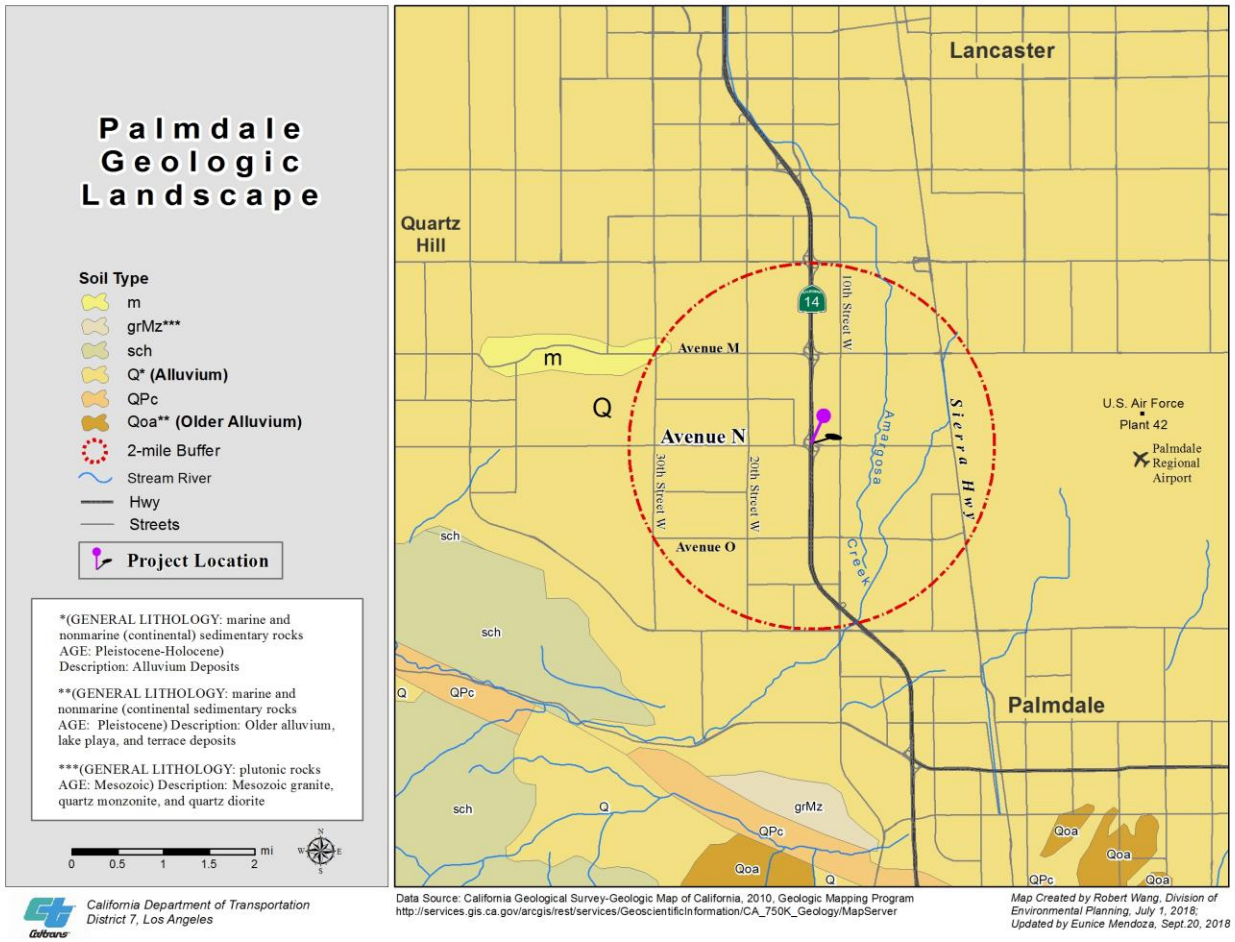
northwest and San Andreas Fault to the south. The mountain ranges associated with these fault formations are the Tehachapi Mountains and the San Gabriel Mountains, respectively. This seismically active area, surrounded by isolated mountain ranges separated by desert plains, also contains enclosed drainages characterized by playas and dry lake beds. Locally, the uplift of the Tehachapi and San Gabriel mountains provide sediments to infill the low-lying areas, in the form of alluvial fans.

During times of increased uplift in the San Gabriel mountains, additional sediment was provided to the Mojave Desert in the form of Alluvial fans. These sediments were carried from the mouths of canyons in the mountains into the lowlands. This movement caused the sediments to form a low angle apron or skirt that expands from the canyon to the lower lying areas, providing layers of Pleistocene and Holocene sediments.

The surface deposits in the project area consist mostly of Holocene alluvial fan deposits (Q). These Holocene sediments, composed of unconsolidated to weakly consolidated dark yellowish-brown and fine to medium-grained akosic sand with fine gravel deposits, overlie older alluvium dating to the Pleistocene Epoch. Soil test borings, collected in 1968 when the Avenue N overcrossing (Br. No. 53-222) was built, show that the surface layer is about 12 feet deep and consists of medium dense, fine sand with silt and gravel. Below that layer is about 10 feet of dense, well graded sand with gravel. Thirty feet below that is very dense, silty sand that is well graded with silt and gravel. The maximum boring depth was about 52 ft.

Figure 2.2-2 shows that the project site is located on Holocene alluvial soils. The 2-mile buffer around the project site consists mostly of Holocene alluvial soils but there is a small area in the North-West section of the buffer that includes younger alluvial soils; however, these younger alluvial soils are not within the immediate footprint of the project and will not be affected. Older alluvium dating back to the Pleistocene Epoch is located south of the project towards the San Gabriel Mountains and along the San Andreas Fault. These older soils potentially contain significant fossils but are well outside the project boundaries.

Figure 2.2-2 Palmdale Geologic Landscape



Seismicity and Faulting

The topography of this region is controlled by two prominent faults: the Garlock Fault and the San Andreas Fault. The San Andreas Fault runs from Northwest to Southeast, while the Garlock Fault has an east to west trend. These faults contribute to the physical and geological makeup of the region and determine the geological safety of the proposed Project. The area's seismicity is dominated by these two fault systems, as they respond to strain produced by the relative movement of the Pacific and North American crustal plates.

The San Andreas Fault extends over 600 miles, starting near the Salton Sea and ending in the Pacific Ocean near Point Arena. The project site lies approximately 4 miles (6.56 km) north of the San Andreas Fault, making the site potentially subject to strong ground motion from nearby earthquake sources during the design life of the Ave. N Bridge. This fault is considered to be one of the most destructive faults in California and has been known to generate an earthquake of Maximum Probable Magnitude (MPM) of 8+ on the Richter scale. The Maximum Probable Magnitude is a calculated value that represents the highest probable earthquake magnitude that

can occur in a given region. However, Caltrans considers the project site to be “competent”; “competent” soil is considered to be the most stable and bridge foundations surrounded by “competent” soil are capable of resisting ground shaking forces with minimal impact. This was determined using the Caltrans Seismic Design Criteria (SDC), which specifies the minimum seismic design requirements that are necessary to meet the performance goals for ordinary bridges (outlined in Section 1.1 of SDC V.1.7). The purpose of the SDC is to improve the seismic design of newly constructed bridges so that they may sustain their original structure after an earthquake and avoid significant damage.

The proposed project area is not located within an Alquist-Priolo Earthquake Fault Zone and is not located within 1000 ft. of a Holocene fault (a fault that has ruptured within approximately the last 11,000 years). Therefore, the potential for surface fault rupture is negligible. Areas subject to the Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) typically include zones located within 1/8 mile of a 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.

Figure 2.2-3 depicts the project site in relation to the nearest fault zone. A two-mile buffer has been highlighted around the project site to indicate that the site is well outside of the San Andreas Fault zone. Therefore, the potential for ground rupture due to faulting across the project area is low.

Figure 2.2-3 Earthquake Fault Zones Map

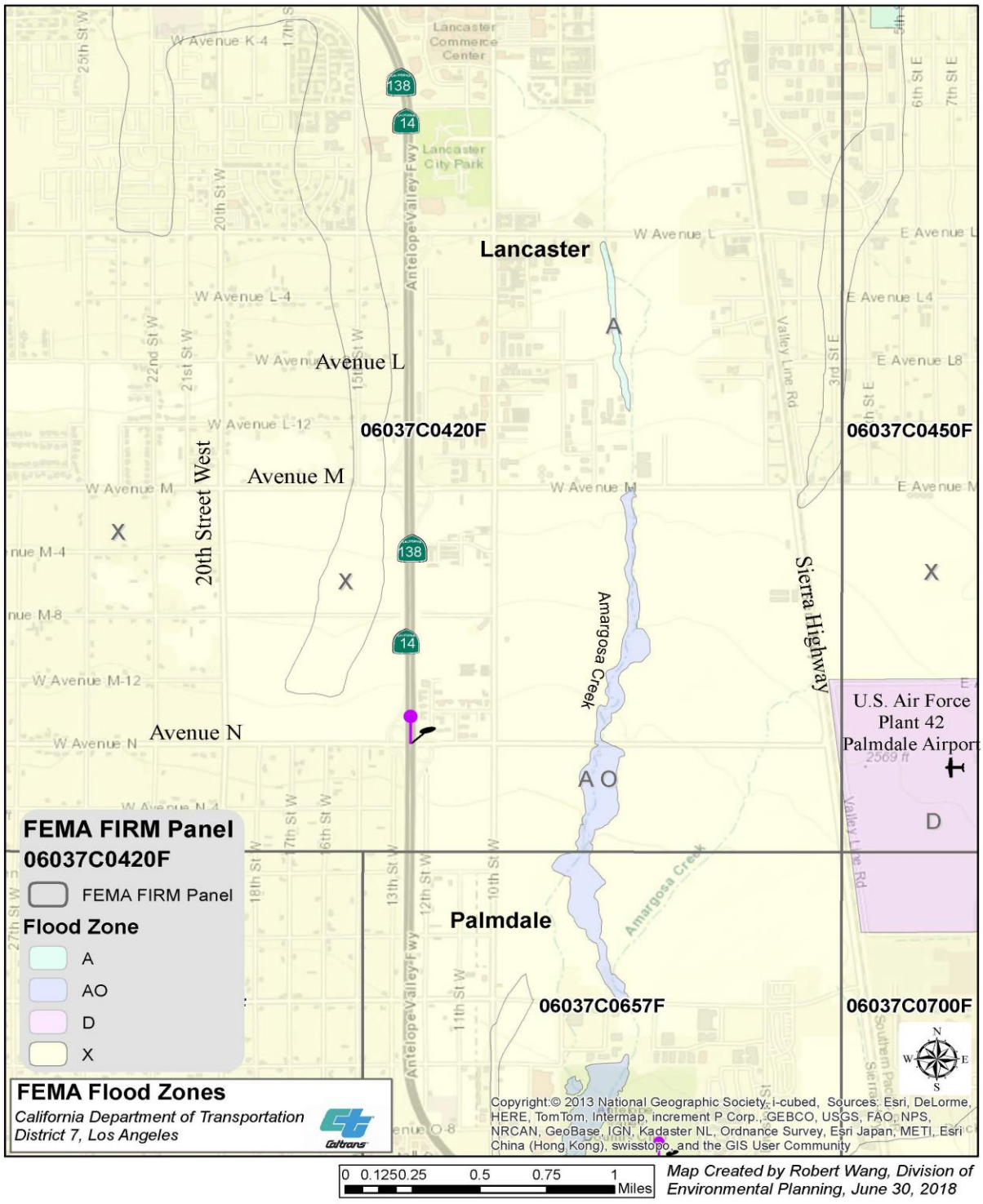
Surface waters and Groundwater

During the 1968 field investigation at the Avenue N overcrossing (Br. No. 53-2222), groundwater was not encountered to the maximum boring depth of 52 ft. (elevation 2534 ft.). Although ground water levels can fluctuate with the rainy season, as well as other factors, the California Geological Survey recorded that the historical high groundwater level at the bridge site is greater than 400 ft. deep. The California Geological Survey (CGS, 2002) has mapped the general area as being within a potentially liquefiable zone, but due to the deep groundwater level and very dense granular soil condition, liquefaction potential does not exist at the project site.

Additionally, since the Avenue N bridge structure on the project site does not cross over any body of water, there will be no scour concern for this project. Historical corrosion data is not available in the office files or archives. However, due to the granular nature of the subsurface material, this area should be considered non-corrosive.

The project also lies outside of the nearby flood zone at Armargosa Creek. Therefore, no potential flooding is expected to occur on the project site. Figure 2.2-4 shows the project site in relation to potential flood zones in the region.

Figure 2.2-4 Designated Flood Zones Map

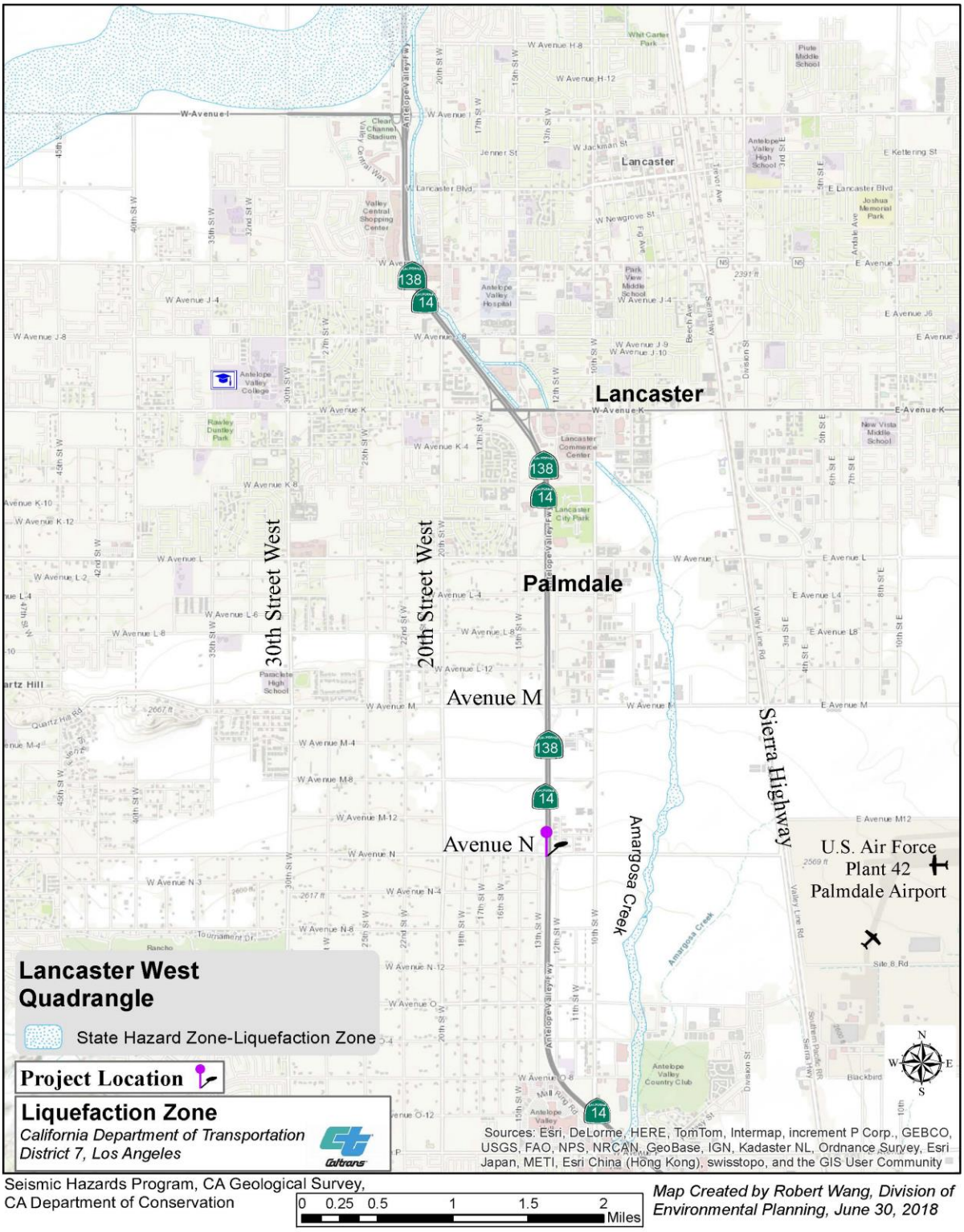


Liquefaction, Soils Expansion, and Subsidence

Liquefaction is the conversion of soil into a fluidlike mass during an earthquake or other seismic event. It is primarily associated with loose, saturated, cohesionless soil grains that lose strength and stiffness from earthquake shaking or other seismic activities. When liquefaction occurs, the strength of the soil decreases and the ability of that soil to support foundations for buildings or bridges is reduced. As a result, tremendous amounts of damage to structures may occur.

According to the State of California Seismic Hazard Zones Map (California Department of Conservation, 2005), the Avenue N project site is located outside the areas subject to liquefaction, earthquake-induced landslides, and areas subject to both liquefaction and landslides, known as “overlapping areas”. Figure 2.2-5 highlights the liquefaction zone outside of the project area. In addition, the City of Palmdale General Plan provides supplemental information on other earthquake-related effects such as soils expansion and subsidence. According to the Soil Expansion Potential Map (General Plan, Map S-52), the project site is located within a low soils expansion zone. This means that the potential for the soil to expand when wet and shrink when dry is low. Therefore, the project site is not at risk due to liquefaction

Figure 2.2-5 Liquefaction Zone Map



Landslides

The project site is located on relatively level ground, with no large adjacent slopes nearby; therefore, landslides are not anticipated. In addition, the project site is not located in a seismic hazard zone with respect to seismically induced landslides.

2.2.3.3 Environmental Consequences

No-Build Alternative

Under the No Build alternative, none of the improvements to Avenue N along SR-14 would be constructed. There would be no change to the existing conditions.

Build Alternative

The proposed project would not change the existing geologic setting of the site. The project is located on relatively flat ground and is not subject to landslides or slope failure, nor is it located on any geologic unit that is unstable. Due to the project's location, it would not result in any substantial adverse effects to geologic units or soil that is unstable, or that would become unstable as a result of the project.

Due to its proximity to the San Andreas Fault, the project site may be subject to strong ground motions during the design life of the Ave. N Bridge. An analysis was performed to develop and recommend ground motion parameters for the seismic design of the bridge. The analysis adheres to current seismic design standards outlined in the Caltrans Seismic Design Criteria (SDC V.1.7). According to the SDC V1.7 under "Soil Classification", the site is considered "competent", and bridge foundations would be capable of resisting ground shaking forces with minimal impact. Through utilization of the Seismic Design Criteria and analyzing the probability and effects of another major earthquake in that region, the proposed bridge was determined to be able to sustain an earthquake of magnitude 7.9.

The project site lies outside of any Alquist-Priolo Earthquake Fault Zone and is at a safe distance from active faults that pose a potential hazard to structures from surface rupture or fault creep. The proposed project site is not located within 1000 feet of a Holocene fault, therefore the potential for surface fault rupture is negligible.

The project site is also located outside of the zones subject to flooding and liquefaction, as depicted in Figure 2.2-4 and Figure 2.2-5. Due to the deep groundwater level and the very dense soil conditions, liquefaction potential does not exist at the project site.

2.2.3.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

All project components will be designed in accordance with standard engineering practices and Caltrans Standard Specifications. Mitigation measures are not required. However, the following project feature will be implemented as part of the project:

PF-GEO-1 Revegetation of graded slopes should be performed to minimize erosion, and runoff should be diverted from each slope face using earthen berms and/or concrete swales at the top of each slope.

2.2.4 Paleontology

2.2.4.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils.

A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects.
23 United States Code (USC) 1.9(a) requires that the use of Federal-aid funds must be in conformity with all federal and state laws.

23 United States Code (USC) 305 authorizes the appropriation and use of federal highway funds for paleontological salvage as necessary by the highway department of any state, in compliance with 16 USC 431-433 (the "Antiquities Act") and state law.
Under California law, paleontological resources are protected by the California Environmental Quality Act (CEQA).

2.2.4.2 Affected Environment

This section is based on the Combined Paleontological Identification and Evaluation Report (July 2018) prepared for this project.

Paleontology is the science of analyzing prehistoric plants and animals. Fossils, or Paleontological resources, are defined as any trace of a past life form. Fossils can include remains of large to very small aquatic and terrestrial vertebrates, or remains of plants and animals previously not represented in certain portions of the stratigraphy (layers of rock).
This project is located within the western portion of the Mojave Desert in northern Los Angeles County. Bounded by the Garlock Fault to the north and San Andreas Fault to the south, this geomorphic province is a seismically active area characterized by isolated mountain ranges separated by desert plains. The mountains associated with each fault are the San Gabriel Mountains and Tehachapi Mountains respectively. Locally, the uplift of the San Gabriel and Tehachapi Mountains provide sediments to infill the low-lying areas.

About 11,700 years ago, during the Pleistocene Epoch, numerous lakes formed in the lowlands due to the cool and rainy conditions that the region was experiencing. The lakes located at the base level were contained in the Antelope Valley region and were prevented from extending to the Pacific Ocean due to its higher elevation. As a result, many of the artifacts and fossils were contained in this basin and preserved in the area. As the Pleistocene Epoch came to an end,

the region became warmer and more arid, causing the lakes to dry out and form Pleistocene to Holocene dry lake beds known as playas.

Additional sediment was provided to the Mojave Desert in the form of alluvial fans, during times of increased uplift in the San Gabriel Mountains. These sediments were carried from the mouths of canyons in the mountains into the lowlands. As such, the sediments formed a low angle apron or skirt that expands from the canyon mouth to the lower lying areas, providing layers of Pleistocene and Holocene sediments over time.

Paleontological Records Search

Paleontological records from the project area were obtained from the following sources:

- Natural History Museum of Los Angeles County (LACM; Appendix B; McLeod, 2018
- University of California Museum of Paleontology database (UCMP, 2018)
- Paleobiology Database (PBDB, 2018)

The records search revealed that although there is no record of fossils being found in the current project area, there are records of fossils being discovered nearby in sedimentary deposits similar to those that occur in the project area.

The closest recorded observations were at a pipeline excavation project more than 10 miles east of the proposed project, in the City of Palmdale. That area contained fossils of pocket gopher (*Thomomys* sp.), kangaroo rat (*Dipodomys* sp.), pocket mouse (*Chaetodipus* sp.), cottontail rabbit (*Sylvilagus* sp.), leopard lizard (*Gambelia wislizenii*), and snakes (*Pituopohis* sp. and *Lampropeltis* sp.).

The surface deposits in the project area consist entirely of Holocene alluvial fan deposits (Qyf) (Hernandez, 2010). These sediments are composed of unconsolidated to weakly consolidated, dark yellowish-brown (10 YR 4/4), fine-to medium-grained arkosic sand with fine gravel clasts, which originated from a granitic source. These sediments are exposed as slightly dissected, elevated alluvial fans. The surface sediments are generally younger than 11,700 years old, making them too young to contain any fossils. However, these Holocene sediments overlie older alluvium dating to the Pleistocene Epoch, which have a high probability of containing fossils.

Paleontological Sensitivity

To assess the potential for locating fossils within the project site, a tripartite scale was created to rank the paleontological sensitivity of each underlying rock unit within the project site. These rankings consist of no potential, low potential, and high potential. The chart below presents how geologic units are classified based on the relative abundance of vertebrate fossils or scientifically significant invertebrate or plant fossils and their sensitivity to adverse impacts. The

geological setting and fossil localities were accounted for to determine paleontological sensitivity according to Caltrans criteria.

Table 2.2-2 Paleontological Sensitivity Rankings

Caltrans ranking	Depth from original ground surface*	High	Low	No
Rock Unit				
Holocene fan deposits	0 to 10 feet		X	
Older Pleistocene sediment	More than 10 feet	X		

The findings presented in Table 2.2-2 indicate that all Holocene sediments are ranked as having low sensitivity. Pleistocene sediments that underlie this Holocene alluvium may have high paleontological sensitivity, depending on their physical characteristics; and all units more than 10 feet below the original ground surface are classified as high potential. These rankings were extrapolated from records of the Natural History Museum of Los Angeles County, online records from the University of California Museum of Paleontology, the Paleontological Database online, and print records. Previous paleontological studies were also considered in determining the paleontological sensitivity in this region.

Windshield Survey

On June 19, 2018, a windshield survey for paleontological resources was conducted by Teresa Terry, a Cogstone staff archaeologist and cross-trained paleontologist. The results of the survey indicate that most of the project area is developed. Previously graded native surface sediments consisting of light yellowish-brown color, of medium to fine grain, and poorly sorted silty sands of the Holocene alluvial fan unit were observed along the edge of the right-of-way on both sides of Avenue N. No paleontological resources were observed.

Previously recorded paleontological studies were examined for fossils within a ten-mile radius of the project site. No records of fossils occurring within or near the project area are known.

2.2.4.3 Environmental Consequences

No Build Alternative

Under the No Build alternative, none of the improvements to Avenue N or SR-14 would be constructed. There would be no excavations in the study area and, therefore, there would be no adverse impacts to paleontological resources.

Build Alternative

The construction of the build alternative would require ground disturbance, excavation, and modifications to existing highway and local street facilities and structures. Based on the above

discussion, it is possible that the build alternative could result in impacts to paleontological resources.

Units mapped at the surface of this project area consist entirely of alluvial fan deposits dating to the late Pleistocene and Holocene Epochs. Shallow excavations in the younger Holocene alluvial fan deposits, exposed in most of the project area, are unlikely to uncover significant fossils. Deeper excavations would likely reach older Pleistocene sediments which may have a high potential for yielding significant fossils.

The widening work for this project would consist of grading to a maximum of two feet and will be entirely in low sensitivity Holocene sediments. Regionally, records have shown that fossils are known to occur below ten feet in sediments similar to those of this project. Bridge supports may consist of driven or cast in place piles and are likely to extend into high sensitivity Pleistocene sediments.

2.2.4.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

The project sediments are not sensitive at the depth (4 ft.) proposed for grading. Bridge piles might possibly impact sensitive sediments but are likely to be constructed using techniques that make monitoring logistically infeasible. The potential to affect paleontological resources is low. However, should they be encountered, the following avoidance and minimization measure will be implemented:

PAL-1: If unanticipated fossils are discovered during construction, all work must halt within 50 feet until the find can be evaluated by a qualified paleontologist. Work may resume immediately outside that radius.

PAL-2: If a paleontological resource assessment results in a determination that the site is insignificant or of low sensitivity, this conclusion should be documented in a Supplemental Paleontological Evaluation Report (PER) and in a Re-Validation of the project's environmental document in order to demonstrate compliance with applicable statutory requirements.

PAL-3: If a paleontological resource is determined to be significant, of high sensitivity, or of scientific importance, and the project impacts it, a mitigation program must be

developed and implemented. Mitigation can be initiated prior to, and/or during construction.

2.2.5 Hazardous Waste/Materials

2.2.5.1 Regulatory Setting

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

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

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of

wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

2.2.5.2 Affected Environment

Information regarding hazardous wastes/materials was obtained from the *Hazardous Waste Assessment* prepared in January 2019 by the Caltrans Office of Environmental Engineering (OEE). The assessment generally consists of a project evaluation, a departmental record review, a regulatory agency records review, and a general field visit. The project scope consists of road widening, bridge widening, striping and will require work involving environmental issues common for construction projects. The Hazardous Waste Assessment revealed that the main hazardous waste/materials concerns on this project: aerially deposited lead (ADL), yellow thermoplastic/paint traffic striping, asbestos containing materials (ACM), and treated wood waste (TWW). See Table 2.2-3 for further details.

Table 2.2-3 Hazardous Waste/Materials of Concern in the Project Study Area

Hazardous Waste/Materials of Concern	Occurrence
Aerially Deposited Lead (ADL)	Unpaved soils in the project vicinity have the potential to be contaminated with ADL due to historical use of lead containing fuel. A previous site investigation (SI) conducted along SR-14 indicated the presence of ADL soil in unpaved areas up to a depth of two feet. The top 2 feet of soil contains hazardous levels of ADL that require disposal of excess soil at a Class I facility.
Yellow Thermoplastic/Paint Traffic Striping	Yellow thermoplastic/paint traffic striping that needs to be removed as a result of the proposed project may contain concentrations of lead and chromium which are considered hazardous.
Asbestos Containing Material (ACM)	The widening of the Avenue N overcrossing raises concern for ACM if there is disturbance to the concrete, railing, shims, mastic, or joint seals.
Treated Wood Waste (TWW)	There is a potential for the removal and disposal of metal beam guardrail or signs with wood posts. These wood posts are assumed to be treated with chemical preservatives such as arsenic, chromium, copper, and pentachloro-phenol. These posts are considered hazardous waste and should be handled as such.

All parcels acquired for the proposed project will require a Site Investigation in order to determine the presence of any potential contaminants. Parcels acquired must meet Caltrans' requirements for the acquisition on uncontaminated property.

2.2.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not change the existing physical environment and therefore would not result in any impacts related to hazardous waste and materials.

Build Alternative

Aerially Deposited Lead (ADL)

ADL from the historical 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 and along Ave. N within the limits of the proposed project. A site investigation (SI) will be required for this project during the PS&E phase to determine the actual levels of contamination so that provisions can be made for proper handling and disposal of the contaminated soils. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met. Additionally, a Lead Compliance Plan (LCP) will be required to be prepared prior to the start of construction activities. Refer to avoidance and minimization measure HAZ-1 and project feature PF-HAZ-4.

Yellow Thermoplastic Stripes and Paints

The proposed project has the potential to result in the removal of yellow thermoplastic stripes and paint from the road surfaces. As such there is a potential for exposure of construction workers and inspectors to lead and chromium. Therefore, sampling and laboratory testing are required to determine proper handling and disposal methods for yellow thermoplastic stripes and paints. Refer to avoidance and minimization measure HAZ-2.

Asbestos Containing Materials (ACM)

The widening of the bridge at the Avenue N overcrossing would require disturbance of the concrete, railing, shims, mastic, or joint seals. These activities raise concern for the presence of ACM in the concrete. Prior to demolition or modification of the bridge, an asbestos survey will need to be performed (during the PS&E phase of the project) by a certified asbestos consultant

to determine if ACM is present and, if so, to identify the proper handling and disposal methods. Refer to avoidance and minimization measure HAZ-3.

Treated Wood Waste

The proposed project has the potential to result in the removal of metal beam guardrail or signs with wooden posts. These wooden posts could have been treated with chemical preservatives such as arsenic, chromium, copper, and pentachloro-phenol. Therefore, these posts may be considered hazardous and should be properly handled and disposed of.

There is a potential for exposure to general hazardous waste/material of concern during construction. Soil excavation and earth-moving activities associated with the Build Alternative could expose workers to contaminants associated with yellow thermoplastic traffic striping, aerially deposited lead (ADL), and treated wood waste (TWW). Structural demolition work associated with the Build Alternative has the potential to expose workers to contaminants associated with Asbestos Containing Materials. All parcels will require a Site Investigation (SI) during the PS& E phase of the project to determine actual levels of contamination so that provisions can be made for handling and disposal of the contaminated soils. Refer to avoidance and minimization measure HAZ-4.

2.2.5.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

Avoidance, minimization, and/or mitigation measures are not required.

Build Alternative

The following project features pertaining to hazardous waste matters will be implemented as part of the proposed project:

PF-HAZ-1: Site investigations performed at the properties for the Project will be completed during the PS&E phase to determine whether more extensive subsurface investigation will be needed.

PF-HAZ-2: If hazardous materials contamination or sources are suspected or identified during Project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the Caltrans Construction Manual (July 2017). Adequate protection for construction workers will be provided with the implementation of a Health and Safety Plan and Soil Management Plan.

PF-HAZ-3: If hazardous materials are discovered, the construction contractor will remove and properly dispose of any materials in accordance with the Caltrans Construction Manual (July 2017), Chapter 7, Section 7-107, Hazardous Waste and Contamination.

PF-HAZ-4: Lead Compliance Plan shall be prepared prior to the start of construction activities.

The following avoidance and minimization measures will be implemented as part of the proposed project:

HAZ-1: Shallow subsurface soil sampling will be conducted for aerially deposited lead (ADL) in unpaved locations in the vicinity of the roadway. The soil ADL evaluation and/or investigation will be consistent with the new California Department of Toxic Substances Control (DTSC) Lead Agreement contaminant concentration limits.

HAZ-2: If yellow thermoplastic traffic markings are removed separately from the adjacent pavement, the markings shall be removed and sampled for lead chromate prior to construction, consistent with Caltrans' SSP 14-11.12. If the traffic markings are non-hazardous, then SSP 36-4 shall be followed.

HAZ-3: An asbestos-containing materials (ACMs) survey shall be completed during PS&E, and prior to any demolition or work to the Avenue N overcrossing bridge, by a qualified asbestos consultant.

HAZ-4: During design, treated wood waste (TWW) will be identified and the appropriate SSP will be specified as necessary. SSP Required. During Project construction, any treated wood waste (TWW) that is found on the site and is not reused in the Project area in a manner consistent with the intended use for the preservative, must be disposed of as a hazardous waste at an appropriately permitted disposal facility.

2.2.6 Air Quality

2.2.6.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

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

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. “Transportation Conformity” applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The proposed project must conform at both levels to be approved.

Conformity requirements apply only in nonattainment and “maintenance” (former nonattainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[3] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

2.2.6.2 Affected Environment

Information for this section was gathered from the Air Quality Report (March 2019).

Climate, Meteorology, and Topography

[3] "Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.

Meteorology (weather) and terrain can influence air quality. Certain weather parameters are highly correlated to air quality, including temperature, the amount of sunlight, and the type of winds at the surface and above the surface. Winds can transport ozone and ozone precursors from one region to another, contributing to air quality problems downwind of source regions. Furthermore, mountains can act as a barrier that prevents ozone from dispersing.

The Project is located in Palmdale, which is situated in the Mojave Desert Air Basin (MDAB) which is a part of the Antelope Valley Air Quality Management District (AVAQMD). The MDAB encompasses approximately 21,480 square miles and includes the desert portions of San Bernardino County, Palo Verde Valley, Palmdale, and Lancaster in the Antelope Valley. The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Lower mountains throughout the terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. Cold air masses moving south from Canada and Alaska rarely influence the MDAB, these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south.

Located near the project site is the Palmdale Airport climatological station (#046627) which is maintained by the Western Regional Climate Center and is representative of meteorological conditions near the project.

The annual average maximum temperature recorded from 1934 to 2016 at the Palmdale Airport climatological station is 76.7 °F and the annual average minimum is 44.5 °F. December and January are typically the coldest months in this area of the Basin with an average minimum temperature of 28.8 °F and 29.0 °F, respectively. The warmest temperature occurs in July and August with average maximum temperatures of 98.9 °F in July and 97.9 °F in August. Temperature inversions are common, affecting localized pollutant concentrations in the winter and enhancing ozone formation in the summer. Annual average rainfall is 5.05 inches, mainly falling during the winter months.

Monitored Air Quality

The California Air Resources Board (CARB) and the AVAQMD maintain a network of air quality monitoring stations located throughout the MDAB. For the proposed project, monitoring data was collected from the Lancaster Monitoring Station (ARB# 70310), at 43301 Division St, Lancaster, CA 93535. The Lancaster monitoring station is approximately 3.0 miles northeast of

the project area. A map showing the location of the air monitoring site relative to the proposed project site is provided in Figure 2.2-6.

Figure 2.2-6 Air Quality Monitoring Stations

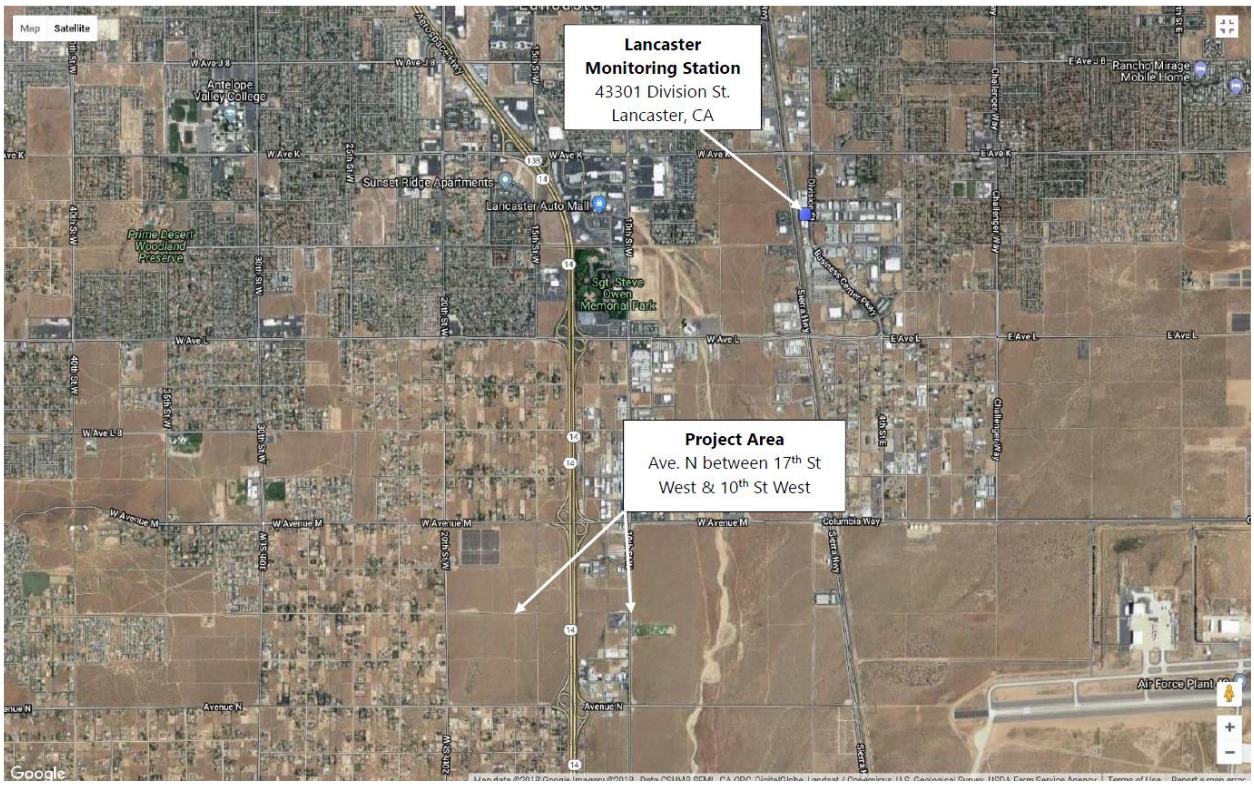


Table 2.2-4 lists the air quality trends in data collected at Lancaster Monitoring Station for the past 5 years. The data collected from the Lancaster Monitoring Station is representative of the proposed project area due to similarities in traffic volumes, truck percentage, land uses, and proximity to the freeway and the project location.

Table 2.2-4 5-Year Concentrations

Pollutant	Standard	2013	2014	2015	2016	2017
Ozone						
Max 1-hr concentration		0.108	0.101	0.132	0.108	0.109
No. days exceeded: State	0.09 ppm	9	3	26	3	#
Max 8-hr concentration		0.093	0.087	0.103	0.090	0.087
No. days exceeded: State	0.070 ppm	53	36	82	65	#
Federal	0.070 ppm	50	35	80	60	43
Carbon Monoxide						
Max 1-hr concentration		1.9	1.5	1.5	2.6	1.3
No. days exceeded: State	20 ppm	#	#	#	#	#
Federal	35 ppm	0	0	0	0	0
Max 8-hr concentration		1.2	1.1	1.3	1.5	0.9
No. days exceeded: State	9.0 ppm	#	#	#	#	#
Federal	9 ppm	0	0	0	0	0
PM_{10}						
Max 24-hr concentration		99	131	123	144.0	81.0
No. days exceeded: State	50 µg/m^3	2	#	#	#	#
Federal	150 µg/m^3	0	0	0	0	0.0
Annual Average concentration		21.8	24.3	19.4	25.7	#
No. days exceeded: State	20 µg/m^3	#	#	#	#	#
$PM_{2.5}$						
Max 24-hr concentration		11.9	42	10.4	64.8	26.6
No. days exceeded: Federal	35 µg/m^3	#	1	0	2	#
Annual Average concentration		#	#	#	7.7	#
No. days exceeded: State	12 µg/m^3	#	#	#	#	#
Federal	12.0 µg/m^3	#	#	#	#	#
Nitrogen Dioxide						
Max 1-hr concentration		0.048	0.052	0.042	0.049	0.047
No. days exceeded: State	0.18 ppm	0	0	0	0	#
Federal	100 ppb	0	0	0	0	#
Annual Average concentration		8	8	#	8	#
No. days exceeded: State	0.030 ppm	#	#	#	#	#
Federal	53 ppb	#	#	#	#	#
Notes:						
1. Data were taken from the EPA website except for State exceedance data and PM10 annual average data, which was taken from the CARB website.						
2. Concentrations data represents data for excluded exceptional events.						
3. "#" Means data not available.						

Air Quality Report (Caltrans, March 2019)

Attainment Status

Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards. These standards are based on health criteria, for outdoor concentrations to protect public health and prevent degradation of the environment. The Clean Air Act requires the U.S. EPA to set National Ambient Air Quality Standards (NAAQS) for six criteria air contaminants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, lead, and sulfur dioxide. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 2.25 documents the current air quality standards for California while Figure 2.2-7 summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

Table 2.2-5 California Ambient Air Quality Standards

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m^3)		9 ppm (10 mg/m^3)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

See footnotes on next page ...

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California Air Resources Board (5/4/16)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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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”. When the area is deemed a maintenance area there must be a measure and a plan established that will preserve the region in attainment for the following ten years. Table 2.2-6 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 (CARB), an “Unclassified” designation indicates that the air quality data for the project area are incomplete and do not support a designation of attainment or nonattainment. Attainment status for all the criteria pollutants in the project area are summarized in Table 2.2-6 below. As noted in Table 2.2-6, a few pollutants have been designated as Unclassified for CARB such as PM2.5, Hydrogen Sulfide, and VRP. Many of the criteria pollutants have been designated as Unclassified for USEPA such as CO, PM10, PM2.5, NO2, SO2, and lead.

Table 2.2-6 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State[4] Standard	Federal[5] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Ozone (O_3)	1 hour	0.09 ppm[6]	--- [7]	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.	Nonattainment	Nonattainment (Severe-15)
	8 hours	0.070 ppm	0.070 ppm (4^{th} highest in 3 years)				
Carbon Monoxide (CO)	1 hour	20 ppm	35 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.	Attainment	Unclassifiable/ Attainment
	8 hours	9.0 ppm [1]	9 ppm				
	8 hours (Lake Tahoe)	6 ppm	---				
Respirable Particulate	24 hours	50 µg/m^3 [9]	150 µg/m^3 (expected number of days	Irritates eyes and respiratory tract. Decreases lung capacity. Associated	Dust- and fume-producing industrial and agricultural operations; combustion smoke &	Nonattainment	Unclassifiable/ Attainment

[1] State standards are "not to exceed" or "not to be equaled or exceeded" unless stated otherwise.
[2] Federal standards are "not to exceed more than once a year" or as described above.
[6] ppm = parts per million
[7] Prior to 6/2005, the 1-hour ozone NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still be in use in some areas where 8-hour ozone emission budgets have not been developed, such as the S.F. Bay Area.
[9] µg/m^3 = micrograms per cubic meter

Pollutant	Averaging Time	State[4] Standard	Federal[5] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Matter (PM_{10})[8]			above standard < or equal to 1)	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 PM_{10}.	vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.		
	Annual	20 µg/m^3	--- [5]				
Fine Particulate Matter ($PM_{2.5}$)[5]	24 hours	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic & other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NOx, sulfur oxides (SOx), ammonia, and ROG.	Unclassifiable/ Attainment	Unclassifiable/ Attainment
	Annual	12 µg/m^3	12.0 µg/m^3				
	24 hours (conformity process[10])	---	65 µg/m^3				
	Secondary Standard (annual; also for conformity process[5])	---	15 µg/m^3 (98th percentile over 3 years)				

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

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

Pollutant	Averaging Time	State[4] Standard	Federal[5] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm[11]	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.	Attainment	Unclassifiable/ Attainment
	Annual	0.030 ppm	0.053 ppm				
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	0.075 ppm[12] (99th 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.	Attainment	Unclassifiable/ Attainment
	3 hours	---	0.5 ppm[13]				
	24 hours	0.04 ppm	0.14 ppm (for certain areas)				
	Annual	---	0.030 ppm (for certain areas)				
Lead (Pb)[14]	Monthly	1.5 µg/m^3	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and	Lead-based industrial processes like battery production and smelters. Lead paint, leaded	Attainment	Unclassifiable/ Attainment
	Calendar Quarter	---	1.5 µg/m^3				

[11] Final 1-hour NO_2 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.
12 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.

[13] Secondary standard, set to protect public welfare rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.
[14] The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and 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.

Pollutant	Averaging Time	State[4] Standard	Federal[5] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
			(for certain areas)	neuromuscular and neurological dysfunction. Also, a toxic air contaminant and water pollutant.	gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.		
	Rolling 3-month average	---	0.15 µg/m^3 [15]				
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.	Attainment	N/A
Hydrogen Sulfide (H_2S)	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.	Unclassifiable/ Attainment	N/A

[15] Lead NAAQS are not considered in Transportation Conformity analysis.

Pollutant	Averaging Time	State[4] Standard	Federal[5] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
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 "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	Unclassifiable/ Attainment	N/A

California ARB Air Quality Standards chart (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf). Greenhouse Gases and Climate Change: Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

Sensitive Receptors

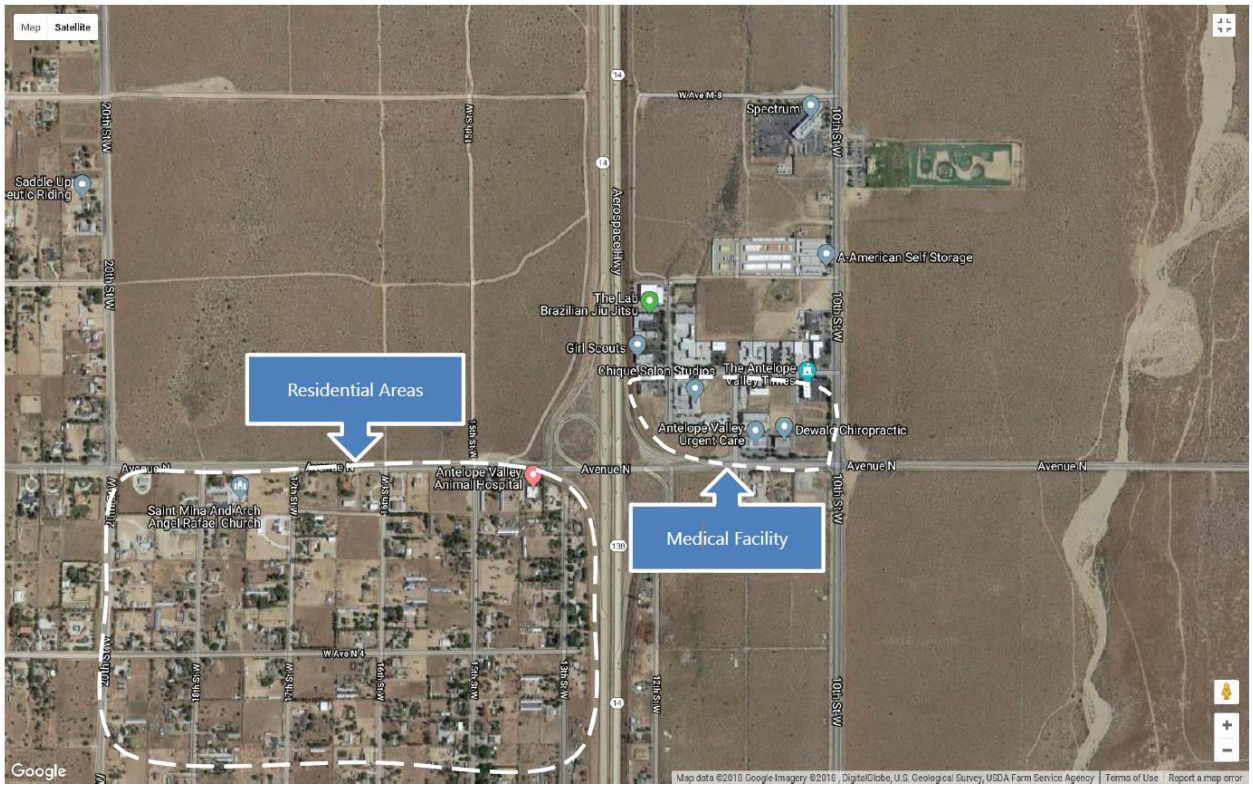
Some land uses are considered more sensitive to changes in air quality than others, depending on the area's uses, characteristics, and inhabitants. Sensitive receptors include residential areas, hospitals, elder-care facilities, rehabilitation centers, elementary schools, daycare centers, and parks. Residential areas are considered sensitive to air pollution because residents, including children and the elderly, tend to be at home for extended periods of time, resulting in sustained exposure to pollutants. These land uses provide facilities for individuals who may be highly susceptible to the effects of air pollution, such as children, the elderly, or those with pre-existing health conditions.

Sensitive receptors located near the project area include residential units, which are predominantly located southwest of the project site. Other sensitive receptors include a healthcare facility located northeast of the project site. Sensitive receptors are analyzed within 500 feet (or 150 meters) of the project area, as this buffer analyzes the area of greatest concern. The sensitive receptors in the buffer zone have been identified in Table 2.2-7. Figure 2.2-7 shows the locations of sensitive receptors relative to the project site.

Table 2.2-7 Sensitive Receptors

Receptor	Description	Distance Between Receptor and Project (ft)
Antelope Valley Urgent Care	Health Care Facility	100 ft
Single Family Homes	Residential	Varies from 60 ft to 500 ft

Figure 2.2-7 Sensitive Receptors



Mobile Sources Air Toxics (MSATs)

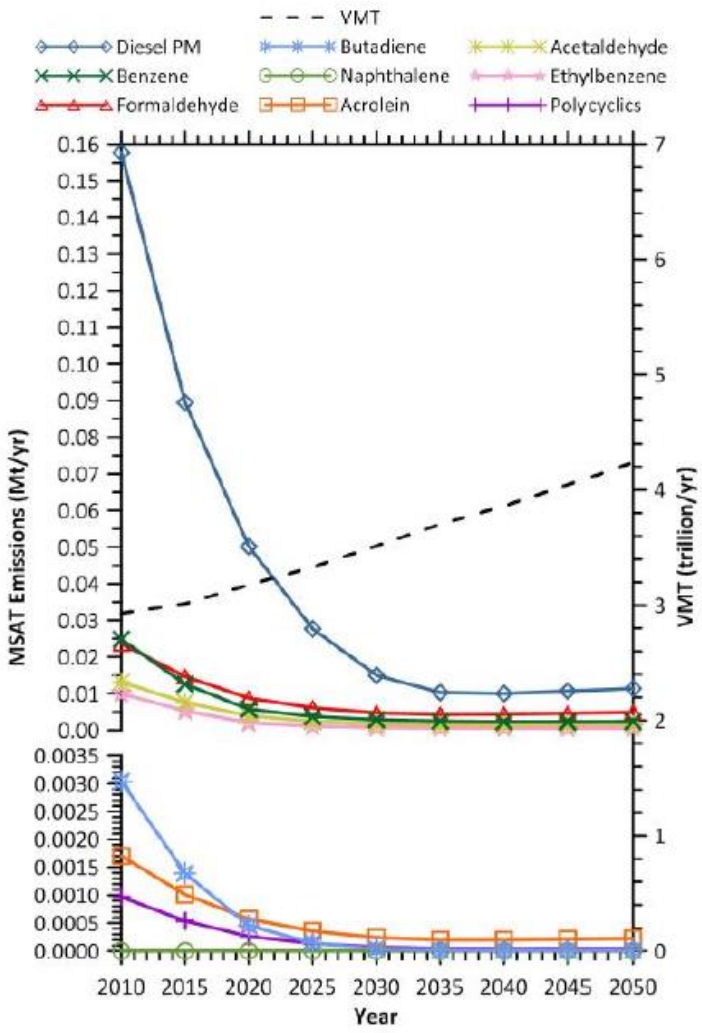
Mobile Source Air Toxics are airborne pollutants often emitted from mobile sources such as diesel fueled engines in vehicles. These air toxics may pose a serious hazard to human health. Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. In the EPA's latest final rule on the control of hazardous air pollutants from mobile sources (72 FR 8430), the agency identified 93 compounds emitted from mobile sources, which are listed in their Integrated Risk Information System (IRIS) (https://www.epa.gov/iris). From this list of 93 compounds, EPA has identified nine as priority MSATs. The high priority of these nine MSATs was based on EPA's 2011 National Air Toxics Assessment (NATA) that showed these toxics are among the national and regional-scale cancer risk drivers or contributors and non-hazard contributors. These nine MSATs are listed as follows:

- acrolein,
- acetaldehyde,
- benzene,

- 1,3-butadiene,
- Diesel particulate matter (diesel PM),
- Ethylbenzene,
- formaldehyde,
- naphthalene, and
- polycyclic organic matter (POM).

While the Federal Highway Administration (FHWA) considers these the priority mobile source air toxics, the list is subject to change and may be adjusted in consideration of future U.S. EPA rules. The 2007 U.S. EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA's latest emissions model, the Motor Vehicle Emissions Simulator (MOVES2014a), even if vehicle activity (vehicle miles traveled [VMT]) increases by 45%, as assumed from 2010 to 2050, a combined reduction of 90% in the total annual emission rate for the priority MSATs is projected for the same period. This can be seen in Figure 2.2-8.

Figure 2.2-8 Projected National MSAT Trends, 2010-2050



(Source: https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/).

2.2.6.3 Environmental Consequences

No Build Alternative

The No Build Alternative would make no project improvements. Regional plans and programs such as the 2016-2040 RTP/SCS and 2019 FTIP would not be fulfilled.

Build Alternative

Regional Conformity

The proposed project is listed in the Southern California Association of Governments (SCAG) financially constrained 2016 RTP/SCS which was found to conform to the SIP by SCAG on April 7, 2016; FHWA and FTA made a regional conformity determination finding on June 1, 2016. The project is also included in SCAG's financially constrained 2019 FTIP Amendment #19-01 with project ID# LA0G898. SCAG's 2019 FTIP Amendment #19-01 was determined to conform by FHWA and FTA on December 17, 2018. A request for an amendment was submitted to SCAG based on changes to the project scope.

The proposed project is successfully amended into the SCAG's financially constrained 2019 FTIP Amendment #1-9 and 2016 RTP Amendment #3. The project design concept and scope have not changed significantly from those identified in the latest conforming regional emission analysis; and is therefore considered to have satisfactorily demonstrated the conformity requirements. The conformity status of the latest Regional Plan and Program is summarized in Table 2.2-8. Photocopies of updated listings from the RTP/SCS and FTIP are included in Appendix D.

Table 2.2-8 FTIP and RTP

MPO	Plan/TIP	Adoption by MPO	Approval by FHWA	Last Amendment	Approval by FHWA of Last Amendment
SCAG	2016 RTP/SCS	9/6/2018	12/17/2018	Amendment #3	12/17/2018
SCAG	2019 FTIP	9/6/2018	12/17/2018	Amendment #19-09	9/03/2019

Project Level Conformity

The project is in a nonattainment area for the federal 8-hour ozone standard and, thus a project-level hot-spot analysis is required under 40 CFR 93.109.

On September 9, 2019, a Project Level Conformity Determination Letter was received from FHWA. The letter confirms that based on the request for project level conformity sent by Caltrans to FHWA on August 22, 2019, the project-level transportation conformity requirements of 40 CFR Part 93 have been met for the proposed project. Please refer to Chapter 4, Comments and Coordination to view the FHWA Conformity Determination Letter.

<u>CO analysis</u>

The local analysis is commonly referred to as a project-level hot-spot analysis. Conformity must be demonstrated at the project-level for projects in CO, PM10, and PM2.5 nonattainment and maintenance areas. A region is a nonattainment area if one or more monitoring stations in the region fail to attain the relevant CAAQS or NAAQS. In general, projects must not cause the standards to be violated and, in nonattainment areas, the project must not cause any increase in the number and severity of violations.

The CO Protocol has a screening exercise that would determine whether the project requires a qualitative or quantitative analysis, or whether none would be necessary. Each level cited is followed by a response, which will determine the next applicable level of the flowchart for the proposed project. This flowchart is used to determine the type of CO analysis required for the proposed project.

The CO hot-spot analysis demonstrates that the proposed project meets the requirements of 40 CFR 93.116 and 123; and that the proposed project will not cause or contribute to a new violation of the CO standard. Below is a step-by step explanation of the CO Protocol flowchart:

Q. 3.1.1. Is this project exempt from all emissions analyses? (see Table 1 of the CO Protocol)

A. NO. Table 1 of the CO Protocol is Table 2 of 40 CFR 93.126. Question 3.1.1 is inquiring if the project is exempt from all the requirements to determine conformity. The proposed project is not classified according to Table 1; and therefore, it is not deemed exempt from all emissions analyses.

Q. 3.1.2. Is project exempt from regional emissions analyses? (see Table 2 of the CO Protocol)

A. NO. Table 2 of the CO Protocol is Table 3 of 40 CFR 93.127. The question is attempting to determine if the project is exempt from regional emissions analyses. The proposed project is not listed in Table 2; and therefore, it is not exempt from regional emissions analyses. The flowchart directs the project evaluation to Section 3.1.3.

Q. 3.1.3. Is the project locally defined as regionally significant?

A: YES. Projects not listed in Table 1 or Table 2 of the Protocol are usually considered regionally significant unless otherwise stipulated via interagency consultation.

Q. 3.1.4. Is project in a federal attainment area?

A. NO. The desert portion of Los Angeles County, which is located in the MDAB, is designated as non-attainment for the federal ozone standard. The proposed project is thus not in a federal attainment area.

Q. 3.1.5. Is there a conforming RTP and TIP?

A. YES. SCAG's most recently approved plan and program is the 2016 RTP/SCS and the 2019 FTIP.

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

A. A project included in the FHWA-approved RTP and TIP satisfies the regional analysis requirement. A request for an amendment will be submitted to SCAG to amend the

description in the currently conforming 2016 RTP and 2019 FTIP to match the current project description. When the proposed project is successfully amended into the conforming RTP and FTIP, the project will be considered to have satisfied regional conformity requirements.

Q. 3.1.7. Has project design concept and/or scope changed significantly from that in regional analysis?

A. NO. The scope and design concept of the proposed project will be consistent with the conforming RTP and FTIP.

Q. 3.1.9. Examine Local Impacts

A. Section 3.1.9 of the flowchart directs the project evaluation to Section 4, Local Air Quality Analysis. This concludes the evaluation of CO Protocol Figure 1. The Local Analysis starts at level 1 of the CO Protocol. It is illustrated in Figure 3 entitled Local CO Analysis. This flowchart is utilized in determining the type of project-level CO analysis required for the proposed project. A step-by-step response to each step and level is provided below. Each level cited is followed by a response, which will determine the next applicable level of the flowchart. The flowchart is provided in Appendix E of this document.

Q. Level 1. Is the project in a CO nonattainment area?

A. NO, as shown in Table 2.2-6, the proposed project is located in a CO attainment-unclassified area.

Q. Level 1. Was the area re-designated as "attainment" after the 1990 Clean Air Act?

A. NO. As indicated above, the project is located in a CO attainment-unclassified area. The flowchart directs the evaluation to Level 7.

Q. Level 7. Does project worsen air quality?

The CO Protocol Section 4.7.1 recommends the following criteria to be used to determine whether the project is likely to worsen air quality for the area substantially affected by the project:

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

The primary purpose of the project is to alleviate the congestion along the SR-14 on-ramps and off-ramps as well as along Avenue N between 17th Street West and 10th Street West. The project does not propose to construct residential or commercial parking spaces; and therefore,

the proposed project would not increase the percentage of vehicles operating in cold start mode.

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

As summarized in Tables 2.2-9 and 2.2-10, peak-hourly volumes remain unchanged between the Build and No-Build Alternatives in the opening and horizon years. Furthermore, the proposed project is not anticipated to result in an increase in traffic volumes at the on/off ramps.

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

In comparison between the Build and the No-Build Alternative, as shown in Table 1.2-2 Traffic Data for the opening year (2023) and the horizon year (2040), delays are anticipated to significantly improve in the AM and PM peak hours at the NB ramps. However, the proposed project will result in delays in the EB and WB directions. Similar results are anticipated at the SB ramps. With the implementation of the proposed project, delays are also anticipated in the EB and WB traffic along Avenue N between the NB and SB ramps. The criterion in section 4.7.1 of the CO Protocol pertaining to the delay is not satisfied. The CO flowchart directs the project evaluation to continue to Level 7, Section 4.7.2 below.

Q. Level 7. Is the project suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration?

The following criteria were used to determine whether this project is suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration:

a. The receptors at the location under study are at the same distance or farther from the traveled roadway than the receptors at the location where attainment has been demonstrated.

A receptor distance of 3 meters from the traveled roadway was used in the CO attainment demonstration prepared for the 2003 Air Quality Management Plan (AQMP) by the South Coast Air Quality Management District (SCAQMD). The proposed project is anticipated to have receptors located more than 3 meters away from the traveled roadway.

b. The roadway geometry of the two locations is not significantly different.

In the CO attainment demonstration prepared for the 2003 Air Quality Management Plan (AQMP) by the SCAQMD, approaches in 4 directions were used to model the intersections at Wilshire/Veteran and La Cienega/Century, while approaches in 3 directions were used to model the intersections at Sunset/Highland and Long Beach/Imperial. These intersections are used for comparison to the project intersections. The proposed project site has approaches in 3 directions at both the NB and SB SR-14 ramps interchanges. Therefore, the roadway geometry of the proposed Build Alternative is not significantly different from that of the intersection at which the CO attainment was demonstrated.

c. Expected worst-case meteorology at the location under study is the same or better than the worst-case meteorology at the location where attainment has been demonstrated. Relevant meteorological variables include: wind speed, wind direction, temperature, and stability class.

In the CO attainment demonstration prepared for the 2003 AQMP by the SCAQMD, a wind speed of 1 meter per second, stability class of D, and worst-case wind angle were used as modeling assumptions. The expected worst-case meteorology at the project location is anticipated to be the same or better.

d. Traffic lane volumes at the location under study are the same or lower than those at the location where attainment has been demonstrated.

Table 2.2-9 Traffic Lane Volumes at Wilshire/Veteran intersection and at the Northbound and Southbound Ramps

Direction	Wilshire and Veteran (2003)		Northbound Ramp							
			2023 (Opening)				2040 (Horizon)			
			No-Build		Build		No-Build		Build	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
EB	1238	517	547	284	547	284	716	372	716	372
WB	458	829	165	569	165	569	216	745	216	745
SB	180	350	0	0	0	0	0	0	0	0
NB	140	233	141	181	141	181	185	237	185	237
Total	2016	1929	852	1033	852	1033	1116	1353	1116	1353
Direction	Wilshire and Veteran (2003)		Southbound Ramp							
			2023 (Opening)				2040 (Horizon)			
			No-Build		Build		No-Build		Build	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
EB	1238	517	589	305	589	305	771	400	771	400
WB	458	829	143	458	143	458	187	600	187	600
SB	180	350	184	243	184	243	241	319	241	319
NB	140	233	0	0	0	0	0	0	0	0
Total	2016	1929	915	1006	915	1006	1198	1318	1198	1318

Table 2.2-9 above shows traffic lane volumes at the Wilshire and Veteran intersection used in the 2003 AQMP in comparison to the traffic lane volumes at the NB and SB ramps, based on the number of lanes in each respective facility. The Table shows that the total traffic lane volumes at the project intersection are lower than those at the intersection where attainment was demonstrated.

e. Percentages of vehicles operating in cold start mode at the location under study are the same or lower than those at the location where attainment has been demonstrated.

The proposed project would not affect the percentage of vehicles operating in cold start mode.

f. Percentage of Heavy-Duty Gas Trucks at the location under study is the same or lower than the percentage at the location where attainment has been demonstrated.

The percentage of trucks is not anticipated to change with implementation of the project as shown in Tables 2.2-10 and 2.2-11 below. Furthermore, the land use within the project area remains the same and there is no indication that the truck percentage would be higher than the percentage at the location where attainment has been demonstrated.

Table 2.2-10 Traffic Volumes, VMT, and Truck Percentages for Peak Periods

Intersection	Year	Alternative	ADT	Peak Period							
				AM (3 Hours)				PM (4 Hours)			
				Vol	VMT	Speed	Truck %	Vol	VMT	Speed	Truck %
Ave N between 10th St. & NB Ramps	Existing (2017)		13700	2320	348	42	0.03	4670	700.5	42	0.036
	Opening year (2023)	NB	15100	2600	390	42	0.03	5200	780	42	0.036
		Build	15100	2600	390	42	0.03	5200	780	42	0.036
	Horizon Year (2040)	NB	19200	3410	511.5	42	0.03	6880	1032	42	0.023
		Build	19200	3410	511.5	42	0.03	6880	1032	42	0.023
Ave N between NB & SB Ramps	Existing (2017)		13800	3040	304	40	0.017	4440	444	40	0.011
	Opening year (2023)	NB	15400	3400	340	40	0.017	5000	500	40	0.011
		Build	15400	3400	340	15	0.017	5000	500	15	0.011
	Horizon Year (2040)	NB	19800	4470	447	40	0.019	6530	653	40	0.012
		Build	19800	4470	447	10	0.019	6530	653	12	0.012
Ave N between SB Ramps and 15th St	Existing (2017)		17000	3600	360	40	0.014	5190	519	40	0.01
	Opening year (2023)	NB	19100	4000	400	40	0.014	5800	580	40	0.01
		Build	19100	4000	400	40	0.014	5800	580	40	0.01
	Horizon Year (2040)	NB	25000	5300	530	40	0.015	7640	764	40	0.01
		Build	25000	5300	530	40	0.015	7640	764	40	0.01

Table 2.2-11 Traffic Volumes, VMT, and Truck Percentages For Off- Peak Periods

Intersection	Year	Alternative	ADT	Off Peak Period											
				MID (6 Hours)				EVENING (2 Hours)				NIGHT (9 Hours)			
				Vol	VMT	Speed	Truck %	Vol	VMT	Speed	Truck %	Vol	VMT	Speed	Truck %
Ave N between 10th St. & NB Ramps	Existing (2017)		13700	4850	727.5	42	3.4	1120	168	42	2.3	760	114	42	12.8
	Opening year (2023)	NB	15100	5200	780	42	3.4	1300	195	42	2.3	900	135	42	12.8
		Build	15100	5200	780	42	3.4	1300	195	42	2.3	900	135	42	12.8
	Horizon Year (2040)	NB	19200	6180	927	42	4.5	1630	244.5	42	2.8	1150	172.5	42	14.9
		Build	19200	6180	927	42	4.5	1630	244.5	42	2.8	1150	172.5	42	14.9
Ave N between NB & SB Ramps	Existing (2017)		13800	4250	425	40	2.8	890	89	40	2.2	1160	116	40	6.5
	Opening year (2023)	NB	15400	4700	470	40	2.8	1000	100	40	2.2	1300	130	40	6.5
		Build	15400	4700	470	25	2.8	1000	100	30	2.2	1300	130	35	6.5
	Horizon Year (2040)	NB	19800	6030	603	40	3.2	1240	124	40	2.5	1520	152	40	7.6
		Build	19800	6030	603	20	3.2	1240	124	25	2.5	1520	152	35	7.6
Ave N between SB Ramps and 15th St	Existing (2017)		17000	5510	551	40	2.3	1210	121	40	1.7	1540	154	40	4.9
	Opening year (2023)	NB	19100	6200	620	40	2.3	1400	140	40	1.7	1700	170	40	4.9
		Build	19100	6200	620	40	2.3	1400	140	40	1.7	1700	170	40	4.9
	Horizon Year (2040)	NB	25000	8150	815	40	2.2	1770	177	40	1.5	2160	216	40	4.7
		Build	25000	8150	815	40	2.2	1770	177	40	1.5	2160	216	40	4.7

g. For projects involving intersections, average delay and queue length for each approach is the same or smaller for the intersection under study compared to those found in the intersection where attainment has been demonstrated.

The purpose of the project is to alleviate the backup traffic condition on the Avenue N off-ramps. With implementation of the project, average delay and queue length for each approach is anticipated to be the same or smaller compared to those found in the intersection where attainment has been demonstrated.

h. Background concentration at the location under study is the same or lower than the background concentration at the location where attainment has been demonstrated.

As shown in Table 2.2-4, the highest CO 8-hour ambient concentrations at the Lancaster monitoring station between 2013 and 2017 ranged from 0.9 ppm to 1.5 ppm. The highest CO concentration utilized in the 2003 AQMP attainment demonstration, was recorded at the Long Beach Blvd. and Imperial Highway intersection in the ranges of 14.5 ppm in 1997 to 7.7 ppm in 2005.

All criteria in section 4.7.2 of the CO Protocol have been satisfied, indicating that no further analysis is needed according to Figure 3 of the CO Protocol. The analysis has sufficiently addressed the CO impact and demonstrated that the proposed project is not anticipated to cause or contribute to any new violations of the federal CO standard.

PM Analysis

The proposed project is located in the desert portion of Los Angeles County within the MDAB which is in attainment-unclassified of the status for federal PM10 and PM2.5 standards, nonattainment status for the state PM10 standard, and attainment-unclassified for the state PM2.5 standard. Therefore, per 40 CFR Part 93 PM hot-spot analyses is not required for conformity purposes. A qualitative analysis is provided to address requirements under NEPA and CEQA. The proposed project is located in an area that is in attainment unclassified status for the federal PM10 and PM2.5 standards, and in nonattainment status of the state PM10 standard. Based on the qualitative assessment, the proposed project is not anticipated to result in new or worsened violations of the federal and PM10 and PM2.5 standards.

PM2.5: The ambient level of 24-hr PM2.5 is for the proposed project is lower than the national 24-hr PM2.5 level. However, in 2014 and 2016, the PM2.5 level is measured higher than the national 24-hr PM2.5. While in 2016, the ambient level of annual PM2.5 was lower than the national and state annual average concentration standard.

PM10: The ambient level of 24-hr PM10 did not exceed the national standard of 150 ug/m3. However, the 24-hr and annual average level of PM10 exceeds the state standards.

As shown in Tables 2.2-9 and 2.2-10, traffic volumes and truck traffic remain the same between the Build and No-Build Alternatives in both opening year and horizon year. Based on the qualitative assessment above, the proposed project is not anticipated to result in new or worsened PM2.5 and PM10 violations. Furthermore, for air quality in the SCAG region, these three criteria pollutants are in nonattainment of the state standards: ozone, PM10 and PM2.5. The 2016 RTP/SCS provides strategies that would help reduce these emissions and bring the region into attainment by increasing land use density, incorporating alternative fuels and technologies, increasing transit and active transportation options, and improving community design.

Mobile Source Air Toxics Analysis

FHWA released updated guidance in October 2016 (FHWA 2016) for determining when and how to address MSAT impacts in the NEPA process for transportation projects. FHWA identified three levels of analysis:

1. No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; and
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

Projects with no impacts generally include those that a) qualify as a categorical exclusion under 23 CFR 771.117, b) qualify as exempt under the FCAA conformity rule under 40 CFR 93.126, and c) are not exempt, but have no meaningful impacts on traffic volumes or vehicle mix. Projects that have low potential MSAT effects are those that serve to improve highway, transit or freight operations or movement without adding substantial new capacity or creating a facility that is likely to substantially increase emissions. The large majority of projects fall into this category.

Projects with high potential MSAT effects include those that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of Diesel Particulate Matter in a single location; or
- Create new or add significant capacity to urban highways such as interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 or greater, by the design year; and
- Are proposed to be located in proximity to populated areas or, in rural areas, in proximity to concentrations of vulnerable populations (i.e. schools, nursing homes, hospitals).

Based on a comparison of the Alternatives with the different categories in the updated guidance, the project is deemed to meet the criteria for Category 2 MSAT analysis. Based on a review of

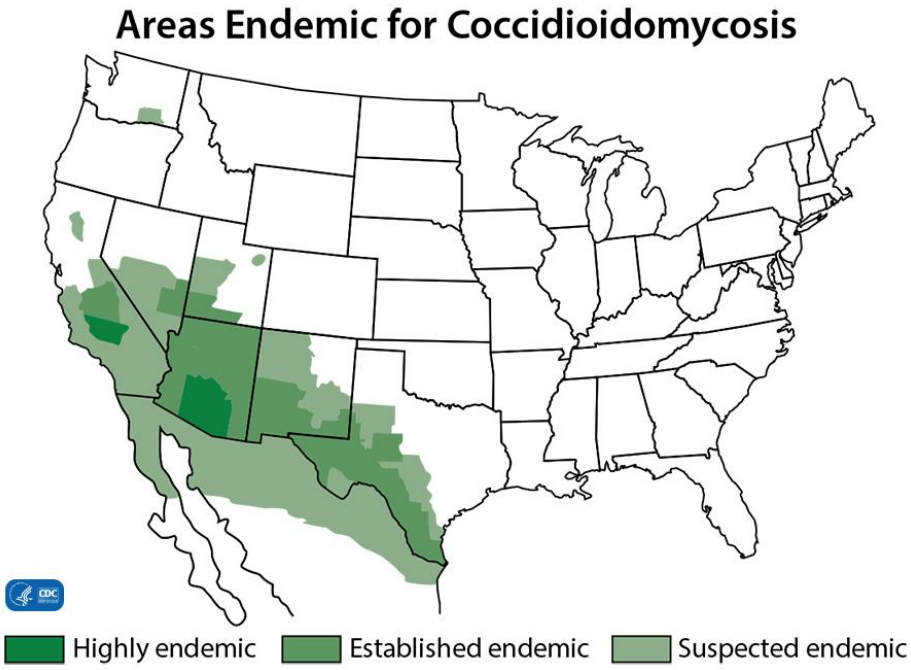
the proposed project scope, traffic data, and settings, this project is anticipated to have low potential for MSAT effects. In accordance with the FHWA Guidance, the project therefore requires a qualitative analysis.

For each alternative, the amount of MSAT emitted would be proportional to the VMT or volumes, assuming that other variables such as fleet mix remain the same. As shown in Tables 2.2-9 and 2.2-10, VMT within the project area remain unchanged between the Build and No-Build alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the horizon year as a result of U.S. EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the U.S. EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Valley Fever

The Centers for Disease Control and Prevention (CDC) indicates that *Coccidioides immitis* is a fungus found in the soil of dry, low rainfall areas and is native and common in many areas of the southwestern United States, Mexico, and Central and South America (see Figure 2.2-9). As shown, the project is in an endemic area for *Coccidioides*. Coccidioidomycosis, also known as Valley Fever, is a common cause of pneumonia in the areas where *Coccidioides* occurs. *Coccidioides* spores circulate in the air after contaminated soil and dust are disturbed by such human or natural activities as winds, construction, farming, animal burrows, or burial. The spores are typically inhaled, although in rare cases spores can enter the skin through cuts or abrasions and cause infection. After the fungal spores are settled in the lungs, they change into a multicellular structure called a spherule. Fungal growth in the lungs occurs as the spherule grows and bursts, releasing endospores, which then develop into more spherules.

Figure 2.2-9 Endemic regions of Coccidioides immitis in the United States and northern Mexico



Source: CDC, https://www.cdc.gov/fungal/diseases/coccidioidomycosis/maps.html#a-1

At least 30 to 60 percent of people, who live in endemic areas such as the High Desert where the fungus is present, are exposed to the fungus at some point during their lives. In most people, the infection will go away on its own, but for a small segment of the population, including people of Asian descent (particularly those of Filipino descent), African-American, pregnant women, and people with weakened immune systems, the risk for the disease is increased. It is difficult to avoid exposure to *Coccidioides*, but people who are at higher risk should try to avoid breathing in large amounts of dust if they are in endemic areas.

Most people who are exposed to the fungus do not develop symptoms or have mild flu-like symptoms that go away on their own. In severe cases, patients develop pneumonia or meningitis which can sometimes lead to death. Meningitis, the most lethal complication of disseminated Valley Fever, may cause a stiff neck, severe and persistent headache, nausea, vomiting, and various other central nervous system symptoms such as disorientation, loss of balance or equilibrium, inability to think clearly, and loss of consciousness. In addition to humans, Valley Fever affects many species of domestic and wild animals. Because the spores of *Coccidioides immitis* can become airborne during soil disturbance, dust suppression is an important aspect of managing its spread.

Valley fever is not contagious, and therefore, cannot be passed on from person to person. Most of those who are infected will recover without treatment within six months and will have a life-long immunity to the fungal spores. In severe cases, such as patients with rapid and extensive primary illnesses, those who are at risk for dissemination of disease, and those who have disseminated disease, antifungal drug therapy is used. Only one to two percent of those exposed who seek medical attention will develop a disease that disseminates to other parts of the body than the lungs.

There are measures that can be implemented to lower the incidence of infection and also reduce the numbers of spores inhaled, thereby decreasing the chances of developing a more serious form of the disease. These measures include dust control and prevention, use of dust masks with appropriate filters, use of construction equipment with enclosed, air-conditioned cabs, and/or positioning of construction workers upwind when possible. These types of measures are included in project features PF-AQ-1, PF-AQ-2 and minimization measure AQ-2, AQ-3, AQ-6, AQ-7, and AQ-8. Furthermore, infection risk can also be lowered by conducting outdoor activities, such as field studies or construction activities, in the winter months; avoiding sites favorable for *Coccidioides immitis* growth; seeking prompt medical treatment if flu-like or respiratory illness occurs during or within a few weeks following fieldwork or construction activities; getting a coccidioidin skin test to determine susceptibility to the disease; or by educating all members of the field party and construction crew about the possibilities and consequences of infection.

Construction of the proposed project would occur in an endemic area where *Coccidioides immitis* naturally occurs. Temporary soil disturbance during construction grading activities could cause fungal spores (if present) to become airborne, potentially putting construction personnel, residents, and wildlife at risk of contracting Valley Fever. However, as noted above, most Valley Fever cases are very mild, and more than half of infected people either have no symptoms or experience flu-like symptoms and never seek medical attention. Dust control measures are the main defense against infection, although all persons residing or traveling through the High Desert would be susceptible to the disease, regardless of whether or not the project is implemented.

Construction (Short Term Impacts)

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

For further details on construction impacts refer to Chapter 2.4 of this document.

Climate Change

Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level greenhouse gas analysis. FHWA emphasizes concepts of resilience and sustainability in highway planning, project development, design, operations, and maintenance. Because there have been requirements set forth in California legislation and executive orders on climate change, the issue is addressed in the California Environmental Quality Act (CEQA) chapter of this document. The CEQA analysis may be used to inform the National Environmental Policy Act (NEPA) determination for the project.

2.2.6.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, or mitigation measures are needed.

Build Alternative

The following project features will be implemented as part of the proposed project:

PF-AQ-1: Excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures, as specified in the Antelope Valley Air Quality Management District (AVAQMD) Rule 403.

PF-AQ-2: Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.

PF-AQ-3: All trucks that are to haul excavated or graded material on site will comply with California Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.

PF-AQ-4: The Caltrans Standard Specifications for Construction (2018), Sections 14.9 must be adhered to.

PF-AQ-5: If naturally occurring asbestos, serpentinite, or ultramafic rock is discovered during grading operations Section 93105, Title 17 of the California Code of Regulations requires notification to the Antelope Valley Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).

PF-AQ-6: All construction vehicles both on and off site shall be prohibited from idling in excess of 5 minutes.

Avoidance and minimization measures:

AQ-1: Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.

AQ-2: Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.

AQ-3: A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.

AQ-4: Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.

AQ-5: ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.

AQ-6: Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.

AQ-7: All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.

AQ-8: Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.

AQ-9: To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

2.2.7 Noise

This section evaluates the potential noise impacts on nearby noise-sensitive receptors resulting from the proposed project. For federally funded highway transportation projects, traffic noise must be considered for projects that would result in an increase in traffic or bring traffic closer to sensitive receptors. The proposed project would bring traffic closer to sensitive noise receptors and the discussion will describe the existing noise environment and future noise environment with the proposed project, construction noise, and noise abatement measures.

2.2.7.1 Regulatory Setting

CEQA and NEPA provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between CEQA and NEPA.

California Environmental Quality Act

CEQA requires a strict comparison of the baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The CEQA noise analysis is included at the end of this section.

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with FHWA (and Caltrans, as assigned) involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 A-weighted decibels [dBA]) is lower than the NAC for commercial areas (72 dBA). Table 2.2-12 lists the NAC for use in the NEPA 23 CFR 772 analysis.

Table 2.2-12 Noise Abatement Criteria

Activity Category	NAC, Hourly A-Weighted Noise Level, L_{eq}(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.

Source: Caltrans Standard Environmental Reference, IS/EA Guidance.

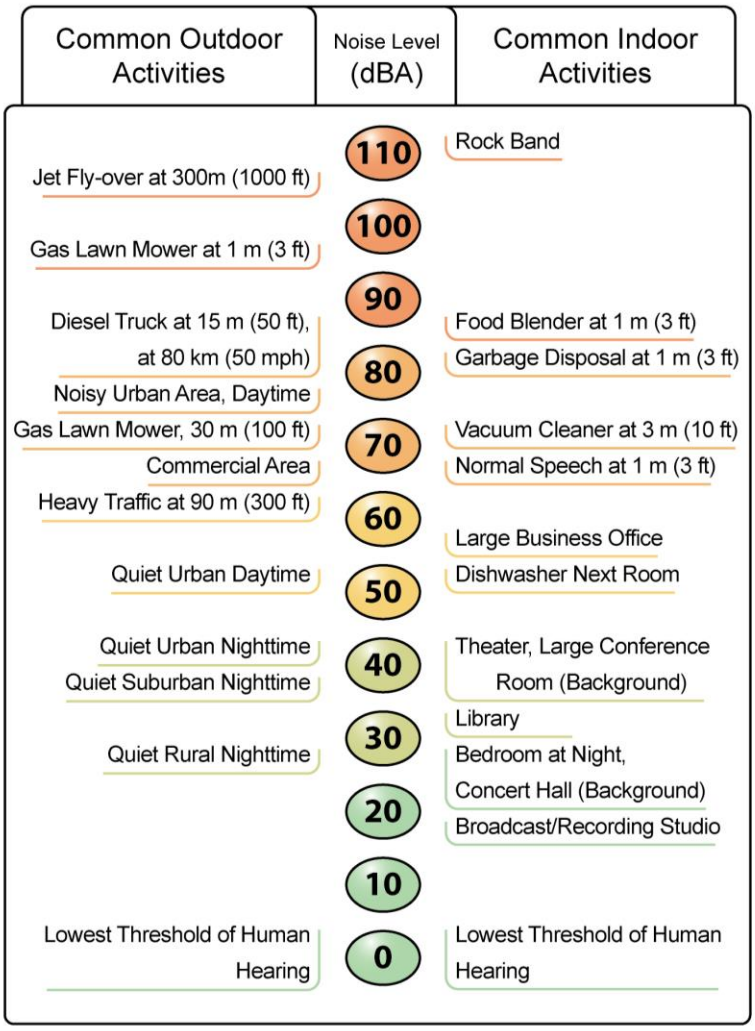
[1] Includes undeveloped lands permitted for this activity category.

NAC = noise abatement criteria

L_{eq}(h) = equivalent noise level measured for a 1-hour period

Figure 2.2-10 lists the noise levels of common activities to enable readers to compare the actual and predicted highway noise levels discussed in this section with common activities.

Figure 2.2-10 Noise Levels of Common Activities



According to the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, May 2011*, a noise impact occurs when the predicted future noise level with the project substantially exceeds the existing noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction for all impacted receptors in the future noise levels must be achieved for an abatement to be considered feasible. Other considerations include topography, access requirements, other noise sources, and safety considerations. Additionally, a noise reduction of at least 7 dBA must be achieved at one or more benefited receptors for an abatement measure to be considered reasonable. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents' acceptance and the cost per benefited residence.

Local Regulations

Local noise issues are addressed by government jurisdictions at either the county or city level through general plans, which may include land use compatibility guidelines, and through noise ordinances. Noise ordinances restrict and prohibit sources of noise from mechanical equipment and amplified sounds and prescribe noise limits in residential and commercial areas. This project lies within the unincorporated areas of Los Angeles county (western half) and the City of Palmdale (eastern half) for noise regulation and standards in regard to sensitive noise receptors.

City of Palmdale

The City Noise Municipal Codes

Section 9.18.10 makes it illegal to make any loud, unnecessary, or unusual noise which unreasonably disturbs the peace and quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.

Section 8.28 prohibits construction activities in residential zones or within 500 feet of any residence on any Sunday or any other day before 6:30 a.m. and after 8:00 p.m.

The City of Palmdale General Plan

The City General Plan Noise Element establishes standards for sound levels based on land use categories. The Noise Element states that the maximum acceptable outdoor noise exposure level for residential and rural areas is 65 dBA Community Noise Equivalent Level (CNEL).

In addition, Policy N1.2.2 restricts construction hours during the evening, early morning and *on* Sundays.

County of Los Angeles

Los Angeles County Code

Section 12.12.030 of the Los Angeles County Code prohibits construction activities that generate loud noises that would disturb "persons occupying sleeping quarters in a dwelling, apartment, hotel, mobile home, or other place of residence."

Los Angeles County General Plan Noise Element

The following sections from the General Plan, and Figure 2.2-12, are applicable to the project:

Goal N-1 of the County General Plan Noise Element establishes the objective of providing an environment that is protected from unacceptable levels of noise.

Policy N 1.1 establishes the requirement to employ effective noise abatement measures to achieve acceptable levels of noise as defined by the Los Angeles County Exterior Noise Standards. The residential daytime (7 am – 10 pm) standard is 50 dBA Leq; the residential nighttime (10 pm – 7 am) standard is 45 dBA Leq.

2.2.7.2 Affected Environment

Caltrans prepared a Traffic Noise Study Report in February 2019, for the SR-14/Avenue N Project. This technical review evaluated the proposed project pursuant to 23 CFR 772.7.

Under 23 CFR 772.7, projects are categorized as Type I, Type II, or Type III projects. The FHWA defines a Type I project as a proposed federal or federal-aid highway project for the construction of a highway in a new location, or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through-traffic lanes. The Traffic Noise Study Report (2018) concluded that the proposed project classified as a Type I project based on 23 CFR 772.7 and the Caltrans 2011 Traffic Analysis Noise Protocol; it presents a detailed traffic noise analysis which evaluates the existing noise environment (without the project) and the future noise environment with the proposed project.

The following analysis is based off the Noise Study Report (February 2019) and the Noise Abatement Decision Report (September 2019) for this project.

Sound and Noise

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is often defined as unwanted sound that is typically associated with human activity and that interferes with normal activities. Three components are required in order for sound to be present:

- Sound Source

- Sound Path
- Sound Receiver

In most situations, there are many different sound sources, paths, and receivers, instead of just one of each.

Sound levels are measured and expressed in decibels. The human ear does not respond uniformly to sounds at all frequencies, being less sensitive to low and high frequencies than to medium frequencies, which correspond with human speech. In response, the A-weighted noise level (or scale) has been developed. This A-weighted sound level is called the "noise level," which is referenced in units of A-weighted decibel(s), dBA. The human ear does not typically notice changes in noise levels of less than three dBA. The equivalent noise level (L_{eq}) is the average A weighted sound level measured over a given time interval. L_{eq} can be measured over any time period but is typically measured for 1-hour periods and is expressed as $L_{eq}(h)$.

In general, the predominant sources of noise near the project area are motorist traffic from SR-14, freight trains (Union Pacific) from the rail line adjacent to Sierra Highway, and traffic from local arterials. Stationary sources of noise include a wide range of military, commercial, and business activities.

Land Uses

Avenue N and the surrounding areas are generally flat. The land uses in the project area consist primarily of single-family, residential, and commercial uses (Table 2.2-13). Noise-sensitive uses in the area are located along the south side of Avenue N. They are:

- Between 13th St. W. and 18th St. W. - single-family residences; an animal hospital; a church
- Between SR-14 and 13th St. W. - single-family residences
- Between 10th St. W. and 11th St. W. - single-family residences

Noise Measurements

The noise measurement sites selected in the Caltrans Traffic Noise Study Report took into consideration the following general site requirements:

- Sites were acoustically representative of areas and conditions of interest. They were located at areas of human use.

- Sites were clear of major obstructions between the source and receiver. Microphone positions were more than 10 feet away from reflecting surfaces.

- Sites were clear of noise contamination by sources other than those of interest. Sites were not located near barking dogs, lawn mowers, pool pumps, air conditioners, etc.

- Sites were not exposed to prevailing meteorological conditions that are beyond the constraints discussed in the Technical Noise Supplement (TeNs).

A field noise investigation was conducted to determine existing noise levels and gather information to develop and calibrate the traffic noise model that was used for predicting future noise levels. Existing noise levels were recorded at 5 locations (4 short-term, 1 long-term) and modeled at 11 locations. Modeled receiver sites are acoustically representative of the entire area within the limits of the project. Existing ambient noise levels at the areas of frequent human use range from 56.8 to 71.5 decibels (dBA). One long-term (24-hour) noise level reading was conducted to determine the noisiest hour within the project limits; that measurement was 71.5 dBA. The results of these short-term and long-term readings are shown in Tables 2.2-13 and 2.2-14. The long-term measurements are also shown graphically in Figure 2.2-11. Table 2.2-15 summarizes the community background noise level in the vicinity of the project area.

Table 2.2-13 Summary of Short-Term Noise Measurements

Site	Address	Land Use	Date	Start Time	Duration (minutes)	Measured Leq-dBA
NB-S1	40937 12th St W	Residential	5/8/2018	10:51 AM	10	64.6
SB-S2	41137 13th St W	Residential	5/8/2018	10:51 AM	10	56.8
SB-S3	1352 Avenue N	Residential	5/8/2018	11:17 AM	10	57.9
SB-S4	1654 Avenue N	Residential	5/8/2018	11:35 AM	10	65.1

Table 2.2-14 Summary of Long-Term (24-Hour) Noise Measurements

Site	Address	Land Uses	Start Date	Start Time	Duration (Hours)	Noisiest Hour	
						Noise Level (dBA)	Time
SB-S1[24]	41050 13th St W	Residential	5/8/2018	10:26 AM	24	71.5	5:16 AM - 6:16 AM

Figure 2.2-11 24 Hour Outdoor Noise Levels

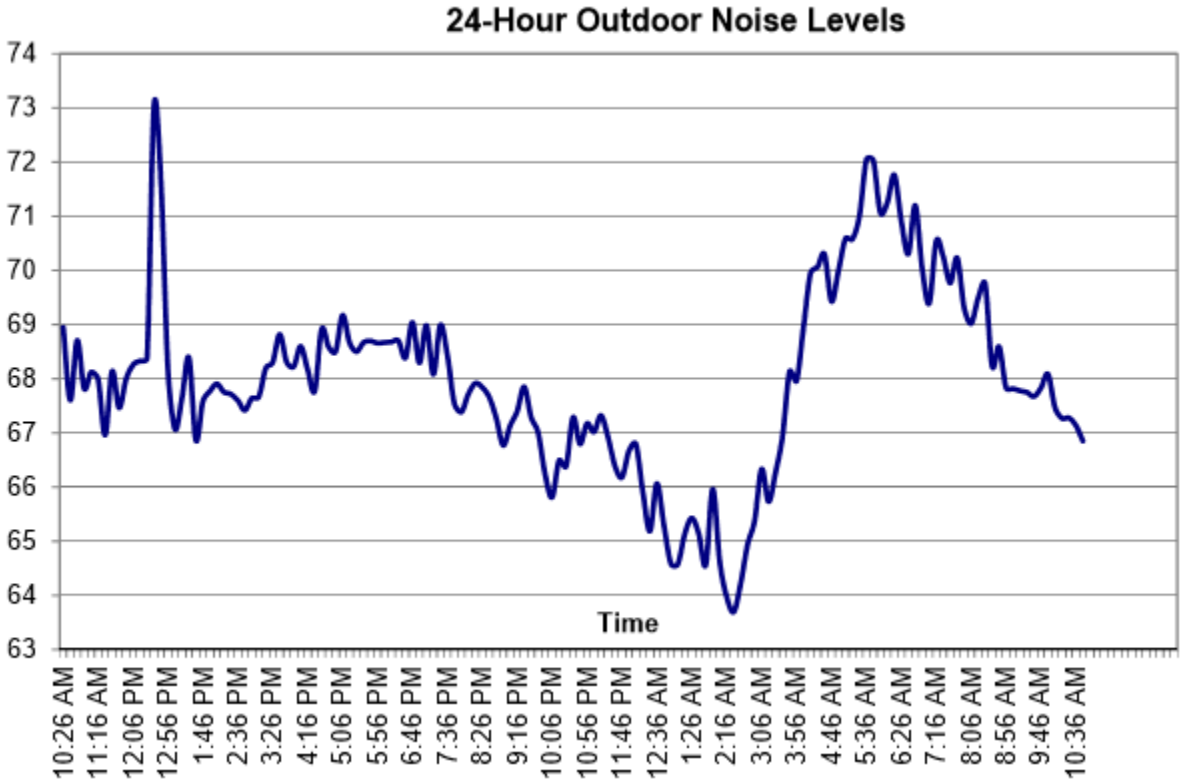


Table 2.2-15 Summary of Background Noise Measurements

Site	Address	Freeway Direction	Land Uses	Start Time	Date	Duration (minutes)	Measured Leq dBA
SB-BG	41104 17th St W	SB	Residential	11:35 AM	5/8/2018	10	46.5

2.2.7.3 Environmental Consequences

This section describes the potential impacts related to the operation of the proposed project. Under 23 CFR 772.7, this project has been deemed to be a Type I project.

No Build Alternative

If Alternative 1 is selected, there would be no change in existing conditions and therefore no noise-related abatement measures would be needed.

Build Alternative

Traffic noise analysis indicates that residential areas would be impacted after project completion. The results of the analysis are summarized in Table 2.2-16, which includes the measured and modeled noise readings (from Tables 2.2-13 and 2.2-14) and the projected future readings both with and without the project.

According to the Traffic Noise Model program, TNM 2.5 (FHWA's Traffic Noise Prediction Model (FHWA-RD-77-108)), future noise levels under the build alternative are predicted to range from 63 to 72 dBA-Leq (h). Table 2.2-16 also provides a comparison of future noise levels with and without the project, as well as a determination of where the after-project traffic noise levels meet the criteria under which abatement measures need to be considered. As can be seen, project-related traffic noise impacts are predicted at 12 of the 14 sensitive receiver analysis sites or locations.

Table 2.2-16 Future Noise Levels

Receiver	Direction	Location	Land Use	Noise Abatement Category	Field-Measured Noise Level	Modeled Noise Level	K - Factor	Existing Worst-Hour Noise Level	Future (2040) No Build Noise Level	Noise Increase (No Build Vs. Existing)	Future Worst Hour Noise Level Build Alt.	Noise Increase (Future Vs. Existing)	Impact Type
NB-S1*	NB	40937 12th St W	Residential	B (67)	64.6	66	-1.4	**68**	**68**	0	**69**	1	**I**
NB-M1 Modeled	NB	1056 W Ave N			-	61	-	65	**68**	3	**72**	7	**I**
NB-M2A Modeled	NB	1030 W Ave N			-	60	-	64	**67**	3	**73**	9	I
NB-M2 Modeled	NB	1030 W Ave N			-	55	-	59	62	3	**68**	9	**I**
SB-S1[24]	SB	41050 13th St W			**68.1**	69.1	-1	**72**	**72**	0	**72**	0	**I**
SB-MS1 Modeled	SB	41024 13th St W			-	67.1	-1	66	**68**	2	**69**	3	**I**
SB-S2	SB	41137 13th St W			56.8	57.5	-0.7	60	60	0	65	4	N
SB-MS2 Modeled	SB	41128 13th St W			-	64	-2.7	65	66	1	**67**	2	**I**
SB-S3	EB	1352 W Ave N			58	59.7	-1.7	62	62	0	63	1	N
SB-MS3 Modeled	EB	41159 16th St W			-	63.2	1.6	**68**	**69**	1	**68**	0	**I**
SB-S4	EB	1654 W Ave N			65.1	63.5	1.6	**68**	**69**	1	**69**	1	**I**
SB-MS4 Modeled	EB	1546 W Ave N			-	62	1.6	**67**	**68**	1	**68**	1	**I**
SB-MS5 Modeled	EB	1654-1620 W Ave N			-	63.2	1.6	**68**	**68**	0	**69**	1	**I**
SB-MS6 Modeled	EB	1708 W Ave N			-	63.5	-1.7	**66**	**69**	3	**67**	1	**I**
SB-MS7 Modeled	EB	1654 W Ave N			-	63.5	1.6	**68**	**69**	1	**69**	1	**I**

Note: All noise levels are in dBA-Leq(h)

Note: Per FHWA regulations, a noise impact occurs when, 1) future noise levels approach (within 1 dBA) or exceed the NAC, or 2) there is a substantial noise increase (12 dBA or more from existing baseline conditions). Yellow highlighted cells indicate those readings which approach or exceed the NAC.

__[24] 24-Hour noise measurement site @ 5:16AM

Impact Type: N=No Impact; I=Impact: A/E=Approach/Exceed

* This site is outside project limits, it is included here for reference

Source: Caltrans Traffic Noise Study Report, February 2019

2.2.7.4 Avoidance, Minimization, and/or Abatement Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

Because the proposed project has been predicted to cause traffic noise impacts, abatement measures must be considered and evaluated to determine if they are reasonable and feasible. As required by the noise impact analysis protocol, the following potential noise abatement measures have been considered:

- Avoiding the impact by using design alternatives, such as altering the horizontal and vertical alignment of the project;
- Constructing noise barriers (soundwalls);
- Acquiring property to serve as a buffer zone;
- Using traffic management measures to regulate vehicle types and speeds; and
- Acoustically insulating public-use or nonprofit institutional structures.

All of these abatement options must be considered when noise impacts have been identified. However, due to configuration and location of the project, abatement methods in the form of noise barriers could be the only abatement that is considered to be practical.

A barrier must meet both the reasonable and feasible criteria to be built. Feasibility of noise abatement is an engineering concern. A minimum 5-decibel reduction in future noise level must be achieved for an abatement measure to be considered feasible. The preliminary reasonableness determination is made first by achieving the noise reduction design goal. The design goal is that a barrier must be able to provide at least 7 dB of noise reduction at one or more benefited receptors for the barrier to be considered reasonable. Second, for a barrier to be considered reasonable, construction cost must be within the established allowance per benefited receptor. Finally, the viewpoints of benefited receptors (including property owners and residents of benefited receptors) must be taken into account for a barrier to be considered reasonable.

Based on the studies completed to date, the Noise Study Report (NSR) (February 2019) and the Noise Abatement Decision Report (NADR) (September 2019) and input from the affected property owners/occupants (the benefited receptors), Caltrans intends to incorporate noise abatement in the form of soundwalls at four locations (listed below). These soundwalls would have lengths of 160 to 1225 feet and average heights of 8 to10 feet. Calculations based on preliminary design data show that the barriers would reduce noise levels by 6 to 9 dBA for 12

residences at a cost of $36,000 to $223,000. If conditions change substantially during final design, noise abatement may not be necessary. The final decision on noise abatement will be made upon completion of the project design.

The proposed soundwall locations are shown in Figures 2.2-12 to 2.2-15.

Soundwall A - Soundwall A was eliminated from consideration based on opposition from the property owners. Property owners elected not to build Soundwall A.

Soundwall B - would be located along the edge of shoulder on the southbound side of Avenue N between 17th Street W. and 16th Street W. The total length is approximately 590 feet and height of 8 feet. This soundwall would benefit 3 receivers (Figure 2.2-12). Related costs are shown in Table 2.2-17.

Soundwall C - would be located along the edge of shoulder on the southbound side of Avenue N at 15th Street W. and would be approximately 160 feet long and height of 10 feet. This soundwall would benefit 1 receiver (Figure 2.2-13). Related costs are shown in Table 2.2-17.

Soundwall D-Along Avenue N freeway on-ramp - would be located adjacent to the SB SR-14 on-ramp and would extend from the beginning of the ramp to near W. Ave. N-4. The total soundwall length would be approximately 1225 feet (Figure 2.2-13 and Figure 2.2-14) and height of 8 feet. The proposed sound wall would provide up to 13 dB of noise reduction and would benefit 10-11 receivers. Related costs are shown in Table 2.2-17.

Soundwall E - would be located along the edge of the shoulder on the southbound side of Avenue N between 11th Street W. and 10th Street W. and would be approximately 300 feet long and 8 feet high. This soundwall would benefit 2 receivers (Figure 2.2-15). Related costs are shown in Table 2.2-17.

Figure 2.2-12 Soundwall B

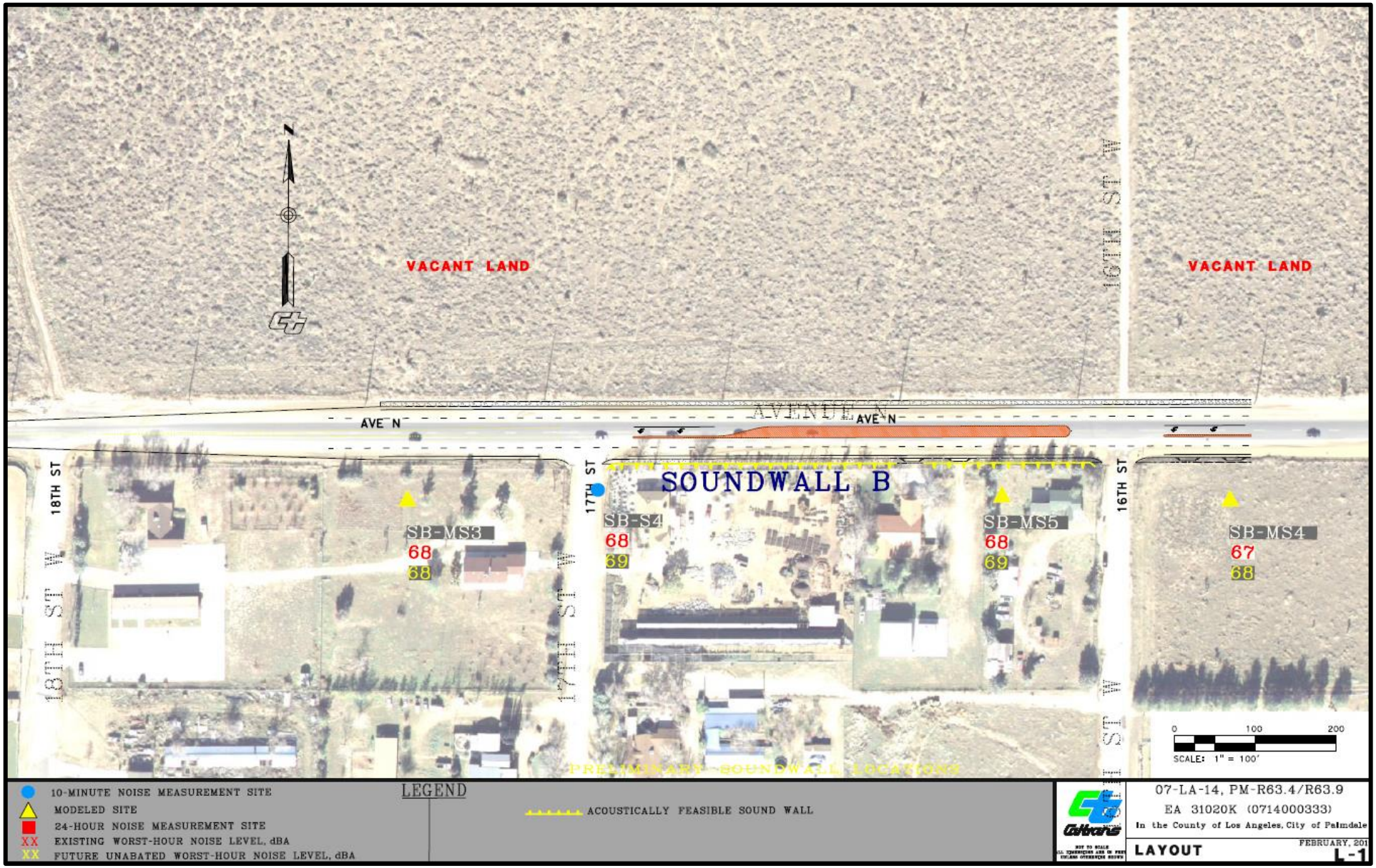


Figure 2.2-13 Soundwall C and D

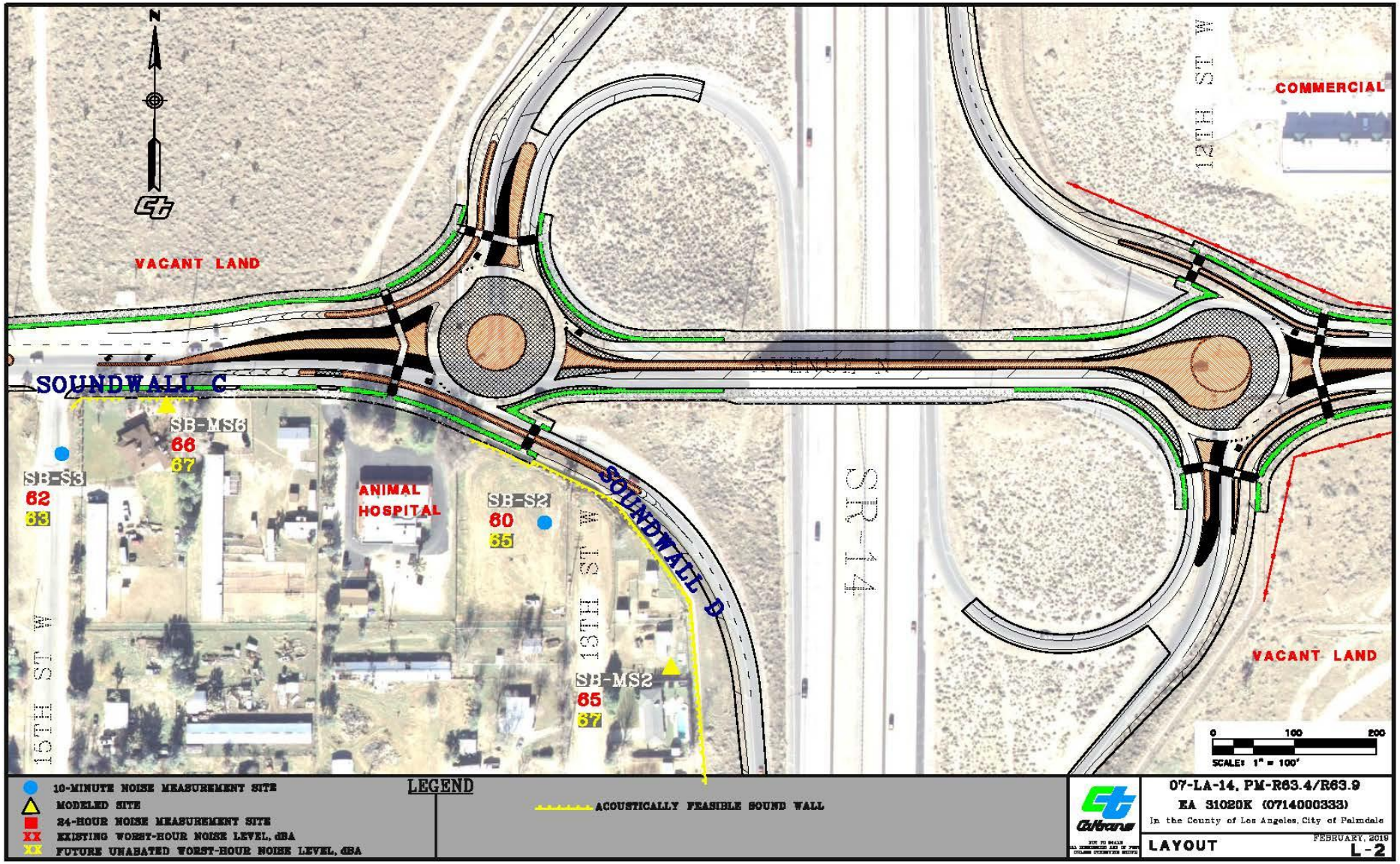


Figure 2.2-14 Soundwall D Continuation

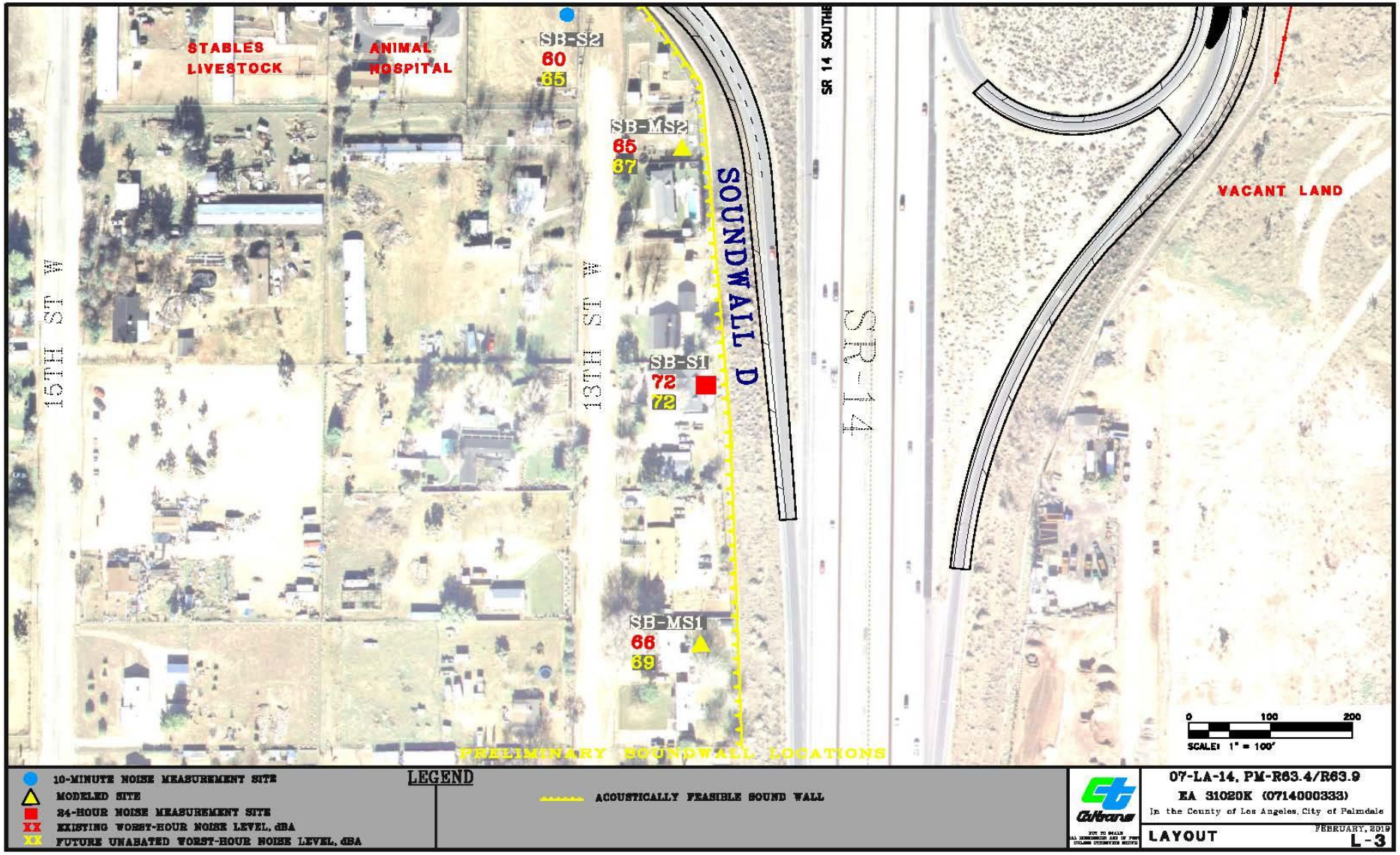


Figure 2.2-15 Soundwall E

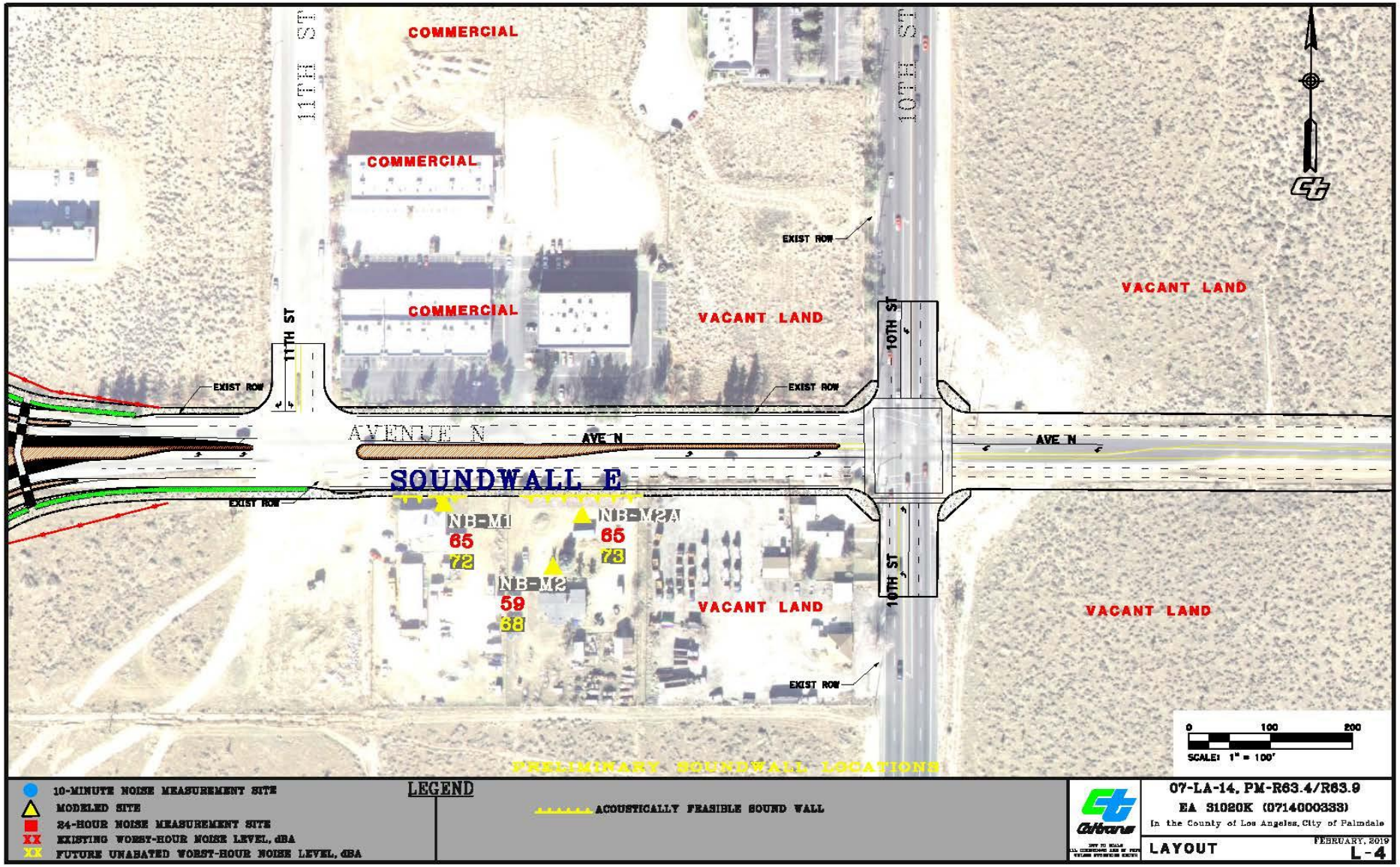


Table 2.2-17 Summary of Reasonable and Feasible Soundwalls

Soundwall	Direction	Location	Acoustically Feasible Height Range (Feet)	Approx. Length (Feet)	Noise Attenuation Range (dBA)	Number of Benefited Receivers	Reasonable Allowance
SOUNDWALL A	Soundwall A was eliminated from further consideration based on property owner opposition.						
SOUNDWALL B	EB	Avenue N, 17th St W to 16th St W	8	590	6	3	$81,000
SOUNDWALL C	EB	Avenue N, 16th St W to 15th St W	10	160	6	1	$36,00
SOUNDWALL D	SB	SR-14 along Avenue N freeway southbound on-ramp	8	1225	2-9	10 to 11	$223,000
SOUNDWALL E	EB	Avenue N, 10th St W to 11th St W	10	300	6	2	$55,000

Source: Caltrans Traffic Noise Study Report, February 2019, Noise Study Report, February 2019, and Noise Abatement Decision Report, September 2019

The following project features would be implemented as part of the project:

PF-NOI-1: The control of noise from construction activities shall conform to the Caltrans Standard Specifications, Section 14-8.02, “Noise Control.”

The following avoidance and minimizations measures would be implemented as part of the project:

NOI-1: All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment shall have an un-muffled exhaust.

NOI-2 As directed by the Resident Engineer, the contractor shall implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.

NOI-3 All work shall adhere to Caltrans Standard Specifications, Section 7-1.01I, “Sound Control Requirements,” which states that noise levels generated during construction will comply with applicable local, State, and federal regulations, and

that all equipment will be fitted with adequate mufflers according to the manufacturers' specifications.

NOI-4 Sound blankets shall be placed on construction fencing.

NOI-5 A Noise Control Plan (NPP) shall be prepared prior to construction to ensure implementation of noise reducing measures during construction.

NOI-6 Nearby residences and businesses shall be notified two weeks prior to the start of construction.

2.3 Biological Environment

2.3.1 Natural Communities

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation involves the potential for dividing sensitive habitat and thereby lessening its biological value.

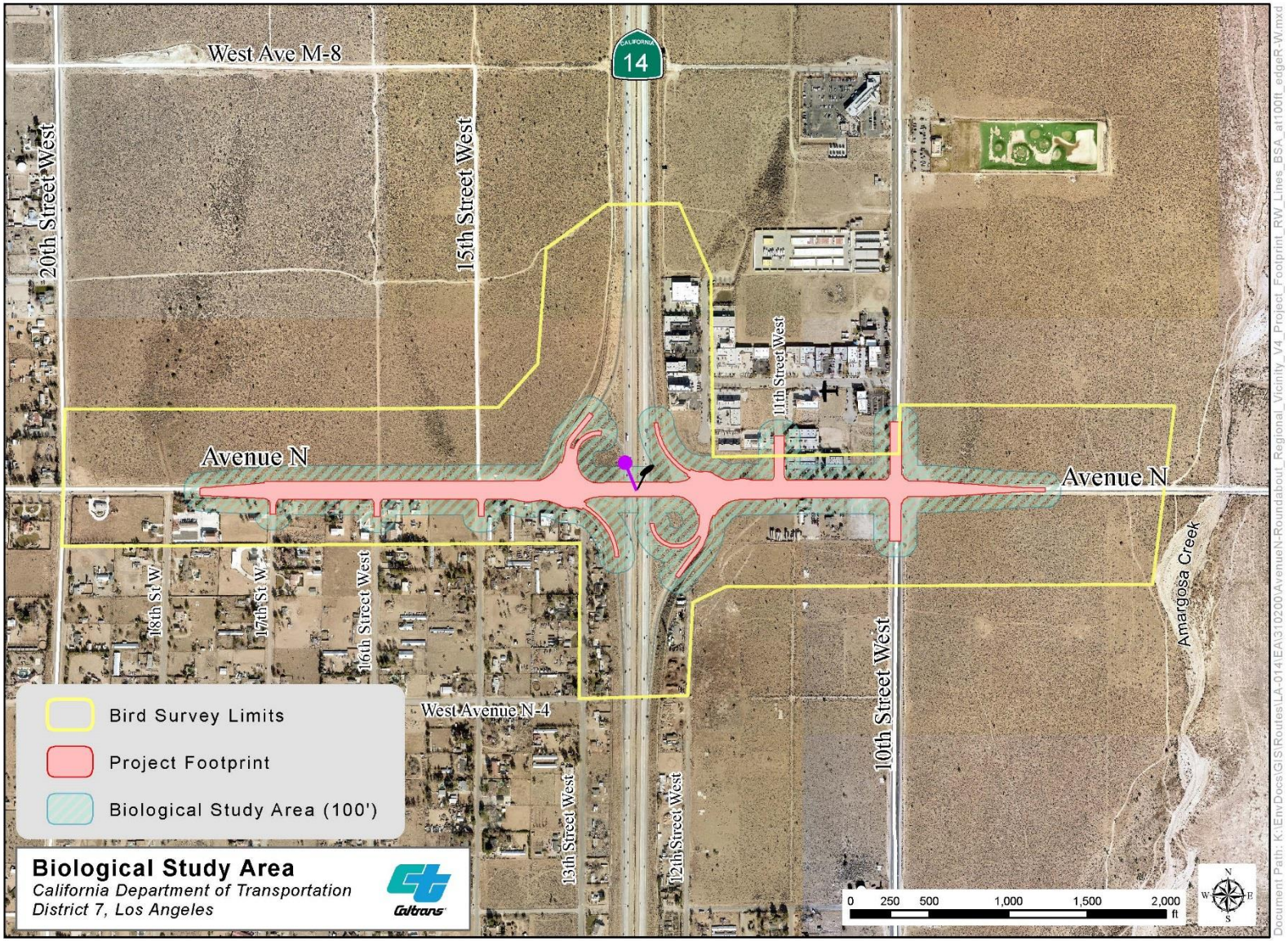
Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section [2.3.5]. Wetlands and other waters are also discussed below in Section 2.3.2.

2.3.1.1 Affected Environment

The information in this section is summarized from the *Natural Environment Study- Minimal Impacts (NES-MI)* (January 2019).

The project limits consist of Avenue N between 17th St. West and 10th St. West and the SR-14 NB and SB on/off ramps. The Biological Study Area (BSA) encompasses the project limits and includes a buffer of 100 feet in each direction surrounding both SR-14 and Avenue N (Figure 2.3-1). The BSA was intended to capture all areas in which project activities would occur as well as those areas containing biological resources that are subject to potential indirect impacts.

Figure 2.3-1 BSA



Native desert upland vegetation is present outside of the transportation right-of-way (SR-14 and Avenue N) in portions of the BSA. However, within the project footprint, the BSA contains a mixture of developed commercial and residential land uses as well as disturbed and ruderal vegetation. The vegetation within the right-of-way is primarily invasive and weeds species. None of the surrounding open desert can be classified as undisturbed or pristine.

Several vegetative communities were observed during field surveys of the BSA: disturbed desert scrub, disturbed Joshua tree woodland, shadscale scrub, rubber-rabbitbrush scrub, and Mediterranean California naturalized annual and perennial grassland. None of the vegetative communities are well represented within the BSA due to previous and ongoing disturbance from trash dumping, vandalism and off-road vehicle use. Immediately adjacent to Avenue N (approximately 50 feet each side), substantial disturbance (likely due to frequent weed control and clearing) has removed the majority of native vegetation, especially Joshua trees. As a result of these disturbances, ruderal species and invasive grasses occupy 30% or more of the area; that percentage is higher in areas closer to the roadways and other human development. This level of disturbance also limits habitat value for wildlife species in these communities.

There are no critical habitats or natural communities of special concern located within the BSA.

The project is located within the boundaries of the West Mojave Plan, a habitat conservation plan and federal land use plan amendment. The West Mojave Plan was approved in 2005 and its purpose is to develop management strategies for the desert tortoise, Mohave ground squirrel, burrowing owl, and over 100 other sensitive plants and animals, and to conserve those species throughout the western Mojave Desert while establishing a streamlined program for compliance with the regulatory requirements of FESA and CESA.

A wildlife corridor is a path that connects two areas of undeveloped habitat. There are undeveloped areas northwest and southeast of the project, with SR-14 creating a substantial barrier to wildlife movement between the two. Although the area to the southeast has some connectivity to larger expanses of open land to the east, the area northwest of the project is small and isolated, surrounded on three sides by development (with SR-14 on the fourth side), creating a habitat island of limited value to wildlife. While it is possible that common species that are well adapted to urban environments, such as coyotes (*Canis latrans*), could use Avenue N to move between the two areas, its value in the regional movement of wildlife is extremely limited.

2.3.1.2 Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any change in existing conditions. Therefore, there would be no impacts on natural communities of special concern.

Build Alternative

Impacts to natural communities are considered minimal because these communities are heavily disturbed and are located along the edges of, or isolated within, urban infrastructure.
There is no designated critical habitat, communities of special concern, nor wildlife corridors located within the project area; there would be no impacts.

2.3.1.3 Avoidance and Minimization Measures

No Build Alternative

No avoidance, minimization, or mitigation measures would be required.

Build Alternative

Project Feature:

PF-BIO-1: To avoid impacts to nesting birds, any native or exotic vegetation removal or tree-trimming activities will occur outside the nesting season (February 1 through September 1). In the event that vegetation clearing is necessary during the nesting season, a preconstruction survey will be conducted by a qualified biologist within 3 days of commencement of vegetation removal or the beginning of construction activities to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist.

Avoidance measures:

NC -1 All work will be limited to the transportation right-of-way and Temporary Construction Easement (TCE) Zones. Grading and construction will be limited to the TCE zones.

NC - 2 All pollution and litter laws and regulations will be followed by all personnel on site.

2.3.2 Wetlands and Other Waters

2.3.2.1 Regulatory Setting

Wetlands and other waters are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high-water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA. Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser

effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as FHWA and/or the Department, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: (1) that there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration (LSA) Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Water Quality section for more details.

2.3.2.2 Affected Environment

The information in this section is summarized from the *Natural Environment Study-Minimal Impacts (NES-MI)* (January 2019).

This project falls within the Antelope-Fremont Valley Watershed. This watershed is a “closed-basin” system, meaning no water entering the system reaches other river systems or the ocean.

The waterway closest to the project is Amargosa Creek, an ephemeral stream 0.25 miles east of the SR-14/ Avenue N interchange.

Two small drainages (bladed roadway drainage ditches) occur within the project area; they are north of Avenue N and west of SR-14, extending approximately 250 feet into undeveloped land. These ditches exhibit no desert wash features, nor connect to any natural desert washes nor jurisdictional waters of the state or U.S. They purvey sheet flow only and are not connected to Amargosa Creek (Figure 2.3-2).

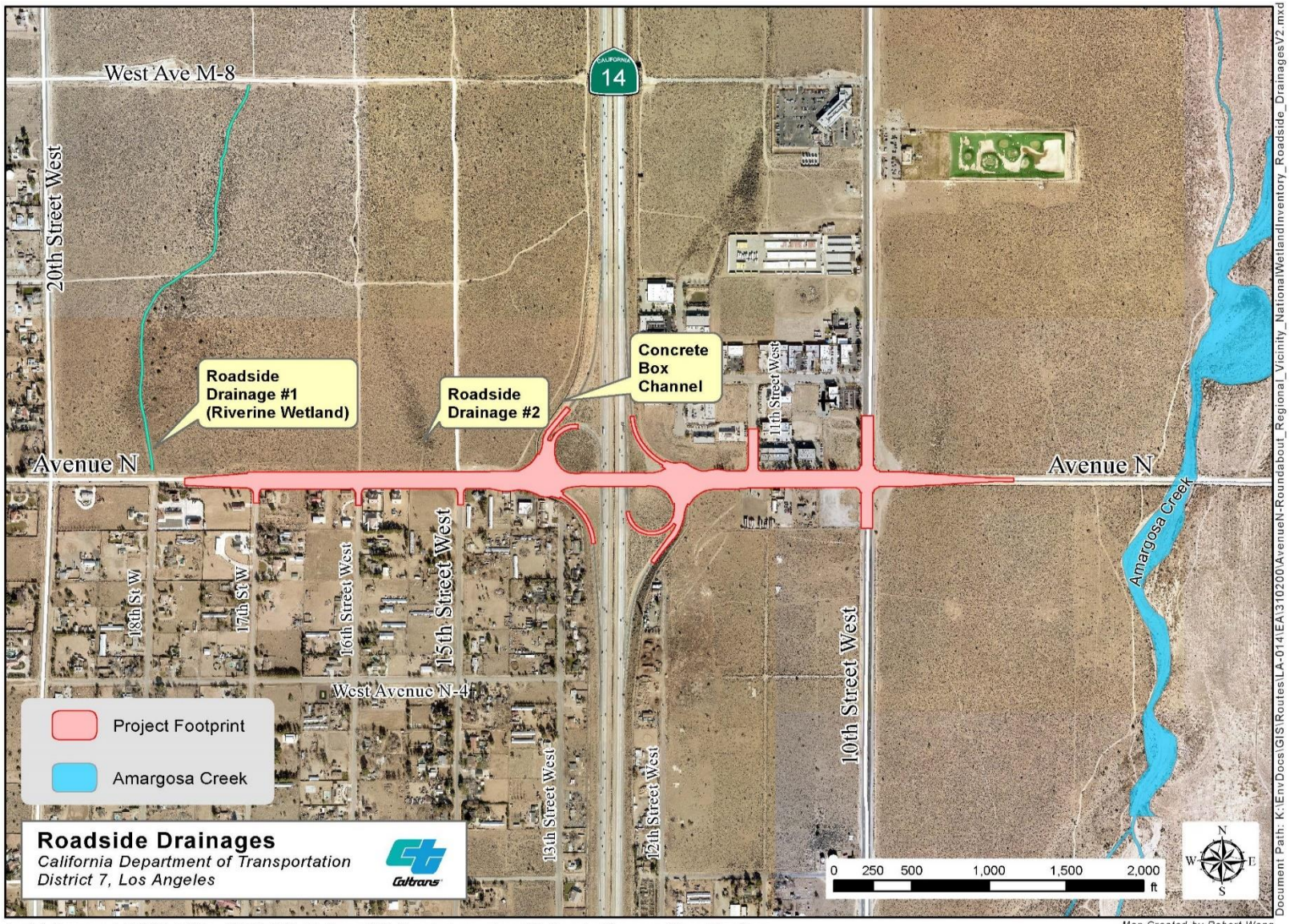
Man-made Drainage #1

Man-made Drainage #2

Figure 2.3-2 Amargosa Creek

However, the westernmost drainage is classified as riverine wetlands by the National Wetlands Inventory Wetlands Mapper (Figure 2.3-3).

Figure 2.3-3 National Wetlands Inventory Mapper



Aerial Source: LARIAC 2017. * **USFWS, National Wetlands Inventory Wetlands Mapper-Classification**

Map Created by Robert Wang
Division of Environmental Planning, March 25, 2019
Updated by Eunice Mendoza, July 17, 2019

There is a fully concrete-lined box channel, designed to capture stormwater runoff from the freeway, running parallel to SR-14 on the west side; this channel runs through the project area and continues both north and south for several miles. This is not jurisdictionally connected to Amargosa Creek, but eventually empties to a detention basin 11.5 miles north of the project (which may eventually discharge stormwater to Piute Ponds and ultimately to Rosamond Dry Lake) (Figure 2.3-4).

Figure 2.3-4 Drainage Basin

CDFW Jurisdiction:

Coordination with the CDFW was initiated in early June 2018 and a field meeting with Caltrans Liaison Mathew Chirdon took place on June 13th, 2018 to determine if the project would impact CDFW jurisdictional resources. Ground truthing and observations of the existing drainage conditions, including those features described above, were made.

The riverine wetland drainage at 18th St. sits outside of the project limits and therefore would not be affected in any way. A small portion of the box channel will be covered by new design features, though it will not be altered from its original hydraulic purveyance. Any impacts to State Waters would require an LSA Agreement pursuant to Section 1602 of the Fish and Game Code.

<u>USACE Jurisdiction:</u>

The USACE considers drainages in the Antelope Valley to be non-jurisdictional unless they drain into Lake Palmdale. This project is located north of Lake Palmdale and the topography slopes to the north, causing water from the project area to flow north into the open desert or into Rosamond Dry Lake. This lack of connection to Lake Palmdale means there is no federal nexus and the drainages are not subject to USACE jurisdiction.

<u>RWQCB Jurisdiction:</u>

The project area falls under the control of the Lahontan Region 6 office of the California Regional Water Quality Control Board. Email communication with this office (July 2, 2018) confirmed that a 401 permit is not required by the RWQCB, but that the development and implementation of a Storm Water Pollution Prevention Plan and adequate post-construction Best Management Practices are strongly recommended.

2.3.2.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any change in existing conditions. Therefore, the No Build Alternative would not result in adverse effects related to wetlands and other waters.

Build Alternative

None of the three drainages within the project footprint are considered jurisdictional by the USACE; therefore, there will be no impacts to Waters of the U.S.

The westernmost drainage along 18th street is identified as riverine wetland according to the National Wetlands Inventory. This drainage will not be impacted in any way. It sits outside of the project limits.

The second drainage feature will be temporarily and minimally impacted by construction; this will be included in the 1602 LSA Agreement application. The box channel will be covered by certain new design features, such as sidewalks, median barriers, and the roundabout. However, there is no vegetation in the channel and these changes will not affect the flow of water. Any impacts would be minimal.

The contractor would be required to employ all appropriate Stormwater and Erosion Control Best Management Practices (BMPs) during construction. This would include measures related to wind erosion control, sediment tracking control, street sweeping and vacuuming, stabilized construction roadway, spill prevention control, solid waste management, hazardous waste management, sanitary/septic waste management, material delivery and storage, material use, vehicle and equipment cleaning, vehicle and equipment fueling, and vehicle maintenance. With such measures in place, construction-related impacts to would be minimal.

2.3.2.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

The following measures are proposed to avoid or minimize impacts to wetlands and other waters:

WET – 1 The permanent minimal impacts to the westernmost drainage feature, the temporary minimal impacts to the middle drainage feature, and the temporary minimal impacts to the box channel will all be included in the 1602 LSA agreement application. Any measures required by this agreement would be implemented during construction.

WET – 2 All appropriate Stormwater and Erosion Control Best Management Practices (BMPs) would be implemented during construction. Prior to the start of construction, all drain inlets and outlets would be protected with BMP's to prevent construction material and debris from entering drainages.

2.3.3 Plant Species

2.3.3.1 Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species section (2.3.5) in this document for detailed information about these species.
This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants. In addition, species identified in local ordinances, such as the City of Palmdale's Joshua Tree and Native Desert Vegetation Preservation Ordinance (also called the Palmdale Native Desert Vegetation Ordinance) (Chapter 14.04 of Title 14 of the Palmdale Municipal Code), are discussed.

The regulatory requirements for FESA can be found at 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000-21177. The Palmdale Native Desert Vegetation Ordinance can be found at https://www.cityofpalmdale.org/Portals/0/Documents/City%20Hall/Codes/Native%20Plant%20Ordinance.pdf

2.3.3.2 Affected Environment

The information in this section is summarized from the *Natural Environment Study-Minimal Impacts (NES-MI)* (January 2019).

A list of special status plant species (those not listed or proposed for listing as threatened or endangered) that have the potential to occur within the vicinity of the BSA was obtained through an online search of the following databases:

- The California Natural Diversity Database (CNDDB) for the Lancaster East, West Ritter Ridge, and Palmdale quadrangles.

- The USFWS IPaC website (Information, Planning, and Conservation) for an area that covered a two-mile radius around the project area.

- The Calflora website - a "What Grows Here" search was conducted to locate recent rare plant records and data for the project area.

This review identified six species of concern with the potential to occur within the general vicinity; they are shown in Table 2.3-1. Of these six, only one rare plant has potential to occur within the project footprint: Lancaster milk-vetch.

Table 2.3-1 Species of Concern

Common Name (*Scientific name*)	Status	General Habitat Description	Habitat: Potential/Absent	Conclusion and Rationale
Lancaster Milk Vetch (*Astragalus preussil var.laxiflorus)*	CNPS List 1B.1	Shadscale scrub	Present	The habitat for this species is present within the project footprint. Species was not observed during rare plant surveys in 2015 and 2018. Species has low potential to occur due to declining habitat. Not observed within 5-mile radius. Last observations at Edwards AFB in 1992.
Alkali Mariposa (*Calochordus striatus*)	CNPS/CNDDB List 1B.1	Alkali sinks/ Shadscale scrub, wetland riparian	Absent	Within the Antelope Valley, this species occurs in alkali sink (temp. shallow pools) habitat, a micro-habitat within Shadscale Scrub. Habitat is not present within BSA. Species is not expected to occur.
Parry's spineflower (*Chorizanthe parryi*)	CNPS/CNDDB List 1B.1	Coastal sage scrub	Absent	General habitat for this species is absent within the project quadrangle. No recent observations of this species for Lancaster Quadrangle since 1923. The species is not expected to be present within the project area.

Common Name (*Scientific name*)	Status	General Habitat Description	Habitat: Potential/Absent	Conclusion and Rationale
Rosemond eriastrum (Eriastrum rosamondense)	CNPS/CNDDB List 1B.2	Alkali Sink and hard-packed cryptogamic soils among low hummocks with dry pools	Absent	General habitat for this species is absent within the project quadrangle. The species is not expected to be present within the project area.
Sagebrush Loeflingia (*Loeflingia squarrosa*)	CNPS/CNDDB List 2B.2	Sand, gravel of hills, mesas and dunes	Present	General vegetation community for this species is present within the project quadrangle. However, **no suitable habitat(s) were observed within the project area during field surveys**. The species is not expected to be present within the project area.
Short-joint beavertail (Opuntia basilaris var. brachyclada)	CNPS/CNDDB 1B.2	Gravely Bajadas, Mesas	Absent	General habitat for this species is absent within the project quadrangle. This species is not expected to be present within the project area.

CNPS List: California Native Plant Society - List Rare Plant Rank

DFW-E: California Dept. of Fish & Wildlife - Endangered

DFW-T: California Dept. of Fish & Wildlife -Threatened

DFW - SSC. California Dept. of Fish & Wildlife - Species of Special Concern

FWS-E: U.S. Fish & Wildlife - Endangered

FWS-T: U.S. Fish & Wildlife -Threatened

FWS - SSC. Fish & Wildlife - Species of Special Concern

An initial survey of the BSA was conducted in April of 2015 to obtain a general understanding of the condition of the area. Follow-up surveys, specifically to assess the presence/absence of rare plants, were conducted on May 3 and May 8, 2018. An additional general follow-up survey was done on June 24, 2018. The survey area included the project footprint plus a buffer of 100 feet around SR-14 and Ave N.

Native Mojave Desert vegetation is present within the BSA but is generally absent within the project footprint. Common species observed include rubber rabbitbrush (Ericameria nauseosa), cottonthorn (Tetradymia axillaris), four-winged saltbush (Chrysothamnus viscidiflorus), Nevada ephedra (Ephedra nevadensis), creosote bush (Larrea tridentate), and scattered (low density) Joshua trees (Yucca brevifolia). Non-native black mustard (Brassica nigra) and invasive grasses (Bromus spp.) are also present. The project footprint has been subject to greater disturbance and contains primarily ruderal and invasive species.

Considering their habitat requirements and the existing level of disturbance, the BSA is not considered to be suitable habitat for any sensitive plant species identified in Table 2.3-1. They were not observed during the surveys and they are not expected to be present.

The Palmdale Native Desert Vegetation Ordinance applies to all public and private property within the City which contains Joshua trees or other desert vegetation, including California juniper. The ordinance defines desert vegetation as Joshua trees, California juniper, other living plants identified in the California Desert Native Plants Act as protected, and any state or federal listed rare or endangered species.

The Conservation and Open Space Element of the Antelope Valley Area Plan (Los Angeles County, 2015) has a stated Goal (COS 4) of protecting sensitive habitats and species to promote biodiversity. One Policy (COS 4.2) specifically identifies Joshua tree woodlands as areas in which potential development should be limited. Although a true Joshua tree woodland is not located within the BSA, there are some scattered/isolated Joshua trees present.

An inventory of Joshua trees within the BSA was conducted on May 14 and 16, 2018 within a 100-foot buffer around the project footprint. A total of 24 scattered Joshua trees were observed; of those, only two are located within the project footprint and both are within Los Angeles County jurisdiction.

2.3.3.3 Environmental Consequences

No Build Alternative

There would be no change from the existing condition. Therefore, no impacts to sensitive plant species would occur.

Build Alternative

None of the special status plants identified in Table 2.3-1 were observed during field surveys and they are presumed absent due to a lack of suitable habitat within the BSA. No avoidance measures are required.

Two Joshua trees occur within the project footprint, both are within Los Angeles County jurisdiction. If impacts to these trees cannot be avoided, then measures should be taken to relocate the Joshua Trees, potentially within the new roundabout where no future impacts are anticipated. If relocation is not feasible, then replacement at a minimum of a 3:1 ratio will be required.

2.3.3.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative
No avoidance, minimization, or mitigation measures would be required.

Build Alternative

Project Feature:

PF-BIO-2: The construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one Project location to another. Any plants removed, or soil disturbed during the course of construction should be contained and properly disposed of offsite. All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and erosion-control Best Management Practices (BMPs) implemented will be free of invasive plant species seeds or propagules listed on the California Invasive Plant Council (Cal-IPC) Inventory. City tree planting and removal requirements will also be adhered to.

Avoidance and minimization measures:

PS – 1 If construction occurs more than two years after the date of the last rare plant survey, additional rare plant surveys should be conducted prior to construction.

PS – 2 If feasible, impacts to Joshua trees will be avoided by installing Environmentally Sensitive Area (ESA) fencing around each tree to prevent inadvertent damage during construction.

PS – 3 If impacts to Joshua trees cannot be avoided, a relocation or mitigation plan must be prepared. A Caltrans Biologist must be notified prior to disturbance so the feasibility of relocation, possibly within the new roundabout, can be assessed. If relocation is not feasible, then offsite mitigation shall be initiated via an In-Lieu-Fee agreement with a local conservancy; Joshua trees will be purchased and planted within a protected conservation habitat at a minimum ratio of 3:1.

PS – 4 If listed and/or protected species are discovered during construction, all work shall cease, and the Caltrans Biologist shall be notified immediately. No work shall continue until coordination with USFWS and/or CDFW has been conducted and a protection plan implemented.

PS – 5 Any replanting within Caltrans Right-of-Way must be done with desert native species local to the area. A plant palette should be developed through coordination between the Caltrans Landscape Architect and the Caltrans Biologist.

2.3.4 Animal Species

2.3.4.1 Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in the Threatened and Endangered Species Section 2.3.5 below. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, and USFWS or NOAA Fisheries Service candidate species. Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

2.3.4.2 Affected Environment

The information in this section is summarized from the *Natural Environment Study-Minimal Impacts (NES-MI)* (January 2019).

Special-status animal species include CDFW Fully Protected species and Species of Special Concern, as well as those formally listed as Threatened or Endangered at either the state or federal level. The CDFW's CNDDB and USFWS' IPaC were reviewed to identify those species that are known to occur in the area of the project. The database search identified the following five species:

- Desert Tortoise (*Gopherus agassazii*);
- Mohave Ground Squirrel (*Xerospermophillus mohavensis*);
- Least Bell's vireo (*Vireo bellii pusillus*);
- Swainson's Hawk (*Buteo swainsoni*), and;

- California Condor (*Gymnogyps californianus*).

Each of these species is listed as threatened or endangered and are discussed in Chapter 2.3.5 of this document.

The burrowing owl (*Athene cunicularia*) is a California Species of Special Concern and is protected by the MBTA. They occur over a wide geographic range and can be found in open, dry, annual or perennial grasslands, and other desert habitats associated with burrowing animals. They favor disturbed areas, including roadsides, and typically nest in abandoned mammal burrows (including Mohave Ground Squirrel burrows). Although it was not identified in the database search, it is common practice to evaluate project areas in the western Antelope Valley for the potential presence of burrowing owls.

Burrowing owl evaluations were conducted during the rare plant surveys (April 2015, May 3rd and 8th 2018) and the MGS surveys (June 4-8,2018). No evidence to indicate that burrowing owls may be present was observed. Furthermore, the roadway edge habitat is highly disturbed, and clearing activity during construction within this habitat will be minimal, making potential impacts to burrowing owls very unlikely.

Numerous nesting birds are protected under the Migratory Bird Treaty Act and the California Fish and Game Code. Species protected under the Migratory Bird Treaty Act were observed during field surveys and it is possible that they could be present within the BSA.

2.3.4.3 Environmental Consequences

No Build Alternative

There would be no change from the existing condition. Therefore, no impacts to sensitive animal species would occur.

Build Alternative

Construction activities, such as vegetation removal and ground disturbance, could destroy active bird nests or indirectly contribute to nest failure by exposing active nests to the elements and/or predators. Human activity and construction noise close to an active nest could disrupt normal nesting activities and contribute to nest failure. Implementation of Measure AS-1 will avoid or minimize impacts to these species.

No other special status animal species are anticipated to be present within the project area.

2.3.4.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, or mitigation measures would be required.

Build Alternative

AS – 1 Construction activity, including vegetation removal, shall be scheduled to occur between February 1st to September 1st to avoid the bird nesting season. If that is not feasible, the Caltrans Biologist shall be notified 2 weeks in advance so that preconstruction nesting bird surveys can be conducted. If nesting birds are observed, construction activity in the immediate area shall not occur until it is determined that the young birds have left the nest. A buffer zone shall be established and maintained during all phases of construction (150 feet for songbirds and 500 feet for raptors) to ensure that nesting birds are not adversely affected.

2.3.5 Threatened and Endangered Species

2.3.5.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March

10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

2.3.5.2 Affected Environment

The information in this section is summarized from the *Natural Environment Study-Minimal Impacts (NES-MI)* (January 2019).

The CNDDB (the Lancaster East, West Ritter Ridge, and Palmdale quadrangles) and the USFWS IPaC website (a two-mile radius around the project site) were reviewed to identify the threatened/endangered species and critical habitat that have a potential to occur in the vicinity of the BSA.

This search identified five listed species as having some potential to be present; these species are identified in Table 2.3-2. The BSA is not located within critical habitat for any listed species. There is no hydrologic connection to the ocean in the vicinity of the BSA; therefore, there are no resources managed or protected by the NMFS or NOAA, including those resources protected by the Magnuson-Stevens Fishery Conservation and Management Act of 1976.

Table 2.3-2 Listed wildlife species.

Common Name (*Scientific name*)	Status	General Habitat Description	Habitat: Potential/Absent	Conclusion and Rationale
Desert Tortoise (Gopherus agassazii)	USFWS-T CDFW-n/a	Mojave Desert	Present/ Disturbed	General habitat for this species is present within the project quadrangle. However, the habitat within the project footprint is highly degraded and no signs of burrows were observed.
Mohave Ground Squirrel (*Xerospermophillus mohavensis*)	USFWS-n/a CDFW- T	Wide range of flat or mountainous, largely open habitats	Absent	General habitat for this species is present within the project quadrangle. However, no habitat was observed within the project area during field surveys. The species is not expected to be present within the project area.
Least Bell's vireo (*Vireo bellii pusillus*)	USFWS- E CDFW-E	Riparian / cottonwood forest	Absent	Final Critical habitat for this species is present within the adjacent project area. However, no habitat was observed within the project area during field surveys. The species is not expected to be present within the project area.
Swainson's Hawk (*Buteo swainsoni*)	USFWS-n/a CDFW-T	Sage flats, open fields, low hills, fallow agriculture fields	Absent	General habitat for this species is present within the adjacent project area. However, no habitat was observed within the project area during field surveys. The species is not expected to be present within the project area

California Condor (*Gymnogyps californianus*)	USFWS-E CDFW-E	Rocky cliffs, ledges	Absent	General Habitat for this species in not present within the quadrangle or adjacent quadrangles. The nearest nesting and breeding habitat is 20 miles away in the Sespe Wilderness. This species in not expected to be present within the project area.

CNPS List: California Native Plant Society - List Rare Plant Rank

DFW-E: California Dept. of Fish & Wildlife - Endangered

DFW-T: California Dept. of Fish & Wildlife -Threatened

DFW - SSC. California Dept. of Fish & Wildlife - Species of Special Concern

FWS-E: U.S. Fish & Wildlife - Endangered

FWS-T: U.S. Fish & Wildlife -Threatened

FWS - SSC. Fish & Wildlife - Species of Special Concern

General field surveys were conducted on May 14 and May 16, 2018; no evidence of any of these species was observed.

Although general habitat for Desert Tortoise falls within the project footprint, the quality is highly degraded, and no evidence of tortoises was seen during field surveys. This species is not anticipated to be present in the project area.

General habitat for Swainson's Hawk is adjacent to the project area but does not fall within the project footprint. This species is not anticipated to be present in the project area.

California Condor and Least Bell's Vireo were both identified as species of relevance to the project area. However, the project footprint is not located within designated critical habitat for these two species and no observations were made that would support their being present within the project area.

Projects that occur within the Antelope Valley region of the Mojave Desert usually require at least a minimal investigative survey for Mojave Ground Squirrel (MGS) if the project has undeveloped open space adjacent to it. An investigative survey was conducted on June 4-8, 2018 to determine if MGS are present within the project footprint. The quality of the habitat in

the area was found to be marginal to highly disturbed. Results of the survey were negative; no sign of MGS was observed.

2.3.5.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any change in existing conditions. Therefore, there would be no impacts to threatened or endangered species.

Build Alternative

Suitable habitat for the desert tortoise and Mojave ground squirrel is present within the BSA; however, it is highly disturbed and considered to be of marginal quality. No signs of either species were observed during surveys and they are not expected to be present. There was also no evidence that the project area would be utilized by any of the remaining three listed species. There is also no designated critical habitat located within the BSA. Therefore, this project would have No Effect on all species and critical habitat on the USFWS species list contained in Appendix B.

2.3.5.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

Although suitable habitat is not present, and they are not expected to be found within the project footprint, the following precaution shall be implemented if necessary to avoid impacts to listed species:

TE – 1 If listed and/or protected species are discovered during construction, all work shall cease, and the Caltrans Biologist shall be notified immediately. No work shall continue until coordination with USFWS and/or CDFW has been conducted and a protection plan implemented.

2.3.6 Invasive Species

2.3.6.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.3.6.2 Affected Environment

The information in this section is summarized from the *Natural Environment Study-Minimal Impacts (NES-MI)* (January 2019).

The project is located in a semi-urbanized area that contains a mix of developed commercial and residential land uses as well as open, undeveloped parcels. These undeveloped areas are subject to frequent human disturbance. Activities such as trash dumping, vandalism, and off-road use make these parcels less conducive to native plant species and allow opportunistic invasive species to thrive. The areas immediately adjacent to the road and other human development are more prone to disturbance from weed control and clearing and consequently have a higher percentage of invasive species. Within the BSA, upwards of 30% of the vegetation in these areas is ruderal and invasive. The dominant invasive species are Sahara mustard (*Brassica tournefortii*) and *Bromus spp*.

According to the list of invasive species maintained by the California Invasive Species Council (http://ice.ucdavis.edu/invasives/, accessed Sept. 12, 2018), Sahara mustard currently has a limited distribution within California; the various *Bromus* species are all widespread invasives within the state. The California Invasive Plant Council (Cal-IPC) Issues a rating for each species depending on the degree of threat it poses to natural plant and animal communities within the state. Based on their current Invasive Plant Inventory (https://www.cal-ipc.org/plants/inventory/ accessed Sept. 12, 2018), Sahara mustard has received a high rating while the various *Bromus* species have received ratings of limited, moderate, and high.

2.3.6.3 Environmental Consequences

No Build Alternative

The No Build Alternative would not result in any change in existing conditions. Therefore, the No Build Alternative would not result in adverse effects related to the spread of invasive species.

Build Alternative

Construction of the Build Alternative has the potential to result in the spread of invasive plant species via entering and exiting construction equipment that have been contaminated by invasive plant species, the inclusion of invasive plant species in seed mixtures and mulches, and the improper removal and disposal of invasive plant species.

However, in compliance with Executive Order on Invasive Species, EO 13112, Caltrans policy, and guidance from the Federal Highway Administration (FHWA), any landscaping and erosion control included in the project will not use species listed as invasive. In addition, all equipment and materials used on-site will be inspected for the presence of invasive species and cleaned if necessary. Therefore, the implementation of the project will not spread these invasive species with the use of BMPs and will result in no introduction of additional invasive species.

2.3.6.4 Avoidance, Minimization, and/or Mitigation Measures

No Build Alternative

No avoidance, minimization, and/or mitigation measures are needed.

Build Alternative

IS – 1 During project construction, all invasive plant species found on site shall be handled, transported, and disposed of off-site by a qualified contractor to minimize the potential for 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 or natural areas would occur.

IS – 2 All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and erosion-control best management practices (BMPs) implemented will be free of invasive plant species seeds or propagules. No vegetation listed on the California Invasive Plant Council (CAL-IPC) Invasive Plant Inventory will be

installed on the proposed project. All plant palettes proposed for the project will be reviewed and approved by a qualified biologist.

IS - 3 In areas of particular sensitivity (i.e., near or adjacent to drainages), extra precautions will be taken if invasive species are present. This will include inspection and cleaning of construction equipment and eradication strategies, as needed, should an invasion occur.

2.4 Construction Impacts

2.4.1 Affected Environment

This section discusses the impacts on various environmental resources from construction of the proposed Build Alternative.

Construction Sequence

To best discuss the temporary construction impacts related to project approval, a typical construction process is provided. Construction would begin only after all necessary permanent and temporary Right-of-Way has been acquired by the project sponsor. A typical sequence of construction related activity would be as follows: site clearing, demolition of structures, utility relocation, facility construction and finishing with landscaping. Construction of the Build Alternative is estimated to take approximately 24 months.

In order to best assess construction related impacts, a generic construction sequence for this type and magnitude of project is discussed. It will ultimately be at the discretion of the contractor how to proceed with construction processes. Temporary construction easements will be necessary for equipment staging areas near the project site.

Step 1: Staging

The first step in construction is preparing the site for construction. This will include surveying and mobilization of equipment after all necessary permits and approvals have been obtained.

Step 2: Site Clearing and Demolition

After staging is complete, the site will be cleared of all existing structures and vegetation in order to proceed with construction. All necessary concrete and asphalt removal and disposal would also occur at this time.

Step 3: Utility Relocation

Utilities that have been identified as interfering with construction will need to be relocated or preserved in place for continued service by the utility provider. To accomplish this, continued coordination with utility providers will be necessary. Each impacted utility would be restored or replaced as near as possible to its former location in accordance with design elements.

Step 4: Road Improvements

Road construction would involve site excavation, grading, and pavement installation. Construction of the Build Alternative would disturb approximately 16.92 acres soil. Excess soil is to be disposed of at an offsite disposal facility that is appropriate for the quantity and quality of

earthwork to be disposed. To accommodate road improvements, a Traffic Management Plan (TMP) would be developed to reduce the impacts of temporary lane closures and detours. Construction work may be necessary at night to minimize traffic interference where lane closures are necessary.

2.4.2 Environmental Consequences

No Build Alternative

Since the No Build Alternative would not require any construction, no construction impacts would occur.

Build Alternative

Land Use

Construction of the Build Alternative would not impact land use or growth in the vicinity of the project.

Community Impacts

Construction of the Build Alternative would produce delays that could impact local residents, particularly those close to the project site. At times, local traffic detours would be required that would create slightly longer alternate routes that avoid construction zones that people could use on the way to their destinations. Access to properties in the vicinity of the project area would be maintained during construction and appropriate signage placed to alert drivers of detours.

The Build Alternative would require temporary acquisition of property for construction activities including temporary storage and staging of approximately 2 acres. Due to the temporary nature of this property acquisition, and the fact that the property owners would receive compensation, the impacts are considered minor.

Utilities

Several providers have utilities within the Project right-of-way. The proposed project would require their relocation due to placement conflicts with the proposed improvements, or proximity to proposed improvements and requirements for clearance distances. Utilities that would potentially require relocation include:

- SCE overhead electrical lines and electrical vaults and cabinets;
- AT&T buried cable and vault
- SoCalGas gas lines (3-, 4-, and 6-inch)
- Fire hydrant
- Eastern Kern Water Agency water line and manholes; and

- Los Angeles County Waterworks water line (12-inch)

Existing utilities and those that are relocated would be located within the existing or proposed ROW limits. All utility relocations would be planned and implemented in coordination with utility providers. Although a short-term, temporary interruption in service might occur as facilities are moved from one location to another, no substantial adverse impacts are anticipated.

Emergency Services

Emergency vehicle access would be maintained at all times during construction, with occasional travel delays associated with lane closures and traffic detours. In order to minimize impacts on response times for police, fire, and other emergency services, a Traffic Management Plan will be developed and early coordination with these providers will be carried out. These intermittent and temporary traffic changes would not be substantial.

Traffic and Transportation/Pedestrian and Bicycle Facilities

Construction of the Build Alternative would temporarily impact automobile, bicycle, and pedestrian traffic. These delays would be temporary in nature and implementation of the TMP and a public outreach campaign would minimize increases in travel time or distance. The TMP shall include, but not be limited to, the following features:

- Utilize changeable message signs and contractor signs to provide project information
- Implement a Construction Zone Enhanced Enforcement Program, freeway service patrol, and California Highway Patrol traffic handling plan
- Incorporate traffic circulation construction strategies such as night work, lane and access modifications, and temporary traffic signal modifications
- Provide detour routes for roadways, pedestrian routes, bus services, emergency services, and residential and commercial access routes during construction
- Ensure that business access will be maintained at all times during construction
- Establish detour routes outside residential neighborhoods, especially in the case of low-income neighborhoods, as conditions allow
- Perform close and early coordination with utility providers during project design to identify conflicts and plan required utility relocations

Visual/Aesthetics

The presence of construction equipment and the necessary vegetation removal will likely have the greatest overall impact on visual quality during construction. These impacts will be

temporary; the equipment will be present only during construction and new vegetation will be planted in disturbed areas after project completion, as required by the Avoidance and Minimization Measures in Section 2.1.5. These impacts are considered to be minor.

Cultural Resources

No prehistoric or historic archeological resources have been previously recorded or observed within the Area of Potential Effects during surveying. The results of the literature review and previous disturbance associated with existing development confirm that the potential for discovery of archeological deposits in the area is very unlikely.

Prior disturbances of the project footprint at similar depths as the proposed ground disturbances for the project have occurred during construction of the existing roadways, railroad, sidewalks, underground utilities, commercial development, and landscaping, so implementation of this project would have a low potential to affect cultural resources.

Nevertheless, should any cultural resources be discovered during construction, project features PF-CUL-1 and/or PF-CUL-2 would be implemented.

Water Quality and Stormwater Runoff

Preliminary engineering analysis estimates indicate that the Total Disturbed Soil Area will be 16.92 acres and the new impervious surface area will be 7.5 acres. Construction would require the use of temporary Construction Best Management Practices (BMPs) to provide temporary erosion and sediment control. The following Construction Site BMPs are recommended for implementation:

- Minimize cut and fill areas. Disturb existing slopes only when necessary.
- Protect and retain top soil and existing vegetation as much as possible.
- Hydroseed impacted slopes as soon as feasible.
- Reduce concentrated flow by rounding and shaping slopes.
- Follow Caltrans provisions related to preventing the introduction of invasive or noxious species.

The implementation of these standard water quality BMPs will ensure that impacts are minimal.

Geology/Soils/Seismic/Topography

No adverse impacts on geology, soils, seismic, or topography are anticipated during construction.

Hazardous Waste or Materials

Demolition and construction activities associated with the Build Alternative would pose a limited risk of inadvertent hazardous waste or materials exposure. During construction, Aerially Deposited Lead (ADL), yellow thermoplastic stripes and paint containing lead and chromium, and Asbestos Containing Materials (ACM) may be encountered. With implementation of appropriate Avoidance, Minimization, and Mitigation measures identified in Section 2.2.5, construction impacts of the Build Alternative related to hazardous materials and wastes would be minimized.

Air Quality

Construction (Short Term Impacts)

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

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

Additionally, construction equipment powered by gasoline and diesel engines are anticipated to emit CO, NOX, VOCs, directly emitted PM10 and PM2.5, and toxic air contaminants (TACs) such as diesel exhaust particulate matter. An increase in traffic congestion is expected to result during construction, thereby increasing temporary emissions in the immediate project area during these delays. These temporary increases in emissions are those that occur only during the construction phase and last five years or less at any individual site. They typically fall into two main categories:

(1) *Fugitive Dust*: A major emission from construction due to ground disturbance. All air districts and the California Health and Safety Code (Sections 41700-41701) prohibit "visible emissions" exceeding three minutes in one hour – this applies not only to dust but also to engine exhaust. In general, this is interpreted as visible emissions crossing the right-of-way line.
    a. The proposed project is located within the MDAB and is required to comply with the AVAQMD Fugitive Dust Rule 403 to minimize emissions of fugitive dust during construction activities. AVAQMD's Rule 403 requires that fugitive dust be controlled with the best available control measures (BACM) in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the proposed project. The dust control plan should describe all applicable dust

control measures that will be implemented at the project; and should describe types of dust suppressant, surface treatments, and other measures to be utilized at the construction sites to comply with the Rule

b. Sources of fugitive dust include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site may deposit mud on local streets, which could be an additional source of airborne dust after it dries. PM10 emissions may vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

(2) *Construction equipment emissions*: Diesel exhaust particulate matter is a California-identified toxic air contaminant, and localized issues may exist if diesel-powered construction equipment is operated near sensitive receptors.

Table 2.4-1 shows the Average Daily Construction Emissions for the proposed project.

Table 2.4-1 Average Daily Construction Emissions

Project Phases	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	CO2 (lbs/day)	CO2 (tons/day)
Land Clearing/Grubbing	1.17	6.36	7.60	4.38	0.90	1,625.12	0.81
Roadway Excavation & Removal	3.02	17.99	20.22	2.83	1.67	3,628.47	1.81
Structural Excavation & Removal	0.81	2.22	4.54	5.72	0.82	973.12	0.49
Base/Subbase/Imported Borrow	4.42	28.61	29.92	4.31	2.52	5,215.68	2.61
Structure Concrete	1.15	3.22	6.28	0.39	0.38	1,272.66	0.64
Paving	2.30	6.64	17.68	1.23	1.20	3,185.36	1.59
Drainage/Environment/ Landscaping	1.28	3.41	8.30	0.65	0.63	1,465.64	0.73
Traffic Signalization/ Signage/Striping/Painting	0.01	0.06	0.29	0.00	0.00	120.59	0.06
Maximum (lbs/day)	4.42	28.61	29.92	5.72	2.52	5,215.68	2.61

Contractors will be required to comply with the requirements of all applicable state and local regulations including, but not limited to, AVAQMD Rules 401 (Visible Emissions), 402 (Nuisance), and 403 (Fugitive Dust).

Implementation of project features PF-AQ-1 through PF-AQ-4 and PF-AQ-6 would prevent and/or reduce air quality impacts from construction activities. Please note that although these measures are anticipated to reduce construction-related emissions, these reductions cannot be quantified at this time. Additionally, avoidance and minimization measures AQ-1 to AQ-9 will be implemented as part of project to reduce construction-related emissions.

Asbestos

Asbestos occurs naturally in ultramafic rock (which includes serpentine). When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Exposure to asbestos can result in health ailments such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues, which results in constricted breathing). The California Department of Conservation (2000) prepared a map showing areas more likely to contain naturally occurring asbestos (NOA) in California. Although Los Angeles County is one of the counties listed on the map, only the Catalina Island portion of the county has been found to contain such rocks. The project site and area surrounding the site are not identified to contain serpentinite or ultramafic rock. As a result, no potential impacts from NOA during project construction are expected to occur.

In the highly unlikely event that naturally occurring asbestos, serpentinite, or ultramafic rock be discovered the following project feature will be implemented:

PF-AQ-5 If naturally occurring asbestos, serpentinite, or ultramafic rock is discovered during grading operations, Section 93105, Title 17, of the California Code of Regulations requires notification to the Antelope Valley Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).

Valley Fever

Valley Fever described in more detail in the Air Quality section of this document, Section 2.2.6. There are measures that can be implemented to lower the incidence of infection and also reduce the numbers of spores inhaled, thereby decreasing the chances of developing a more serious form of the disease. These measures include dust control and prevention, use of dust masks with appropriate filters, use of construction equipment with enclosed, air-conditioned cabs, and/or positioning of construction workers upwind when possible. These types of measures are included in project features PF-AQ-1, PF-AQ-2 and minimization measure AQ-2, AQ-3, AQ-6, AQ-7, and AQ-8.

Noise

Noise impacts from construction of the proposed project are a function of the noise generated by construction equipment, the location and sensitivity of nearby receptors, and the timing and duration of noise-generating activities.

Because the construction of the proposed project would be conducted over an approximately 24-month period, noise from construction activities may intermittently dominate the noise environment in the area immediately surrounding the project. Caltrans' contractors are required to abide by Caltrans Standard Specifications, which state that noise levels generated during construction must comply with all applicable local, State, and federal regulations, and that all equipment must be fitted with adequate mufflers according to the manufacturers' specifications.

Construction noise levels typically vary depending on the nature of the specific activities underway. Each construction activity generates its own noise characteristics resulting from the mix of construction equipment involved and the related work activity. The loudest construction noise levels are expected to result from demolition of the sides (rails) of the bridge structures and construction of the substructure and superstructure improvements. These activities involve the largest number of construction vehicles/equipment and equipment having the greatest noise-generating characteristics.

Table 2.4-2 summarizes the noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 decibels (dB) at a distance of 50 feet, and noise produced by construction equipment would be reduced below that at a rate of about 6 dB per doubling of distance. Therefore, at 100 feet, noise levels would range between 64 dB and 84 dB. The nearest residential receptors are adjacent to Avenue N, approximately 40 feet southwest of the bridge. South of Avenue N, residential receptors between 13th Street West and 18th Street West are located approximately 250 to 2,000 feet away.

Table 2.4-2 Typical Construction Equipment Noise

Equipment Description	L_{max} Noise Limit at 50 feet, dB	Equipment Description	L_{max} Noise Limit at 50 feet, dB
Auger drill rig	85	Gradall	85
Backhoe	80	Grader	85
Bar Bender	80	Horizontal boring hydraulic jack	80
Blasting	94	Hydra break ram	90
Boring jack power unit	80	Impact pile driver (diesel or drop)	95
Chain saw	85	Jackhammer	85
Clam shovel	93	Mounted impact hammer (hoe ram)	90
Compactor (ground)	80	Paver	85
Compressor (air)	80	Pickup truck	55
Concrete batch plant	83	Pneumatic tools	85
Concrete mixer truck	85	Pumps	77
Concrete pump truck	82	Rock drill	85
Concrete saw	90	Scraper	85
Crane (mobile or stationary)	85	Slurry Plant	78
Dozer	85	Slurry trenching machine	82
Dump truck	84	Soil mix drill rig	80
Excavator	85	Tractor	84
Flatbed truck	84	Vacuum street sweeper	80
Front-end loader	80	Vibratory concrete mixer	80
Generator (25 kVA or less)	70	Vibratory pile driver	95
Generator (more than 25 kVA)	82	Welder/Torch	73

Source: Federal Highway Administration (2006).
dB = decibels kVA = kilovolt-amperes L_{max} = maximum instantaneous noise level

Implementation of Project Feature PF-NOI-1 and compliance with measures NOI-1 to NOI-6 would control noise during project construction.

Biological Resources

The project is expected to have only minimal impacts to biological resources due to the limits of the project, scope of work, and the environmental setting. All work would be limited to the Caltrans right-of-way, and within the designated Temporary Construction Easement (T.C.E.) Zones located within 25 ft. north or south of Avenue N, and 25 ft. outside of existing Right of Way adjacent to the existing on/off ramps. No grading or construction would be allowed outside of the designated T.C.E. zones.

Temporary impacts associated with construction include increased noise, increased human activity, increased dust, ground disturbance (vibrations), and light disturbance. These temporary impacts during construction could cause habitats within and adjacent to construction zones to be temporarily unattractive to wildlife species.

There are no critical habitats or natural communities of special concern within the Biological Study Area (BSA); therefore, no impacts to special habitats or natural communities would occur with the implementation of the proposed project. All plant surveys within the BSA were negative for California Native Plants Society (CNPS) rare plants and/or California Natural Diversity Database (CNDDB) listed plants. The biological condition of the adjacent undeveloped open desert habitat within the project footprint is heavily disturbed.

According to CNDDB and United States Fish and Wildlife Service (USFWS) IPaC the following animals have the potential to occur within the area; Mohave Ground Squirrel, Burrowing Owl, Least Bell's Vireo, Swainson's Hank, California Condor and Desert Tortoise. No special status species were observed within the BSA during surveys and suitable habitat is not present for any of these species; none are expected to occur and no impacts to special status species are anticipated.

Removal of vegetation could result in the loss of nesting habitat for sensitive or migratory bird species. Impacts would be avoided through the use of Avoidance and Minimization Measures.

Any impacts to nesting migratory birds will be protected by implementation of the M.B.T.A., pre-construction nesting bird surveys and inclusion of Specification 14-6.03B; bird protection.

Vegetation removal will occur where the new roundabout is to be constructed. Currently there is only minimal vegetation within the existing on/off ramps, with no state, federal or locally protected plants species. All locations contain mostly non-native and disturbance-oriented vegetation; therefore, mostly only disturbance-oriented vegetation will be impacted. Nesting bird surveys will be conducted 5-7 days prior to construction should vegetation removal occur during the bird nesting season (February 1st through September 30th).

Two Joshua Trees occur within the project footprint. These trees are protected under CESA and by the City of Palmdale City Ordinance. Any impacted trees must be mitigated with replacement at a minimum of 3:1 ratio. Potential relocation could occur within the new roundabout where no traffic or future impacts are expected.

2.4.3 Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures identified in each topical section in this document would serve to minimize construction impacts.

2.5 Cumulative Impacts

2.5.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the NEPA can be found at 40 CFR 1508.7.

Methodology

The Cumulative Impacts Analysis for the Avenue N Improvement Project was conducted in accordance with the Caltrans' *Guidance for Preparers of Cumulative Impact Analysis* (Caltrans June 2005). Analysis follows the eight-step approach for developing a Cumulative Impact Analysis:

1. Identify resources to consider in the Cumulative Impact Analysis
2. Define the study area for reach resource
3. Describe the current health and historical context for each resource
4. Identify direct and indirect impacts of the proposed project that might contribute to a cumulative impact

5. Identify other reasonably foreseeable actions that affect each resource
6. Assess potential cumulative impacts
7. Report the results
8. Assess the need for mitigation

As specified in Caltrans' guidance, if the proposed project would not by itself result in a substantial direct or indirect impact on a resource, it would not make a considerable contribution to a cumulative impact on that resource. A significant cumulative project impact would occur only where the cumulative impact on the resource was significant and the project substantially contributed to that impact. This Cumulative Impact Analysis includes resources that are substantially affected by the project.

2.5.2 Affected Environment

Cumulative impacts identified for the proposed project result from the past, present, and foreseeable future actions within Palmdale and the Antelope Valley communities of Los Angeles County. The affected environment for each of these resources has been previously discussed in the respective portions of Chapter 2.

Table 2.5-1 Cumulative Projects

No.	Project Title	Project Description	Lead Agency	Project Status
Transportation Projects				
1	California High Speed Train System	The California High-Speed Rail Authority proposes a train system capable of operating at speeds of more than 125 miles-per-hour serving the major metropolitan centers of California. Project segments relevant to the proposed project include Bakersfield to Palmdale and Palmdale to Los Angeles.	California High-Speed Rail Authority and Federal Railroad Administration	The Bakersfield to Palmdale and Palmdale to Los Angeles segments are in environmental review. The statewide EIR/EIS was finalized and the Record of Decision published in November 2005.
2	High Desert Corridor	The proposed 63-mile west-east facility would provide route continuity and relieve traffic congestion between SR-14 in Los Angeles County and SR-18 and I-15 in San Bernardino County.	Caltrans	The Final EIR/EIS was certified in June 2016.
3	Transit Oriented Development Land Use Framework Plan	The project will evaluate land uses and modes of transportation to prepare a plan to provide multimodal connectivity near the Palmdale Transportation Center and future California High-Speed Rail Station. The project area boundaries include Rancho Vista Boulevard (north), SR-138 (Palmdale Boulevard) (south), SR-14 (west), and 10th Street East (east). The project area also includes Palmdale Regional Airport, located approximately 1-mile northeast of the Palmdale Transportation Center.	City of Palmdale	The EIR has been prepared and adopted as of January 2018.
4	Palmdale Station Area Plan	The City of Palmdale is undertaking station area planning around a future High-Speed Rail Multi-Modal Station near the Vicinity of Downtown Palmdale. The study area for this effort is bound by Rancho Vista Boulevard to the north, Avenue R to the south, SR 14 to the west and 15th Street to the east.	City of Palmdale	Project is currently under environmental review.
5	State Route 138 Improvements Project	The project will widen State Route 138 (Palmdale Boulevard) between 5th Street East and 10th Street East from two lanes to three lanes in each direction, a distance of 0.5 mile. Additionally, the project proposes to widen Sierra Highway from two lanes to three lanes in each direction between Avenue R and a point 500 feet south of Avenue Q, a distance of approximately 0.9 mile.	Caltrans	Final Initial Study/Environmental Assessment with Mitigated Negative Declaration and Findings of No Significant Impact signed December 2017

6	Avenue M Interchange Improvement Project	The project will upgrade the interchange at State Route 14/Avenue M and widen the existing roadway (Avenue M) and over-crossing. The proposed project will provide bike access, sidewalks and modify existing intersections.	Caltrans	Final Initial Study/Mitigated Negative Declaration signed June 2018.
7	Avenue J Interchange Improvement Project	The proposed SR-14 (SR-138)/Avenue J Interchange Improvements project proposes to improve capacity at the existing interchange and local roadway operations on Avenue J between 15th Street West and 25th Street West. The proposed project will help reduce congestion, enhance operational capacity, improve local circulation of traffic, improve wayfinding, and provide multimodal facilities in the form of bikeways and sidewalks.	Caltrans	Draft Initial Study/Proposed Mitigated Negative Declaration is expected 4th Quarter 2018.
8	Avenue K Interchange Improvement Project	The proposed SR-14 interchange project will modify the geometry and capacity of Avenue K and SR-14. The purpose of the project is to improve operational capacity at the interchange and surrounding local streets, alleviating projected congestion and bottlenecks, while improving way-finding and multi-modal operation.	Caltrans	Draft Initial Study/Proposed Mitigated Negative Declaration is expected 4th Quarter 2018.
Other Development Projects				
9	Palmdale Energy Project (formerly Palmdale Hybrid Power Project)	The 700-megawatt Palmdale Energy Project electric generating facility is located near Palmdale Regional Airport, 0.33 mile south of Avenue M, east of Sierra Highway, adjacent to Air Force Plant 42. This hybrid facility would use a natural-gas-fired combined-cycle plant technology.	City of Palmdale	In April 2018, project received final permit decision for conditional approval from the EPA for the construction of the project.
10	Self-Storage Facility	The Project site consists of 4.16 acres of vacant undeveloped land located southeast of the intersection of Sierra Highway and Avenue R-8, occupying the east side of Sierra Highway and the west side of 10th Street East. The Project site encompasses a small portion of the southwest quarter of Section 35, Township 6 North, Range 12 West.	City of Palmdale	Project Initial Study/MND prepared June 2018

Sources:

1- Federal Railroad Administration, California High-Speed Train System - Record of Decision, November 2005
2- California Department of Transportation, High Desert Corridor Project EIR/EIS, June 2016
3- City of Palmdale Staff Report to the Planning Commission regarding Project No: Palmdale Transit Oriented Development Framework Plan EIR, January 2018
4- City of Palmdale, Palmdale High-Speed Rail Station Area Plan Fact Sheet, No Date

5- California Department of Transportation, State Route 138 Improvements Project Initial Study with MND and EA with Findings of No Significant Impact, December 2017
6- California Department of Transportation, Avenue M Interchange Improvements Project Initial Study with MND, June 2018
7- California Department of Transportation, Avenue J Interchange Improvements Project Initial Study with MND, 2018
8- California Department of Transportation, Avenue K Interchange Improvements Project Initial Study with MND, 2018
9- US Environmental Protection Agency, Final permit Decision for Palmdale Energy Project, April 2018 \
10- Meridian Consultants, Palmdale Self-Storage Initial Study/MND, June 2018

The following sections have been analyzed for potential cumulative impacts; however, the project would not result in significant adverse impacts:

- Community Impacts – Relocation and Property Acquisition
- Visual/Aesthetics
- Biological Resources

Analyses of potential cumulative impacts for these resources are presented below. The affected environment for each of these resources has been described in previous sections. This analysis focuses on the cumulative impacts of the Build Alternative.

Community Impacts – Relocation and Property Acquisition

The community study area was defined as the area within a 0.5-mile radius of the project footprint. Data was collected from the four census block groups within the study area. Census data was collected for both the City of Palmdale and Los Angeles County in order to compare the study area characteristics with the overall regional characteristics. Most of the land along this section of Avenue N consists of large vacant lots, single family homes on large lots, and a few small businesses. Existing land uses within the project vicinity include law offices, offices for the Girl Scouts of greater Los Angeles-Palmdale, medical offices (dentists, urgent care, chiropractic), hair salons, offices for the Los Angeles Farm Bureau, accountants, realtors, a self-storage facility, and a church.

Approval of the Build Alternative would require approximately 16 partial acquisitions and 2 full acquisitions of vacant lands, as well as up to 33 temporary construction easements; the partial acquisitions are generally just slivers of properties immediately adjacent to Ave N. Many of the projects listed in Table 2.5-1 would also require property acquisitions. The largest of these, the High Desert Corridor, would require 131 residential unit relocations, 22 commercial business relocations, 23 industrial relocations, 10 non-profit relocations, and 11 agricultural relocations (Draft Relocation Impact Report, Caltrans, 2014); many of these would be within the western portion of the City of Palmdale. Acquisitions for the High Desert Corridor project alone have the potential to affect the character of the local community. The proposed project's contribution to this impact, however, would be minimal. Thus, the proposed project would not make a considerable contribution to cumulative impacts related to relocation and property acquisition.

Visual/Aesthetics

Much of the new development in Palmdale and the greater Antelope Valley will increase the number of structures and the amount of paved surface and will result in an overall increase in density of development. The projects mentioned in Table 2.5-1 (High Desert Corridor, High-

Speed Train, development in the station area, and improvements along Palmdale Boulevard) will all contribute to this affect. Increased traffic on SR-14 and along Avenue N will add to the perception of a high-density urban environment.

The Build Alternative would result in an expanded Right-of-Way, which would add additional hardscaping to the area and proposed soundwalls. To the extent feasible, the existing landscape would be preserved and any temporary disturbances to vegetation would be replaced. The new hardscaping would not be created in previously undisturbed areas but would be adjacent to existing paved surfaces, thus reducing the overall visual impact. The proposed project would not substantially change the existing views of the project area except for those residents with proposed soundwalls, their views of Avenue N would be blocked; in addition, none of the related projects identified in Table 2.5-1 would be visible from the project area. The aesthetic features incorporated as a result of the proposed project would improve and modernize the overall aesthetics of the project area, and the improvements are compatible with ongoing neighborhood and city development plans. Based on the information and analysis above, cumulative impacts related to visual and aesthetic resources are not anticipated.

Biological Resources

The impacts to biological resources from this project will be minimal due to the current environmental conditions of the project footprint and surrounding habitat. Palmdale and the surrounding Antelope Valley have been impacted heavily by recent and historical development; as well as historic attempts to cultivate this region for agricultural purposes. Small patches of semi-pristine Mojave Desert habitat exist in isolated zones and plots throughout the Palmdale, Lancaster and surrounding desert towns.

Impacts on biological resources in the project vicinity include loss of habitat from increased urban development, utility construction, and other road and highway improvements identified in Table 2.5-1. However, cumulative impacts on wildlife resources in the project area would be less than significant because no substantial wildlife resources now exist in the area. Since the small amount of wildlife habitat near the road that would be impacted by the proposed project is low quality habitat for the sensitive species that could inhabit the area, the level of disturbance would not change substantially over time. The incremental contribution of the proposed project to the cumulative effects would not be considerable with implementation of the proposed avoidance and minimization measures listed in Chapter 2.3 Biological Environment. When analyzed collectively with related projects in and around the City of Palmdale, the project would not provide a considerable contribution to cumulative effects on Biological Resources if avoidance and minimization measures are implemented.

Resources not Substantially Affected by Cumulative Impacts

The following resources and issues would not contribute to cumulatively considerable impacts:

Land Use and Planning: The Build Alternative is consistent with local and regional land use and transportation plans. Only a minor amount of acquisitions would necessitate the conversation of adjacent land uses to transportation. No changes to City or County land use designations would occur. The proposed project would not prevent the City or County from developing their future land use plans. Project implementation would not divide neighborhoods or cut off any dependent land uses from each other. The proposed project would not contribute to any cumulative land use impacts.

Noise: Ambient noise in the area is a result of vehicle traffic on major transportation routes such as Avenue N. Based on cumulative traffic volumes anticipated in the Year 2040, including the contribution of the proposed project, noise levels are expected to increase on average from 60 - 72. Traffic from future projects, such as those identified in Table 2.2-16, are included in those estimates. This cumulative increase in ambient noise levels would not exceed relevant CEQA significance determinations, nor would they violate any federal Noise Abatement Criteria.

The Build Alternative would contribute approximately 0-3 dB, (Table 2.2-16) to the cumulative year 2040 ambient noise levels in the project area. An increase of 5 dB is generally perceivable in a noisy environment such as Avenue N, this Build Alternative and the associated avoidance and minimization, would not make a considerable contribution to cumulative noise impacts when combined with related projects in the area. The contribution of this project to cumulative noise impacts will further reduced by the addition of soundwalls at four locations (see Section 2.2.7 Noise).

Hydrology and Water Quality: Much of the project area is already developed with a well-established drainage system. Existing facilities can be assumed to be able to capture the runoff from precipitation and convey that runoff to an existing drainage channel. Any planned, approved, and reasonably foreseeable development in the project area would incrementally increase the amount of impervious surface and decrease the amount of groundwater recharge. The impacts of this cumulative development on the local surface and subsurface hydrology would be less than significant.

Build Alternative drainage facilities would be consistent with existing conditions and facilities at the site. Impervious surface area in the project area would increase by approximately 6 acres, resulting in negligible changes in volumes of runoff and groundwater infiltration. Similar projects in the surrounding area may also experience changes in volumes of runoff and groundwater infiltration, due to an increase of impervious surfaces, but these changes would be negligible. Therefore, these projects would not have a considerable contribution to cumulative impacts.

Environmental Justice: Minority or low-income populations are not disproportionately affected by project approval. Therefore, the project would not substantially contribute to cumulative impacts on environmental justice. The proposed project would have temporary impacts associated with issues such as noise, dust, construction traffic, and truck traffic along the detour routes during the construction period. These impacts would be temporary and can be avoided and minimized with implementation of Best Management Practices (BMPs), such as those included in the Traffic Management Plan (TMP), which would ensure that traffic impacts would be minimized during construction. The proposed project would enhance safety by providing several improvements including upgrading traffic signal operations, adding pedestrian sidewalks and crossings to provide safe channelization, ensuring pedestrian features incorporate current ADA standards. Similar projects in the region would also benefit the community by improving overall mobility and relieving congestion. Minority and low-income populations are anticipated to have equal access to the improvement benefits provided by all the projects in the region listed on Table 2.5-1. As a result, no cumulative effects are anticipated for this resource.

Cultural Resources: It is unlikely that construction of the Build Alternative would result in the discovery of previously unknown cultural resources as there are no previously recorded cultural resources in the project area. However, should any cultural resources be unearthed, the proper measures (PF-CUL-1 and PF-CUL-2) would be implemented. Therefore, the project would not contribute to cumulative impacts on cultural resources.

Geology/Soils/Seismicity/Topography: Implementation of Caltrans' Seismic Design Criteria (SDC) would reduce potential impacts on project infrastructure from seismic events. The project site is also located outside of the zones subject to flooding and liquefaction, as depicted in Figure 2.2-4 and Figure 2.2.-5 in Chapter 2.2.3. Due to the deep groundwater level and the very dense soil conditions, liquefaction potential does not exist at the project site. Therefore, no significant impacts are anticipated to occur on the project site. Similar projects in the area listed in Table 2.5-1 have also implemented Caltrans' SDC to protect project infrastructure from potential impacts of seismic events. Therefore, the projects in this region would not have considerable cumulative effects to geologic or topographic conditions.

Utilities and Emergency Services: Only temporary construction related impacts are expected on utilities and emergency services. A limited number of utilities would be impacted, and the impact would be less than significant after coordination with utility owners. All construction related impacts on traffic would be temporary in nature and implementing a Traffic Management Plan during construction would minimize temporary construction impacts on emergency services. The selected Build Alternative would have no permanent impacts on utilities, and by improving traffic efficiencies, would benefit emergency services. Similar projects in the City of Palmdale may also require temporary construction related impacts on utilities and emergency

services. These projects would have a Traffic Management Plan in place to minimize temporary construction impacts. Cumulative effects on utilities and emergency services are not anticipated.

Traffic and Transportation/Pedestrian and Bicycle Facilities: The Build Alternative would improve traffic circulation as well as include pedestrian and bicycle facilities along the project alignment. Project elements would improve the existing transportation system and therefore not contribute to adverse cumulative impacts. Many of the projects listed in Table 2.5-1 have similar goals of improving transportation facilities in Palmdale and Lancaster. The Antelope Valley is projected to experience population growth, and the purpose of these projects is to meet the increase in traffic and safety demands of vehicles, pedestrians, and bicyclists. As a result, these projects would not contribute to cumulative impacts on these resources.

Hazardous Wastes or Materials: Although the project will produce limited amounts of hazardous materials, these quantities are limited, and their presence would be temporary. After disposal at appropriate disposal facilities during construction, the project would not further contribute to the production of hazardous materials. Hence, no significant impact on regional hazardous materials are expected. Similar projects in the area use the same methods when handling and disposing of hazardous waste material. Therefore, the culmination of these projects would not contribute to cumulative impacts since the projects would not add to hazardous waste streams once the project is complete.

Air Quality: The proposed project is in the desert portion of Los Angeles County under the jurisdiction of AVAQMD, which is an air district within the SCAG region. While the majority of the SCAG region is currently in nonattainment or maintenance of the federal PM2.5, PM10, and ozone standards, the project site is in attainment of these standards. A cumulative impact analysis was conducted for the 2016 RTP/SCS. The results indicate that the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is designated nonattainment because the projected long-term emissions are in alignment with local AQMPs/ SIPs. No changes in the mix of vehicles or addition of new sources of air pollutant emissions are expected as a result of project approval. The improved system efficiency and reduced traffic congestion would increase mobility and reduce vehicle emissions associated with idling. Future air pollutant emissions of the Build Alternative are projected to improve, relative to the existing conditions. Similar projects in the area are also intended to decrease future traffic congestion and increase mobility. The cumulative effect of these projects would be to reduce future air pollutant emissions when compared to current conditions. These projects would not contribute to cumulative impacts on air quality.

2.5.3 Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures identified in each topical section in this document would serve to minimize cumulative impacts to the extent feasible. As each project is evaluated for environmental impacts, project-specific avoidance and minimization measures would apply, which would reduce the cumulative impacts.

Chapter 3 – California Environmental Quality Act (CEQA) Evaluation

3.1 Determining Significance under CEQA

The proposed project is a joint project by the California Department of Transportation (Department) and the Federal Highway Administration (FHWA) and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 United States Code Section 327 (23 USC 327) and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA. One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, significance is used to determine whether an EIS, or a lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

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

3.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects 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, not NEPA, 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 project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2.

3.1.1 Aesthetics

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

Environmental Setting

Please refer to Chapter 2.1.5 Visual/Aesthetics for a discussion of Aesthetic project setting.

CEQA Significance Determinations for Aesthetics

a.) Have a substantial adverse effect on a scenic vista?

No Impact - The proposed project would not have a substantial adverse effect on a scenic vista because there are no scenic vistas located near the project.

b.) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact – The proposed project would not substantially degrade scenic resources because the project area is not located within a state scenic highway.

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

Less than Significant – The main visual changes brought about by the Avenue N Widening and Interchange Project would be short term and limited in nature. As the overall physical improvement of the City results in formalized landscapes with sidewalks, curb and gutter design, and increased intersection regulation, the change in visual character of Avenue N will be

necessary to maintain context sensitivity with the surrounding growth. The Build Alternative would result in the formalizing of the road edges, and creation of new visual landmarks; raised medians and the roundabouts. Overall visual impacts of the project are moderate.

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

Less than Significant Impact – Minimization measures will be implemented to address less than significant impacts. Measures that will be included in this project include the installation of full cut-off fixtures that will direct light downward toward the roadway (VIS-3) and glare minimization (VIS-4). Therefore, the proposed project would not create a new source of substantial light or glare which would affect daytime or nighttime views in the area.

3.1.2 Agriculture and Forest Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Environmental Setting

The California Environmental Quality Act (CEQA) requires a review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses. There are no agricultural or forestry resources located in the vicinity of the project.

CEQA Significance Determinations for Agriculture and Forest Resources

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?

No Impact – The proposed project does not include any area that has been designated Prime Farmland, Unique Farmland, or Farmland of Statewide Significance.

b.) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact – The project area does not include land zoned for agricultural use therefore, there is no land subject to 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))?

No Impact – There are no lands zoned for forest land, timberland or Timberland Production within the project area.

d.) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact – The proposed project will not result in the loss of forest land or conversion of forest land to non-forest use because there is no forest land in the project vicinity.

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?

No Impact – There are no farmlands nor forest lands near the project.

3.1.3 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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

CEQA Significance Determinations for Air Quality

a) Conflict with or obstruct implementation of the applicable air quality plan? and,

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

Less Than Significant Impact – This project is situated in the City of Palmdale and in unincorporated Los Angeles County. This region falls within the Mojave Desert Air Basin, which is regulated in part by the Antelope Valley Air Quality Management District (AVAQMD). The project area is currently in nonattainment for ozone (O3) (federal, state) and Respirable Particulate Matter (PM10) (state only). The project area is attainment or unclassifiable in Fine Particulate Matter (PM2.5), Carbon Monoxide (CO), Nitrogen Dioxide (NO2), Sulfur Dioxide (SO2), Lead (Pb), Visibility-Reducing Particles, Sulfates, and Hydrogen Sulfide. When a project takes place in an area of nonattainment, a hot spot analysis is required under 40 CFR 93.109.The proposed project is listed in the Southern California Association of Governments (SCAG) financially constrained list of projects in the 2016 Regional Transportation

Plan/Sustainable Communities Strategy (RTP/SCS) and was found to conform to the State Implementation Plan (SIP) on April 7, 2016 and to conform by FHWA and the Federal Transit Administration (FTA) on June 1, 2016. The project is also listed in SCAG's financially constrained 2019 FTIP Amendment #19-01 under Project ID LA0G898. This FTIP Amendment was determined to conform by FHWA and FTA on December 1, 2018.

A request for an amendment was submitted to SCAG to amend the project description in the currently conforming 2016 RTP/SCS and 2019 FTIP to match the current project description. The proposed project is successfully amended into the SCAG's financially constrained 2019 FTIP Amendment #1-9 and 2016 RTP Amendment #3 (see Appendix D). The project design concept and scope have not changed significantly from those identified in the latest conforming regional emission analysis; and is therefore considered to have satisfactorily demonstrated the conformity requirements. The proposed project is considered to have satisfied regional conformity requirements, and no long-term avoidance, minimization, or mitigation will be required. The project is not anticipated to cause or contribute to any new violation of state or federal standards of the specified pollutants.

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)?

Less Than Significant Impact – A cumulative impact analysis was conducted for projects within the 2016 RTP/SCS, which did not result in a cumulatively considerable net increase of any nonattainment pollutants. The projected long-term emissions comply with local AQMPs/SIPs.

d.) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact – There are two sensitive receptor categories near the site; Antelope Valley Urgent Care is 100 ft away from the project site, and multiple single-family homes are between 60 and 500 ft of the project site. During construction, minimization measures will be implemented to reduce the effects upon sensitive receptors, including dust-reducing measures, proper upkeep of equipment and vehicles, use of low-sulfur fuel, and storage of equipment and materials at least 500 feet from sensitive receptors. Designation of areas at least 500 feet around receptors will be established, within which idling, material storage, and equipment maintenance will be prohibited as feasible.

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

Less Than Significant Impact – The use of diesel-powered equipment and off-gas emissions from road-building activities may generate some objectionable odors during project construction, which will be temporary and limited to the project site. These odors can be minimized by

conducting certain construction activities at least 500 feet away from the sensitive receptors when feasible. Compliance with AVAQMD 1113 will limit the amount of VOC emissions from paving, asphalt, cement curing, and cement coating operations. Project Features PF-AQ-1 to PF-AQ-4 and PF-AQ-6 as well as avoidance and minimization measures AQ-1 through AQ-9 will help reduce construction-related emissions, thereby also reducing any diesel odors generated.

3.1.4 Biological Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

CEQA Significance Determinations for Biological Resources

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?, and

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? and

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?, and

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?, and

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?, and

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?

Less Than Significant Impact – The Biological Study Area (BSA) for this project encompasses the project site and includes a buffer of 100 feet in each direction. The project falls within a rural area of the Antelope Valley that contains a mix of developed commercial and residential land that is populated primarily by disturbed and ruderal vegetation. The BSA does not include any pristine habitat, but contains some disturbed native desert plant communities, including disturbed Joshua tree woodland, creosote bush scrub, sagebrush scrub, desert chaparral, saltbrush shadscale/winterfat shrubland, and native grasslands. Due to ongoing disturbance, at least 30% of the project area is occupied by ruderal and invasive species, with higher occupation rates alongside roads and developed areas. This level of disturbance limits habitat value for wildlife species within the present desert plant communities. The project is located in an area governed by a habitat conservation plan known as the West Mojave Plan; however, the proposed project does not conflict with the plan. The NES-MI (January 2019) prepared for this project states that no critical habitats or natural communities of special concern are located within the BSA.

Special-status plants and animals, including those listed as threatened or endangered under the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA), CDFW species of special concern, USFWS candidate species, and California Native Plant

Society (CNPS) rare and endangered plants were reviewed for the project area. To find potential special-status species, the California Natural Diversity Database (CNDDB), the USFWS IPaC website, and the Calflora website were referenced, and several species-specific field surveys were conducted for Joshua Trees, Mohave Ground Squirrels, rare plants, and Burrowing Owls.

Six special-status plant species and five special-status animal species were identified as having potential to occur in or near the project site. Of these species, two plant species and three animal species were indicated as having potential habitat within the project area or the area adjacent to the project (listed in table below); other species with potential for presence in the project area are discussed in Chapter 2. However, none of these species were found during field surveys, and they are not anticipated to be present within the BSA. If any listed or protected plant or animal species are discovered, all work must stop, and the Caltrans District Biologist must be contacted. No work shall continue until coordination with USFWS and/or CDFW has been undertaken and a protection plan implemented.

Common Name (*Scientific name*)	**Status**	**General Habitat Description**	**Habitat: Potential /Absent**	**Conclusion and Rationale**
Desert Tortoise (Gopherus agassazii)	USFWS-T CDFW-n/a	Mojave Desert	Present/ Disturbed	General habitat for this species is present within the project quadrangle. However, the habitat within the project footprint is highly degraded and no signs of burrows were observed.
Mohave Ground Squirrel (*Xerospermophillus mohavensis*)	USFWS-n/a CDFW- T	Wide range of flat or mountainous, largely open habitats	Absent	General habitat for this species is present within the project quadrangle. However, no habitat was observed within the project area during field surveys. The species is not expected to be present within the project area.
Swainson's Hawk (*Buteo swainsoni*)	USFWS-n/a CDFW-T	Sage flats, open fields, low hills, fallow agriculture fields	Absent	General habitat for this species is present within the adjacent project area. However, no habitat was observed within the project area during field surveys. The species is not expected to be present within the project area.

Common Name (*Scientific name*)	**Status**	**General Habitat Description**	**Habitat: Potential /Absent**	**Conclusion and Rationale**
Lancaster Milk Vetch (Astragalus preussil var.laxiflorus)	CNPS List 1B.1	Shadscale scrub	Present	The habitat for this species is present within the project footprint. Species was not observed during rare plant surveys in 2015 and 2018. Species has low potential to occur due to declining habitat. Not observed within 5-mile radius. Last observations at Edwards AFB in 1992.
Sagebrush Loeflingia (Loeflingia squarrosa)	CNPS/CNDDB List 2B.2	Sand, gravel of hills, mesas and dunes	Present	General vegetation community for this species is present within the project quadrangle. However, no suitable habitat(s) were observed within the project area during field surveys. The species is not expected to be present within the project area.

CNPS List: California Native Plant Society - List Rare Plant Rank
DFW-E: California Dept. of Fish & Wildlife - Endangered
DFW-T: California Dept. of Fish & Wildlife -Threatened
DFW - SSC. California Dept. of Fish & Wildlife - Species of Special Concern
FWS-E: U.S. Fish & Wildlife - Endangered
FWS-T: U.S. Fish & Wildlife -Threatened
FWS - SSC. Fish & Wildlife - Species of Special Concern

The Antelope Valley Area Plan (AVAP) states in its Conservation and Open Space chapter that sensitive habitats and species should be protected to promote biodiversity; this includes Joshua Tree woodlands (AVAP Policy COS 4.2). Although there is no continuous Joshua Tree woodland within the project area, there are several dispersed Joshua Trees present within a 100-foot buffer of the project footprint. Of these trees, two are located within the project footprint and are under Los Angeles County jurisdiction. Environmentally Sensitive Area (ESA) fencing must be installed around these trees during construction. If impacts to these two trees cannot be avoided, measures should be taken to relocate the trees, potentially integrating them into the new roundabout design, where future impacts will be very unlikely. If relocation is not feasible, the trees must be replaced at a 3:1 minimum ratio through an In-Lieu-Fee agreement with a local conservancy.

Hydrological features within the BSA are limited to two man-made drainages and a concrete box-channel to the west of the highway. The westernmost drainage is classified as a riverine wetland by the National Wetlands Inventory Wetlands Mapper. None of these drainages are connected to storm water drainages or watersheds. The unpaved drainages dead-end in open desert, and the box channel terminates in a detention basin near Rosamond Dry Lake. Because there is no connection to the nearby watershed (Lake Palmdale), there is no federal nexus for this project, and the drainages are not subject to USACE jurisdiction.

Coordination with the California Department of Fish and Wildlife (CDFW) was initiated in June 2018 to determine if the project would impact CDFW resources. The concrete box channel will be partially covered within the project area by the new roundabout. Although its original stream flow will not be altered by this new construction, an impact to State Waters would require a 1602 permit from the CDFW's Lake and Streambed Alteration (LSA) Agreement Program. Additionally, the drainage designated as Riverine Wetland may also be impacted by the widening of Avenue N West. The change will not affect the functionality of the drainage, but may qualify as an impact to State Waters, and will also require a 1602 LSA permit.

Contact was made with the Regional Water Quality Control Board (RWQCB) of Lahontan Region 6 to determine whether a 401 permit would be required. The permit is not necessary for this project, but a Storm Water Pollution Prevention Plan and appropriate post-construction Best Management Practices were required.

During construction, to minimize effects upon the drainages, the appropriate Stormwater and Erosion Control BMPs will be incorporated into the project specifications. The drain inlets and outlets will be protected to prevent construction materials and debris from entering drainages. Furthermore, Temporary Construction BMPs will be utilized, including wind erosion control, sediment tracking control, street sweeping and vacuuming, stabilized construction roadway, spill prevention control, solid waste management, hazardous waste management, sanitary/septic waste management, material delivery and storage, material use, vehicle and equipment cleaning, vehicle and equipment fueling, and vehicle maintenance.

As discussed above, no fish or riparian species were found to be present within the project footprint; therefore, no impacts are anticipated to species in or near the drainages.

There is potential for noise impacts to nesting migratory birds during the nesting bird season; to prevent these impacts, nesting bird surveys will be conducted two weeks prior to construction, and potential exclusionary devices and methods may be considered. If any nesting songbirds or raptors are found within the project footprint or BSA, a nesting bird buffer zone of 150 feet (songbirds) or 500 feet (raptors) must be established until fledglings have left the nest.

Project features PF-BIO-1 and PF-BIO-2 along with avoidance and minimization measures NC-1, NC-2, WET-1, WET-2, PS-1 through PS-5, AS-1, TE-1, IS-1 through IS-3 will be implemented as part of the project to prevent and/or reduce biological impacts.

3.1.5 Cultural Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

CEQA Significance Determinations for Cultural Resources

Please refer to Chapter 2.1.6 Cultural Resources for a discussion of Cultural project setting.

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

No Impact – There are no historical resources as defined in §15064.5 in the project area.

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

No Impact - There are no archaeological resources as defined in §15064.5 in the project area.

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

Less than Significant Impact – The potential to encounter paleontological resources or unique geologic features in the project area is unlikely, however, in the event that paleontological resources are encountered, minimization measures PAL-1, PAL-2, and PAL-3 shall be implemented.

d.) Disturb any human remains, including those interred outside of dedicated cemeteries?

No Impact-There are no human remains expected within the project area. Proper measures would be taken to ensure the responsible handling of any remains that may be unearthed. Please refer to project features PF-CUL-1 and PF-CUL-2.

3.1.6 Geology and Soils

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Geology and Soils

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?

No Impact – The project is not located within an Alquist-Priolo Earthquake Fault Zone. There are no active or potentially active faults with the potential for rupture directly beneath the project site. Therefore, there would be no impact due to the rupture of a known earthquake fault.

ii) Strong seismic ground shaking?

Less Than Significant Impact – The project would include the modification of freeway ramps and the widening of the Avenue N overcrossing which could be affected by ground shaking due to an earthquake. However, the project would be constructed to meet current seismic design criteria and would not increase exposure to existing hazards in the area. Impacts are less than significant. Please refer to *Section 2.2.3 Geology/Soils/Seismic/Topography* for a greater discussion of ground shaking.

iii) Seismic-related ground failure, including liquefaction?

No Impact – Based on a review of the State of California Seismic Hazards Map (California Department of Conservation, 2005), the project is not located in a liquefaction zone. Please refer to *Section 2.2.3 Geology/Soils/Seismic/Topography,* Figure 2.2-5, for a map of Liquefaction Zones in the project area. Therefore, there would be no impact due to liquefaction.

iv) Landslides?

No Impact – The project site on Avenue N is located on relatively level ground, with no large adjacent slopes nearby. Additionally, the project site is not located in a seismic hazard zone with respect to seismically induced landslides. Therefore, no impact due to landslides is anticipated.

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

Less Than Significant Impact – Project construction would expose areas to the risk of erosion and loss of topsoil. However, as standard practice, stormwater BMPs would be implemented to minimize the potential for this occurring. Impacts are considered less than significant.

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?

No Impact – Please see responses to questions (a) (iii-iv) and Section 2.2.3 Geology/Soils/Seismic/Topography. There is no impact expected as a result of landslide, lateral spreading, liquefaction, or collapse.

d.) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact – The project is not located in an area known to contain expansive soils as defined in Table 18-1-B of the Uniform Building Code. No impact is expected.

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?

No Impact – The project would not include any facilities that would require the use of septic tanks or alternative waste water disposal systems. There would be no impacts.

3.1.7 Greenhouse Gas Emissions

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	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 that follows the CEQA checklist and related discussions.			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				

3.1.8 Hazards and Hazardous Materials

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

CEQA Significance Determinations for Hazards and Hazardous Materials

a.) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

No Impact – Project construction would require the use of construction materials that contain small amounts of hazardous materials (fuels, paints, solvents, etc.). *Section 2.2.4 Hazardous Waste/Materials* has identified the potential for the presence of Aerially Deposited Lead (ADL), Yellow Thermoplastic/ Paint Traffic Striping, Asbestos Containing Material (ACM), and Treated Wood Waste (TWW). All standard Best Management Practices and Standard Special Provisions will be followed for the removal and transport of materials to an appropriate disposal facility. Therefore, no impact is anticipated.

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?

Less Than Significant– *Section 2.2.5 Hazardous Waste/Materials* has identified the potential to result in the disturbance of materials that could potentially contain ADL, Yellow Thermoplastic/Paint Traffic Striping, ACM, and TWW. The project features PF-HAZ-1 through PF-HAZ-3 and minimization measures HAZ-1 through HAZ 4 would be implemented as part for the project and would ensure that the potential impacts would be less than significant:

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

No Impact – The proposed project is not located within one-quarter mile of an existing or proposed school, therefore no impact will occur. The nearest Palmdale school facilities are Highland High School (2.7 miles southwest); Hillview Middle School (2.7 miles southwest); and Esperanza Elementary School (1.9 miles southwest).

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?

No Impact – Neither the project site nor the adjoining parcels are located on the "Cortese List" of hazardous materials sites as compiled pursuant to Government Code Section 65962.5. Therefore, no impact would occur.

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?

No Impact – The project area is not located within an airport land use plan nor within two miles of a public airport or public use airport. Therefore, no safety hazard for people residing or working in the project area would occur.

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?

No Impact – The project area is not located within the vicinity of a private airstrip. Therefore, no safety hazard for people residing or working in the project area would occur.

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

Less Than Significant– As described in Section 2.1.4, Traffic and Transportation/Pedestrian and Bicycle Facilities, the construction of the proposed project would result in temporary impacts to traffic circulation and pedestrian access in the project vicinity. Those impacts could include short-term closures of ramps and modifications to the existing facilities.

The temporary closures and detours may result in short-term effects on emergency response and evacuation along and in the vicinity of the project limits and arterials in the vicinity of SR-14 and Avenue N.

Project Feature PF-T-1 requires the preparation prior to construction, and the implementation during construction of a Transportation Management Plan (TMP). Additionally, Project Feature PF-UES-2 would require coordination with emergency service providers for ramp or road closures. Collectively, these project features would specifically address requirements for coordination with emergency service providers and accommodation of emergency travel routes and access to, through, and around active construction areas. With implementation of the identified project features, potential impacts related to emergency response times and plans would be less than significant.

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?

No Impact – Most of the land surrounding the project area has been developed as residential or commercial properties. Although there are some undeveloped lands adjacent to the project, it is not located in an area that could be considered an urban-wildlands interface. Therefore, there would be no impacts

3.1.9 Hydrology and Water Quality

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or	☐	☐	☐	☒

Flood Insurance Rate Map or other flood hazard delineation map?				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

The State Water Resource Control Board and Regional Water Quality Control Boards are responsible for establishing the water quality standards (objectives and beneficial uses) required by the Clean Water Act and for regulating discharges to ensure compliance with the water quality standards. These guidelines are set forth in California's Porter-Cologne Act, enacted in 1969, that provides the legal basis for water quality regulation within California.

A Stormwater Data Report (SWDR) was completed by the Department of Transportation in October 2019. The results of the SWDR were consulted when making impact determinations regarding Hydrology and Water Quality.

CEQA Significance Determinations for Hydrology and Water Quality

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

No Impact – The project area is in shared right of way with the County of Los Angeles, City of Palmdale, and the California Department of Transportation, and regulated by the Regional Water Quality Control Board Lahontan Region. Furthermore, the project area falls within the Amargosa Creek watershed and shares no boundaries with any 303(d) listed water bodies. A thorough review of the Lahontan Basin Plan revealed that there are no special requirements and/or concerns listed by the Lahontan Regional Water Quality Control Board or local agencies in the area. Water quality within the Antelope Valley Basin, where the project lies, is generally considered satisfactory.

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)?

No Impact – Project construction would require the use of water for dust suppression activities. This use would be minimal and short term. Once operational, the project would not require the use of water. There would be no impact.

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?

No Impact – Although the proposed project does not discharge to a receiving water body, the project is still proposing the implementation of Best Management Practices (BMPs) during construction activities to reduce pollutants in the drainage channels, the carrying of sediments onto the local streets, or the removal and loss of soil. Drainage will be conveyed in a manner that mirrors the existing patterns using earth ditches and swales. Sediment will be controlled using silt fences, fiber rolls and gravel bag berms. At all access points from the construction sites to the local streets, devices will be installed to reduce the tracking of sediment onto public roads by construction equipment. Street sweeping, and vacuuming will also be used to remove tracked soil particles from paved roads to prevent the sediment from entering the drainage channels and from polluting local streets.

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?

No Impact – The existing drainage system will be maintained. A minor increase in impermeable surface area is estimated at approximately 6 acres. Drainage will be conveyed, in a manner that mirrors the existing patterns, using earth ditches and swales. Therefore, no impact is anticipated due to project implementation.

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?

No Impact – This project is anticipated to increase stormwater volumes due to an increase of impervious surface area associated with the interchange modifications. The total area of new pavement has been estimated by accumulating all proposed widening areas within the project limits. The new pavement areas within the project limits will be approximately 6 acres. Additionally, the changes to the existing topography and the street improvements will result in an increase in the velocity of flow within the project limits. However, the implementation of erosion control measures will minimize the downstream impacts.

This widening project will not discharge into unlined channels and will not increase potential sediment load of downstream flow. In addition, this project will not encroach, cross, realign or cause other hydraulic changes to a stream that may affect downstream stability.

f) Otherwise substantially degrade water quality?

No Impact – All appropriate water quality BMPs will be incorporated into the project. This project will conform to NPDES Construction General Permit (CGP) (State Water Board Order 2012-0011-DWQ) that went into effect on July 1,2012 and as amended by Order WQ 2014-0006-Exec, Order WEQ 2014-0077-DWQ, and Order WQ 2015-0036-Exec. Should a California Department of Fish and Wildlife (CDFW) "Section 1602 Streambed Alteration Agreement" be required, all conditions of that agreement will be adhered to.

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?

No Impact – No housing is proposed as part of this project. Therefore, there would be no impact.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

No Impact – No structures that would impede or redirect flood flows are proposed as part of this project. Therefore, there would be no impact.

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?

No Impact – The project is not located in area subject to flooding, nor is it in a potential inundation area of any levee or dam. No impacts would occur.

j) Inundation by seiche, tsunami, or mudflow

No Impact – The project is not located within an area subject to inundation by seiche, tsunami, or mudflow. Therefore, no impacts would occur.

Minimization Measures

Compliance with the standard requirements of the Storm Water Management Plan for potential short-term (during construction) and long-term (post-construction/maintenance) impacts (listed below in Measures WQ-1 and WQ-2) is required:

WQ-1: The proposed project will comply with the provisions of the Caltrans *National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit* (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the *NPDES General Permit for Storm*

Water Discharges of Storm water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ), and any subsequent permits in effect at the time of construction.

WQ-2: A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. It shall be prepared per the requirements stated in the *NPDES General Permit for Storm Water Discharges of Storm Water Runoff Associated with Construction Activities* and any subsequent permit in effect at the time of construction. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include the construction site Best Management Practices (BMPs) to control pollutants such as sediment control, catch basin inlet protection, construction materials management and non-storm water BMPs. All construction site BMPs shall follow the latest edition of the Caltrans *Project Planning and Design Guide* (PPDG) (2016) and Caltrans *Construction Manual* (2017). These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-storm water BMPs.

3.1.10 Land Use and Planning

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

CEQA Significance Determinations for Land Use and Planning

a) Physically divide an established community?

No Impact – The proposed project is located at the existing SR-14/Avenue N interchange and is designed to improve multi-modal transportation in the area. The proposed project would not physically divide an established community.

b.) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact – In keeping with the City of Palmdale's General Plan, the proposed project would enhance safety and increase mobility within the project area. By incorporating a bike path and pedestrian elements into the build alternative, the proposed project is consistent with the City of Palmdale's Parks, Recreation and Trails Element of the General Plan to create a full range of active and passive recreational activities to residents and visitors alike. Therefore, there would be no impact.

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

No Impact – The project is located in an area governed by a habitat conservation plan known as the West Mojave Plan; however, the proposed project does not conflict with the plan. Therefore, there would be no impact.

3.1.11 Mineral Resources

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒

CEQA Significance Determinations for Mineral Resources

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?

No Impact – No mineral resources that would be of value to the region and the residents of the state are known to occur in the vicinity of the project area. Therefore, no impact is expected.

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?

No Impact – There are no locally-important mineral resource recovery sites delineated on any local general plan, specific plan, or other land use plan in the vicinity of the project. Therefore, there would be no impact.

3.1.12 Noise

Would the project result in:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

CEQA Significance Determinations for Noise

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?

Less Than Significant Impact – When determining whether a noise impact is significant under CEQA, compare the baseline noise level and the build noise level. Under CEQA, the

assessment entails looking at the setting of the noise impact and then how large or perceptible any noise increase would be in the given area. Key considerations include: the uniqueness of the setting, the sensitivity of the noise receptors, the magnitude of the noise increase, the number of residences affected, and the absolute noise level. Any increase of 12 dBA from existing noise levels to predicted design year noise levels constitutes a significant noise impact according to Caltrans' Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects (May 2011).

The project area is largely rural and/or suburban with large single-family homes on large plots of land, light industrial areas, and some businesses. The receivers of any noise increases are primarily residences and some businesses.

The Noise Study Report (February 2019) identified twelve receivers that would be impacted by modeled future worst-hour noise levels. These modeled nose level impacts ranged from 63-72 dBA. The greatest noise level increase between existing noise levels and predicted levels under the build alternative was 9 dBA; no receivers would be exposed to noise-level increases of 12 dBA or more. An increase of 9 dBA is perceptible to the human ear but is not considered significant for the purposes of this project under CEQA.

Nevertheless, according to NEPA/23 CFR 7772 protocol, soundwalls are proposed as a noise abatement feature. These four proposed soundwalls would reduce noise levels by 6 dBA to 9 dBA and would benefit between 2 to 12 receivers. Further detail on the proposed soundwalls can be found in the NEPA Noise chapter (Section 2.2.7).

Additionally, during construction, noise levels would not expose sound receivers to significant noise levels. See question b.) for further explanation.

Therefore, under CEQA, a less than significant noise impact would occur as a result of the project and no mitigation is required.

b.) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact – Groundborne vibration typically originates from construction activities such as blasting, pile driving, and operating heavy-duty equipment. These effects are usually experienced indoors and are typically limited to a 100 ft radius around the source. Some sensitive receptors are located within 60 feet of the project footprint; however, no pile-driving or blasting is anticipated within the project footprint, and compliance with Caltrans Standard

Specifications will limit unnecessary and excessive sources of vibration. Therefore, less than significant impacts are anticipated.

c.) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact – Existing ambient noise levels between 57 and 72 dBA were measured at sensitive receiver locations. Future worst-hour noise levels for the Build Alternative were modeled between 63 and 72 dBA. The greatest increase from existing noise levels to projected future worst-hour noise levels for the Build alternative was 9 dBA. This means noise levels as a result of the proposed project would not increase more than 12 dBA, therefore, there would not be a substantial permanent increase in noise levels in the project vicinity above levels existing without the project. As discussed above in question a.), an increase of 12 dBA marks a significant increase. Therefore, there would be a less than significant impact.

d.) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant Impact – No adverse noise impacts from construction activities are anticipated because construction would be conducted in accordance with Caltrans standard specifications. Construction noise would be short-term, intermittent, and dominated by normal traffic noise. However, the following measures would be implemented to reduce construction noise impacts: revision of old equipment and designing new equipment to meet specified noise levels; in-use noise control where existing equipment is not permitted to produce noise levels in excess of specified limits; modifications of time, place, and/or method of operating particular sources; and personal training of operators and supervisors to spread awareness of construction site noise problems.

Substantial temporary or periodic adverse noise impacts from construction activities are not anticipated, as construction will be conducted in accordance with Caltrans standard specifications.

Additionally, minimization measures NOI-1 through NOI-6 would be implemented as part of the project. Therefore, there is a less than significant impact anticipated.

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?

No Impact – The project is not located within an airport land use plan. The Palmdale Regional Airport is nearby to the east of the project, but it is not within two miles. Workers and those residing in the project area will not be exposed to excessive airport-related noise impacts.

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?

No Impact – The project is not within the vicinity of a private airstrip; there will be no impacts.

3.1.13 Population and Housing

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

CEQA Significance Determinations for Population and Housing

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)?

No Impact – The area surrounding the project limits contains a mixture of housing, commercial properties, and open space. The Project would not result in the construction of new homes or businesses nor is the improved traffic flow expected to induce population growth. There would be no impact.

b.) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact– The proposed project would require a number of partial acquisitions and two full acquisitions of vacant lots. The proposed project would not require any displacements nor the construction of replacement housing. There would be no impact.

c.) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No impact – The project would not require any relocations. There would be no impact.

3.1.14 Public Services

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:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Public Services

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:

i) Fire protection?

No Impact – Fire protection for the project area is provided by the Los Angeles County Fire Department (LACFD). The closest station to the project site is LACFD Station # 129, located at 42110 6th Street West, approximately 1.5 miles northeast. Additional nearby stations include LACFD Station #136 and #24.

The project would not generate an increase in population and would not generate additional need for fire protection that would require new or altered facilities. Therefore, there would be no impact.

ii) Police protection?

No Impact – Police services are provided by the Los Angeles County Sheriff's Department (LACSD). The nearest station to the project site is located in the Michael Antonovich Antelope Valley Courthouse at 42011 4th St. W. Lancaster, CA, approximately 1.5 miles to the northeast of the Project Site.

The project would not generate an increase in population and would not generate additional need for police protection that would require new or altered facilities. Therefore, there would be no impact.

iii) Schools?

No Impact – Public education in the project area is provided by the Westside Union School District and the Antelope Valley Union High School District. The closest public schools to the project site are Esperanza Elementary School, Highland High School, Rancho Vista Elementary, and Hillview Middle School.

The project would not generate an increase in population and would not generate additional need for schools that would require new or altered facilities. Therefore, there would be no impact.

iv) Parks?

No Impact – The nearest park facilities to the project site are Forrest E. Hull Park, on 30th Street West near Avenue M, and Arnie Quinones Park, on 50th Street West near Avenue N. They are approximately 2.7 miles and 3.8 miles from the project site, respectively.

The project would not generate an increase in population and would not generate additional need for parks that would require new or altered facilities. Therefore, there would be no impact.

v) Other public facilities?

No Impact –The project would not generate an increase in population and would not generate additional need for public facilities that would require new or altered facilities. Therefore, there would be no impact.

3.1.15 Recreation

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

CEQA Significance Determinations for 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?

No Impact – As was discussed in Section 3.1.14-Public Services and in Section 2.1.1.3 Parks and Recreation, the project would not induce population growth nor substantially alter the public's ability to access these facilities. Therefore, the project would have no impact on the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

b.) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact – The project would not include recreational facilities nor require the construction or expansion of recreational facilities. There would be no impact.

3.1.16 Transportation/Traffic

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

CEQA Significance Determinations for Transportation/Traffic

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?

Less Than Significant Impact – Establishment of the Hybrid Roundabout system would not conflict with any local or regional transportation plans; on the contrary, it would bring Avenue N into compliance with the City of Palmdale's General Plan, Los Angeles County General Plan, and Caltrans Complete Streets policy. Currently, Avenue N is a two-lane local roadway, which does not fulfill the goals of either the General Plan or the Complete Streets Policy. The current bicycle facilities on Avenue N are limited to unlabeled shoulders on both eastbound and westbound lanes. Pedestrian facilities are inconsistent, sometimes consisting of paved sidewalks, and other times limited to unpaved shoulders. There is no continuous pedestrian access around the project footprint; sidewalks are limited to the eastbound side of the Avenue N overpass and the north side of westbound Avenue N. The Build Alternative would comply with the Complete Streets Policy, the County of Los Angeles General Plan, the City of Palmdale's General Plan to expand Avenue N to six lanes, incorporate a four-foot wide Class 2 bicycle lane (designated by striping and signage) and an eight-foot wide sidewalk from the SR-14 NB ramps to 10th St West, and from 17th St W to the SR-14 SB ramps; a four-foot wide Class 2 bicycle lane and six-foot wide sidewalks will be established on either side of the roadway.

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?

Less Than Significant Impact- The City of Palmdale's General Plan specifies that a LOS of C or better should be maintained on the City's roadways, with a LOS D for short periods during peak hours. The Los Angeles County General Plan specifies a LOS D or higher is desired and in some cases below LOS D is deemed acceptable.

Traffic data for the no-build and build alternatives were collected at three locations: along Avenue N from 15th St West to the SB on/off-ramps, at the Avenue N overcrossing, and along Avenue N from the NB SR-14 on/off-ramps to 10th St West. Under current conditions, during morning peak hours, all intersections except Avenue N and the NB and SB SR-14 ramps experience a LOS of ranging from F to B. The NB ramp intersection has LOS C in the right lane and LOS D in the left lane.The SB ramp intersection has LOS B in the right lane and LOS F in the left lane. During evening peak hours, the NB ramp intersection has LOS B in the right lane and LOS F in the left lane. The SB ramp intersection has LOS E in the right lane and LOS F in the left lane. See Chapter 2.1.4 for greater LOS detail and weekday AM/PM peak hour traffic volumes for existing conditions.

Under a no-build scenario, the LOS at these intersections would either remain the same or worsen, and delays would increase as transportation demand builds through the opening (2023) and horizon (2040) years. See Table 2.1-19 in Chapter 2.1.4 for the no-build predicted LOS.

Overall, under the build scenario, LOS improves. Under the build scenario, at opening year AM/PM peak hours, the LOS in the new right turn would improve to LOS A in both the SB and NB roundabouts. EB and WB turns would also operate at acceptable LOS for both roundabouts at all hours. At the horizon year, increases in transportation demand would result in a LOS F for EB morning traffic at both the NB and SB ramps onto Avenue N, and LOS E for WB evening traffic at the NB ramp onto Avenue N. Other than these traffic instances, all other intersections would experience an acceptable LOS in the horizon year. Overall, the build alternative greatly relieves congestion and would provide a higher LOS for traffic at the SR-14/Avenue N interchange in both the opening and horizon years. The proposed project would comply with the General Plans of both Los Angeles County and the City of Palmdale. The overall LOS would increase as a result of the build alternative from the existing conditions.

Between July 1, 2010 and June 30, 2015, a total of 18 collisions occurred at these two intersections. Both NB and SB SR-14 off ramps at Avenue N experienced collision rates higher than the statewide average for similar facilities. The crash characteristics of these collisions are consistent with noted transportation deficiencies associated with stop-controlled left turns from off-ramps and exiting traffic backing up into the freeway mainline. The Build Alternative will help relieve these left-turn related collisions.

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?

No Impact – This project will have no effect on air traffic patterns or traffic levels.

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

No Impact – This project will not introduce any dangerous intersections or road hazards. It will improve pedestrian and bike safety by following Complete Streets standards and will reduce hazards caused by drivers making unprotected left turns from one-way stop signs on SR-14 offramps onto Avenue N. Pedestrian and bicycle hazards would also be reduced by adding designated bicycle lanes and paved sidewalks to the project area.

e) Result in inadequate emergency access?

No Impact – The project will not impede emergency access to the surrounding area. Appropriate detours will be available during project construction. Implementation of the TMP will provide detours (PF-T-1). Additionally, consultation with emergency services will be a part of the project as outlined in PF-UES-2.

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?

No Impact – The project will not conflict with any of these facilities. The build alternative will improve the interchange's compliance with local and regional transportation policies and plans and will improve the safety and ease of access for bicycles and pedestrians.

3.1.17 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:

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	☐	☐	☐	☒

CEQA Significance Determinations for Tribal Cultural Resources

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).

No Impact-There are no resources 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). Therefore, no impacts will occur.

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.

No Impact- The NAHC did not identify the presence of any Native American cultural resources in the immediate vicinity of the APE. The NAHC consultation concluded and there were no

comments regarding the outcome of the assessment or concerns with the project. Therefore, the Project would not result in impacts to tribal cultural resources. However, the project feature (PF-CUL-2) would ensure that, should unknown tribal resources be encountered the appropriate tribes would be consulted.

3.1.18 Utilities and Service Systems

Would the project:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Utility systems will be impacted because of project construction. During construction, affected populations would have temporary utility disruptions and there would be a need for construction of replacement utility infrastructure. While utility relocation will be necessary, this will not

constitute an adverse impact. Information regarding utility relocation can be found in Chapter 2.1.3 Utilities/Emergency Services.

CEQA Significance Determinations for Utilities and Service Systems

a.) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact – As part of project implementation, no facilities that will require wastewater treatment will be constructed. Therefore, no impacts are expected.

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?

No Impact – The proposed project is a transportation project and may result in only a minimal use of water (for landscaping) and would not result in the generation of wastewater. Therefore, no impacts are expected.

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?

No Impact – Project implementation would increase impervious surface area as a result of transportation improvements and could change the topography of the project area. Modifications to the topography and impervious surface area could impact surface runoff during operation. However, no new storm water drainage facilities or expansion of existing drainage facilities will be necessitated as a result of the proposed project due to standard Best Management Practice implementation.

d.) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact – The interchange improvement project would include replacing ornamental landscaping and irrigation at the interchange. However, these replacements would be made to be compatible with all existing landscaping in the area and “Standard Highway Planting” procedures. Although water would be needed to maintain the long-term operation of the project, the amount would be minimal and would not require any new or expanded entitlements. Therefore, no impact is anticipated.

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?

No Impact – The project would not generate any wastewater requiring treatment. The existing wastewater treatment facilities would continue to serve the project area and meet all current and projected demand. Therefore, there would be no impacts.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact - For solid waste disposal at the site, the Antelope Valley Recycling and Disposal Facility serves the City of Palmdale's disposal needs. Located in the City of Palmdale, this facility is a Class III facility and is not authorized to accept hazardous waste. As of the 2016 Los Angeles County Countywide Integrated Waste Management Plan Annual Report, the Antelope Valley Recycling and Disposal Facility has a remaining disposal capacity of 12.89 Million Tons. The remaining operating life for the facility, based off remaining capacity, is approximately 23 years.

Project construction would be short-term and would result in some waste generated from demolition activities. Recognizing that the remaining disposal capacity is 12.89 million tons and 23 years, the landfill has sufficient capacity to accommodate temporary construction impacts. Therefore, the impacts to the waste facilities would be less than significant.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

No Impact - The proposed project would comply with all federal, state and local statutes and regulations as related to solid waste. No new long-term generation, or disposal, of solid waste would occur from project implementation. Disposal of waste during construction would be temporary in nature and be conducted in a manner that is compliant with all applicable statutes and regulations. Therefore, no impact is expected.

3.1.19 Mandatory Findings of Significance

	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

CEQA Significance Determinations for 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?

The proposed project includes roadway widening and interchange improvements at SR-14 and along Avenue N. In the Natural Environmental Study (NES) written for this project , it was determined that the project would not substantially reduce the habitat of a fish or wildlife species, cause a wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered

plant or animal upon implementation of project features, avoidance and minimization measures. Please refer to Chapter 2.3 Biological Environment for more detailed information as well as specified project features and avoidance and minimization measures. Chapter 2.5, Cumulative Impacts also discusses the effects on the biological environment.

No known cultural resources are present on-site. Therefore, impacts from the project would be less than significant. In the event that unknown cultural or tribal cultural resources are uncovered during site disturbance activities, implementation of the project features PF-CUL-1 and PF- CUL-2 would be required. Potential impacts pertaining to the elimination of important examples of the major periods of California history or prehistory are less than significant.

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)?

Section 2.5, Cumulative Impacts, discusses the cumulative impacts of the Build Alternative in light of several other past, present, and reasonably foreseeable future projects in the area. Included in these are several transportation projects that may be under construction and operation at the same time as the Build Alternative. However, the Build Alternative would result in improved operating conditions within and around the SR-14/Avenue N interchange compared to the No Build Alternative and would not contribute to cumulative adverse effects to other resource areas. Therefore, the impacts of the Build Alternative are not considered cumulatively considerable and are less than significant.

c.) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As discussed throughout this environmental document, the proposed project would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Furthermore, the proposed project would improve traffic operations within and around the SR-14/Avenue N interchange. This would reduce traffic delay, thereby reducing travel time and improving the human environment.

3.3 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 (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), 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.[16] In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of GHG emissions.[17] The dominant GHG emitted is CO_2, 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).

3.3.1 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.

[16] https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014
[17] https://www.arb.ca.gov/cc/inventory/data/data.htm

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.[18] This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability."[19] 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) the establishment of the Office of Indian Energy Policy and Programs within the Department of 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.

[18] https://www.fhwa.dot.gov/environment/sustainability/resilience/
[19] https://www.sustainablehighways.dot.gov/overview.aspx

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.

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 2010[20] 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 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.[21]

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 CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

[20] https://one.nhtsa.gov/Laws-&-Regulations/CAFE-%E2%80%93-Fuel-Economy
[21] 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

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 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 ($MMTCO_2e$). 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.

3.3.2 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.[22] ARB is responsible for maintaining and updating California's GHG Inventory per H&SC Section 39607.4. The associated

[22] 2017 Edition of the GHG Emission Inventory (July 2018): https://www.arb.ca.gov/cc/inventory/data/data.htm

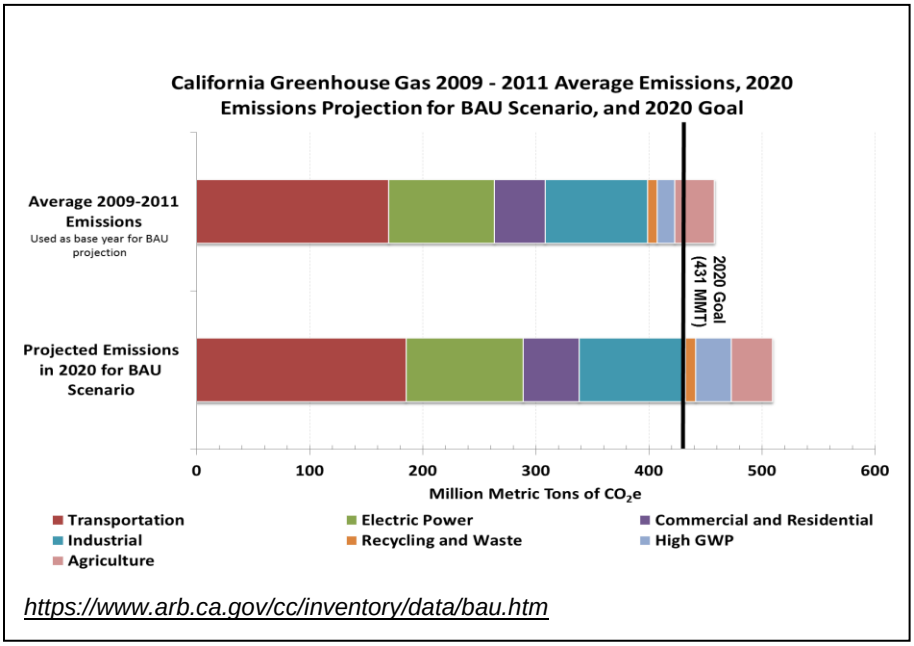
forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 3.3-1 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 MMTCO2e[23]. The 2018 edition of the GHG emissions inventory found total California emissions of 429 $MMTCO_2e$ for 2016.

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). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 $MMTCO_2e$.

[23] The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)

Figure 3.3-1 2020 Business as Usual (BAU) Emissions Projection 2014 Edition



https://www.arb.ca.gov/cc/inventory/data/bau.htm

3.3.3 Project Analysis

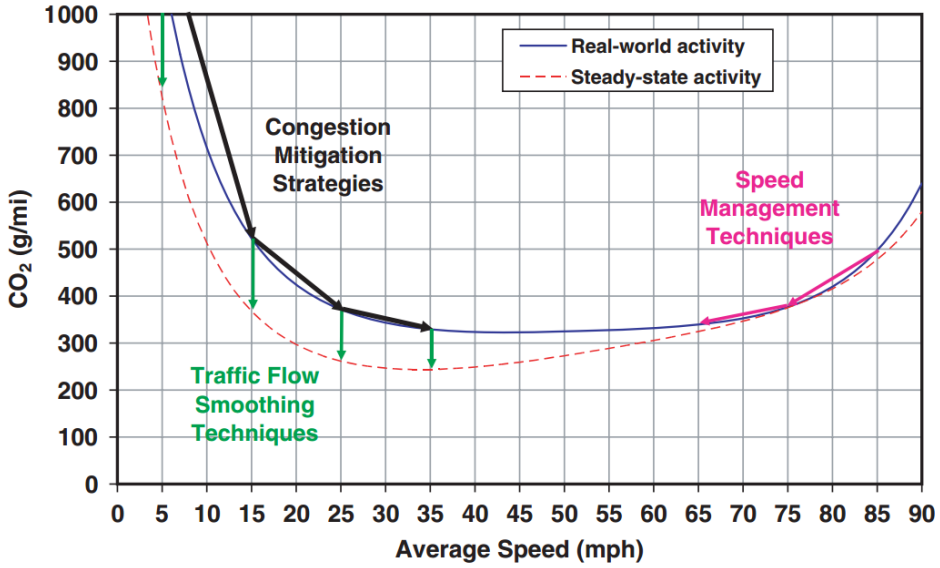
An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.[24] 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 operations and those produced during construction. The following represents a best faith effort to describe the potential GHG emissions related to the proposed project.

[24] 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).

Operational Emissions

Figure 3.3-2 Possible Use of Traffic Operation Strategies in Reducing On-Road CO_2 Emissions



Source: Matthew Barth and Kanok Boriboonsomsin, University of California, Riverside, May 2010 (https://www.researchgate.net/publication/46438207)

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. [25]

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 CO_2 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 3.3-2 above). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

[25] 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).

SCAG's 2016 RTP/SCS sets forth a development pattern and transportation plan forecasted to support statewide goals and per-capita GHG emission reduction targets that ARB has established for the SCAG region of 8 percent relative to 2005 by 2020 and 18 percent by 2035. As required by SB 375 (codified in Government Code §65080(b) et seq.), this SCS outlines growth strategies that better integrate land use, housing, and transportation plans, measures, and policies that, if implemented, will help reduce the GHG emissions from cars and light trucks. The proposed project is listed in the 2019 FTIP Amendment #19-01 with project ID# LA0G898 and is currently being amended to conform with the 2016 RTP/SCS, and those project listings can be found in Appendix D. The primary purpose of this proposed Project is to alleviate the backup traffic condition at the SR-14 off-ramps and improve traffic operations along Avenue N and at the on-and off-ramps at the SR-14/Avenue N intersection. The proposed Project incorporates active transportation system (Complete Streets) elements, while enhancing traffic safety and fulfilling requirements of the Americans with Disabilities Act (ADA). Overall, the proposed Project's primary objective is to improve mobility and safety for all user types including, but not limited to, vehicles, pedestrians, and bicyclists.

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 GHG emissions reductions of approximately 24 percent relative to 2015 by 2040, exceeding ARB's goals for the region. The 2016 RTP/SCS also includes land use strategies that seek to balance the region's land use choices and transportation investments.

By 2040, the region's population is expected to grow significantly. The quantitative analysis of GHG emissions that follows demonstrates that the improvements would reduce GHG emissions from existing levels in Opening Year (2023) and Horizon Year (2040), and thereby would be consistent with and contribute to achieving the RTP/SCS goal of 24 percent reduction in GHGs by 2040.

The project proposes to improve operations and capacity both on the SR-14/Avenue N interchange and the local street of Avenue N. Enhancing operations and capacity for vehicles will allow local transit services to operate with improved efficiency. The proposed bike lanes and sidewalk improvements encourage and provide multi-modal transportation options on Avenue N. The complete streets improvements provide the community with a variety of transportation options. The availability of multiple modes of transportation will further reduce congestion on

local streets. The proposed improvements on SR-14 and local streets will positively impact existing transit infrastructure and create multiple transportation options for the community.

The proposed project, as part of an overall regional plan, is expected to contribute to the region's overall goals to reduce vehicle-related GHGs by improving operational efficiency and traffic flow, thereby reducing emissions.

3.3.3.2 Quantitative Analysis

A quantitative analysis of VMT and GHG emissions for the Build Alternative and the No Build Alternative was conducted for the Air Quality Assessment (Caltrans, March 2019). The latest Caltrans approved CT- EMFAC Model, Version 6.0 was used. The 20-year horizon applied is based on the 2040 projected volumes from the SCAG 2012 RTP/SCS model based on a 2020 opening year scenario.

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 and have limitations. The EMFAC-based CO_2e emissions estimates are used for comparison of alternatives only. The model does not account for factors such as the vehicle operation mode (e.g., rate of acceleration) and the vehicles' aerodynamics, which would influence CO_2 emissions. ARB's GHG Inventory follows the IPCC guideline by assuming complete fuel combustion, while still using EMFAC data to calculate CH_4 and N_2O emissions.

As shown in Table 3.3-1 below, within the project area, emissions of CO_2e for the Build Alternative increase in 2023 and 2040 when compared to the emissions for Existing and the No-Build Alternative. The VMT, however, is the same under both No-Build and Build Alternatives in the opening and horizon years, respectively, indicating that the VMT increase from existing conditions would be a result of growth in transportation demand rather than the proposed project. The reduction in GHG emissions from existing conditions under the No-Build Alternative is likely a result of external factors such as State regulations, the entry of more fuel-efficient vehicles to the fleet, and planned land-use and development initiatives designed to curb emissions. The increase in GHG emissions with the Build Alternative over the No-Build Alternative under equivalent VMT scenarios is likely due to the projected decrease in speed along Avenue N between NB and SB ramps. The proposed project, however, is anticipated to alleviate the backup traffic condition of the Avenue N off-ramps and reduce frequency and severity of intersection conflicts within the project area, as illustrated by the decrease in delays shown in the tables in Chapter 2.1.4, Traffic and Transportation.

Furthermore, the proposed project is included in the latest conforming 2016 RTP/SCS and 2019 FTIP (LA0898). The 2016 RTP/SCS includes a collaborative commitment to reduce emissions

from all transportation sources in compliance with SB 375, improve public health, and meet air quality standards. Additional benefits of the 2016 RTP/SCS include reductions in GHG emissions within the region: reduction of 8 percent by 2020, 18 percent by 2035, and 22 percent by 2040 is expected in the overall GHG emissions. The proposed project, therefore, is part of the overall transportation network that is anticipated to achieve the expected GHG reductions.

Table 3.3-1 Modeled Annual CO_2 Emissions and Vehicle Miles Traveled, by Alternative

Alternative	CO_2e Emissions (Metric Tons/Year)	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2017	604.82	1,783,927
Open to Traffic 2023		
No Build	556.59	1,988,310
Build Alternative	659.31	1,988,310
20-Year Horizon/Design-Year 2040		
No Build	513.12	2,556,870
Build Alternative	659.19	2,556,870

CO_2e = carbon dioxide equivalent; $(CH_4 \times 25) + CO_2$

Source: AQR (March 2019)

[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per ARB methodology (ARB 2008).

Limitations and Uncertainties with Modeling

EMFAC

Although EMFAC can calculate CO_2 emissions from mobile sources, the model does have limitations when it comes to accurately reflecting changes in CO_2 emissions due to impacts on traffic. According to the National Cooperative Highway Research Program report, *Development of a Comprehensive Modal Emission Model* (April 2008) and a 2009 University of California study,[26] brief but rapid accelerations, such as those occurring during congestion, can contribute significantly to a vehicle's CO_2 emissions during a typical urban trip. Current emission-factor models do not distinguish the emission of such modal events (i.e., acceleration, deceleration) in the operation of a vehicle and instead estimate emissions by average trip speed. It is difficult to model this because the frequency and rate of acceleration or deceleration that drivers chose to operate their vehicles depend on each individual's human behavior, their reaction to other vehicles' movements around them, and their acceptable safety margins. Currently, the EPA and the ARB have not approved a modal emissions model that is capable of conducting such

[26] Matthew Barth, Kanok Boriboonsomsin. 2009. *Energy and emissions impacts of a freeway-based dynamic eco-driving system.* Transportation Research Part D: Transport and Environment Volume 14, Issue 6, August 2009, Pages 400–410

detailed modeling. This limitation is a factor to consider when comparing the model's estimated emissions for various project alternatives against a baseline value to determine impacts.

Other Variables

With the current understanding, project-level analysis of greenhouse gas emissions has limitations. Although a GHG analysis is included for this project, there are numerous external variables that could change during the design life of the proposed project and would thus change the projected CO_2 emissions.

First, vehicle fuel economy is increasing. The EPA's annual report, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 through 2016,"[27] which provides data on the fuel economy and technology characteristics of new light-duty vehicles including cars, minivans, sport utility vehicles, and pickup trucks, confirms that average fuel economy improves each year with a noticeable rate of change beginning in 2005. Corporate Average Fuel Economy (CAFE) standards remained the same between model years 1995 and 2003, subsequently increasing to higher fuel economy standards for future vehicle model years. The EPA estimates that light duty fuel economy rose by 29% from model year 2004 to 2015, attributed to new technology that improved fuel economy while keeping vehicle weight relatively constant. Table 3.3-2 shows the increases in required fuel economy standards for cars and trucks between Model Years 2012 and 2025, from the National Highway Traffic Safety Administration for the 2012–2016 and 2017–2025 CAFE Standards.

Table 3.3-2 Required Fuel Economy Standards for Cars and Trucks

	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2020**	**2025**
Passenger Cars	33.3	34.2	34.9	36.2	37.8	39.6-40.1	41.1-41.6	44.2-44.8	55.3-56.2
Light Trucks	25.4	26	26.6	27.5	28.8	29.1-29.4	29.6-30.0	30.6-31.2	39.3-40.3
Combined	29.7	30.5	31.3	32.6	34.1	35.1-35.4	36.1-36.5	38.3-38.9	48.7-49.7
Sources: EPA and NHTSA 2010, 2012. https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-passenger-cars-and									

Second, new lower-emission and zero-emission vehicles will come into the market within the expected design life of this project. According to the 2013 Annual Energy Outlook (AEO 2013):

> "LDVs that use diesel, other alternative fuels, hybrid-electric, or all-electric systems play a significant role in meeting more stringent GHG emissions and CAFE standards over the projection period. Sales of such vehicles increase from

[27] https://www.epa.gov/fueleconomy/light-duty-automotive-technology-carbon-dioxide-emissions-and-fuel-economy-trends-1975-1

> 20 percent of all new LDV sales in 2011 to 49 percent in 2040 in the AEO2013 Reference case."[28]

The greater percentage of lower-emissions and zero-emissions vehicles on the road in the future will reduce overall GHG emissions as compared to scenarios in which vehicle technologies and fuel efficiencies do not change.

Third, California adopted a low-carbon transportation fuel standard in 2009 to reduce the carbon intensity of transportation fuels by 10 percent by 2020. The regulation became effective on January 12, 2010 (codified in title 17, California Code of Regulations, Sections 95480-95490). Beginning January 1, 2011, transportation fuel producers and importers must meet specified average carbon intensity requirements for fuel in each calendar year.

Limitations and Uncertainties with Impact Assessment

Figure 3.3-3 illustrates how the range of uncertainties in assessing greenhouse gas impacts grows with each step of the analysis, as noted in the National Highway Traffic Safety Administration Final EIS for MY2017–2025 CAFE Standards (NHTSA 2012):

> "Moss and Schneider" (2000) [29] characterize the 'cascade of uncertainty' in climate change simulations (Figure 3.3-3). As indicated in Figure 3.3-3, the emission estimates … have narrower bands of uncertainty than the global climate effects, which are less uncertain than regional climate change effects. The effects on climate are, in turn, less uncertain than the impacts of climate change on affected resources (such as terrestrial and coastal ecosystems, human health, and other resources …). Although the uncertainty bands broaden with each successive step in the analytic chain, all values within the bands are not equally likely; the mid-range values have the highest likelihood."[30]

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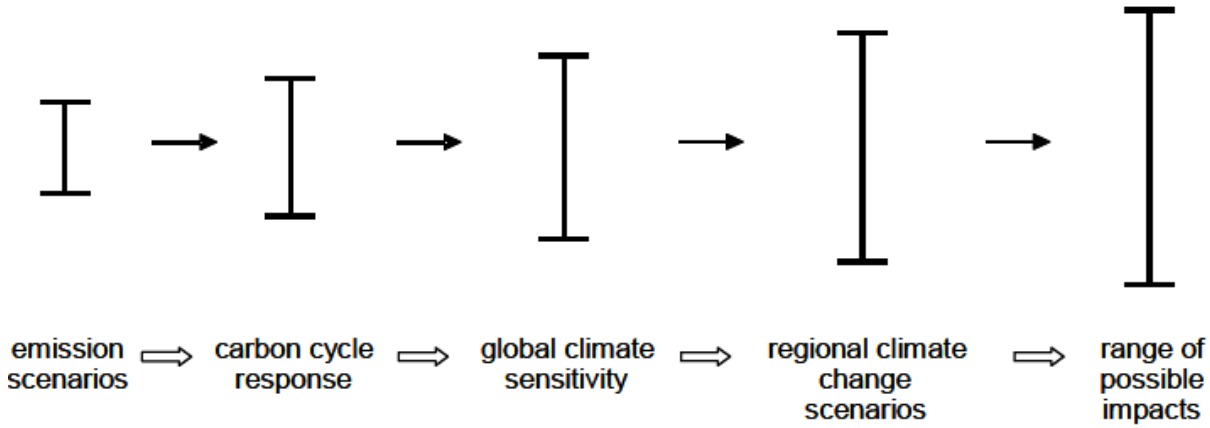
[28] http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf

[29] Moss, R.H., and S.H. Schneider. 2000. Uncertainties in the IPCC TAR: Recommendations to Lead Authors for More Consistent Assessment and Reporting. Pgs. 33–51. In: *Guidance Papers on the Cross-cutting Issues of the Third Assessment Report of the IPCC*. [R.K. Pachauri, and A. Reisinger (Eds.)]. Cambridge University Press: Cambridge, United Kingdom. 138 pgs. Available at: http://stephenschneider.stanford.edu/Publications/PDF_Papers/UncertaintiesGuidanceFinal2. (Accessed: June 1, 2012).

[30] http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf. page 5-21

Figure 3.3-3 Cascade of Uncertainty in Climate Change Simulations



Source: National Highway Traffic Safety Administration Final EIS for MY2017-2025 CAFE Standards (July 2012). Page 5-22.

Much of the uncertainty in assessing an individual project's impact on climate change surrounds the global nature of the climate change. Even assuming that the target of meeting the 1990 levels of emissions is met, there is no regulatory or other framework in place that would allow for a ready assessment of what any modeled increase in CO_2 emissions would mean for climate change given the overall California GHG emissions inventory of approximately 430 million tons of CO_2 equivalent. This uncertainty only increases when viewed globally. The IPCC has created multiple scenarios to project potential future global greenhouse gas emissions as well as to evaluate potential changes in global temperature, other climate changes, and their effect on human and natural systems. These scenarios vary in terms of the type of economic development, the amount of overall growth, and the steps taken to reduce greenhouse gas emissions. Non-mitigation IPCC scenarios project an increase in global greenhouse gas emissions by 9.7 up to 36.7 billion metric tons CO_2 from 2000 to 2030, which represents an increase of between 25 and 90%.[31]

The assessment is further complicated by the fact that changes in GHG emissions can be difficult to attribute to a particular project because the projects often cause shifts in the locale for some type of GHG emissions, rather than causing "new" GHG emissions. It is difficult to assess the extent to which any project-level increase in CO_2 emissions represents a net global increase, reduction, or no change; there are no models approved by regulatory agencies that operate at the global or even statewide scale.

[31] Intergovernmental Panel on Climate Change (IPCC). February 2007. *Climate Change 2007: The Physical Science Basis: Summary for Policy Makers*. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/spm.html

3.3.3.3 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 CO_2e emissions were estimated for the project alternatives using project characteristics (project length, duration, type, and total cost) information provided by the Caltrans Design combined with emissions factors from the EMFAC2017 and Construction Emissions Tool 2018 (CAL-CET2018 version 6.0). CAL-CET is a Caltrans spreadsheet tool developed to estimate pollutant emissions from transportation project construction activities.

Total construction emissions amount to 596 tons of CO2e over the 3-year construction period.

Measures and project features to reduce construction GHG emissions are included as part of the proposed project and can be found in Section 2.2.6, Air Quality. Project Feature PF-AQ-2 will ensure construction equipment vehicles equipment engines are maintained in good condition and in proper tune per manufacturer specifications minimize emissions. Project Feature PF-AQ-4 states that the contractor shall adhere to Caltrans' Standard Specifications for Construction (2018), Section 14-9 (Air Pollution Control); this specification requires the proposed project to comply with all federal, State, and/or local rules and regulations related to air quality, many of which also help reduce GHG emissions. Project Feature PF-AQ-6 would limit construction vehicles idling time to 5 minutes, thereby helping to reduce GHG emissions during construction. Project Feature PF-T-1 specifies that a final TMP will be prepared prior to construction that identifies methods to avoid and minimize construction-related traffic and circulation effects, to reduce GHG emissions that could result from long detours and idling traffic.

3.3.4 CEQA Conclusion

As discussed above, the 2040 Build Alternative would result in increases in GHG emissions over the existing levels and the No-Build Alternative, while estimates show that GHGs under the No-Build Alternative would decrease from existing conditions. The future GHG decrease without the project is likely a result of external factors such as State regulations, the entry of more fuel-

efficient vehicles to the fleet, and planned land-use and development initiatives designed to curb emissions. With the project, the increase in GHG emissions over the No-Build and existing baseline is likely due to the decrease in speed along Avenue N between NB and SB ramps. The Build Alternative, however, will alleviate traffic backups on the off-ramps, reducing delays and idling emissions. Nonetheless, there are also limitations with EMFAC and with assessing what a given CO_2 emissions increase means for climate change. Therefore, it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

3.3.4.1 Greenhouse Gas Reduction Strategies

Statewide Efforts

To further the vision of California's GHG reduction targets outlined an 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. 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 3.3-4 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.

3.3.4.2 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.

3.3.4.3 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

Project Feature PF-AQ-2 will ensure construction equipment vehicle engines are maintained in good condition and in proper tune per manufacturer specifications and to the satisfaction of the Resident Engineer. This may include conducting periodic inspections of construction equipment. Proper maintenance can minimize construction vehicle emissions, including GHG emissions.

Project Feature PF-AQ-4 states that the contractor shall adhere to Caltrans' Standard Specifications for Construction (2015), Section 14-9.02 (Air Pollution Control). This specification requires contractors to comply with all federal, State, and local rules, regulations, and ordinances related to air pollution control, many of which, such as idling restrictions, help reduce GHG emissions. The construction contractor must comply with AVAQMD rules, ordinances, and regulations with regard to air quality restrictions. PF-AQ-6 requires construction vehicles to idling no more than 5 minutes, which will assist in reducing GHG emissions.

Revegetate disturbed land as outline in PF-GEO-1, PF-VIS-1, and minimization measures VIS-2 and PS-5. Disturbed lands will be revegetated using native or drought tolerant plants which reduce the need for irrigation, saving energy and water. Landscaping is part of the project and reduces surface warming and, through photosynthesis, decreases CO_2. The addition of landscaping as a result of the project would help offset potential CO_2 emissions increases.

A final TMP (PF-T-1) will be prepared prior to construction that identifies methods to avoid and minimize construction-related traffic and circulation effects, to reduce GHG emissions associated with long detours and idling traffic. TMP measures will also minimize impacts to pedestrian and bicycle access during project construction.

The Build alternative would incorporate bicycle lanes and sidewalks, therefore reducing VMTs by providing transportation options for users.

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[32], 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."[33]

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*).[34] 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.[35]

State Efforts

[32] https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
[33] https://www.fhwa.dot.gov/environment/sustainability/resilience/policy_and_guidance/usdot.cfm
[34] https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm
[35] https://www.fhwa.dot.gov/environment/sustainability/resilience/

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.

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)[36] 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),[37] 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.

[36] *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.
[37] http://www.climatechange.ca.gov/adaptation/strategy/index.html

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," specifically, "information and recommendations to enhance consistency across agencies in their development of approaches to SLR."[38]

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 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.

[38] http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/

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Chapter 4 – Comments and Coordination

4.1 Documenting Coordination

Introduction

Coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization, and/or mitigation measures and related environmental requirements. Agency and tribal consultation and public participation for this project have been and will be accomplished through a variety of formal and informal methods, including interagency coordination meetings, public notices, Project Development Team (PDT) meetings, and electronic correspondence. This chapter summarizes Caltrans' efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

Stakeholder Meetings

During the initial and current stages of the project, open lines of communication have been prioritized. Numerous meetings have been held with project stakeholders to identify concerns and resolve issues in a way that is most satisfactory to all involved. Several Project Development Team meetings have been held between April 2018 and the present time which included Caltrans, the City of Palmdale, and the County of Los Angeles. These meetings helped define the scope of the project, develop the project purpose and need, and refine the alternatives considered and carried forward for analysis.

Consultation and coordination with public agencies

1. As part of the cultural resources review for this project, Caltrans staff have communicated with relevant agencies. On May 28th, 2018, Caltrans sent a letter requesting information on historic and potentially historic properties, along with a project map, to the Planning Manager at the City of Palmdale Planning Division. No response was received, and a follow-up e-mail was sent to the Planning Manager on June 12th, 2018. No response has been received, therefore no further action is necessary.

   Additionally, Caltrans cultural resources staff sent a letter on May 23rd, 2018, requesting information of historic and potential historic properties to Peggy Fuller, President of the West Antelope Valley Historical Society (WAVHS). No response was received, and a follow-up e-mail message was sent to WAVHS on June 11th, 2018. No response has

been received, therefore no further action is necessary. Palmdale has no known local (historic) archive.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, DIVISION OF ENVIRONMENTAL PLANNING
100 S. MAIN STREET, SUITE 100, MS 16A
LOS ANGELES, CA 90012
PHONE (213) 897-9016
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

May 23, 2018

Planning Manager
Planning Division
City of Palmdale
38250 Sierra Highway
Palmdale, CA 93550

RE: State Route 14 (SR-14)/Avenue N Widening and Interchange Project
City of Palmdale, Los Angeles County

To whom it may concern:

Caltrans is currently performing environmental review of a proposed project in the City of Palmdale, in Los Angeles County, California. The cultural resources review is being performed for Section 106 of the National Historic Preservation Act of 1966 conformance.

The State Route 14 (SR-14)/Avenue N Widening and Interchange Project proposes to upgrade and improve transportation facilities at the SR-14/Avenue Non-ramps and off-ramps and along Avenue N between 10th Street West and 17th Street West. The project is located at Avenue N along SR-14 between Post Miles (PM) R63.4 and R63.9 in Palmdale. This project aims to improve mobility and enhance traffic safety for motorized and non-motorized users while alleviating the backup traffic conditions of the Avenue on- and off-ramps and to upgrade Avenue N to be consistent with the City of Palmdale's General Plan. The project will also incorporate active transportation (Complete Streets) and fulfill American with Disabilities Act (ADA) requirements.

There are two alternatives being considered this project, "No Build" and a "Build" alternative:

Alt 1 – No Build No project would be built.
Alt 2 – Roundabout Reconstruct the Avenue N interchange at SR-14 with a footprint to accommodate 2-lane roundabouts at the ramp termini for both northbound and southbound, but with striping as single-lane roundabouts for southbound on- and off-ramps.
Widen the existing Avenue N Overcrossing bridge by 48.5 feet to the north to accommodate the proposed 2-lane roundabout at the termini.
Widen Avenue N to add two 12-foot lanes from 17th Street West to the Avenue N Overcrossing.
Widen Avenue N to add a 12-foot wide median, and two 8-foot wide bike lanes within the project limits.

The proposed project is depicted on the attached Location Map. In accordance with applicable federal regulations, Caltrans is making every effort to be responsible stewards of potential historic properties within the project study area.

The purpose of this letter is to request your agency or organization's input regarding potential and/or designated historically significant properties in the project study area. We take the work of protecting cultural resources very seriously, and are making every effort to identify previously unknown historic properties during the preparation of environmental documentation. Project-specific cultural resources technical reports are currently in preparation.

In carrying out these responsibilities, we review previously identified historic properties and historical resources in records maintained at the South Central Coastal Information Center at California State University, Fullerton and other sources. As part of the identification phase of this effort, we will evaluate properties that may be affected by the proposed project for National Register of Historic Places eligibility. We acknowledge that some areas may contain values that are not readily apparent and would appreciate any such information you can provide.

Please notify us by US Mail or by e-mail if you have information regarding potential or identified historic properties in the project area by no later than Monday, June 11, 2018 at noon. If we don't hear from you, we will follow-up to ensure that we have not missed any information germane to the cultural resources review.

Please contact me with any applicable comments via e-mail at francesca.smith@dot.ca.gov (subject line: State Route 14 (SR-14)/Avenue N Widening and Interchange Project), or by mail at

100 South Main Street, MS16A
Los Angeles, CA 90012

Thank you, in advance, for your cooperation and participation.

Sincerely,

Francesca Smith

Francesca Smith
Associate Environmental Planner, Architectural Historian
Caltrans, District 7, Division of Environmental Planning, Cultural Resources Unit

Attachment: Project Location Map

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

From: Smith, Francesca@DOT
To: "planningdiv@cityofpalmdale.org"
Subject: State Route 14 (SR-14)/Avenue N Widening and Interchange Project, Palmdale
Date: Tuesday, June 12, 2018 11:24:00 AM
Attachments: CityofPalmdale-signed.pdf

To whom it may concern:

Caltrans sent the attached letter to your agency on May 23, 2018 requesting information regarding a proposed project.

Please let us know if you aware of any cultural resources in the project area. If we don't receive a response by June 22 at 4PM, we will assume your agency has no comments.

Thanks very much for your time.

Francesca Smith
PQS Principal Architectural Historian
Associate Environmental Planner, Architectural History
Caltrans District 7
100 S. Main St., MS 16A
Los Angeles, CA 90012
(213) 897-1947 *phone*

Native American Consultation

Consultation with the Native American Heritage Commission (NAHC) initiated consultation a number of Native American Tribes (groups and individuals). Consultation began in May 2018 and was completed in October 2019 in compliance with Section 106 of the Native Historic Preservation Act and Assembly Bill (AB) 52. Documentation of the consultation with the NAHC and the Native American Representatives can be seen in Table 4.1-1.

Table 4.1-1 Native American Consultation Log

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
05/04/2018	Caltrans	• Native American Heritage Commission (NAHC)	Sacred Lands file search request
05/07/2018	NAHC	• Caltrans	Letter stating that a records search of the Native American Heritage Commission Sacred Lands was completed for the proposed project APE which resulted in negative results. A list of 8 tribes culturally affiliated to the project area was provided and NAHC recommended all be contacted.
05/08/2018	Caltrans	• Jairo Avila – Fernandeno Tataviam Band of Mission Indians • Beverly Salazar Folkes – Fernandeno Tataviam Band of Mission Indians • Alan Salazar – Fernandeno Tataviam Band of Mission Indians • Denisa Torres – Morongo Band of Mission Indians • Robert Martin – Morongo Band of Mission Indians • Donna Yocum – San Fernando Band of Mission Indians • Lee Clauss – San Manuel Band of Mission Indians • Goldie Walker – Serrano Nation of Mission Indians	Letters requesting information on cultural resources concerns for the Project were sent via certified mail. The letters were dated and sent 5/8/2018.
05/08/2018	Caltrans	• Jairo Avila – Fernandeno Tataviam Band of Mission Indians • Beverly Salazar Folkes – Fernandeno Tataviam Band of Mission Indians	Emails requesting information on cultural resources concerns for the Project were sent using email. The emails were dated and sent 5/8/2018.

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
		• Denisa Torres – Morongo Band of Mission Indians • Robert Martin – Morongo Band of Mission Indians • Donna Yocum – San Fernando Band of Mission Indians • Lee Clauss – San Manuel Band of Mission Indians	
05/14/2018	Caltrans	• Denisa Torres – Morongo Band of Mission Indians	Certified mail received and signed by V. McDaneld on 05/10/2018
05/31/2018	Jairo Avila	• Dustin Kay / Caltrans Archaeologist	Mr. Avila sent an email stating the Fernandeno Tataviam Band of Mission Indians (Tribe) has no knowledge of cultural resources within the area of impact. They wanted to know if archaeological monitoring will be implemented as a mitigation measure and will excavation be impacting previously undisturbed soil.
06/12/2018	Lee Clauss	• Dustin Kay / Caltrans Archaeologist	Ms. Clauss sent an email stating the San Manuel Band of Mission Indians (SMBMI) has interest in the project and requested the following: 1. The results of the records search from the NAHC and CHRIS; 2. Additional maps, photos, engineering plans, 3. Results from Phase I archaeological investigation; and 4. Information about the land use history of the project area.
06/14/2018	Caltrans	• Lee Clauss / SMBMI	Caltrans sent an email response stating that Caltrans is in the process of preparing an ASR and all her previous question will be answered in the report. In addition, a request was made again to SMBMI, if they had any knowledge of any additional cultural resources within or near the proposed project area.
06/20/2018	Lee Clauss	• Dustin Kay / Caltrans Archaeologist	Ms. Clauss responded by email, thanking Caltrans for the knowledge of the ASR. They indicated that they have no specific comments about cultural resources to provide prior to the submission of the report.
06/22/2018	Caltrans	• Jairo Avila / Fernandeno Tataviam Band of Mission Indians	Caltrans sent an email response stating that Caltrans is in the process of preparing an ASR and all his previous question will be answered in

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
			the report.
06/22/2018	Jairo Avila	• Dustin Kay / Caltrans Archaeologist	Mr. Avila responded by email, stating he will be looking out for the completed ASR.
06/25/2018	Caltrans	• Beverly Salazar Folkes – Fernandeno Tataviam Band of Mission Indians • Denisa Torres – Morongo Band of Mission Indians • Robert Martin – Morongo Band of Mission Indians • Donna Yocum – San Fernando Band of Mission Indians	Second set of emails sent providing update on cultural resource investigation and requesting information on cultural resources concerns for the Project.
06/25/2018	Caltrans	• Alan Salazar – Fernandeno Tataviam Band of Mission Indians • Robert Martin – Morongo Band of Mission Indians • Goldie Walker – Serrano Nation of Mission Indians	Second set of Certified letters providing update on cultural resource investigation and requesting information on cultural resources concerns for the Project were sent.
09/25/2018	Jairo Avila	• Dustin Kay / Caltrans Archaeologist	Mr. Avila sent an email, asking if the ASR had been completed.
10/8/2018	Caltrans	• Jairo Avila / Fernandeno Tataviam Band of Mission Indians	Caltrans sent an email stating that currently the City of Palmdale is still contemplating the final scope of work for the project. As of now the ASR has not been completed due to the delay. A copy will be sent out once the project scope has been determined.
08/2/2019	Jairo Salazar	• Dustin Kay / Caltrans Archaeologist	Mr. Avila sent an email asking about the status of the ASR.
08/14/2019	Caltrans	• Jairo Avila / Fernandeno Tataviam Band of Mission Indians	Caltrans sent an email containing the ASR for Mr. Avila review. Asked if he could send back comments by August 23, 2019.
08/14/2019	Caltrans	• Lee Clauss / SMBMI	Caltrans sent an email containing the ASR to Ms. Clauss for review. Asked if she could send back comments by August 23, 2019.
08/14/2019	Jairo Avila	• Dustin Kay / Caltrans Archaeologist	Mr. Avila responded by saying he would be reviewing the document and providing comments

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
			before the requested date.
08/20/2019	Lee Clauss	• Dustin Kay / Caltrans Archaeologist	Ms. Clauss responded by stating she had received the ASR and would review and provide comments by September 14, 2019
09/10/2019	Caltrans	• Jairo Avila / Fernandeno Tataviam Band of Mission Indians	Caltrans sent and email checking on the review status for the ASR.
09/11/2019	Jairo Avila	• Dustin Kay / Caltrans Archaeologist	Mr. Avila final consultation: On behalf of the Fernandeño Tataviam Band of Mission Indians (FTBMI), thank you for the opportunity to provide comments on the Cultural Resource Report for the State Route 14/ Avenue N Widening and Interchange Project. The THCP Department reviewed the Report and has no comments regarding the outcome of the assessment or concerns with the proposed Project. It is our understanding that the conditions of the survey area (i.e., limited access to private areas, developed/paved areas) limited the ability to conduct a full survey of the APE. At this point in time, the FTBMI have no further questions but would like to request to be notified to consult should Tribal Cultural Resources be encountered during implementation of the Project.
09/20/2019	Caltrans	• Lee Clauss / SMBMI	Caltrans sent email asking for the status of the report review and comments.
09/20/2019	Lee Clauss	• Dustin Kay / Caltrans Archaeologist	Ms. Clauss final consultation: Based on the CRM Department's review of the ASR and associated maps, and given our present state of knowledge, SMBMI does not have any concerns with the project's implementation, as planned, at this time. However, SMBMI requests that the following language be made a part of the project/permit/plan conditions: 1. If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
			State Health and Safety Code §7050.5 and that code enforced for the duration of the project. 2. In the event that Native American cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, San Manuel Band of Mission Indians will be contacted if any such find occurs and be provided information and permitted/invited to perform a site visit when the archaeologist makes his/her assessment, so as to provide Tribal input. 3. If significant Native American historic properties, as defined by the NHPA or historical resources, as defined by CEQA (as amended, 2014), are discovered and avoidance cannot be ensured, an SOI qualified archaeologist shall be retained to develop an cultural resources Treatment Plan, as well as a Discovery and Monitoring Plan, the drafts of which shall be provided to San Manuel Band of Mission Indians for review and comment. a. All in-field investigations, assessments, and/or data recovery enacted pursuant to the finalized Treatment Plan shall be monitored by a San Manuel Band of Mission Indians Tribal Participant(s). b. The Lead Agency and/or applicant shall, in good faith, consult with San Manuel Band of Mission Indians on the disposition and treatment of any artifacts or other cultural materials encountered during the project. Finally, SMBMI does have concerns about the Ethnography section of the report. Vanyume are Desert Serrano and it is the contemporary convention to refer to them as such. They spoke a dialect of Serrano, not Kitanemuk. Earle has written of this in his research on the subject of

Date	From Whom /Whom Involved	To Whom/Whom Involved	Description
			the Mojave River and environs over the last two decades, and the Antelope Valley Research Design that was created earlier in the year by ECORP (with Mr. Earle sub-consulting) also has good information on this subject. If the ASR is not yet final, SMBMI would greatly appreciate this section being revised accordingly. Thank you again for supplying the requested documents for the CRM Department's review. No further consultation is requested by SMBMI at this time regarding the project, but we are open to reviewing any updates to the Serrano section of the report.
10/3/2019	Caltrans	• Lee Clauss / SMBMI	Caltrans responded by thanking Ms. Clauss for her review and comments. Caltrans stated that the concerns pertaining to the Ethnographic section have been modified and updated. The information provided from the Antelope Valley Research Design and the information by D. Earle was used and incorporated into the Desert Serrano section of the report. Caltrans will ensure that our standard construction specification/provisions for archaeological resources and human remains are included in the project's Environmental Commitment Record and that the procedures outlined in our Section 106 PA Stipulation XV are followed in the case of post-review discoveries. These procedures include identification, evaluation, and treatment of post-review discoveries in consultation with project stakeholder, and specifically with any Native American tribe that might attach religious or cultural significance to the affected property

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2. Caltrans staff have coordinated with CDFW and RWQCB staff as part of the biological review for this project. A field meeting took place on June 13th, 2018 with CDFW to discuss potential impacts to natural resources and potential permit requirements. CDFW raised concerns about chronic and acute sediment and storm water discharges, the potential for alteration of an existing ephemeral stream, and the routine disturbance of native habitat near roadway drainage outlets. The potential effects to Joshua Trees within and adjacent to the project footprint were also discussed.

   E-mail correspondence took place between Caltrans and the Regional Water Control Board (RWQCB), Lahontan Region, on July 2nd, 2018. The result as determined by RWQCB, is that a 401 permit will not be required for this project. However, the agency highly recommends the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) along with adequate post-construction Best Management Practices (BMPs).

From: Steinert, Tiffany@Waterboards
To: Stevenson, Christopher@DOT
Cc: Zimmerman, Jan@Waterboards
Subject: CA-14 @ Ave. N - Interchange Upgrade
Date: Monday, July 02, 2018 10:47:02 AM

Hi Christopher,

After visiting the Project site, Water Board staff have determined that a 401 permit will not be required for the interchange upgrade Project along the California State Route 14 in Palmdale. We highly recommend the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP) along with adequate post-construction Best Management Practices (BMPs). If you have any questions please don't hesitate to contact me.

Tiffany Steinert
Engineering Geologist
California Environmental Protection Agency
Regional Water Quality Control Board - Lahontan Region 6
15095 Amargosa Road – Bldg 2, Ste 210
Victorville, CA 92394
Direct (760) 241-7305
Front desk (760) 241-6583
Fax (760) 241-7308

CDFW/California Department of Transportation (Caltrans
Meeting Minutes
June 13, 2018
Present: [Caltrans]Christopher Stevenson, Celina Oliveri, Todd; [CDFW] Matt Chirdon
Next meeting: TBD

I. Project Components Consulted

A. Road Widening, Bike & Pedestrian path construction, and expansion of Roadside shoulder: The existing condition is a two (2) lane road (i.e. Single travel lane each direction) and unimproved gravel shoulder. Staff observed Ave. N has frequent drainage problems with permanently installed "flooded" caution sign installed immediately west of existing interchange from SR 138 and Avenue N. It appears rain event generated flows do not have a connection to an existing flood control facility, and flows collect along the roadway shoulder and are conveyed to two (2) maintained drainage outlets (see figure 1 for eastern most outlet) as flow travels to west and/or north.

a. **CDFW concerns: 1.) chronic & acute sediment & storm water discharges; 2.) Potential for alteration of existing ephemeral stream or routine disturbance of native habitat from roadway drainage outlet.**

b. .Recommendation: The roadside drainage appears to be generated from precipitation that directly falls within the road right-of-way. The project should incorporate a design and grade that evenly out-slopes towards the shoulder and discharges dispersed flow into the adjacent undeveloped land. Currently the collection and confinement of flow follows the subtle topography flowing towards west at two (2) maintained low spots on Ave. N between SR-138 and 20th Street West. The collected and confined flow was not observed to be able to discharge from the road right-of-way without the maintenance of the two (2) furrowed channels (see figure 1 for eastern most outlet) discharging into undeveloped open space to north. The locations of discharge are presently occurring at parcels identified by Los Angeles County Assessor under Assessor Identification Numbers (AIN) (3111-013-062 & 3111-013-068). The rain generated sheet flow that is collected and conveyed from the road right-of-way to the furrowed channels has potential to be intercepting numerous shallow low capacity channels that form in response to locally generated runoff on AIN 3111-013-062 & 3111-013-068 and adjacent parcels. These low capacity channels were observed to collect and convey flows from what precipitation that falls directly on undeveloped parcel.

a.) Although runoff is now local in origin the channels continue to function in response to direct precipitation and are thus fluvially active ephemeral streams subject to Fish & Game Code Section 1602 notification for activities that will alter or deposit debris, waste, or other material containing crumbled, flaked, or ground pavement.

b.) If the project cannot reasonably spread the roadway generated runoff into adjacent parcels, then Caltrans should evaluate the construction & maintenance activities related to drainage (collection, discharge, and maintenance of roadside drainage and outlet channels). If the existing drainage outlets are

necessary to complete the project then the entity implementing the project will need notify CDFW according to Fish and Game Code Section 1602, and submit a geomorphic and hydrology report to evaluate how roadway discharge is intercepting locally originated fluvial active ephemeral streams on the adjacent undeveloped parcels (i.e. (AIN) (3111-013-062 & 3111-013-068).

B. See Figure 1 and 2 below for referenced figures in discussion A., above.

Figure 1 Looking west towards paved outlet (red arrow)

C.

Figure 2 Existing Condition water flows from road north and west along Avenue N towards this first outlet along Ave. N. Blue line denotes flow path

D. Potential impacts to stream: existing drainage ditch near SR-138 southbound off ramp
   a. If work is altering the connection or causing alteration of the channel bottom, banks, or potentially depositing debris, waste, or other material containing crumbled, flaked, or ground pavement Caltrans will need to notify CDFW according to requirements of Fish and Game Code Section 1602. See Figure 3 below.

Figure 3 Looking north over drainage channel adjacent to southbound SR-138 off-ramp.

   b.

E. Potential effects to Joshua Trees: Project may directly or indirectly effect existing Joshua Trees.
   a. CDFW staff observed Joshua trees sporadically along existing roadway right-of-way. The first matter of analysis should consider what is being impacted (individual *Yucca brevifolia* (Joshua tree) or a Joshua tree woodland?) and how much. This analysis will need to include the direct impacts as well as indirect impacts to associated habitat including, but not limited to changes in grade, drainage, or anthropogenic stressors. As a matter of guidance CDFW uses the Manual of California Vegetation as it compliant with the National Vegetation Classification System (see http://usnvc.org/data-standard/). Caltrans should evaluate Ave. N

interchange project's effects of the project on all native vegetation classifications including. The membership rules and alliance description for vegetation classification Joshua tree woodland is present here http://vegetation.cnps.org/alliance/99.

b. The Department considers Joshua tree woodland a threatened vegetative community. Urban encroachment into Joshua tree woodlands and chenopod scrub is substantially reducing total acreages of these types, and adjacent disturbance is impacting remaining stands (Glass et al.). Project related losses to Joshua tree woodland should be described in the environmental document and considered as a direct and cumulative impact for planning purposes to determine the appropriate level of mitigation to reduce impacts below significant levels under CEQA.
    a.) Glass, A, Janet, R., Johnson, D. and Menke, J. 2013. California Vegetation Map in Support of the Desert Renewable Energy Conservation Plan. Aerial Information Systems, Inc. Prepared for the California Department of Fish and Wildlife Renewable Energy Program and the California Energy Commission Final Report.
c. Mitigation for project impacts to Joshua tree woodland could include avoidance and protection, or if avoidance is not feasible off site acquisition and protection of land supporting Joshua tree woodland habitat. Off-site Joshua tree woodland/native desert vegetation of equal or superior quality should be acquired at a no less than a 2:1 mitigation ratio within remaining Joshua tree woodland in the Antelope Valley to avoid local extirpation.
d. Acquired habitat should be adjacent to large tracts of existing Joshua tree woodlands which have been identified by resource agencies as having a high priority for acquisition for conservation. All mitigation lands preserved on site or acquired off site should be deeded to a local land conservancy and protected in perpetuity under a conservation easement to prohibit incompatible uses on the site.
e. CDFW does not support transplanting Joshua trees as a CEQA mitigation measure. Because this practice is experimental in nature it doesn't generally meet the intent of CEQA Guidelines Section 15041, and does not mitigate for the loss of this habitat on a vegetative community level. Decades of monitoring would be required to assure that transplanted trees survive, flower and set seed within appropriate habitat in order to conclude that this proposal was successful to any level of certainty.
f. The City of Palmdale Desert Native Vegetation Zoning Ordinance # 952 requires the loss of Joshua trees be compensated for by leaving two Joshua trees per acre on site. The Department has concerns regarding the implementation of Ordinance #952 as a mitigation policy under CEQA. The ordinance does not appear to have been subjected to scientifically based review regarding effectiveness in providing restoration and/or preservation value on an ecosystem level that results in the reduction of project specific impacts below a significant level under CEQA. Ordinance #952 appears to be implemented by the City of Palmdale more as a suburban landscape/aesthetic mitigation measure for the project and is not evaluated in the CEQA document for its biological effectiveness and therefore should not be included as an effective

mitigation measure for project impacts to biological resources under CEQA.

g. The County of Los Angeles has a Significant Ecological Area (SEA) Program. The SEA Program recently circulated a draft ordinance (http://planning.lacounty.gov/site/sea/documents/) to guide development in areas designated as an SEA. I don't believe the Ave. N project is located in an SEA, but the County may have guidance they issue to entities proposing development within habitats effected by Ave. N interchange project that Caltrans can evaluate their impacts against. Caltrans should contact LA County Department of Regional Planning biological staff (http://planning.lacounty.gov/) for whether they have a County-wide ordinance for protected trees or vegetation communities present in Ave. N project area. If you need a contact there please let me know.

F. A note about recommendations contained in these meeting minutes. All recommendations contained in these meeting minutes are solely those of myself. They represent my expert opinion based on my experience and training involving the policy and regulations of CDFW. Recommendations are not the final determination of CDFW. A final determination on these matters can only be made according to a valid delegation of signature authority according to CDFW policy (see Departmental Bulletin 2014-01).

Sincerely,

Matt Chirdon
California Department Fish and Wildlife
Senior Environmental Scientist
(Specialist)

3. Caltrans Coordination with FHWA

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
District 7, 100 S. Main Street, Los Angeles, CA
90012
PHONE (213) 897-3656
FAX (213) 897-3836
www.dot.ca.gov

Making Conservation a California Way of Life.

August 22, 2019

Ms. Tashia J. Clemons
U.S. Department of Transportation
Federal Highway Administration
650 Capitol Mall, Suite 4-100
Sacramento, CA 95814

Attention: Joseph Vaughn

RE: Project-Level Conformity Determination for the State Route 14/Avenue N Interchange Improvement and Avenue N Widening Project (FTIP ID# LA0G898, Caltrans 07-31020)

Dear Ms. Tashia J. Clemons:

The California Department of Transportation (the Department) requests that the Federal Highway Administration issue a project-level conformity determination for the State Route 14 (SR-14)/Avenue N interchange improvement and Avenue N widening project (EA 31020/EFIS 0714000333, TIP No. LA0G898). The project proposes to construct two roundabouts at the Avenue N and SR-14 interchange. It would also widen Avenue N to accommodate additional traffic lanes, raised center median, sidewalks, and bike lanes. The project is located on SR-14 at Post Mile R63.47/63.87 and on Avenue N between 17th Street West and 10th Street West in Los Angeles County. The project is in an area that is designated Nonattainment for Ozone only. Details of the analysis are contained in the enclosed Air Quality Conformity Analysis report and related materials.

The project area is subject to regional conformity analysis requirements. The attached conformity analysis demonstrates that the project is listed in the conforming Regional Transportation Plan and Transportation Improvement Program, and therefore that it meets regional conformity requirements for a project-level conformity determination.

Public involvement included advertising the availability of the conformity analysis for 45 days beginning on April 25, 2019. No public comments related to conformity requirements were received.

This project has been assigned to the Department under 23 USC 327 (NEPA Assignment) and the proposed approval date of the final NEPA document is expected on or about September 16, 2019. We would appreciate your assistance with providing a conformity determination prior to that date.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

If you have any questions regarding this conformity analysis, please contact Andrew Yoon at 213-897-6117 or Andrew_yoon@dot.ca.gov.

Sincerely,

Andrew Yoon, P.E.
Senior Transportation Engineer
Air Quality Branch
Office of Environmental Engineering
Division of Environmental Planning

c: Karl Price, Senior Environmental Planner, Division of Environmental Planning, District 7

Enclosure

U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
California Division

650 Capitol Mall, Suite 4-100
Sacramento, CA 95814
(916) 498-5001
(916) 498-5008 (fax)

September 9, 2019

In Reply Refer To:
HDA-CA

John Bulinski, District Director
California Department of Transportation
District 7
100 South Main Street, Suite 100
Los Angeles, CA 90012-3606

Attention: Andrew Yoon

Dear Mr. Bulinski:

SUBJECT: Project Level Conformity Determination for the State Route 14/Avenue N Interchange Improvement Project (FTIP ID# LA0G898)

On August 22, 2019, the California Department of Transportation (Caltrans) submitted to the Federal Highway Administration (FHWA) a complete request for a project level conformity determination for the State Route 14/Avenue N Interchange Improvement Project. The project is in an area that is designated Non-Attainment or Maintenance for Ozone, PM10 and PM2.5.

The project level conformity analysis submitted by Caltrans indicates that the project-level transportation conformity requirements of 40 CFR Part 93 have been met. The project is included in the Southern California Association of Governments' (SCAG) current Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP), as amended. The design concept and scope of the preferred alternative have not changed significantly from those assumed in the regional emissions analysis.

Based on the information provided, FHWA finds that the State Route 14/Avenue N Interchange Improvement Project conforms with the State Implementation Plan (SIP) in accordance with 40 CFR Part 93.

If you have any questions pertaining to this conformity finding, please contact Joseph Vaughn at (916) 498-5346 or by email at Joseph.Vaughn@dot.gov.

Sincerely,

Tashia J. Clemons
Director, Planning and Environment

4. General Project Coordination

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 7, DIVISION OF ENVIRONMENTAL PLANNING
100 S. MAIN STREET, SUITE 100, MS 16A
LOS ANGELES, CA 90012
PHONE (213) 897-9016
FAX (213) 897-0685
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

May 23, 2018

Planning Manager
Planning Division
City of Palmdale
38250 Sierra Highway
Palmdale, CA 93550

RE: State Route 14 (SR-14)/Avenue N Widening and Interchange Project
City of Palmdale, Los Angeles County

To whom it may concern:

Caltrans is currently performing environmental review of a proposed project in the City of Palmdale, in Los Angeles County, California. The cultural resources review is being performed for Section 106 of the National Historic Preservation Act of 1966 conformance.

The State Route 14 (SR-14)/Avenue N Widening and Interchange Project proposes to upgrade and improve transportation facilities at the SR-14/Avenue Non-ramps and off-ramps and along Avenue N between 10th Street West and 17th Street West. The project is located at Avenue N along SR-14 between Post Miles (PM) R63.4 and R63.9 in Palmdale. This project aims to improve mobility and enhance traffic safety for motorized and non-motorized users while alleviating the backup traffic conditions of the Avenue on- and off-ramps and to upgrade Avenue N to be consistent with the City of Palmdale's General Plan. The project will also incorporate active transportation (Complete Streets) and fulfill American with Disabilities Act (ADA) requirements.

There are two alternatives being considered this project, "No Build" and a "Build" alternative:

Alt 1 – No Build No project would be built.
Alt 2 – Roundabout Reconstruct the Avenue N interchange at SR-14 with a footprint to accommodate 2-lane roundabouts at the ramp termini for both northbound and southbound, but with striping as single-lane roundabouts for southbound on- and off-ramps.
Widen the existing Avenue N Overcrossing bridge by 48.5 feet to the north to accommodate the proposed 2-lane roundabout at the termini.
Widen Avenue N to add two 12-foot lanes from 17th Street West to the Avenue N Overcrossing.
Widen Avenue N to add a 12-foot wide median, and two 8-foot wide bike lanes within the project limits.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

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4.2 Public Participation

The Draft Initial Study/Environmental Assessment (IS/EA) was prepared and circulated for public review and comments for a 45-day period from April 30, 2019 to June 7, 2019. A Notice of Availablilty (NOA) and Notice of Public Hearing of the Draft IS/EA were sent to the project distribution list, which consisted of residents within a 0.5-mile radius of the project site, federal, state, and local agencies with jurisdiction over the project, elected officials, neighborhood and community groups, civic organizations, utility companies, businesses, and employment centers. It included approximately 45 agencies, 12 elected officials, and 400 residents. The NOA and Notice of Public Hearing were also published in two local newspapers on April 29, 2019, the Antelope Valley Press and La Opinion, to notify the public about the Public Hearing.

A Public Hearing was held May 22, 2019 from 7:00 PM to 9:00 PM at the Administrative Building in Palmdale, CA. The purpose of the public hearing was to provide consultation with members of the public. A total of 13 people signed in at the meeting, including City, County, and Agency staff, a representative from Superviser Kathryn Barger's office, and local residents.

The meeting format was an open house and included a discussion with project staff and local residents. The open house allowed community members to view informational boards and speak directly with project staff. The community was provided with poster boards that displayed the environmental process and the project details. Poster boards included the project footprint, project design, proposed Right-of-Way acquisitions (including TCEs), proposed noise barriers, and information posters about the environmental process, project schedule, and the purpose and need of the project. Additionally, hand outs containing project details and information on relocation rights were provided. Attendees were also provided the opportunity to fill out a comment card.

4.3 Response to Comments

This section presents the responses to public comments received during the public review period for the Draft IS/EA for this project, as summarized in Table 4.3-1.

Please see the responses below. There were a total of four comment letters received three from agencies and one from a member of the public. No written comments were provided at the public hearing.

Table 4.3-1 List of Coded Comment Letters

Code	*Commenter Name*	*Date*
Federal Agencies		
F-1	Federal Emergency Management Agency (FEMA)	May 9, 2019
Local Agencies		
L-1	Lahontan Regional Water Quality Control Board (California Water Boards)	June 4, 2019
L-2	County of Los Angeles	June 7, 2019
General Public		
G-1	Jim Nyholt	June 5, 2019

Federal Agencies

Federal Emergency Management Agency

U.S. Department of Homeland Security
FEMA Region IX
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052

FEMA

May 9, 2019

Karl Price, Senior Environmental Planner
Division of Environmental Planning
CalTrans District 7
100 South Main Street, Suite 100 MS-16A
Los Angeles, California 90012

Dear Mr. Price:

This is in response to your request for comments regarding the Notice of Intent to Adopt Negative Declaration, Notice of Availability of Environmental Assessment and Notice of Public Hearing – SR-14/Avenue N Interchange Improvements Project.

Please review the current effective Flood Insurance Rate Maps (FIRMs) for the County of Los Angeles (Community Number 065043), City of Los Angeles (Community Number 060137), Maps revised December 21, 2018 and City of Palmdale (Community Number 060144), Maps revised September 26, 2008. Please note that the Cities of Palmdale and Los Angeles, Los Angeles County, California are participants in the National Flood Insurance Program (NFIP). The minimum, basic NFIP floodplain management building requirements are described in Vol. 44 Code of Federal Regulations (44 CFR), Sections 59 through 65. F-1-1

A summary of these NFIP floodplain management building requirements are as follows:

- All buildings constructed within a riverine floodplain, (i.e., Flood Zones A, AO, AH, AE, and A1 through A30 as delineated on the FIRM), must be elevated so that the lowest floor is at or above the Base Flood Elevation level in accordance with the effective Flood Insurance Rate Map. F-1-2

- If the area of construction is located within a Regulatory Floodway as delineated on the FIRM, any ***development*** must not increase base flood elevation levels. **The term *development* means any man-made change to improved or unimproved real estate, including but not limited to buildings, other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, and storage of equipment or materials.** A hydrologic and hydraulic analysis must be performed *prior* to the start of development, and must demonstrate that the development would not cause any rise in base flood levels. No rise is permitted within regulatory floodways. F-1-3

www.fema.gov

- All buildings constructed within a coastal high hazard area, (any of the "V" Flood Zones as delineated on the FIRM), must be elevated on pilings and columns, so that the lowest horizontal structural member, (excluding the pilings and columns), is elevated to or above the base flood elevation level. In addition, the posts and pilings foundation and the structure attached thereto, is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. F-1-4

- Upon completion of any development that changes existing Special Flood Hazard Areas, the NFIP directs all participating communities to submit the appropriate hydrologic and hydraulic data to FEMA for a FIRM revision. In accordance with 44 CFR, Section 65.3, as soon as practicable, but not later than six months after such data becomes available, a community shall notify FEMA of the changes by submitting technical data for a flood map revision. To obtain copies of FEMA's Flood Map Revision Application Packages, please refer to the FEMA website at http://www.fema.gov/business/nfip/forms.shtm. F-1-5

Please Note:

Many NFIP participating communities have adopted floodplain management building requirements which are more restrictive than the minimum federal standards described in 44 CFR. Please contact the local community's floodplain manager for more information on local floodplain management building requirements. The Palmdale floodplain manager can be reached by calling Bill Padilla, City Engineer, at (661) 267-5353. The Los Angeles floodplain manager can be reached by calling Romano Galassi, Civil Engineer Associate, at (213) 847-0405. The Los Angeles County floodplain manager can be reached by calling Patricia Wood, Senior Civil Engineer, at (626) 458-6131. F-1-6

If you have any questions or concerns, please do not hesitate to call Brian Trushinski of the Mitigation staff at (510) 627-7183.

Sincerely,

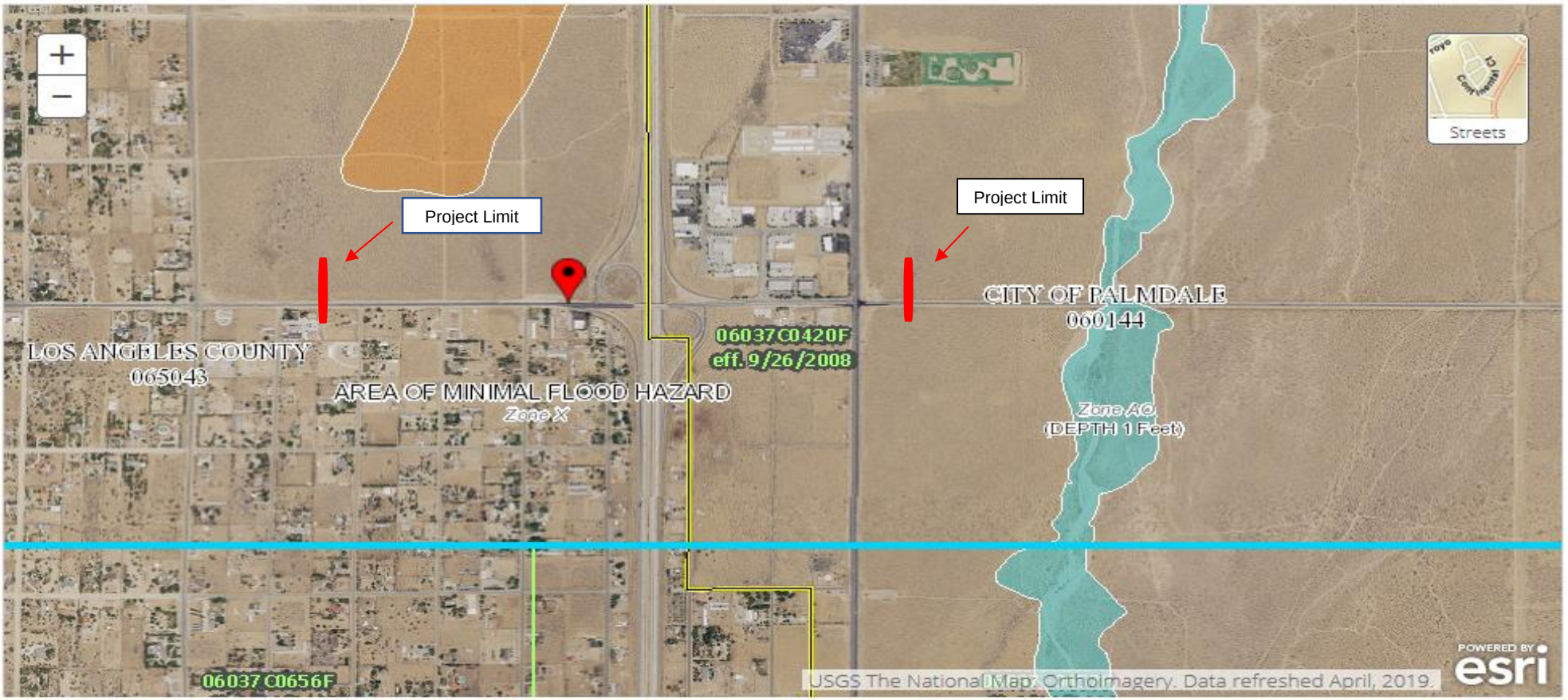
Gregor Blackburn, CFM, Branch Chief
Floodplain Management and Insurance Branch

cc:
Bill Padilla, City Engineer, City of Palmdale
Romano Galassi, Civil Engineer Associate, City of Los Angeles
Patricia Wood, Senior Civil Engineer, Los Angeles County
Garret Tam Sing, State of California, Department of Water Resources, Southern Region Office
Brian Trushinski, NFIP Planner, DHS/FEMA Region IX
Alessandro Amaglio, Environmental Officer, DHS/FEMA Region IX

Response to comment F-1-1

The Flood Insurance Rate Maps (FIRMs) for the project area (Figure 4.3-1) have been evaluated and indicate the project is located in an “Area of Minimal Flood Hazard-Zone X”.

Figure 4.3-1 FEMA Flood Map



Source:
https://msc.fema.gov/portal/search?AddressQuery=1326%20W%20Ave%20N%2C%20Palmdale%2C%20CA%2093551#searchresultsanchor

Response to Comment F-1-2
As shown in Figure 4.3-1, no riverine floodplains (i.e. Flood Zones A, AO, AH, AE and A1 through A30) are located within the project limits. Additionally, no buildings will be constructed as a result of this project.

Response to Comment F-1-3
As shown in Figure 4.3-1, the project is not located within any Regulatory Floodways.

Response to Comment F-1-4
As shown in Figure 4.3-1, the project is not located within a coastal high hazard area.

Response to Comment F-1-5
The project would not result in development that would change any existing Special Flood Hazard Area.

Response to Comment F-1-6
The City of Palmdale and County of Los Angeles have been active participants in the development of this project. It has been evaluated by City and County staff and been determined that there is no conflict with local floodplain management plans. The project is not located within the jurisdiction of the City of Los Angeles.

Local Agencies

Lahontan Regional Water Quality Control Board

CALIFORNIA Water Boards

GAVIN NEWSOM GOVERNOR

JARED BLUMENFELD SECRETARY FOR ENVIRONMENTAL PROTECTION

Lahontan Regional Water Quality Control Board

June 4, 2019

File: Environmental Doc Review
Los Angeles County

Karl Price, Senior Environmental Planner
California Department of Transportation
100 S. Main Street, MS 16A
Los Angeles, CA 90012
Karl.price@dot.ca.gov

Comments on the Initial Study/Environmental Assessment, Avenue N Interchange Improvements Project, Los Angeles County, State Clearinghouse Number 2019049144

The California Regional Water Quality Control Board, Lahontan Region (Water Board) staff received an Initial Study with Proposed Negative Declaration/Environmental Assessment (IS/EA) for the above-referenced Project (Project) on April 29, 2019. The IS/EA was prepared by the California Department of Transportation (Caltrans) in conjunction with the City of Palmdale (City) and submitted in compliance with provisions of the California Environmental Quality Act (CEQA). Based on our review of the IS/EA, we recommend the following: (1) the IS/EA acknowledge that the riverine wetland along 18th Street is a water of the State and that impacts to this resource will require a permitting action by the Water Board; (2) the IS/EA be corrected to state that all beneficial uses are applicable to all water resources on the Project site regardless of whether the surface waters are perennial, intermittent, or ephemeral; and (3) the IS/EA identify specific mitigation measures to reduce the effects of hydromodification. Our comments are outlined below. L-1-1

WATER BOARD'S AUTHORITY

All groundwater and surface waters are considered waters of the State. All waters of the State are protected under California law. State law assigns responsibility for protection of water quality in the Lahontan Region to the Lahontan Water Board. Some waters of the State are also waters of the United States. The Federal Clean Water Act (CWA) provides additional protection for those waters of the State that are also waters of the United States.

The *Water Quality Control Plan for the Lahontan Region* (Basin Plan) contains policies that the Water Board uses with other laws and regulations to protect the quality of waters of the State within the Lahontan Region. The Basin Plan sets forth water quality standards for surface water and groundwater of the Region, which include designated beneficial uses as well as narrative and numerical objectives which must be maintained

PETER C. PUMPHREY, CHAIR | PATTY Z. KOUYOUMDJIAN, EXECUTIVE OFFICER

2501 Lake Tahoe Blvd., So. Lake Tahoe, CA 96150 | 15095 Amargosa Road, Bldg 2, Ste 210, Victorville CA 92394
e-mail Lahontan@waterboards.ca.gov | website www.waterboards.ca.gov/lahontan

or attained to protect those uses. The Basin Plan can be accessed via the Water Board's web site at http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin plan/references.shtml.

WATER QUALITY CONCERNS

Our comments on the Project are outlined below.

1. Early consultation with Water Board staff in 2018 did not indicate that Project boundaries would impact the riverine wetland along 18th Street. The consultation in 2018 only covered two small man-made storm water drainages that drain either onto undeveloped land or to a concrete-lined storm water drainage. The riverine wetland is considered a water of the State. Impacts to this feature will require a permit action by the Water Board. L-1-2

2. The Project site is located within the Lancaster Hydrologic Area (626.50) of the Antelope Hydrologic Unit (626.00), and groundwater beneath the Project site is contained within the Antelope Valley Groundwater Basin (6-44). The beneficial uses of these water resources are listed either by watershed (for surface waters) or by groundwater basin (for groundwater) in Chapter 2 of the Basin Plan. *These beneficial uses are applicable to all water on the Project site regardless of whether the surface waters are perennial, intermittent, or ephemeral.* Therefore, we request that the IS/EA identify and list the beneficial uses of the water resources within the Project area, and include an analysis of the Project's potential impacts to water quality and hydrology with respect to those beneficial uses. L-1-3

3. Because increased runoff from developed areas is a key variable driving a number of adverse effects, attention to maintaining the pre-development hydrograph will prevent or minimize many problems and will limit the need for other analyses and mitigation. Traditional methods for managing urban storm water do not adequately protect the environment and tend to treat symptoms instead of causes. Such practices have led to channelization and stream armoring that permanently alter stream habitat, hydrology, and aesthetics, resulting in overall degradation of a watershed. L-1-4

   Storm water control measures that **are compatible with Low Impact Development (LID) are preferred over more traditional methods. Examples include the use of bioretention swales, pervious pavement, and vegetated infiltration basins, all of which can** effectively treat post-construction storm water runoff, help sustain watershed processes, protect receiving waters, and maintain healthy watersheds. Any particular one of these control measures may not be suitable, effective, or even feasible in every instance, but the right combination, in the right places, can successfully achieve these goals. We encourage Caltrans to incorporate storm water controls compatible with LID into this Project to reduce the potential effects of hydromodification.

PERMITTING REQUIREMENTS

A number of activities associated with the proposed Project may have the potential to impact waters of the State and, therefore, may require permits issued by either the State Water Board or Lahontan Water Board. The required permits may include the following.

4. Streambed alteration and/or discharge of fill material to a surface water may require a CWA, section 401 water quality certification for impacts to federal waters (waters of the U.S.), or dredge and fill waste discharge requirements for impacts to non-federal waters, both issued by the Lahontan Water Board. All unavoidable permanent impacts to waters of the State must be mitigated to ensure no net loss of beneficial use and wetland function and value. Water Board staff coordinate mitigation requirements with staff from federal and other state regulatory agencies. In determining appropriate mitigation ratios for impacts to waters of the State, we consider Basin Plan requirements (minimum 1.5 to 1 mitigation ratio for impacts to wetlands) and utilize 12501-SPD Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios, published December 2012 by the US Army Corps of Engineers, South Pacific Division. L-1-5

5. Land disturbance of more than 1 acre may require a CWA, section 402(p) storm water permit, including a National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit, Water Quality Order (WQO) 2009-0009-DWQ, obtained from the State Water Board, or individual storm water permit obtained from the Lahontan Water Board. L-1-6

We request that the draft IS/EA recognize the potential permits that may be required for the Project, as outlined above, and identify the specific activities that may trigger these permitting actions in the appropriate sections of the environmental document. Information regarding these permits, including application forms, can be downloaded from our website at http://www.waterboards.ca.gov/lahontan/. Early consultation with Water Board staff regarding potential permitting is recommended. L-1-7

Thank you for requesting our consultation. If you have any questions regarding this letter, please contact me at (760) 241-7305 (tiffany.steinert@waterboards.ca.gov) or Jan Zimmerman, Senior Engineering Geologist, at (760) 241-7376 (jan.zimmerman@waterboards.ca.gov). Please send all future correspondence regarding this Project to the Water Board's email address at Lahontan@waterboards.ca.gov and be sure to include the Project name in the subject line. L-1-8

Tiffany Steinert, GIT
Engineering Geologist

Karl Price - 4 - June 4, 2019

cc: CA Dept. of Fish and Wildlife (AskR5@wildlife.ca.gov)
State Clearinghouse (SCH 2019049144) (state.clearinghouse@opr.ca.gov)

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Response to Comment L-1-1

Thank you for your comments. They will be more specifically addressed in responses to comments L-1-2 through comment L-1-7.

Response to Comment L-1-2

Figure 2.3-3 National Wetlands Inventory Mapper, in the IS/EA, shows an incorrect project footprint. The actual footprint is the same as what was discussed during our early consultation with Water Board staff and stops East of 18th Street West. The riverine wetland near 18th Street West is outside of the proposed project limits and will not be impacted by the project. Figure 2.3-3 has been revised in the final environmental document to show the correct project limits. Since the riverine wetland will not be impacted, it will not be included in a Water Board permit. We apologize for the confusion.

Response to Comment L-1-3

A table has been added to Section 2.2.2 Water Quality and Storm Water Runoff, which lists all the beneficial uses of all drainages within the project area. None of the area's beneficial uses would be affected.

In the project area there is a man-made concrete-lined box channel which flows north to drain into a man-made detention basin. When the detention basin overflows, the water may drain into the Piute Ponds and possibly into Rosamond Dry Lake. There two other roadside man-made drainages in the project area. Both of these roadside drainages only purvey sheet flow and drain into the desert landscape. One of the drainages, nearest to 18th Street West, is outside of the project limits, therefore both the riverine itself and its beneficial uses will not be impacted as a result of the proposed project. The other drainage, nearest to 15th Street West and the concrete box channel will experience minimal impacts to its beneficial uses as a result of the proposed project.

Table shows the beneficial uses for the Antelope Valley Hydrologic Unit (626.00) for minor surface waters, for the Lancaster Hydrologic Area for minor surface waters, and for the Antelope Valley Groundwater Basin.

The potential beneficial uses for the project area include the following:

MUN = Municipal and Domestic Supply; AGR= Agricultural Supply; GWR = Groundwater Recharge; REC-1 = Water Contact Recreation; REC-2 = Noncontact Water Recreation; COMM

= Commercial and Sports Fishing; WARM = Warm Freshwater Habitat; FLD = Flood Peak Attenuation/Flood Water Storage; COLD = Cold Freshwater Habitat; WILD = Wildlife Habitat; IND= Industrial Service Supply

The only beneficial uses that may potentially be affected as a result of the proposed project include FLD -Flood Peak Attenuation/Flood Water Storage and GWR-Groundwater Recharge. The purpose for all of the drainages in the project area, are for stormwater collection and flood drainage. These drainages may experience minor localized increase in stormwater runoff due to the added impervious surfaces from the project. With stormwater increase, there would be a potential increase in groundwater recharge near the drainages. All other beneficial uses within the project area would not be affected.

Because runoff would be collected and conveyed into the designed drainage network, the project would not substantially alter the existing pattern of natural surface drainage in the project vicinity. With implementation of Permanent BMPs, the project would not appreciably impact water quality because it would not substantially contribute to the exceedance of any adopted water quality standard or conflict with WQOs, plans, goals, policies, or implementation of the Lahontan RWQCB's Basin Plan.

During construction, Caltrans standard construction BMPs, the SWPPP, and the NPDES General Permit regulations will be applied during construction in order to prevent construction discharge from contaminating any waters in the project area. After construction, Maintenance BMPs will further prevent contamination from affect water sources in the project area.

The proposed project will feature drainage inlets, catch basins, storm drain pipes, drainage culverts and permanent treatment BMPs. All of these drainage features will prevent any substantial impacts to the Beneficial Uses within the project area.

Response to Comment L-1-4

Low Impact Developments are not suitable for the proposed project as regular Best Management Practices (BMPs) are included as part of the project. However, Low Impact Development (LID) features may be considered during the final design phase of the project.

Response to Comment L-1-5

Based on an assessment of impacts and coordination with regulatory agency staff, it has been determined that this project will require a Section 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife and an NPDES Statewide Stormwater Permit from the Lahontan Water Board. The required permits are summarized in Table 1.6-1. There are no federally jurisdictional waters present within the project area; therefore, a Section 401 water quality certification will not be required.

Response to Comment L-1-6

The following permits will be obtained for the proposed project:

From the State Water Resources Control Board (SWRCB), NPDES Construction General-Permit Order No. 2009-009-DWQ, Permit Order No. 2010-0014-DWG, and Permit Order No. 2012-0006-DWQ, NPDES No. CAS000002 (Section 402 of the CWA).

From the Regional Water Quality Resources Control Board (RWQCB), National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ).

These permits are identified in Table 1.6-1 of this document.

Caltrans will consult with the Lahontan Water Board during later project phases in order to obtain the necessary permits.

Response to Comment L-1-7

All necessary permits have been identified in Table 1.6-1 and are discussed further in the appropriate sections of the final environmental document. Caltrans will coordinate with the Lahontan Water Board during the final design phase of the project.

Response to Comment L-1-8

Contacts are noted. Thank you for your comments.

County of Los Angeles

June 7, 2019

Mr. Karl Price
Senior Environmental Planner
Caltrans District 7, Division of Environmental Planning
100 South Main Street, MS-16A
Los Angeles, CA 90012

Dear Mr. Price,

STATE ROUTE 14 / AVENUE N INTERCHANGE IMPROVEMENTS PROJECT
INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION
ENVIRONMENTAL ASSESSMENT

Thank you for the opportunity to review the Initial Study/Environmental Assessment for the proposed project. The State Route 14 (SR-14)/Avenue N Interchange Improvements project proposes to upgrade and improve transportation facilities at the SR-14/Avenue N on ramps and off-ramps and along Avenue N between 17th Street West and 10th Street West.

The following comments from Los Angeles County Public Works are for your consideration:

1. Pg. 16 Alternative 2- Build Alternative: Hybrid Roundabout

    a. The project description is inadequate for the public to understand the scope of the project and to evaluate the impacts of the project on County interests. Part of the description is: "Avenue N currently consists of one lane in each direction with approximately 26 feet of paved roadway and would be widened to a width of 80 feet of paved roadway to match the existing Right- of -Way limit." However, further in the document it states that there will be right-of-way acquisition to accommodate widening of Avenue N, including full property takes, in County territory. Info on required right-of-way must be included in the project description. Likewise, there is no discussion of alternate access needing to be provided to the animal hospital. L-2-1

2. Pg. 19 Alternative Build 2

    a. Provide a 7-foot wide bike lane with a 4-foot wide buffer on Avenue N within County Jurisdiction and along the bridge. L-2-2

3. Pg. 22 Figure 1.5-2

    a. Please provide concept drawings which provides similar footprints as described in Alternative Build 2. The provided drawings do not reflect Alternative Build 2 west of the 14 Freeway L-2-3

    b. Please provide a concept drawing which provides the footprint for the COM-1 Mitigation for alternative frontage road access for the Antelope Valley Animal Hospital. The provided drawings do not reflect the COM-1 Mitigation L-2-4

4. Pg. 59 Avoidance, Minimization, and/or Mitigation Measures, Build Alternative

    a. Discussion of providing an alternative access to the Animal Hospital is inadequate as it leaves the decision of what the design will be until final design. Listing possible solutions is not adequate; an alternative must be proposed as part of the project, included in the project decision, and analyzed for impacts to the environment, including human environment (or all alternatives described, analyzed, and mitigation provided). Include work required on 15th St. W if any, which is a private road which would need to be converted to public road. L-2-5

    b. COM-1

    Delete the first sentence and discuss the alternative in the document. Any measures incorporated for it would be mitigation, not minimization. L-2-6

5. Pg. 64 Section 2.1.2.2 and Pg. 270 Section 3.1.13

    a. COM-1 – same comment as above L-2-7

    b. REL-1 - Acquisition of residences is a significant impact to the human environment. This impact must be mitigated; a minimization measure is not applicable. Revise the document to reflect this. L-2-8

    c. REL-1 States Caltrans shall do right-of-way acquisition, but the Environmental Commitment Record indicates that the County and the City of Palmdale will do it. It should be clear which entity will provide this Mitigation (not minimization), both here and on the required Mitigation Monitoring and Reporting Program. L-2-9

    d. Since compliance with comments 2 & 3 will introduce new impacts and new mitigation measures, the document must be revised to reflect that and recirculated for public review as a Mitigated Negative Declaration or EIR. L-2-10

6. Pg. 69 EJ-1

    a. This should be revised to offer translation services in any language required and to all property owners affected by acquisition, not just displaced residents. L-2-11

7. Page 72 Section 2.1.3.3

    a. Waterworks District No. 40, Antelope Valley, requests that any watermain relocation construction be included with the Caltrans construction contract for better coordination. L-2-12

8. Pg. 83 Section 2.1.4.3

    a. Please include following language from the County of Los Angeles General Plan.

        Level of Service

        DPW uses level of service (LOS) to assess the congestion of roadways in the transportation system. Based on a roadway's volume-to-capacity ratio (the number of vehicles currently using the roadway compared to the ideal maximum number of vehicles that can efficiently use the roadway), a letter designation assigned that represents the traffic flow conditions, or LOS. Letter designations "A" through "F" represent progressively declining traffic flow conditions. LOS designations indicate whether the roadways are operating in excess of their intended capacity. Acceptable LOS is determined on a case by case basis, but generally, Level D is the desired minimum LOS. In some instances, LOS below D will be deemed acceptable in order to further other General Plan goals and policies, such as those that protect environmentally sensitive areas, promote active transportation, and encourage infill development, particularly within the Transit Orientated Districts. For the freeway system, DPW will work closely with Caltrans to identify potential significant traffic impacts and traffic mitigations to alleviate traffic congestion within the unincorporated areas. L-2-13

9. Pg. 93 Environmental Consequences, Build Alternative

    a. The discussion of visual impact states that "The Project would not create walls or raised features higher than one foot." However, the Noise section indicates that sound walls may be incorporated into the project. Please resolve. L-2-14

10. Pg. 130 PF-HAZ-1 & 2

    a. If hazardous material contamination or sources are suspected, a preliminary investigation must be performed, and findings discussed as part of this draft document. Delaying investigation to the PS&E phase, after this document is completed, could result in impacts and mitigations that would not have been disclosed. L-2-15

11. Page 275 Chapter 3

    a. Section 3.1.16 Transportation

        i. Item a) - Please include a Section on the County's General Plan and whether or not the project complies with the County's General Plan.

        ii. Item a) - Please provide a 7-foot wide bike lane with a 4-foot wide buffer on Avenue N on County jurisdiction and along the bridge. L-2-16

        iii. Item b) - Please include a Section on the County's General Plan and whether or not the project complies with County's General Plan.

        iv. Item b) – Please note the determination of significant impact vs less than significant impact should be based on an analysis scenario of build conditions compared to existing conditions (not no-build conditions). Please alter language to reflect the analysis scenarios for County roadways and intersections.

12. Since mitigation will be required, the Environmental Commitment Record should be a Mitigation Monitoring/Reporting Program. L-2-17

We request the opportunity to review the future environmental document when it is available. If you have any question or require additional information, please contact Mr. Jose Suarez of Public Works' Land Development Division at (626) 458-4921 or jsuarez@dpw.lacounty.gov.

Response to Comment L-2-1

Due to public comments, Avenue N between SR-14 and 15th Street West has been shifted north so that full acquisition of the developed properties to the south will no longer be required. The project description has been revised and updated to reflect the latest design changes. The updated project description also includes Right-of-Way (ROW) information. The new design allows for direct access (ingress and egress) to the Animal Hospital from Ave N; alternative access will no longer be needed. Please refer to Section 1.5 Alternatives for the detailed project description and figures.

Response to Comment L-2-2

During previous discussions, Los Angeles County required that the roadway along Avenue N remain within an 80-foot wide boundary. However, there has been a recent update in the project design. The modified design shifts Avenue N up to the north slightly from SR-14 SB on and off-ramps until a little past 15th Street West until it curves back down along the rest of Avenue N to maintain the 80-foot existing ROW width. The portion of Avenue N that will be shifted north will still maintain the 80-foot width. This design adjustment will not require any relocations nor acquisitions of residential properties on the Los Angeles County unincorporated side of the project limits. Only TCEs would be needed in on the south side of Avenue N near the residential areas.

Therefore, by maintaining this 80-foot width, there is no way to accommodate a 7-foot bike lane with a 4-foot buffer since this would require additional ROW acquisition along all of Avenue N on the County side. In order to maintain the 80-foot width, a 4-foot wide bike lane and 6-foot wide sidewalk along Avenue N on the County side of the project is feasible.

Along the bridge, a 12.5 foot (westbound) and 20 foot (eastbound) multi-use path would be provided. This multi-use path would be open for use by pedestrians and bicyclists.

Response to Comment L-2-3

The project design has been updated and the design maps have been revised accordingly and show more detail of the design elements. Please see Figures 1.5-1 through 1.5-3.

Response to Comment L-2-4

Shifting Avenue N north, as mentioned in Response to Comment L-2-1, has eliminated the need to provide a frontage road as alternate access to the Animal Hospital. Therefore, measure COM-1 is no longer needed and has been removed.

Response to Comment L-2-5

Please see the Response to Comment L-2-4 above.

Response to Comment L-2-6

Measure COM-1 has been removed. Please see the Response to Comment L-2-4.

Response to Comment L-2-7

Measure COM-1 has been removed. Please see the Response to Comment L-2-4.

Response to Comment L-2-8

Residential relocations are no longer required for this project. Please see the Response to Comment L-2-1.

Response to Comment L-2-9

The City of Palmdale will be conducting the ROW acquisitions for this project. REL-1 and the Environmental Commitment Record have been revised to reflect this. See response to comment L-2-17.

Response to Comment L-2-10

The project has been modified in a way that reduces impacts, and no new properties that were not previously identified will be affected (although some properties will be affected a little more, some will be affected substantially less).

Section 15073.5 of CEQA requires that a negative declaration be recirculated if it has been "substantially revised" after public review but prior to adoption. CEQA further indicates substantial revision shall mean:

1) A new, avoidable significant effect is identified, and mitigation measures or project revisions must be added in order to reduce the effect to insignificance, or
2) The lead agency determines that the proposed mitigation measures or project revisions will not reduce potential effects to less than significant and new measures or revisions must be required.

Neither of these criteria have been met. Therefore, recirculation is not required. Also, since no mitigation is warranted, a Negative Declaration is the appropriate level of CEQA documentation.

Response to Comment L-2-11

EJ- 1 has been modified to include translation services to all property owners affected by acquisition.

Response to Comment L-2-12

Waterworks District Number 40, Antelope Valley will be notified when there is any watermain relocation and this will be an added provision to the construction contract. Environmental commitment **UES-1** has been added to Section 2.1.3.3 Environmental Consequences of Chapter 2.1.3 Utilities/ Emergency Services to ensure this request is outlined.

Response to Comment L-2-13

Language has been added to Chapter 2.1.4 Traffic and Transportation under Section 2.1.4.2 Affected Environment.

Response to Comment L-2-14

The Minor Level- Visual Impacts Assessment (VIA) has been updated to include the proposed soundwalls. Please see Section 2.1.5 Visual/Aesthetics. The VIA updated October 2019 includes soundwalls in its analysis.

Response to Comment L-2-15

It is not unusual for Caltrans to delay conducting the hazardous waste Site Investigation (SI) until the design, or PS&E, phase when the design has been further completed. There are several reasons why this might be done: 1) for projects with multiple alternatives, it can be costly and time consuming to analyze properties that are not included in the selected alternative. Plus, there could be financial and legal consequences for the property owner should some previously unidentified contamination be found; 2) shifts in the alignment made during final design could result in a change in the properties being affected (new properties added or old properties deleted); and 3) if a project gets delayed or canceled (which happens sometimes), the value of the SI is diminished or, in some cases, the time and expense is wasted.

The decision on whether to delay the SI or not is made on a project by project basis. Based on the current Hazardous Waste review, only minimal contamination is anticipated. Therefore, it is considered a low-risk decision to delay the SI until PS&E. It is standard practice for Caltrans to prepare a re-validation of the project and potential impacts during the PS&E phase, after the specific design details have been identified. Should substantial new information come to light, we would be required to re-circulate the document at that time.

Response to Comment L-2-16

i. Item a) The proposed project would comply with the Los Angeles County General Plan as the overall LOS would improve. The LOS would increase to LOS D or higher for the overall project. Additionally, the project incorporates active transportation. Appropriate language has been added to Chapter 2.1.4 Traffic and Transportation and in Chapter 3.1.16 Transportation/Traffic.
ii. Item a) Please see the response to comment L-2-2.
iii. Item b) Please see the response to comment L-2-16, i) Item a.
iv. Item b) The appropriate language has been added. The determination of significance was analyzed by comparing existing conditions to the build alternative; this change in text does not alter the conclusions of our analysis.

Response to Comment L-2-17

Section 15097(a) of CEQA states that a public agency shall prepare a mitigation monitoring or reporting program [MMRP] if “findings” are made relative to an EIR or MND. Significant impacts will not result from this project; hence, no “findings” are required, and an ND has been prepared. Therefore, no mitigation monitoring or reporting program is required.

It should be noted that nowhere in CEQA does it state that this program must be called a “mitigation monitoring/reporting program.” Rather, it states that *in order to ensure that the mitigation measures and project revisions identified in the EIR or a negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.* Section 15097(b) provides an example of this.

It should also be noted, however, that Caltrans has adopted the Environmental Commitment Record (ECR) as its form of MMRP. Our MMRP actually consists of two documents: the ECR, which we use to keep track of and monitor all commitments (not just mitigation or project revisions related to significant impacts) and the Certificate of Environmental Compliance (CEC), which is our "report" to document that the commitments have been met. Caltrans has elected to utilize the ECR because it brings all relevant environmental compliance information related to CEQA, NEPA, and other environmental regulations, together in one place. This makes tracking the commitments and identifying action items easier. And, since environmental commitments may be identified at any phase of the project development process, having everything in one place reduces the risk of something being overlooked. The ECR meets all the requirements of an MMRP.

General Public

Jim Nyholt

ANTELOPE VALLEY ANIMAL HOSPITAL

Department of Transportation
Attention: Karl Price, Senior Environmental Planner

Regarding State Route-14 and Avenue N Interchange Improvement Project

After attending the public hearing in Palmdale on May 22, 2019, I have the following concerns:

1.) The access to our hospital off the Avenue N and State Route 14 will be significantly compromised. This property was originally purchased and the hospital opened in 1970 due to this direct access, these changes to our entrance will bring: **G-1-1**
   - Severe compromise to our business because of the difficulty of no direct access.
   - Limited client and employee access due to no entrance off a main road. (Avenue N)
   - No through traffic allowed on private roads connecting 15th Street West. Clients and employees will be forced to make an unnecessary long loop to gain west bound access.
   - Fire Department access will be delayed and restricted.
2.) Emergency vehicles, such as Fire, Paramedic and Ambulance will have difficulty getting to and entering our property. **G-1-2**
3.) I purchased the adjacent property at 1330 W. Ave. N in 1990 to allow hospital expansion, again due to the Avenue N access. **G-1-3**
4.) There is concern over hospital access during the two year construction project for clients and employees. **G-1-4**
5.) Moreover, there is much concern over noise during construction. We treat animals that can be very sensitive to noise. This creates a health risk to our doctors, staff and clients due to fractious animals biting or scratching. Surgical recovery of these patients may also be at risk. **G-1-5**
6.) We have additional concerns from a marketing perspective regarding visibility of the hospital from Avenue N and impacts to the business that may result. **G-1-6**
7.) What are the accommodations for loss of revenue? Considerations need to made, during and after construction as the changes will affect our business and may cause it to fail. **G-1-7**

In closing, I would like detailed plans for both concepts: the frontage road option and the option without bypass on Avenue N. I would also appreciate a copy of the project study report. In addition, I would like plans for a business buy out as these above mentioned changes will have a severe impact to our business. **G-1-8**
Has community outreach been done other than the public hearing on May 22, 2019? If so, I would also like documentation/copies of the outreach.
I have retained legal counsel to assist in these negotiations.

Sincerely,

Jim Nyholt D.V.M./Owner

cc: Savannah Speerstra, Environmental Planner
Donna Termeer, Senior Field Deputy to Kathryn Barger

1326 West Avenue N
Palmdale, CA 93551-2197
661/273-1234
661/273-1267 Fax

Response to Comment G-1-1

Due to public comments, the proposed design has been altered so that Avenue N between SR-14 and 15th Street West will be shifted north away from the animal hospital and other properties south of Avenue N. This shift will allow us to maintain direct access (ingress and egress) to the Animal Hospital from Avenue N.; the frontage road connecting to 15th Street West will no longer be needed. In addition, the roundabout at the SB SR-14 ramps has been modified in a way that improves traffic flow.

With these changes, vehicles, including emergency service vehicles, heading east on Avenue N will have direct access to and from your property. Because of the raised median, which is needed to improve safety by prohibiting vehicles from turning left across Avenue N, vehicles heading west on Avenue N will need to make a U-turn at 15th St. West and return eastbound to access your property. The modifications to the roundabout will provide vehicles leaving your facility with three options: they can enter directly onto the SB SR-14 on-ramp; they can cross through a break in the splitter island, enter the roundabout and exit it going east on Avenue N; or, they can cross through a break in the splitter island, travel around the roundabout, and exit going west on Avenue N.

The project description has been revised and updated to reflect the latest design changes. The updated project description also includes Right-of-Way (ROW) information. Please refer to Section 1.5, Alternatives, for the detailed project description and figures.

Response to Comment G-1-2

Please see the response to comment G-1-1 regarding how access to your facility will be maintained for all vehicles, including emergency vehicles.

Response to Comment G-1-3

Easy access to the adjacent property will be maintained. The same access route as described in response to comment G-1-1 and in the project description, will be provide to the property adjacent to the Animal Hospital. Temporary Construction Easements will be needed along the southside of Avenue N near the Animal Hospital. The Traffic Management Plan (TMP) will ensure that access to the Animal Hospital and adjacent properties maintain easy access during construction.

Response to Comment G-1-4

The project proponents are aware that road construction can be disruptive to local businesses and residents and are determined to take actions to minimize this disruption. To that end, a Traffic Management Plan (TMP) will be developed in coordination with Caltrans, the City of Palmdale, Los Angeles County, and emergency service providers, to ensure that access to your property is maintained during construction and that disruptions are kept to a minimum.

Response to Comment G-1-5

Additional measures including sound blankets and a Noise Control Plan (NPP), will be implemented during construction to avoid excessive noise levels during construction. The sound blankets will be placed on the construction fencing in order to reduce noise levels of

construction. A Noise Control Plan is a plan to ensure that noise reduction measures are implemented efficiently. Additionally, nearby residence to the project area will be notified when construction will begin to make residence are aware before the noise from construction begins. Please refer to added avoidance measures NOI-4, NOI-5, and NOI-6 in section 2.2.7.4 Avoidance, Minimization, and/or Abatement Measures of the Noise Chapter, 2.2.7.

Response to Comment G-1-6

The improvements to Avenue N will not result in reduced access to, or visibility of, your facility. If anything, they will enhance the area around your facility and make it more appealing, inviting, and visible, to people using all modes of transportation. Directional signage can be provided for your business, as needed, to ensure that customers will be able to view your business throughout the construction period.

Response to Comment G-1-7

This project is not expected to result in a loss of revenue to your business (see responses to comments G-1-1 through G-1-6, above). However, should concerns persist, they can be addressed by contacting the Project Manager, Mike Shahbakhti at mshahbakhti@cityofpalmdale.org.

Response to Comment G-1-8

On May 30, 2019, Mr. Nyholt was sent the design that incorporated an alternate access to the Animal Hospital in the form of a bulb-out frontage road alternative. The final, revised design concept that no longer requires relocations, was sent to Mr. Nyholt on September 12, 2019. The Project Report will be sent to Mr. Nyholt upon its completion. No further outreach was conducted other than the Public Hearing held May 22, 2019.

At this time the project development team does not believe that full acquisition of your property is appropriate or necessary. A Temporary Construction Easement (TCE) will, however, be needed. The City of Palmdale will be responsible for all right-of-way acquisition for this project and you will be contacted by their representative regarding this later in the project development process. You will have an opportunity to discuss your concerns further, and reach an amicable agreement, at that time.

Chapter 5 - List of Preparers

Ronald Kosinski, Deputy District Director, B.A. Geography, California State University, Long Beach; Master's in urban planning, California State Polytechnic University, Pomona; 43 years of environmental planning experience. Contribution: Management, including analysis, document editing, and approval.

Karl Price, Senior Environmental Planner, B.S. Biology, California State Polytechnic University Pomona; 21 years of Environmental Planning experience. Contribution: assistance in project management and document review.

Savannah Speerstra, Associate Environmental Planner, B.S. Environmental Science and Management, University of California Davis; 2 years environmental planning experience with Caltrans. Contribution: coordinating project and writing, reviewing, and finalizing the document.

Paul Caron, Senior District Biologist, B.S. Biology, California Polytechnic State University San Luis Obispo; 27 years of experience in biological surveys, biological technical reports and ecological restoration; 14 of those years as a supervising biologist. Contribution: Review and approval of biological technical reports.

Christopher Stevenson, Associate District Biologist, B.S. and M.A. Ecological Design and Planning, Conway School; 10 years of experience performing resource impact analysis, State and Federal permitting, biological technical reports, construction monitoring, and ecological restoration. Expert in field identification for flora of California and general bird surveys. U.S. Army Corps of Engineers Certification in Wetland Impact Analysis. Contribution: Biological Impact Analysis, Natural Environment Study Report, Mitigation, Construction Monitoring.

Kelly Ewing-Toledo, Senior Environmental Planner, Cultural Resources, B.A. History, California State University Sacramento; Master of Arts History/Public History, California State University Fullerton; 18 years of cultural resource management experience with a focus on the built environment with 4 of those years as a Supervising Environmental Planner of archeologists and historians. Contribution: Peer review and department approval of cultural resources documents.

Dustin Kay, PQS Co-Principal Prehistoric Archaeologist, B.S. Anthropology, Oregon State University; 28 years of Cultural Resources experience (25 years in California). Contribution: Archaeological Survey Report.

Francesca Smith, PQS Principal Architectural Historian and Associate Environmental Planner, M.S. in Real Estate Development, Columbia University; 33 years of experience, Contribution: Cultural Resources (Built Environment)

Andrew Yoon, Senior Transportation Engineer, Air Quality, B.S. Civil and Environmental Engineering, University of California Los Angeles; 23 years of experience in civil and environmental engineering for infrastructure and development projects. Contribution: Preparation of Air Quality Technical Analysis.

Penny Nakashima, Senior Engineering Geologist, Hazardous Waste, 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.

Saba Tesfayohannes, Transportation Engineer, B.S. Civil Engineering, California State University, Los Angeles; 19 years of Civil and Environmental Engineering experience. Contribution: Prepare Hazardous Waste Assessments and site investigation.

Dahlia Persoff, Landscape Associate, B.S. Landscape Architecture, California Polytechnic State University San Luis Obispo; 23 years of experience including 19 years with Caltrans as a Landscape Associate. Contribution: oversight of the Visual Impact Assessment.

Jin Lee, Branch Chief, Noise and Vibration, BS in Civil Engineering (1988), University of Washington; 27 years of experience.

Roland Cerna, Transportation Engineer, Noise and Vibration, BSCE, California State University, Los Angeles. 19 years of experience in civil and environmental engineering. Contribution: prepare NSR, prepare traffic noise model, field work.

Sam Sukiasian, Transportation Engineer, Geotechnical Design, B.S. Civil Engineering, California State Long Beach, M.S. USC: 23 years of experience. Contribution: PFR and FR preparation.

Samia Soueidan, Transportation Engineer, BSCE, California State University, Long Beach. 13 years of experience in civil and environmental engineering. Contribution: prepare traffic noise model, field work.

Inderjit Dhaliwal, Transportation Engineering Technician, Diploma in Mechanical Engineering from GNEC, Punjab, India. 12 years of experience as quality control specialist in private sector, 19 year of experience TET in civil engineering. Contribution: Prepare all drawings, layouts and field work.

Samer Momani, Associate Environmental Planner, Master of Science in Environmental Studies, California State University, Fullerton; 12 years of experience in environmental planning. Contribution: Water Quality Assessment.

Robert Wang, Associate Environmental Planner/GIS Coordinator, B.A. Geography/Environmental Studies, University of California at Los Angeles; GIS Certificate, California State University, Los Angeles; M.A. Geography/Urban Planning, California State University, Los Angeles; 19 years of experience in Environmental Planning, document preparation, global positioning system (GPS) resource data acquisition, and GIS map preparation; Contribution: Environmental document preparation and GIS map and exhibit preparation.

Adam Avila, Environmental Planner; B.A. Environmental Studies, University of California, Santa Barbara; 11 months Environmental Planning experience with Caltrans. Contribution: writing sections of NEPA chapter and environmental document preparation.

Audrey Riddell, Environmental Planner; B.S. Environmental Science and Resource Management, University of Washington, M.S. Sustainable Forest management, Oregon State University; 4 months environmental planning experience with Caltrans. Contribution: writing sections of CEQA chapter and NEPA chapter

Rocky Rojas, Environmental Planner, B.S. Environmental Science, University of California Los Angeles; 4 months environmental planning experience with Caltrans. Contribution: writing sections of NEPA Chapter

Monica Murillo, Graphic Designer II, Parsons School of Design, Cal Poly Pomona - Bachelor of Arts in Art; 31 years with Caltrans Districts 4, 12 & 7. Contribution: Cover Design

Rene Trujillo, Graphic Designer II, BA in Fine Arts and Design, California State University at Los Angeles; 29 years with Caltrans. Contribution: Cover Design

Eunice Mendoza, GIS Coordinator Student Assistant, Cal State University of Long Beach Contribution: Developed Project Maps

Chapter 6- Distribution List

6.1 Elected Officials

ELECTED OFFICIALS		
Federal		
1.	Senator Dianne Feinstein	11111 Santa Monica Blvd. Suite 915 Los Angeles, CA 90025 (310) 914-7300
2.	Senator Kamala Harris	11845 West Olympic Boulevard, Suite 1250 W Los Angeles, CA 90064 (310) 231-4494
3.	Congresswoman Katie Hill (25th Congressional District)	6681 Sweetclover Lane Carlsbad, CA 92011 (661) 505-1054
State		
4.	Assembly member Tom Lackey (36th Assembly District)	41319 12th St. West, Suite 105, Palmdale, CA 93551 (661) 267-7636
5.	State Senator Scott Wilk (21st State Senate District)	848 W. Lancaster Blvd, Suite 101 Lancaster, CA 93534 (661) 729-6232
County		
6.	Supervisor Kathryn Barger	42455 10th Street West, Suite 104 Lancaster, CA 93534 (661) 726-3600
City of Palmdale		
7.	City Manager James Purtee	38300 Sierra Highway Palmdale, CA 93550 (661) 267-5100
8.	Mayor Steven D. Hofbauer	38300 Sierra Highway, Suite A Palmdale, CA 93550 (661) 267-5115
9.	Councilmember District 1 Austin Bishop	38300 Sierra Highway, Suite A Palmdale, CA 93550 (661) 267-5115
10.	Councilmember District 2 Richard J. Loa	38300 Sierra Highway, Suite A Palmdale, CA 93550 (661) 267-5115
11.	Councilmember District 3 Laura Bettencourt	38300 Sierra Highway, Suite A Palmdale, CA 93550 (661) 267-5115
12.	Councilmember District 4 Juan Carrillo	38300 Sierra Highway, Suite A Palmdale, CA 93550 (661) 267-5115

6.2 Agencies and Interested Parties

GOVERNMENTAL AGENCIES		
Federal Agencies		
1.	U.S. Environmental Protection Agency	600 Wilshire Blvd., Suite 1460 Los Angeles, CA 90017
2.	U.S. Environmental Protection Agency	Region 9, Environmental Review Office 75 Hawthorne Street, (ENF-4-2) San Francisco, CA 94105
3.	NOAA Fisheries	West Coast Region 501 W. Ocean Blvd., Suite 4200 Long Beach, CA 90802-4213
4.	NOAA Fisheries	Office of Ecology and Conservation 1401 Constitution Avenue, Rm 6800 Washington, DC 20230
5.	USDC National Oceanic and Atmospheric Administration (NOAA)	1315 East West Highway Silver Spring, MD 20910
6.	US Federal Emergency Management Agency	1111 Broadway, Suite 1200 Oakland, CA 94607-4052
7.	US Fish and Wildlife Service	2177 Salk Avenue – Suite 250 Carlsbad, CA 92008-7385
8.	US Department of Transportation	US Department of Transportation, Federal Highway Administration, California Division 888 S. Figueroa Street, Suite 750 Los Angeles, CA 90017
9.	US Department of Interior, National Park Service	333 Bush Street, Suite 500 San Francisco, CA 94104-2828
10.	U.S. Army Corps of Engineers	915 Wilshire Blvd., Suite 980 Los Angeles, CA 90017
11.	Native American Heritage Commission	915 Capitol Mall, Room 364 Sacramento, CA 95814
12.	Advisory Council on Historic Preservation	401 F St. NW, Suite 308 Washington, DC 20001-2637
State Agencies		
13.	California Air Resources Board	Air Quality Science and Planning Division P.O. Box 2815 Sacramento, CA 95812
14.	California Department of Fish and Wildlife	South Coast Region 3883 Ruffin Road San Diego, CA 92123
15.	California Department of Transportation	Division of Environmental Analysis P.O. Box 942874, MS-27 Sacramento, CA 94274-0001
16.	California Highway Patrol	2041 West Avenue I Lancaster, CA 93534
17.	California Regional Water Quality Control Board	Lahontan Region (Region 6) 14440 Civic Drive, Suite 200 Victorville, CA 92392

18.	California Transportation Commission	1120 N Street, Room 2221, MS-52 Sacramento, CA 95814
19.	California Natural Resources Agency	1416 Ninth Street, Suite 1311 Sacramento, CA 95814
20.	Governor's Office of Planning and Research, State Clearinghouse	P.O. Box 3044 Sacramento, CA 95812-3044
21.	California Environmental Protection Agency	1001 I Street, P.O. Box 2815 Sacramento, CA 95812
22.	California Department of Parks and Recreation	1416 9th Street Sacramento, CA 95814
23.	California Department of Toxic Substances Control	P.O. Box 806 Sacramento, CA 95812-0806
24.	California State Historic Preservation Officer	1725 23rd St., Ste. 100 Sacramento, CA 95816
25.	California Department of Water Resources	P.O. Box 942836 Sacramento, CA 94236
Regional Agencies		
26.	LA County Waterworks Districts #40 Lancaster Office	Antelope Valley Office 260 East Avenue K-8 Lancaster, CA 93535
27.	South Coast Air Quality Management District	21865 Copley Drive Diamond Bar, CA 91765
28.	Southern California Association of Governments	818 West 7th Street, 12th Floor Los Angeles, CA 90017
29.	Los Angeles County Metropolitan Transportation Authority	One Gateway Plaza Los Angeles, CA 90012-2952
Los Angeles County Agencies		
30.	County of Los Angeles, Department of Public Works	900 S. Fremont Avenue Alhambra, CA 91803
31.	County of Los Angeles, Department of Regional Planning	320 West Temple Street, 13th Floor Los Angeles, California 90012
32.	Los Angeles County Fire Department, Fire Chief Ralph Terrazas	200 N. Main Street, 16th floor Los Angeles, CA 90012
33.	County of Los Angeles, Antelope Valley - Division Headquarters Fire Station #129	42110 6th Street West Lancaster CA 93534
34. ,	County of Los Angeles, Palmdale – Division Headquarters Station #24	1050 West Rancho Vista Blvd. Palmdale, CA 93551
35.	County of Los Angeles, Sheriff's Department Lancaster Station	501 W. Lancaster Blvd Lancaster, CA 93534
36.	County of Los Angeles, Sheriff's Department Palmdale Station	750 East Ave. Q Palmdale, CA 93550
City of Palmdale Agencies		
37.	City of Palmdale City Manager	38300 Sierra Highway, Suite A Palmdale, CA 93550
38.	City of Palmdale Planning Division	38250 Sierra Highway Palmdale, CA 93550
39.	City of Palmdale Department of Public Works	38250 Sierra Highway Palmdale, CA 93550
40.	City of Palmdale Environmental & Technology Division	38250 Sierra Highway Palmdale, CA 93550
41.	City of Palmdale Engineering/Traffic Division	38250 Sierra Highway Palmdale, CA 93550

42.	City of Palmdale Recreation and Culture Department	38260 10th Street East Palmdale, CA 93550
43.	City of Palmdale Economic and Community Development	38250 Sierra Highway Palmdale, CA 93550
44.	Antelope Valley Union High School District	44811 North Sierra Highway Lancaster, CA 93534
45.	Palmdale School District	39139 North 10th Street East Palmdale, CA 93550

Public Stakeholders			
Southern California Edison SCE Corp P.O. Box 800 Rosemead, CA 91770	JOLI INVESTMENT LLC 3111-022-031 1007 W AVENUE M14 PALMDALE CA 93551-1443	SHS BUILDING 3111-022-030 602 E AVENUE R PALMDALE CA 93550-4641	Current Occupant 3111-022-030 1008 W AVENUE M14 PALMDALE CA 93551-1441
FAIRLY HAZE PROPERTIES LLC 3111-022-032 1746 S VICTORIA AVE STE F VENTURA CA 93003-6190	Current Occupant 3111-022-032 1021 W AVENUE M14 PALMDALE CA 93551-1440	DALE E. CROUSE 3005-021-005 42626 32ND ST W LANCASTER CA 93536-4032	JORGE ALFREDO MARZOCCHETTI 3111-022-038 2625 W AVENUE L8 LANCASTER CA 93536-3338
Current Occupant 3005-021-005 1030 W AVENUE N PALMDALE CA 93551-2047	1031 M 14 LP 3111-022-033 1031 W AVENUE M14 PALMDALE CA 93551-1456	WALAKA DEVELOPMENT CO 3111-022-027 900 CANTERBURY PL STE 200 ESCONDIDO CA 92025-3837	Current Occupant 3111-022-039 1125 W AVENUE M14 PALMDALE CA 93551-1404
Current Occupant 3111-022-027 1037 W AVENUE N PALMDALE CA 93551-2002	THOMAS H. WISE 3111-022-034 3357 CAMINO HERMANOS LANCASTER CA 93536-2837	Current Occupant 3111-022-034 1041 W AVENUE M14 PALMDALE CA 93551-1440	ANTHONY FAJARDO 3005-019-026 1206 W AVENUE N8 PALMDALE CA 93551-
PALMDALE DIRT INC 3111-022-035 1051 W AVENUE M14 STE C PALMDALE CA 93551-1434	Current Occupant 3111-022-035 1051 W AVENUE M14 PALMDALE CA 93551-1434	MALOM ASSOCIATES 3111-013-053 10288 CENTURY WOODS DR LOS ANGELES CA 90067-6304	CHRISTINE PHAM LE 3111-013-055 507 LAURA LN GRAND PRAIRIE TX 75052-2810
STEVE AND SUE YEE TRS ET AL 3111-013-068 602 N CHANDLER AVE APT 2 MONTEREY PARK CA 91754 1083	LARRY FLUE 3005-022-046 41123 13TH ST W PALMDALE CA 93551-2117	CARLOS JOSE AVALOS 3111-013-069 3609 TOUNAMENT DR PALMDALE CA 93551-	IRA REINHERZ 3111-013-046 18035 RANCHO ST ENCINO CA 91316-4214
AEK GLOBAL INVESTMENTS LLC 3111-013-052 4603 HURFORD TER ENCINO CA 91436-3345	CHAYA CHAVALIT CO TR ET AL 3111-013-066 45120 COUGAR CIR FREMONT CA 94539-6021	KMS PROPERTIES 3111-013-078 75 ENTERPRISE STE 250 ALISO VIEJO CA 92656-2681	Current Occupant 3005-023-005 1532 W AVENUE N PALMDALE CA 93551-2150

VO VAN QUANG ET AL 3111-013-043 222 S JAMES ST ORANGE CA 92869-3825	NOUR ENTERPRISES INC 3111-013-051 6321 E LAKE DR SAN DIEGO CA 92119-2807	EMMANUEL MOJTAHEDIAN 3111-013-049 607 N BEVERLY DR BEVERLY HILLS CA 90210-3319	RICHARD A. PETERSEN 3005-023-021 1547 W AVENUE N4 PALMDALE CA 93551-2100
JIN SUN 3111-013-050 20867 VERDE MOOR CT SARATOGA CA 95070-3715	BERNEICE B. SOUTHCOTT 3111-013-042 575 E CHANNEL RD SANTA MONICA CA 90402-1343	ERLINDA L. KOO 3111-013-058 680 CADIZ ST MONTEREY PARK CA 91754-2635	Current Occupant 3005-018-021 1557 W AVENUE N8 PALMDALE CA 93551-2172
GURDIAL SINGH RANDHAWA 3005-019-023 40722 15TH ST W PALMDALE CA 93551-2124	JOSE BARRERA 3005-021-004 37356 NEWBURY PL PALMDALE CA 93552-4609	Current Occupant 3005-021-004 1056 W AVENUE N PALMDALE CA 93551-2047	MATTHEW J. COHICK 3005-023-001 42263 50TH ST W # 127 LANCASTER CA 93536-3500
HAROLD E. ALDEN 3111-022-036 40602 WIMBLEDON CT PALMDALE CA 93551-5708	Current Occupant 3111-022-036 1061 W AVENUE M14 PALMDALE CA 93551-1430	Current Occupant 3005-024-004 1708 W AVENUE N PALMDALE CA 93551-2249	JULIO JIMENEZ 3005-017-005 34356 KATRINA ST ACTON CA 93510-2804
Current Occupant 3111-022-038 1115 W AVENUE M14 PALMDALE CA 93551-1407	KAHL AND ASHTON MILBURN, LLC 3111-022-039 1125 W AVENUE M14 # A PALMDALE CA 93551-1404	RAYMOND LEE HURST 3005-017-014 PO BOX 901269 PALMDALE CA 93590-1269	Current Occupant 3005-017-014 1729 W AVENUE N8 PALMDALE CA 93551-2263
MR SOFTIE SMILE LLC 3111-022-040 1137 W AVENUE M14 STE 101 PALMDALE CA 93551-1429	Current Occupant 3111-022-040 1137 W AVENUE M4 PALMDALE CA 93551-1453	Current Occupant 3005-017-004 1756 W AVENUE N4 PALMDALE CA 93551-2258	TANIA J. ABARCA VALDOVINOS 3005-017-016 1807 W AVENUE N8 PALMDALE CA 93551-2265
Current Occupant 3005-019-026 1205 W AVENUE N8 PALMDALE CA 93551-2070	JIM NYHOLT 3005-022-041 1326 W AVENUE N PALMDALE CA 93551-2149	DONALD A. KEEN 3005-024-020 1835 W AVENUE N4 PALMDALE CA 93551-2201	RAYMOND LEE HURST 3005-024-001 PO BOX 901269 PALMDALE CA 93590-1269
JIM NYHOLT 3005-022-002 1326 W AVENUE N PALMDALE CA 93551-2149	Current Occupant 3005-022-002 1330 W AVENUE N PALMDALE CA 93551-2149	NITINUN SARASYANAN 3005-017-001 1852 W AVENUE N4 PALMDALE CA 93551-2200	ANTHONY CASTELLANO 3111-010-023 2005 W AVENUE M12 PALMDALE CA 93551-1710
RICHARD F. STOUT 3005-022-001 1352 W AVENUE N PALMDALE CA 93551-2149	GEORGE GUZMAN 3005-023-005 2712 COLUMBIA WAY PALMDALE CA 93551-1705	Current Occupant 3111-011-020 2007 W AVENUE N PALMDALE CA 93551-2336	JOHN G. UKKESTAD 3111-011-015 2008 W AVENUE M12 PALMDALE CA 93551-1709
JOY L. CAGLE, 3005-023-004 2712 COLUMBIA WAY PALMDALE CA 93551-1705	Current Occupant 3005-023-004 1546 W AVENUE N PALMDALE CA 93551-2150	GURDARSHAN S. GILL 3001-013-023 2021 W AVENUE N4 PALMDALE CA 93551-2358	CHRIS V. CHUNG 3001-013-002 2030 W AVENUE N PALMDALE CA 93551-2335

BETTY LOU BABBITT 3005-018-003 1554 W AVENUE N4 PALMDALE CA 93551-2165	RAYMOND LEE HURST 3005-018-021 PO BOX 901269 PALMDALE CA 93590-1269	PILAR S DEGUIA 3001-014-052 2038 W AVENUE N4 PALMDALE CA 93551-2357	Current Occupant 3111-010-024 2039 W AVENUE M12 PALMDALE CA 93551-1710
ANTHONY WOOD 3005-023-002 1620 W AVENUE N PALMDALE CA 93551-2153	BARBARA J. HILEMAN 3005-018-024 1645 W AVENUE N8 PALMDALE CA 93551-2174	JOHN G. UKKESTAD 3111-011-014 2008 W AVENUE M12 PALMDALE CA 93551-1709	Current Occupant 3111-011-014 2042 W AVENUE M12 PALMDALE CA 93551-1709
Current Occupant 3005-023-001 1654 W AVENUE N PALMDALE CA 93551-2153	COPTIC ORTHODOX DIOCESE 3005-024-004 4909 CLELAND AVE LOS ANGELES CA 90042-3114	ROBERT A. FERRO 3001-014-051 2050 W AVENUE N4 PALMDALE CA 93551-2357	STANLEY M. DALTON 3001-013-020 2051 W AVENUE N4 PALMDALE CA 93551-2358
Current Occupant 3005-017-005 1716 W AVENUE N4 PALMDALE CA 93551-2258	ROGER POOLEY 3111-010-025 2055 W AVENUE M12 PALMDALE CA 93551-1710	TADASHI TAD SATO 3111-011-022 1115 S LORENA ST LOS ANGELES CA 90023-2914	Current Occupant 3111-011-022 2055 W AVENUE N PALMDALE CA 93551-2336
FREELAND PROPERTIES LLC 3005-017-004 2470 STEARNS ST # 355 SIMI VALLEY CA 93063-2418	NADA M. HANBALI 3001-014-019 1231 GILMORE LN LOUISVILLE KY 40213-2307	Current Occupant 3001-014-019 20STW VIC N6 PALMDALE CA 93551-	LARRY MARKS 3111-010-026 2107 W AVENUE M12 PALMDALE CA 93551-1712
JASON WESTBURG 3005-017-002 1808 W AVENUE N4 PALMDALE CA 93551-2260	FRANK M. JACKMAN 3111-011-012 2110 W AVENUE M12 PALMDALE CA 93551-1711	DAVID TENNESON 3001-014-025 2110 W AVENUE N4 PALMDALE CA 93551-2359	ROBERTO S. NIEBLA 3111-011-024 6235 W AVENUE J12 LANCASTER CA 93536-1730
Current Occupant 3005-024-001 1840 W AVENUE N PALMDALE CA 93551-2251	Current Occupant 3111-011-024 2121 W AVENUE N PALMDALE CA 93551-2337	WILLIAM BOYD BAXTER 3001-013-016 1745 HILLFAIR DR GLENDALE CA 91208-2709	Current Occupant 3001-013-016 2125 W AVENUE N4 PALMDALE CA 93551-2360
FREDERICK F. RAKES 3111-011-020 4667 W AVENUE M14 QUARTZ HILL CA 93536-2435	LENNORA L. CALICA 3111-011-011 PO BOX 5874 LANCASTER CA 93539-5874	Current Occupant 3111-011-011 2126 W AVENUE M12 PALMDALE CA 93551-1711	JOSE F. FERNANDEZ 3001-014-024 2128 W AVENUE N4 PALMDALE CA 93551-2359
KAREN S. HENDRICKS TRUST 3001-013-049 2020 W AVENUE N PALMDALE CA 93551-2335	ANGELICA VIRAMONTES 3111-010-027 2131 W AVENUE M12 PALMDALE CA 93551-1712	PATSY C. SMITH 3001-013-033 PO BOX 712 LANCASTER CA 93584-0712	Current Occupant 3001-013-033 2149 W AVENUE N4 PALMDALE CA 93551-2360
STEVEN L. WHITT 3111-011-021 2033 W AVENUE N PALMDALE CA 93551-2336	OSCAR S. CHINCHILLA MUNOZ 3111-011-041 2154 W AVENUE M12 PALMDALE CA 93551-1711	LESTER W. RUSHING 3111-011-036 2159 W AVENUE N PALMDALE CA 93551-2337	RAYMOND LEE HURST 3005-017-015 PO BOX 901269 PALMDALE CA 93590-1269

MARIA CARMEN JIMENEZ 3001-013-021 2039 W AVENUE N4 PALMDALE CA 93551-2358	Current Occupant 3005-017-015 40802 18TH ST W PALMDALE CA 93551-2225	PABLO C. REYES 3005-017-017 40802 20TH ST W PALMDALE CA 93551-2241	THOMAS M. DONALDSON 3005-018-019 40805 15TH ST W PALMDALE CA 93551-2127
EUGENE LOUIS MOLINO 3001-013-003 2050 W AVENUE N PALMDALE CA 93551-2335	EL DORADO MUTUAL WATERCO INC 3005-020-003 PO BOX 900519 PALMDALE CA 93590-0519	Current Occupant 3005-020-003 40807 10TH ST W PALMDALE CA 93551-2010	KYUNG HYUN MA 3005-018-022 40809 16TH ST W PALMDALE CA 93551-2142
CHRISTOPHER JOHN BERNARD 3111-011-013 2052 W AVENUE M12 PALMDALE CA 93551-1709	RICHARD W FLETCHER 3005-019-021 40810 13TH ST W PALMDALE CA 93551-2109	LAFERNE LINTEMOOT 3005-018-020 40832 16TH ST W PALMDALE CA 93551-2141	Current Occupant 3005-018-020 40814 16TH ST W PALMDALE CA 93551-2141
RONALD MAIN 3005-019-022 40816 13TH ST W PALMDALE CA 93551-2109	ALLEN F. NORTH 3005-017-013 40823 17TH ST W PALMDALE CA 93551-2210	CASIMIR A. MASLAUSKAS 3005-018-023 40825 16TH ST W PALMDALE CA 93551-2142	Current Occupant 3005-019-010 40908 13TH ST W PALMDALE CA 93551-2111
MINNIE J. COPELAND 3005-018-018 40831 15TH ST W PALMDALE CA 93551-2127	LAFERNE R. LINTEMOOT 3005-018-016 40832 16TH ST W PALMDALE CA 93551-2141	LAFERNE R. LINTEMOOT 3005-018-015 40832 16TH ST W PALMDALE CA 93551-2141	JOSE RODRIGUEZ SANCHEZ 3005-019-012 40108 PALMETTO DR PALMDALE CA 93551-3556
RAY E. CRAMM 3005-019-015 40836 15TH ST W PALMDALE CA 93551-2126	DAVID C. HARALSON 3005-017-009 2801 DEARBORN AVE PALMDALE CA 93551-1527	Current Occupant 3005-017-009 40836 20TH ST W PALMDALE CA 93551-2241	JULIO A. ROSALES 3005-017-007 40921 18TH ST W PALMDALE CA 93551-2228
DAWNIA L. CRAFT 3005-019-018 40837 12TH ST W PALMDALE CA 93551-2042	CECIL MCGRAW 3005-017-010 40839 18TH ST W PALMDALE CA 93551-2226	ANTONIO LEVI GONZALES 3005-019-017 40842 13TH ST W PALMDALE CA 93551-2109	STEVEN E. LEIGHTY 3005-018-006 40927 15TH ST W PALMDALE CA 93551-2129
STEVEN R. SPRUNGER 3005-018-014 40843 16TH ST W PALMDALE CA 93551-2142	DAVID VAN GILST 3005-019-016 40845 13TH ST W PALMDALE CA 93551-2118	LEROY L. JOHNSTON 3005-018-017 40849 15TH ST W PALMDALE CA 93551-2127	CYNTHIA J. KINCAID 3005-018-005 2761 W AVENUE N12 PALMDALE CA 93551-2435
EDITH E. KELLEY 3005-019-014 40850 15TH ST W PALMDALE CA 93551-2126	RAYMOND LEE HURST 3005-018-012 PO BOX 901269 PALMDALE CA 93590-1269	Current Occupant 3005-018-012 40854 17TH ST W PALMDALE CA 93551-2209	SUSAN JEANNE HOLLIDAY 3005-017-003 40939 18TH ST W PALMDALE CA 93551-2228
DAVID OWEN DAVIS 3005-017-011 40854 18TH ST W PALMDALE CA 93551-2225	JILL ZIMMERMAN 3005-018-013 40857 16TH ST W PALMDALE CA 93551-2142	DENNIS T. KOMORI 3005-017-019 40857 17TH ST W PALMDALE CA 93551-2210	LAFERNE LINTEMOOT 3005-019-027 40832 16TH ST W PALMDALE CA 93551-2141

WHITE FENCE FARMS MUTUAL WATER CO NO 3 3001-014-020 PO BOX 3411 QUARTZ HILL CA 93586-3411	Current Occupant 3001-014-020 40901 20TH ST W PALMDALE CA 93551-	KEVIN COFFEY 3005-018-008 40902 16TH ST W PALMDALE CA 93551-2143	ALAN C J. BARTLETT 3005-019-002 40960 15TH ST W PALMDALE CA 93551-2128
REVA D. LAKE 3005-017-008 40902 20TH ST W PALMDALE CA 93551-2243	DENNIS TATON 3005-019-024 40903 12TH ST W PALMDALE CA 93551-2044	KYLE R. YODER 3005-018-010 40903 16TH ST W PALMDALE CA 93551-2144	SUSAN M. KUYKENDALL 3005-023-025 41000 17TH ST W PALMDALE CA 93551-2213
VICTOR CHAVIRA 3005-017-018 40903 17TH ST W PALMDALE CA 93551-2212	BERNARDO J. DIAZ 3005-017-006 40904 18TH ST W PALMDALE CA 93551-2227	NOEL DENISE WILLIAMS 3005-019-010 PO BOX 2698 SAN PEDRO CA 90731-0157	MATTHEW S. SQUIRES 3005-022-036 41004 13TH ST W PALMDALE CA 93551-2114
KEVIN MAHADY 3005-019-013 40910 15TH ST W PALMDALE CA 93551-2128	MONICA ESTRADA 3005-018-007 40911 15TH ST W PALMDALE CA 93551-2129	ANTHONY FAJARDO, SR 3005-021-009 1205 W AVENUE N8 PALMDALE CA 93551-2070	Current Occupant 3005-021-009 41007 12TH ST W PALMDALE CA 93551-2046
Current Occupant 3005-019-012 40920 15TH ST W PALMDALE CA 93551-2128	PATRICK L. REICHSTEIN 3005-019-011 40921 13TH ST W PALMDALE CA 93551-2112	JAMES N. BULLARD, JR 3005-024-016 41009 17TH ST W PALMDALE CA 93551-2214	ERNEST BANKS 3005-022-029 763 N OCEANBLUFF AVE SAN DIMAS CA 91773-1929
NORMAN ELLIOT VEINOT 3005-018-009 40924 16TH ST W PALMDALE CA 93551-2143	RICKEY T. SEBO 3005-018-011 40924 17TH ST W PALMDALE CA 93551-2211	SANDRA L. SHIPP 3005-023-020 41011 15TH ST W PALMDALE CA 93551-2131	RONALD R. AVERY 3005-022-027 41017 13TH ST W PALMDALE CA 93551-2115
JOHN GABRISH 3005-019-025 7901 WHITSETT AVE NORTH HOLLYWOOD CA 91605-2207	Current Occupant 3005-019-025 40937 12TH ST W PALMDALE CA 93551-2044	DE D. FELICE 3005-022-030 41020 15TH ST W PALMDALE CA 93551-2130	SHIRLEY HELEN BLIZZARD 3005-024-018 9622 OXFORD RD PHELAN CA 92371-4823
Current Occupant 3005-018-005 40939 15TH ST W PALMDALE CA 93551-2129	DANIEL R. GARLAND 3005-018-002 40939 16TH ST W PALMDALE CA 93551-2144	THEIN KYAW 3005-022-026 441 W FOOTHILL BLVD ARCADIA CA 91006-2213	Current Occupant 3005-022-026 41024 13TH ST W PALMDALE CA 93551-2114
DIANE K. ALLEN 3005-019-001 40940 15TH ST W PALMDALE CA 93551-2128	FREDDIE DWIGHT DUGGAN 3005-019-004 40943 13TH ST W PALMDALE CA 93551-2112	RICKY C. AKERS 3005-022-018 41050 13TH ST W PALMDALE CA 93551-2114	Current Occupant 3005-022-018 41033 13TH ST W PALMDALE CA 93551-2115
Current Occupant 3005-019-027 40954 13TH ST W PALMDALE CA 93551-2111	DANIEL J. DORN 3005-018-004 40959 15TH ST W PALMDALE CA 93551-2129	SCOTT A. MOSELEY 3005-024-011 41035 18TH ST W PALMDALE CA 93551-2230	ROSALIA FIGUEROA 3005-022-043 41036 13TH ST W PALMDALE CA 93551-2114

VICTOR CHAVIRA 3005-018-001 3423 WATFORD WAY PALMDALE CA 93551-3550	Current Occupant 3005-018-001 40960 17TH ST W PALMDALE CA 93551-	Current Occupant 3005-024-010 41040 20TH ST W PALMDALE CA 93551-2245	JOHN CALVERT 3005-023-019 43615 24TH ST W LANCASTER CA 93536-5736
EMILIO MARROQUIN 3005-023-024 2323 W EL SEGUNDO BLVD HAWTHORNE CA 90250-3315	Current Occupant 3005-023-024 41003 16TH ST W PALMDALE CA 93551-2146	RAYMOND P. LINSTROM 3005-024-015 41041 17TH ST W PALMDALE CA 93551-2214	MURRY P. SPRUNGER 3005-023-016 40723 17TH ST W PALMDALE CA 93551-2208
MIGUEL ANGEL RAMIREZ 3005-022-028 41005 13TH ST W PALMDALE CA 93551-2115	JAMES T. BRAZIL 3005-024-019 41005 18TH ST W PALMDALE CA 93551-2230	WENDY ORTIZ 3005-024-012 7431 NESTLE AVE RESEDA CA 91335-3113	Current Occupant 3005-024-012 41049 18TH ST W PALMDALE CA 93551-2230
CHRISTINE AVILUCEA 3005-024-017 41008 18TH ST W PALMDALE CA 93551-2229	PATRICK J. SULLIVAN 3005-022-020 41050 13TH ST W PALMDALE CA 93551-2114	VINCENT P. HERNANDEZ 3005-024-013 41050 18TH ST W PALMDALE CA 93551-2229	PATRICK J. WILLIS 3001-013-032 41050 22ND ST W PALMDALE CA 93551-2313
Current Occupant 3005-022-029 41010 15TH ST W PALMDALE CA 93551-2130	GUADALUPE ALANIS RUIZ 3005-023-014 41052 17TH ST W PALMDALE CA 93551-2213	PAUL MORNEAULT 3005-024-009 7622 ROCHESTER WAY GOLETA CA 93117-1923	Current Occupant 3005-024-009 41052 20TH ST W PALMDALE CA 93551-2245
ALEXANDER R. SAMANIEGO 3005-023-023 41017 16TH ST W PALMDALE CA 93551-2146	JULIA BACKS 3005-022-017 41053 13TH ST W PALMDALE CA 93551-2115	ANDREW V. VILLALOBOS 3005-023-015 41055 16TH ST W PALMDALE CA 93551-2146	MICHAEL ANDREW BLICHA 3005-023-027 41056 16TH ST W PALMDALE CA 93551-2145
Current Occupant 3005-024-018 41023 18TH ST W PALMDALE CA 93551-2230	CYNTHIA L. MORSE 3005-023-018 16747 ARMSTEAD ST GRANADA HILLS CA 913442702	Current Occupant 3005-023-018 41061 15TH ST W PALMDALE CA 93551-2131	JOHN A. PATTERSON 3005-024-014 41061 17TH ST W PALMDALE CA 93551-2214
Current Occupant 3005-023-022 41024 16TH ST W PALMDALE CA 93551-2145	WILLIAMS ESCOBAR 3001-013-006 41100 22ND ST W PALMDALE CA 93551-2315	DONALD E. CASTILLO 3005-022-015 41102 15TH ST W PALMDALE CA 93551-2132	GENIA VARSHA 3005-022-034 41104 13TH ST W PALMDALE CA 93551-2116
SERGIO LOPEZ 3005-022-016 41034 15TH ST W PALMDALE CA 93551-2130	BILLY JOEL FEIST 3005-023-013 41104 17TH ST W PALMDALE CA 93551-2215	CHRISTOPHER JOSEPH BEATTY 3005-024-008 41104 20TH ST W PALMDALE CA 93551-2247	WILLIAM L. KUHLEMEIER 3005-023-008 41109 15TH ST W PALMDALE CA 93551-2133
STEPHEN ROQUEBRUNE 3005-024-010 41040 20TH ST E PALMDALE CA 93550-	SHAUN P. HORNE 3005-023-028 41110 16TH ST W PALMDALE CA 93551-2147	ERIC L. KELLY 3005-024-006 41118 18TH ST W PALMDALE CA 93551-2231	COFFIELD HAROLD M. CO TR 3005-022-014 3671 TERRA LOMA DR BULLHEAD CITY AZ 86442-8208

Current Occupant 3005-023-019 41041 15TH ST W PALMDALE CA 93551-2131	Current Occupant 3005-022-014 41120 15TH ST W PALMDALE CA 93551-2132	THE RITCHIE FAMILY LIVING TRUST 3005-023-010 41122 16TH ST W PALMDALE CA 93551-2147	LARRY FLUE 3005-022-045 41123 13TH ST W PALMDALE CA 93551-2117
Current Occupant 3005-023-016 41044 16TH ST W PALMDALE CA 93551-2145	JAMES H. MAY 3005-023-012 41126 17TH ST W PALMDALE CA 93551-2215	RAYMOND LEE HURST 3005-024-005 PO BOX 901269 PALMDALE CA 93590-1269	Current Occupant 3005-024-005 41127 17TH ST W PALMDALE CA 93551-2216
DEBORAH JEANNE ROWE JACKSON 3001-013-022 41049 20TH ST W PALMDALE CA 93551-2246	RONEN VARSHA 3005-022-047 9205 ALABAMA AVE STE C CHATSWORTH CA 91311-5850	Current Occupant 3005-022-047 41128 13TH ST W PALMDALE CA 93551-2116	ROSA ELENA VALENCIA 3005-024-007 41129 18TH ST W PALMDALE CA 93551-2232
JESSE MARVIN SPENCER 3005-023-007 41131 15TH ST W PALMDALE CA 93551-2133	MARK T. PIERSON 3005-022-039 41137 13TH ST W PALMDALE CA 93551-2117	ANJ PROPERTIES LLC 3005-021-007 252 ACACIA LN THOUSAND OAKS CA 91320-4703	Current Occupant 3111-022-009 41301 12TH ST W PALMDALE CA 93551-1464
Current Occupant 3005-021-007 41141 10TH ST W PALMDALE CA 93551-2015	RAYMOND HURST 3005-024-002 PO BOX 901269 PALMDALE CA 93590-1269	Current Occupant 3005-024-002 41143 18TH ST W PALMDALE CA 93551-2232	ERIC BUCKLEY 3111-011-017 41313 20TH ST W PALMDALE CA 93551-1303
ANJ PROPERTIES LLC 3005-021-006 252 ACACIA LN THOUSAND OAKS CA 91320-4703	Current Occupant 3005-021-006 41155 10TH ST W PALMDALE CA 93551-2015	JACK R. HALLIDAY 3005-023-003 41159 16TH ST W PALMDALE CA 93551-2148	Current Occupant 3111-022-007 41319 12TH ST W PALMDALE CA 93551-1414
COPTIC ORTHODOX CHURCH DIOCESE OF LOS ANGELES 3005-024-021 4909 CLELAND AVE LOS ANGELES CA 90042-3114	Current Occupant 3005-024-021 41160 18TH ST W PALMDALE CA 93551-2231	WALAKA DEVELOPMENT CO 3111-022-021 900 CANTERBURY PL STE 200 ESCONDIDO CA 92025-3837	TOWER INVESTMENT GROUP LLC 3111-022-006 PO BOX 2114 LANCASTER CA 93539-2114
Current Occupant 3111-022-021 41210 11TH ST W PALMDALE CA 93551-1447	LOS ANGELES COUNTY FARM BUREAU 3111-022-014 41228 12TH ST W # SUITEA PALMDALE CA 93551-1431	Current Occupant 3111-022-014 41228 12TH ST W PALMDALE CA 93551-1431	GRACE INTERNATIONAL CHURCHES AND 3111-022-059 41331 10TH ST W PALMDALE CA 93551-
WALAKA DEVELOPMENT CO 3111-022-022 900 CANTERBURY PL STE 200 ESCONDIDO CA 92025-3837	Current Occupant 3111-022-022 41230 11TH ST W PALMDALE CA 93551-1411	DBD OFFICE PARTNERS I LLC 3111-022-019 41235 11TH ST W PALMDALE CA 93551-1435	Current Occupant 3111-022-042 41338 12TH ST W PALMDALE CA 93551-1409

M14 DEVELOPMENT LLC 3111-022-048 41250 12TH ST W STE E PALMDALE CA 93551-1444	Current Occupant 3111-022-048 41240 12TH ST W PALMDALE CA 93551-1449	JOSE LAZCANO 3111-011-019 41243 20TH ST W # MST PALMDALE CA 93551-1301	PALMDALE NORTH STORAGE LLC 3111-013-071 11560 TENNESSEE AVE LOS ANGELES CA 90064-1513
Current Occupant 3111-011-019 41243 20TH ST W PALMDALE CA 93551-1301	M14 DEVELOPMENT LLC 3111-022-049 41250 12TH ST W STE E PALMDALE CA 93551-1444	Current Occupant 3111-022-049 41250 12TH ST W PALMDALE CA 93551-1444	TERRY EUGENE DEJAYNES 3111-010-021 41455 20TH ST W PALMDALE CA 93551-1305
HGJ LLC 3111-022-010 23838 VALENCIA BLVD STE 150 VALENCIA CA 91355-5332	Current Occupant 3111-022-010 41253 12TH ST W PALMDALE CA 93551-1413	WILLIAM M. SPEAKER 3111-011-018 2553 W AVENUE O PALMDALE CA 93551-3442	WHITE, FENCE MUTUAL 3111-010-042 41901 20TH ST W PALMDALE CA 93551-1315
Current Occupant 3111-011-018 41253 20TH ST W PALMDALE CA 93551-1301	SCOTT AMES 3111-011-035 41258 22ND ST W PALMDALE CA 93551-1316	41301 12TH STREET WEST LLC 3111-022-009 41301 12TH ST W STE G PALMDALE CA 93551-1465	Current Occupant 3128-016-040 41520 10TH ST W PALMDALE CA 93551-1428
JOHN L. PARKER 3111-022-008 108 PALOMA PT GEORGETOWN TX 78628-6917	Current Occupant 3111-022-008 41307 12TH ST W PALMDALE CA 93551-1445	Current Occupant 3111-013-079 41551 10TH ST W PALMDALE CA 93551-1405	DEBORAH L. ZIMMER 3111-013-041 648 KIRK GLEN DR SAN JOSE CA 95133-2022
TIMOTHY J. ROBERTS 3111-011-040 41318 22ND ST W PALMDALE CA 93551-1306	ANOTHER DAY AT THE ZOO LLC 3111-022-007 41319 12TH ST W STE 101 PALMDALE CA 93551-1414	TAMPA TARZANA LLC 3111-022-037 16946 SHERMAN WAY VAN NUYS CA 91406-3613	Current Occupant 3111-022-037 AVE M14 VIC 11TH STW PALMDALE CA 93551-
KABIR DERMATOLOGY AND 3111-022-041 44215 15TH ST W STE 209 LANCASTER CA 93534-5504	Current Occupant 3111-022-041 41324 12TH ST W PALMDALE CA 93551-1466	Current Occupant 3111-013-015 AVE M8 AVE M12 VIC 15TH PALMDALE CA 93551-	JEFFREY CARROLL 3111-013-013 15345 FAIRFIELD RANCH RD CHINO HILLS CA 91709-8832
Current Occupant 3111-022-006 41331 12TH ST W PALMDALE CA 93551-1423	E LEE BERGTHOLD 3111-011-016 41331 20TH ST W PALMDALE CA 93551-1303	XUONG VIET TRUONG 3128-016-017 2225 CALLE MARGARITA SAN DIMAS CA 91773-4468	Current Occupant 3128-016-017 AVE N VIC 10TH STW PALMDALE CA 93550-
Current Occupant 3111-022-059 41337 10TH ST W PALMDALE CA 93551-1401	JOHN F. KUKUCZKA CO TR 3111-022-042 8547 SHOUP AVE WEST HILLS CA 91304-2218	Current Occupant 3005-001-010 AVE N VIC 10TH STW PALMDALE CA 93550-	IPLUS INVESTMENTS LLC 3005-001-007 20932 NORTHVIEW DR WALNUT CA 91789-2024

JOHN H. MURPHY 3111-022-043 41136 MISSION DR PALMDALE CA 93551-2778	Current Occupant 3111-022-043 41343 12TH ST W PALMDALE CA 93551-1442	LKP PROPERTIES LLC 3128-016-015 3561 VALLEY MEADOW RD SHERMAN OAKS CA 91403-4840	Current Occupant 3128-016-015 AVE N VIC 10TH STW PALMDALE CA 93550-
Current Occupant 3111-013-071 41413 10TH ST W PALMDALE CA 93551-1403	TERRY WAYNE QUINN 3111-010-022 41439 20TH ST W PALMDALE CA 93551-1305	Current Occupant 3128-016-038 AVE N VIC 10TH STW PALMDALE CA 93550-	HSIAO WEN SUN 3128-016-010 1224 E MAIN ST ALHAMBRA CA 91801-4113
BAKMAN TOLUCA LLC 3111-013-070 124 14TH ST MANHATTAN BEACH CA 90266-4754	Current Occupant 3111-013-070 41463 10TH ST W PALMDALE CA 93551-1403	TENG FENG CHIU 3128-016-009 PO BOX 56867 SHERMAN OAKS CA 91413-1867	Current Occupant 3128-016-009 AVE N VIC 10TH STW PALMDALE CA 93550-
Current Occupant 3111-010-042 41501 20TH ST W PALMDALE CA 93551-1307	41520 10TH STREET LLC 3128-016-040 25187 JIM BRIDGER RD HIDDEN HILLS CA 91302-1182	Current Occupant 3128-016-033 AVE N VIC 10TH STW PALMDALE CA 93550-	JOHN CIUFO JR AND LINDA R TRS 3005-021-002 43861 SIERRA HWY LANCASTER CA 93534-5034
JUAN R. CENTENO ROJAS 3111-010-019 41521 20TH ST W PALMDALE CA 93551-1307	TIME WARNER CABLE PACIFIC, WEST 3111-013-079 7820 CRESCENT EXECUTIVE DR CHARLOTTE NC 28217-5500	LIANG CHING CHIAO 3111-013-061 1928 SW MONTGOMERY DR PORTLAND OR 97201-2441	Current Occupant 3111-013-061 AVE N VIC 15TH STW PALMDALE CA 93551-
Current Occupant 3111-013-041 AVE M12 15TH ST W PALMDALE CA 93551-	Current Occupant 3111-013-062 AVE N VIC 15TH STW PALMDALE CA 93551-	DAVID H. TANG 3111-013-077 370 LA PRENDA MILLBRAE CA 94030-2125	Current Occupant 3111-013-077 AVE N VIC 17TH STW PALMDALE CA 93551-
EQUITY TRUST COMPANY 3111-013-015 16 STREET WEST AND AVE M8 FREMONT CA 94539-	LETICIA E. SALAZAR 3001-013-038 10406 VENA AVE ARLETA CA 91331-4456	Current Occupant 3001-013-038 AVE N VIC 21STW PALMDALE CA 93551-	TADASHI TAD SATO 3111-011-023 1115 S LORENA ST LOS ANGELES CA 90023-2914
Current Occupant 3111-013-013 AVE M8 VIC 15TH ST W PALMDALE CA 93551-	Current Occupant 3111-011-023 AVE N VIC 22ND ST W PALMDALE CA 93551-	EUGENE L. MOLINO 3001-013-039 2050 W AVENUE N PALMDALE CA 93551-2335	Current Occupant 3001-013-039 AVE N VIC 22ND STW LANCASTER CA 93534-
BLANCA RAIN 3005-001-010 248 BARCLAY LN LAGUNA NIGUEL CA 92677-	LUBOWERY REALTY CORP 3111-013-012 199 CANAL ST # 3RDFL NEW YORK NY 10013-4526	Current Occupant 3111-013-012 AVE N VIC AVE M12 PALMDALE CA 93551-	STANLEY M. DALTON 3001-013-017 2051 W AVENUE N4 PALMDALE CA 93551-2358
Current Occupant 3005-001-007 AVE N VIC 10TH STW PALMDALE CA 93550-	Current Occupant 3001-013-017 AVE N4 VIC 21STW PALMDALE CA 93551-	U S GOVT 3005-020-900 VAC AVE N4 12TH STW PALMDALE CA 93551-	Current Occupant 3005-020-900 AVE N4/12TH STW PALMDALE CA 93551-

RAED S. HAWATMEH 3128-016-038 38609 LOUISE LN PALMDALE CA 93551-5422	EL DORADO MUTUAL WATER CO 3005-020-001 PO BOX 900519 PALMDALE CA 93590-0519	Current Occupant 3005-020-001 AVE N8 VIC 10TH STW PALMDALE CA 93550-	BRUCE YING ZEN LIN 3111-013-056 PO BOX 2064 WALNUT CA 91788-2064
Current Occupant 3128-016-010 AVE N VIC 10TH STW PALMDALE CA 93550-	Current Occupant 3111-013-056 AVENUE N VIC AVE FWY PALMDALE CA 93551-	LOANN NGUYEN 3005-023-006 4619 W AVENUE J13 LANCASTER CA 93536-7177	Current Occupant 3005-023-006 CIR AVE N PAV 15TH STW WHITE FENCE FARM CA 93551-
KUN NAN CHENG 3128-016-033 PO BOX 56867 SHERMAN OAKS CA 91413-1867	D KEN BLACK 3005-001-009 5846 W AVENUE M2 LANCASTER CA 93536-3117	Current Occupant 3005-001-009 COR 10TH STW AVE N PALMDALE CA 93550-	MICHAEL G. SCHAFER 3111-022-028 602 E AVENUE R PALMDALE CA 93550-4641
Current Occupant 3005-021-002 AVE N VIC 11TH STW PALMDALE CA 93550-	Current Occupant 3111-022-028 COR 10TH STW AVE N PALMDALE CA 93551-	SHAYAN REYMAN ET AL 3128-016-049 15760 VENTURA BLVD STE 801 ENCINO CA 91436-3018	Current Occupant 3128-016-049 COR 10TH STW AVE N PALMDALE CA 93550-
NESTOR CALZADO 3111-013-062 38515 PALLAS CT PALMDALE CA 93551-5038	U S GOVT 3005-021-900 VAC COR 10TH STW AVE N4 PALMDALE CA 93551-	Current Occupant 3005-021-900 COR 10TH STW AVE N4 PALMDALE CA 93551-	JOSE ALIRIO BARRERA 3005-021-003 37356 NEWBURY PL PALMDALE CA 93552-4609
Current Occupant 3005-021-003 COR 11TH STW AVE N PALMDALE CA 93550-	KASLER JOHN C DECD EST OF 3005-019-003 21912 SUMMERWIND LN HUNTINGTON BEACH CA 92646-8268	Current Occupant 3005-019-003 COR 13TH STW AVE N4 PALMDALE CA 93550-	Current Occupant 3128-016-046 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-
MAKS PROPERTIES 3001-014-021 PO BOX 2075 LANCASTER CA 93539-2075	Current Occupant 3001-014-021 COR 20STW AVE N4 PALMDALE CA 93551-	PALMDALE CITY 3111-022-900 VAC COR AVE M12 12TH STW PALMDALE CA 93551-	JAZ INVESTMENT CORP ET AL 3128-016-044 15821 VENTURA BLVD STE 460 ENCINO CA 91436-4778
Current Occupant 3111-022-900 COR AVE M12/12TH STW PALMDALE CA 93551-	TOWER INVESTMENT GROUP 3111-022-025 PO BOX 2114 LANCASTER CA 93539-2114	Current Occupant 3111-022-025 COR AVE M14 FRWY CTR PALMDALE CA 93551-	Current Occupant 3128-016-048 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-
JIMMY P. SANCHEZ 3111-022-054 PO BOX 3451 RANCHO SANTA FE CA 92067-3451	Current Occupant 3111-022-054 COR AVE M14/11TH STW PALMDALE CA 93551-	JOHN KAYVANFAR 3111-022-020 4451 HAYVENHURST AVE ENCINO CA 91436-3247	ROBERT R. IRONE JR 3128-016-004 3122 SOFTWOOD CT LANCASTER CA 93536-4784
Current Occupant 3111-022-020 COR AVE N 11TH STW PALMDALE CA 93551-	KAREN D. RAGSDALE 3001-013-005 3716 WHITE CT TORRANCE CA 90503-2530	Current Occupant 3001-013-005 COR AVE N 22STW PALMDALE CA 93551-	Current Occupant 3128-016-042 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-

MRA REAL ESTATE LLC 3005-021-010 15230 BURBANK BLVD SHERMAN OAKS CA 91411-3534	Current Occupant 3005-021-010 COR AVE N AV FWY PALMDALE CA 93550-	CINDY LEE BRANDEL 3111-022-029 2057 W AVENUE M8 PALMDALE CA 93551-1390	JIMMY P. SANCHEZ 3111-022-055 PO BOX 3451 RANCHO SANTA FE CA 92067-3451
Current Occupant 3111-022-029 FRWY CENTER CT VIC AVE M CT PALMDALE CA 93551-	CHIEF INVESTMENTS 3111-022-026 900 CANTERBURY PL STE 200 ESCONDIDO CA 92025-3837	Current Occupant 3111-022-026 FRWY CENTER CT VIC AVE M CT PALMDALE CA 93551-	Current Occupant 3111-022-023 VAC/11TH STW/VIC AVE M15 PALMDALE CA 93551-
FRANCES KANG 3111-022-060 1137 W AVENUE M14 STE 101 PALMDALE CA 93551-1429	Current Occupant 3111-022-060 VAC/10TH STW/VIC AVE M12 PALMDALE CA 93551-	GLADYS E. HORN 3111-022-002 40458 11TH ST W PALMDALE CA 93551-2017	JAMES W. BAKER 3111-022-013 41715 STRATFORD CIR PALMDALE CA 93551-1600
Current Occupant 3111-022-002 VAC/10TH STW/VIC AVE M12 PALMDALE CA 93551-	INVESTCO AV20 LLC 3005-001-001 12121 WILSHIRE BLVD STE 1120 LOS ANGELES CA 90025-1164	Current Occupant 3005-001-001 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-	Current Occupant 3111-022-012 VAC/12TH STW/VIC AVE N PALMDALE CA 93551-
U S GOVT 3005-001-903 VAC 10TH STW VIC AVE N PALMDALE CA 93551-	Current Occupant 3005-001-903 VAC/10TH STW/VIC AVE N PALMDALE CA 93551-	SHAYAN REYMAN ET AL 3128-016-046 15760 VENTURA BLVD STE 801 ENCINO CA 91436-3018	PAUL ANTON SCHIFFIN 3005-023-011 1221 WILSHIRE DR MOUNT VERNON IL 62864-2746
SHAYAN REYMAN ET AL 3128-016-047 15760 VENTURA BLVD STE 801 ENCINO CA 91436-3018	Current Occupant 3128-016-047 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-	Current Occupant 3111-013-067 VAC/20TH STW/VIC AVE M12 PALMDALE CA 93551-	KAITAI INTERNATIONAL INC AND THE 5TH WEST AND AVENUE N8 LLC 3005-001-002 11528 BIANCHINI LN CUPERTINO CA 95014-5325
Current Occupant 3128-016-044 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-	SHAYAN REYMAN ET AL 3128-016-048 15760 VENTURA BLVD STE 801 ENCINO CA 91436-3018	CONCHITA B. YABES 3128-016-025 PO BOX 56867 SHERMAN OAKS CA 91413-1867	Current Occupant 3128-016-025 VIC 10TH STW AVE N PALMDALE CA 93550-
HERNANDO BELTRAN MARROQUIN 3128-016-041 41522 NONPAREIL DR PALMDALE CA 93551-2801	Current Occupant 3128-016-041 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-	Current Occupant 3128-016-024 VIC 10TH STW AVE N PALMDALE CA 93550-	FRANK H. RECHBERG 3111-013-026 2941 HIDDEN HILLS CIR CORONA CA 92882-8004
Current Occupant 3128-016-004 VAC/10TH STW/VIC AVE N PALMDALE CA 93550-	PATEL RAMAN AND NIRMALA TRS 3128-016-042 42433 27TH ST W LANCASTER CA 93536-4076	MALOM ASSOCIATES 3111-013-028 10288 CENTURY WOODS DR LOS ANGELES CA 90067-6304	Current Occupant 3111-013-028 VIC 15TH ST W AVE M12 PALMDALE CA 93551-

JASON J. ALBERTSON 3128-016-043 828 W LANCASTER BLVD LANCASTER CA 93534-2304	Current Occupant 3128-016-043 VAC/10TH STW/VIC N PALMDALE CA 93550-	Current Occupant 3111-013-045 VIC 15TH STW AVE M12 PALMDALE CA 93551-	DAVID H. TANG 3111-013-074 370 LA PRENDA MILLBRAE CA 94030-2125
Current Occupant 3111-022-055 VAC/11TH STW/VIC AVE M14 PALMDALE CA 93551-	GARY W. FISCHER 3111-022-023 43301 DIVISION ST LANCASTER CA 93535-4647	EQUITY TRUST COMPANY ET AL 3111-013-024 1546 ELM ST SAN CARLOS CA 94070-4944	Current Occupant 3111-013-024 VIC AVE M12 15TH ST W PALMDALE CA 93551-
JOHN H. H. FISHER 3111-022-011 3306 CAMINO DEL SUR LANCASTER CA 93536-2835	Current Occupant 3111-022-011 VAC/12TH STW/VIC AVE M14 PALMDALE CA 93551-	Current Occupant 3111-013-075 VIC AVE M12/14TH STW PALMDALE CA 93551-	NAYAD NERSESYAN 3111-013-048 3007 TEXAS AVE SIMI VALLEY CA 93063-1935
Current Occupant 3111-022-013 VAC/12TH STW/VIC AVE M14 PALMDALE CA 93551-	JOHN H. H. FISHER 3111-022-012 3306 CAMINO DEL SUR LANCASTER CA 93536-2835	JOHN KAYVANFAR 3111-013-047 PO BOX 260916 ENCINO CA 91426-0916	Current Occupant 3111-013-047 VIC AVE M12/15TH STW PALMDALE CA 93551-
ANTHONY FAJARDO, SR 3005-021-008 1205 W AVENUE N8 PALMDALE CA 93551-2070	Current Occupant 3005-021-008 VAC/12TH STW/VIC AVE N4 PALMDALE CA 93550-	Current Occupant 3111-013-076 VIC AVE M12/16TH STW PALMDALE CA 93551-	YVONNE CHU 3111-013-029 709 N GRANADA AVE ALHAMBRA CA 91801-1110
Current Occupant 3005-023-011 VAC/16TH STW/VIC AVE N2 WHITE FENCE FARMS CA 93551-	HUAFU SPENCER CHAO 3111-013-067 35 TULIP LN PALO ALTO CA 94303-3122	IRA SERVICES TRUST COMPANY CSTDN 3111-013-032 20930 FRANWOOD DR SAUGUS CA 91350-1412	Current Occupant 3111-013-032 VIC AVE M8 15TH ST W PALMDALE CA 93551-
Current Occupant 3005-001-002 VIC 10TH STW AVE N PALMDALE CA 93550-	Current Occupant 3111-013-059 VIC AVE M8/15TH STW PALMDALE CA 93551-	Current Occupant 3128-016-020 VIC AVE N 10TH STW PALMDALE CA 93550-	Current Occupant 3128-016-011 VIC AVE N 10TH STW PALMDALE CA 93550-
JAZ INVESTMENT CORP ET AL 3128-016-024 15821 VENTURA BLVD STE 460 ENCINO CA 91436-4778	KESHENG WU 3128-016-012 PO BOX 56867 SHERMAN OAKS CA 91413-1867	EQUITY TRUST COMPANY 3128-016-019 1 EQUITY WAY WESTLAKE OH 44145-1050	Current Occupant 3128-016-013 VIC AVE N 10TH STW PALMDALE CA 93550-
Current Occupant 3111-013-026 VIC 12TH ST W AVE N PALMDALE CA 93551-	Current Occupant 3128-016-023 VIC AVE N 10TH STW PALMDALE CA 93550-	Current Occupant 3128-016-018 VIC AVE N 10TH STW PALMDALE CA 93550-	Current Occupant 3111-013-048 VIC AVE M12/15TH STW PALMDALE CA 93551-
NIRA SHIMONI 3111-013-045 18041 JAGUAR CT ENCINO CA 91316-7118	RICHARD TRUONG 3128-016-020 19802 SHERMAN WAY WINNETKA CA 91306-3604	EDNA E YAMAGATA 3128-016-011 1958 W 235TH ST TORRANCE CA 90501-6022	DAVID H. TANG 3111-013-076 370 LA PRENDA MILLBRAE CA 94030-2125

Current Occupant 3111-013-074 VIC 16TH STW AVE M12 PALMDALE CA 93551-	Current Occupant 3128-016-030 VIC AVE N 10TH STW PALMDALE CA 93550-	Current Occupant 3128-016-032 VIC AVE N 10TH STW PALMDALE CA 93550-	Current Occupant 3111-013-029 VIC AVE M8 15TH ST W PALMDALE CA 93551-
DAVID H. TANG 3111-013-075 370 LA PRENDA MILLBRAE CA 94030-2125	THE ALICE S. CHU REVOCABLE TRUST 3128-016-018 10302 TENNYSON AVE WESTMINSTER CA 92683-6726	VREJ SARIAN 3128-016-023 19649 GREEN MOUNTAIN DR SANTA CLARITA CA 91321-2147	FARES LAHOOD 3111-013-059 PO BOX 5221 WEST HILLS CA 91308-5221
Current Occupant 3128-016-021 VIC AVE N 10TH STW PALMDALE CA 93550-	WHISKANARROW LLC 3128-016-032 115345 FAIRFIELD RANCH RD CHINO HILLS CA 91709	Current Occupant 3128-016-012 VIC AVE N 10TH STW PALMDALE CA 93550-	REFAI PROPERTIES LLC 3128-016-022 5240 NORTHSIDE DR ATLANTA GA 30327-4222
Current Occupant 3128-016-022 VIC AVE N 10TH STW PALMDALE CA 93550-	JANET CAROLE STEIN 3128-016-030 13725 BAYLISS RD LOS ANGELES CA 90049-1214	Current Occupant 3128-016-019 VIC AVE N 10TH STW PALMDALE CA 93550-	BERNARD J. BOROSDY CO TR 3128-016-021 29612 S TROTWOOD AVE RANCHO PALOS VERDES CA 90275-1312

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Appendix A-Title VI Policy

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.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix B- Threatened and Endangered Species List

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: July 16, 2019
Consultation Code: 08ECAR00-2017-SLI-0955
Event Code: 08ECAR00-2019-E-02882
Project Name: LA 14, @ Ave S, pm 58.18, Safety Improvement Upgrade

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: 08ECAR00-2017-SLI-0955

Event Code: 08ECAR00-2019-E-02882

Project Name: LA 14, @ Ave S, pm 58.18, Safety Improvement Upgrade

Project Type: TRANSPORTATION

Project Description: construct a new turn pocket at Hwy 14, Ave. S NB on-ramp. All work is within existing pavement.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/34.55817330966667N118.13225235830771W

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 Fisheries[1], 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 *Gymnogyps californianus* 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 *Vireo bellii pusillus* 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 *Gopherus agassizii* 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.

Appendix C- Avoidance, Minimization, and/or Mitigation Measures

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
HUMAN ENVIRONMENT									
Land Use									
Project Features									
Avoidance and/or Minimization Measures									
Community Impacts									
Project Features									
Avoidance and/or Minimization Measures									
REL-1 Prior to construction, City of Palmdale will obtain all required right-of-way. Owners of property to be acquired shall be compensated for the fair market value of the property as well as damages, if any, to the remaining portions of their properties in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act. All eligible displaces will be compensated for moving expenses. All benefits and services will be provided equitably to all relocatees without regard to race, color, religion, age, national origin, or disability as specified under Title VI of the Civil Rights Act of 1964.	City of Palmdale	PS&E							
EJ-1 Should it be necessary, during right-of-way acquisitions, translation services shall be offered to effectively communicate with residents affected by property acquisitions.	City of Palmdale and County of Los Angeles	PS&E							
EJ-2 Public Outreach/Notices of Project will be published in Spanish Language Newspaper such as “La Opinion”	City of Palmdale and County of Los Angeles	PS&E							
Utilities and Emergency Services									
Project Features									
PF-UES-1: Utility relocation plans shall be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in-place.	Design Engineer	PS&E							
PF-UES-2: All temporary ramp and arterial roadway closures and detour plans will be coordinated with law enforcement, fire protection, and emergency medical service providers.	Resident Engineer	Pre-Construction/Construction							
Avoidance and/or Minimization Measures									

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
UES-1: All water main relocation construction shall be included in the construction contract and the Antelope Valley Water Works District No. 40 shall be notified for better coordination.	Project Engineer	Design							
Traffic and Transportation/Pedestrian and Bicycle Facilities									
Project Features									
PF-T-1: A Final Transportation Management Plan (TMP) shall be developed in detail during final design.	Project Engineer	Design							
Avoidance, Minimization, and/or Mitigation Measures									
Visual/Aesthetics									
Project Features									
PF-VIS-1: All areas disturbed by the proposed roadway improvements or grading operations shall receive replacement planting where feasible.	Landscape Architect, Project Engineer	Design							
Avoidance and/or Minimization Measures									
VIS-1: Aesthetic features will be incorporated on the bridge rail of the proposed bridge expansion. Aesthetic features will be incorporated on the walls of the proposed bridge expansion, slope paving, soundwalls, and fencing.	Project Engineer	Design							
VIS-2: Disturbed soil will be mulched or treated to reduce reflectance and better match adjacent undisturbed soils.	Landscape Architect, Project Engineer	Design							
VIS-3: Light fixtures shall be dark-sky compliant.	Project Engineer	Design							
VIS-4: Glare will be minimized by staining concrete surfaces in an earthy color similar to adjacent undisturbed soil.	Project Engineer	Design							
VIS-5: Modifications to the design should be considered in order to avoid damaging existing Joshua trees.	Project Engineer	Design							
VIS-6: Corridor consistency, the project will implement aesthetic recommendations from the Caltrans Project Landscape Architect relating to corridor consistency.									

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
VIS-7: Context sensitive design, colored textured concrete will be used to add aesthetic value to new horizontal concrete surfaces consistent with local values. Soundwalls will be designed to include local values and aesthetic concerns as recommended by the Caltrans Project Lanscape Architect.									
Cultural Resources									
Project Features									
PF-CUL-1: If cultural materials are discovered during site preparation, grading, or excavation, the construction Contractor would divert all earthmoving activity within and around the immediate discovery area until a qualified archaeologist can assess the nature and significance of the find. At that time, there would be coordination with the appropriate local agency.	Resident Engineer, Archaeologist	Construction							
PF-CUL-2: If human remains are discovered during site preparation, grading, or excavation, California State Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the Los Angeles County Coroner shall be 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). At this time, the person who discovered the remains will contact Mariam Dahdul, 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.	Resident Engineer, Archaeologist	Construction							
Avoidance and/or Minimization Measures									
PHYSICAL ENVIRONMENT									
Water Quality and Storm Water Runoff									
Project Features									

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
PF-WQ-1: The proposed project will comply with the provisions of the Caltrans National Pollutant Discharge Elimination System (NPDES) Statewide Storm Water Permit (Order No. 2012-0011-DWQ, as amended by Order WQ 2014-0006-EXEC, Order WQ 2014-0077-DWQ, and Order WQ 2015-0036-EXEC, NPDES No. CAS000003) and the NPDES General Permit for Storm Water Discharges of Storm water Runoff Associated with Construction Activities (Order No. 2009-0009-DWQ, as amended by 2012-0006-DWQ), and any subsequent permits in effect at the time of construction.	Resident Engineer	Construction, Post-construction							
PF-WQ-2: A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to impact water quality. It shall be prepared per the requirements stated in the NPDES General Permit for Storm Water Discharges of Stormwater Runoff Associated with Construction Activities and any subsequent permit in effect at the time of construction. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include the construction site Best Management Practices (BMPs) to control pollutants such as sediment control, catch basin inlet protection, construction materials management and non-stormwater BMPs. All construction site BMPs shall follow the latest edition of the Caltrans Project Planning and Design Guide (PPDG) (2016) and Caltrans Construction Manual (2017). These include, but are not limited to temporary sediment control, temporary soil stabilization, scheduling, waste management, materials handling, and other non-stormwater BMPs.	Resident Engineer	Construction							
PF-WQ-3: Caltrans-approved Design Pollution Prevention Best Management Practices (BMPs) shall be implemented to the maximum extent practicable (MEP), consistent with the requirements of the Caltrans Permit.	Resident Engineer	Construction							
PF-WQ-4: Caltrans-approved Treatment BMPs shall be implemented to the maximum extent practicable (MEP), consistent with the requirements of the Caltrans Permit.	Resident Engineer	Construction, Post-construction							
Avoidance and/or Minimization Measures									
Geology/Soils/Seismic/Topography									
Project Features									

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
PF-GEO-1: Revegetation of graded slopes should be performed to minimize erosion, and runoff should be diverted from each slope face using earthen berms and/or concrete swales at the top of each slope.	Project Engineer	Design							
Avoidance and/or Minimization Measures									
Paleontology									
Project Features									
Avoidance and/or Minimization Measures									
PAL-1: If unanticipated fossils are discovered during construction, all work must halt within 50 feet until the find can be evaluated by a qualified paleontologist. Work may resume immediately outside that radius.	Paleontologist, Resident Engineer	Construction							
PAL-2: If a paleontological resource assessment results in a determination that the site is insignificant or of low sensitivity, this conclusion should be documented in a Paleontological Evaluation Report (PER) and in the project's environmental document in order to demonstrate compliance with applicable statutory requirements.	Paleontologist	PS&E, Pre-construction							
PAL-3: If a paleontological resource is determined to be significant, of high sensitivity, or of scientific importance, and the project impacts it, a mitigation program must be developed and implemented. Mitigation can be initiated prior to, and/or during construction.	Paleontologist	PS&E, Pre-construction							
Hazardous Materials									
Project Features									
PF-HAZ-1: Site investigations performed at the properties for the Project will be completed during the PS&E phase to determine whether more extensive subsurface investigation will be needed.	Hazardous Waste Specialist	PS&E							
PF-HAZ-2: If hazardous materials contamination or sources are suspected or identified during Project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 of the Caltrans Construction Manual (July 2017). Adequate protection to construction workers will be provided with the implementation of a Health and Safety Plan and Soil Management Plan.	Resident Engineer, Project Engineer	Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
PF-HAZ-3: If hazardous materials are discovered, the construction contractor will remove and properly dispose of any materials in accordance with the California Department of Transportation (Caltrans) Construction Manual (July 2017), Chapter 7, Section 7-107, Hazardous Waste and Contamination.	Resident Engineer	Construction							
PF-HAZ-4: Lead Compliance Plan shall be prepared prior to the start of construction activities.	Resident Engineer	PS&E							
Avoidance and/or Minimization Measures									
HAZ-1: Shallow subsurface soil sampling will be conducted for aerially deposited lead (ADL) in unpaved locations in the vicinity of the roadway. The soil ADL evaluation and/or investigation will be consistent with the new California Department of Toxic Substances Control (DTSC) Lead Agreement contaminant concentration limits. Additionally, a Lead Compliance Plan should be prepared prior to the start of construction activities.	Hazardous Waste Specialist, Project Engineer	PS&E							
HAZ-2: If yellow thermoplastic/paint traffic striping is removed separately from the adjacent pavement, the markings should be removed and sampled for lead chromate prior to construction, consistent with Caltrans' SSP 14-11.12. If the paint is nonhazardous, then SSP 36-4 should be followed.	Resident Engineer	Construction							
HAZ-3: Prior to demolition or work to the Avenue N overcrossing bridge, an asbestos-containing materials (ACMs) survey will need to be completed during PS&E and prior to construction by a qualified asbestos consultant.	Asbestos Specialist, Project Engineer	PS&E							
HAZ-4: During design, treated wood waste (TWW) will be identified and the appropriate SSP will be specified as necessary. SSP Required. During Project construction, any treated wood waste (TWW) that is found on the site and is not reused in the Project area in a manner consistent with the intended use for the preservative, must be disposed of as a hazardous waste at an appropriately permitted disposal facility.	Hazardous Waste Specialist	PS&E	Yes						
Air Quality									
Project Features									
PF-AQ-1: Excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403.	Resident Engineer	Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
PF-AQ-2: Ozone precursor emissions from construction equipment vehicles will be controlled by maintaining equipment engines in good condition and in proper tune per manufacturers' specifications.	Resident Engineer	Construction							
PF-AQ-3: All trucks that are to haul excavated or graded material on site will comply with California Vehicle Code Section 23114, with special attention to Sections 23114(b)(F), (e)(2), and (e)(4), as amended, regarding the prevention of such material spilling onto public streets and roads.	Resident Engineer	Construction							
PF-AQ-4: The Caltrans Standard Specifications for Construction (2018), Section 14.9, must be adhered to.	Resident Engineer	Construction							
PF-AQ-5: If naturally occurring asbestos, serpentinite, or ultramafic rock is discovered during grading operations Section 93105, Title 17 of the California Code of Regulations requires notification to the Antelope Valley Air Pollution Control District by the next business day and implementation of dust control measures described in Section 93105 (d)(B).	Resident Engineer	Construction							
PF-AQ-6: All construction vehicles both on and off site shall be prohibited from idling in excess of 5 minutes.	Resident Engineer	Construction							
Avoidance and/or Minimization Measures									
AQ-1: Soil binder will be spread on any unpaved roads used for construction purposes, and on all project construction parking areas.	Resident Engineer	Construction							
AQ-2: Trucks will be washed as they leave the right-of-way as necessary to control fugitive dust emissions.	Resident Engineer	Construction							
AQ-3: A dust control plan will be developed documenting sprinkling, temporary paving, speed limits, and timely revegetation of disturbed slopes as needed to minimize construction impacts to existing communities.	Resident Engineer	Construction							
AQ-4: Equipment and materials storage sites will be located as far away from residential and park uses as practicable. Construction areas will be kept clean and orderly.	Resident Engineer	Construction							
AQ-5: ESA (Environmentally Sensitive Area)-like areas or their equivalent will be established near sensitive air receptors. Within these areas, construction activities involving the extended idling of diesel equipment or vehicles will be prohibited, to the extent feasible.	Resident Engineer, Biologist, Project Engineer	PS&E, Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
AQ-6: Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, will be used.	Resident Engineer	Construction							
AQ-7: All transported loads of soils and wet materials will be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) will be provided to minimize emission of dust (particulate matter) during transportation.	Resident Engineer	Construction							
AQ-8: Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be promptly and regularly removed to decrease particulate matter.	Resident Engineer	Construction							
AQ-9: To the extent feasible, construction traffic will be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.	Resident Engineer	Construction							
Noise									
Project Features									
PF-NOI-1: The control of noise from construction activities shall conform to the Caltrans Standard Specifications, Section 14-8.02, “Noise Control.”	Resident Engineer	Construction							
Avoidance and/or Minimization Measures									
NOI-1: All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment shall have an un-muffled exhaust.	Resident Engineer	Construction							
NOI-2: As directed by the Resident Engineer, the contractor shall implement appropriate additional noise mitigation measures, including changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources.	Resident Engineer	Construction							
NOI-3: All work shall adhere to Caltrans Standard Specifications, Section 7-1.01I, “Sound Control Requirements,” which states that noise levels generated during construction will comply with applicable local, State, and federal regulations, and that all equipment will be fitted with adequate mufflers according to the manufacturers’ specifications.	Resident Engineer	Construction							
NOI-4: Sound blankets shall be placed on construction fencing.	Resident Engineer	Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
NOI-5: A Noise Control Plan (NPP) shall be prepared prior to construction to ensure implementation of noise reducing measures during construction.	Resident Engineer	Pre-Construction							
NOI-6: Nearby residences and businesses shall be notified two weeks prior to the start of construction.	Resident Engineer	Pre-Construction							
BIOLOGICAL ENVIRONMENT									
Natural Communities									
Project Features									
PF-BIO-1: To avoid impacts to nesting birds, any native or exotic vegetation removal or tree-trimming activities will occur outside the nesting season (February 1 through September 1). In the event that vegetation clearing is necessary during the nesting season, a preconstruction survey will be conducted by a qualified biologist within 3 days of commencement of vegetation removal or the beginning of construction activities to identify the locations of nests. Should nesting birds be found, an exclusionary buffer will be established by the biologist.	District Biologist, Resident Engineer	Pre-construction, Construction							
Avoidance and/or Minimization Measures									
NC-1: All work will be limited to the transportation right-of-way and Temporary Construction Easement (TCE) Zones. Grading and construction will be limited to the TCE zones.	Resident Engineer	Construction							
NC-2: All pollution and litter laws and regulations will be followed by all personnel on site.	Resident Engineer	Construction							
Wetlands and Other Waters									
Project Features									
Avoidance and/or Minimization Measures									
WET-1: The permanent minimal impacts to the westernmost drainage feature, the temporary minimal impacts to the middle drainage feature, and the temporary minimal impacts to the box channel will all be included in the 1602 LSA agreement application. Any measures required by this agreement would be implemented during construction.	Biologist	PS&E							
WET-2: All appropriate Stormwater and Erosion Control Best Management Practices (BMPs) would be implemented during construction. Prior to the start of construction, all drain inlets and outlets would be protected with BMP's to prevent construction material and debris from entering drainages.	Resident Engineer	Pre-construction, Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
Plant Species									
Project Features									
PF-BIO-2: The construction contractor shall inspect and clean construction equipment at the beginning of each day and prior to transporting equipment from one Project location to another. Any plants removed, or soil disturbed during the course of construction should be contained and properly disposed of offsite. All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and erosion-control Best Management Practices (BMPs) implemented will be free of invasive plant species seeds or propagules listed on the California Invasive Plant Council (Cal-IPC) Inventory. City tree planting and removal requirements will also be adhered to.	Landscape Architect	Design, Construction							
Avoidance and/or Minimization Measures									
PS-1: If construction occurs more than two years after the date of the last rare plant survey, additional rare plant surveys should be conducted prior to construction.	District Biologist	Pre-construction, Construction							
PS-2: If feasible, impacts to Joshua trees will be avoided by installing Environmentally Sensitive Area (ESA) fencing around each tree to prevent inadvertent damage during construction.	Resident Engineer, Biologist, Project Engineer	Design, Construction							
PS-3: If impacts to Joshua trees cannot be avoided, a relocation or mitigation plan must be prepared. A Caltrans Biologist must be notified prior to disturbance so the feasibility of relocation, possibly within the new roundabout, can be assessed. If relocation is not feasible, then offsite mitigation shall be initiated via an In-Lieu-Fee agreement with a local conservancy; Joshua trees will be purchased and planted within a protected conservation habitat at a minimum ratio of 3:1.	Landscape Architect, Project Engineer, Engineer	Design							
PS-4: If listed and/or protected species are discovered during construction, all work shall cease, and the Caltrans Biologist shall be notified immediately. No work shall continue until coordination with USFWS and/or CDFW has been conducted and a protection plan implemented.	Biologist, Resident Engineer	Construction							
PS-5: Any replanting within Caltrans Right-of-Way must be done with desert native species local to the area. A plant palette should be developed through coordination between the Landscape Architect and the Biologist.	Landscape Architect, Project Engineer	Design							
Animal Species									

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
Project Features									
Avoidance and/or Minimization Measures									
AS-1: Construction activity, including vegetation removal, shall be scheduled to occur between February 1st to September 1st to avoid the bird nesting season. If that is not feasible, the Caltrans Biologist shall be notified 2 weeks in advance so that preconstruction nesting bird surveys can be conducted. If nesting birds are observed, construction activity in the immediate area shall not occur until it is determined that the young birds have left the nest. A buffer zone shall be established and maintained during all phases of construction (150 feet for songbirds and 500 feet for raptors) to ensure that nesting birds are not adversely affected.	Biologist, Caltrans Resident Engineer	Construction							
Threatened and Endangered Species									
Project Features									
Avoidance and/or Minimization Measures									
TE-1: If listed and/or protected species are discovered during construction, all work shall cease, and the Caltrans Biologist shall be notified immediately. No work shall continue until coordination with USFWS and/or CDFW has been conducted and a protection plan implemented.	Biologist, Resident Engineer	Construction							
Invasive Species									
Project Features									
Avoidance and/or Minimization Measures									
IS-1: During project construction, all invasive plant species found on site shall be handled, transported, and disposed of off-site by a qualified contractor to minimize the potential for 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 or natural areas would occur.	Resident Engineer	Construction							

Task and Brief Description	Responsible Branch, Staff	Timing, Phase	NSSP Req.	Action Take to Comply with Task	Task Completed		Remarks	Environmental Compliance	
					Initials	Date		Initials	Date
IS-2: All mulch, topsoil, seed mixes, or other plantings used during landscaping activities and erosion-control best management practices (BMPs) implemented will be free of invasive plant species seeds or propagules. No vegetation listed on the California Invasive Plant Council (CAL-IPC) Invasive Plant Inventory will be installed on the proposed project. All plant palettes proposed for the project will be reviewed and approved by a qualified biologist.	Biologist, Resident Engineer, Landscape Architect	Design, Construction							
IS-3: In areas of particular sensitivity (i.e., near or adjacent to drainages), extra precautions will be taken if invasive species are present. This will include inspection and cleaning of construction equipment and eradication strategies, as needed, should an invasion occur.	Resident Engineer	Construction							

Appendix D- RTP and FTIP Listings

2019 FTIP

2019 Federal Transportation Improvement Program

Los Angeles County
State Highway
Including Amendments 1-8
(In $000`s)

INFRASTRUCTURE FOR REBUILDING AMERICA (INFRA) GRANT			47,000	47,000			47,000					47,000
TRANS AND COMM AND SYS PRESRV PILOT PROG	707			707	707							707
LOCAL TRANS FUNDS	8,423		189,900	198,323	8,423		189,900					198,323
MEASURE R	32,400	5,600		38,000	38,000							38,000
PRIVATE FUNDS	6,570			6,570	6,570							6,570
SB1TRADE CORRIDOR ENHANCEMENT			247,000	247,000			247,000					247,000
LA0G440 Total	49,700	5,600	483,900	539,200	55,300		483,900					539,200

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G896	Los Angeles	MDAB		1AL04	CAX62	14	59.55	60.03			S	NON-EXEMPT	3
Description:							PTC	30,000			Agency	PALMDALE	

Wdn off-ramps to 3 lanes: 2 left, 1 right onto Palmdale Blvd; Wdn 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 Blvd; Provide EB right turn lane from Palmdale Blvd to Div, St; Modify Palmdale Blvd for double left turns from ramps; Modify Palmdale Blvd for 3 WB through lanes through SB ramp intersection; Modify SB off ramp allowing widening from Ave Q - Palmdale Blvd - under LA0G897

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
CITY FUNDS			5,000	5,000			5,000					5,000
MEASURE R	3,000	750	21,250	25,000	3,750	21,250						25,000
LA0G896 Total	3,000	750	26,250	30,000	3,750	21,250	5,000					30,000

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G898	Los Angeles	MDAB		1AL04	CAX60	14	63.67	63.67			S	NON-EXEMPT	5
Description:							PTC	20,000			Agency	PALMDALE	

Palmdale Improvement of SR 14 on and off ramps at Ave N; Install traffic signals/signal interconnect and intersection widening at SR 14/Ave N on and off ramp locations; Improve SR 14/Ave N bridge structure; improve Ave N between SR 14 & 10th W; construct additional mainline improvements on SR 14 near Ave N on and off ramp approaches.

Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
MEASURE R	3,300	5,500	11,200	20,000	8,800		11,200					20,000
LA0G898 Total	3,300	5,500	11,200	20,000	8,800		11,200					20,000

ProjectID	County	Air Basin	Model	RTP ID	Program	Route	Begin	End	Signage Begin	Signage End	System	Conformity Category	Amendment
LA0G1290	Los Angeles	SCAB		7120018	NCR36	47	.86	.86			S	EXEMPT - 93.126	2
Description:							PTC	31,050			Agency	PORT OF LOS ANGELES	

Prepare Caltrans Project Study Report (PSR), Project Report (PR), preliminary plans and Environmental Documentation (ED) reports to obtain Caltrans approval and Environmental clearance; Design (Plans, Specification and Estimate) and Construction for the SR 47/Vincent Thomas Bridge and Front Street/Harbor Boulevard Interchange Reconfiguration Project.

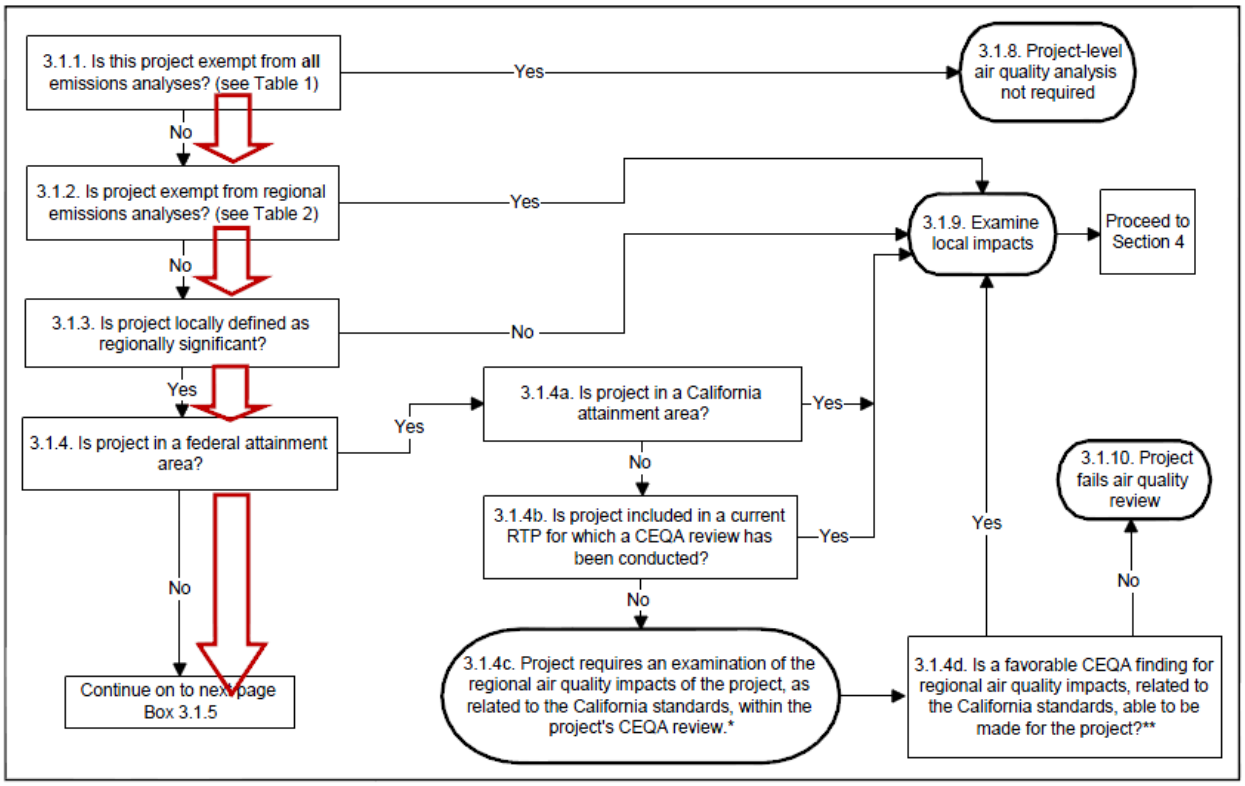
Fund	ENG	R/W	CON	Total	Prior	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	Total
MEASURE R	4,030			4,030	1,000		950	2,080				4,030
PORT FUNDS	1,240		25,780	27,020	500	246	247	247	12,890	12,890		27,020
LA0G1290 Total	5,270		25,780	31,050	1,500	246	1,197	2,327	12,890	12,890		31,050

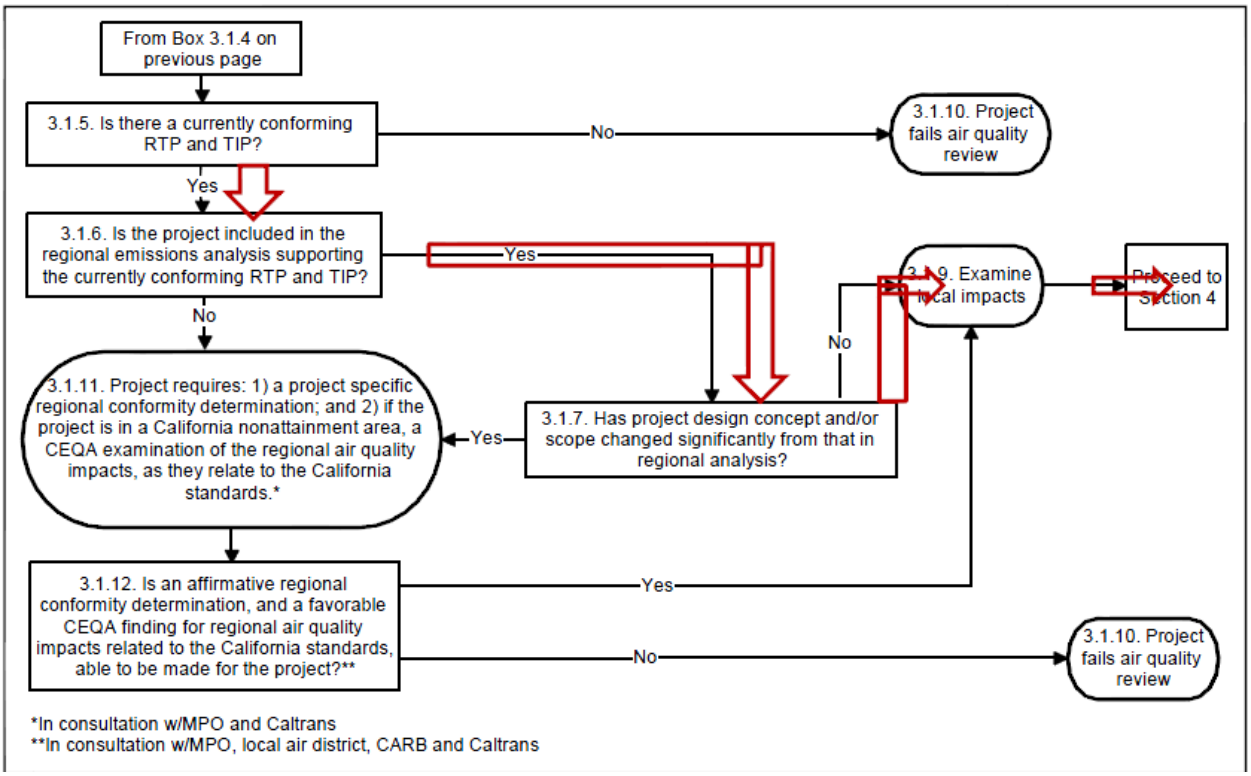
2019 RTP

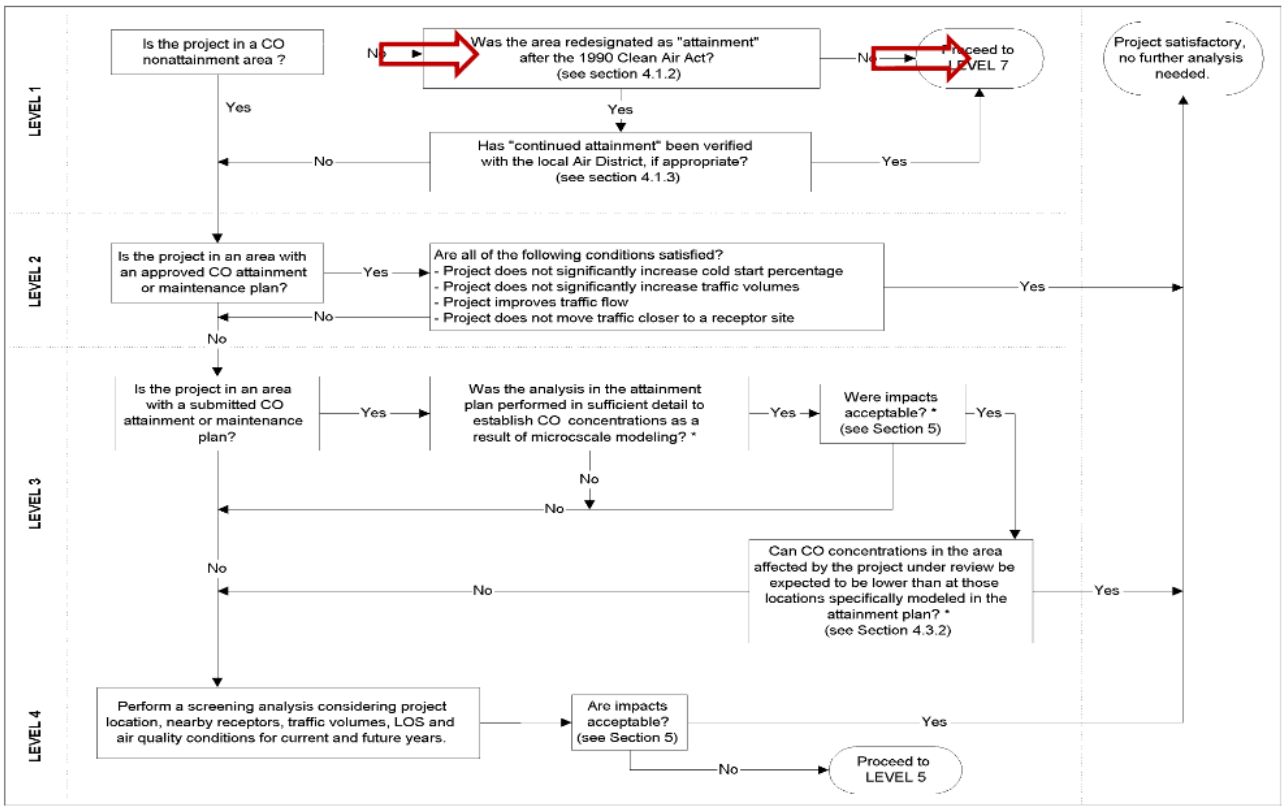
TABLE 1 Continued

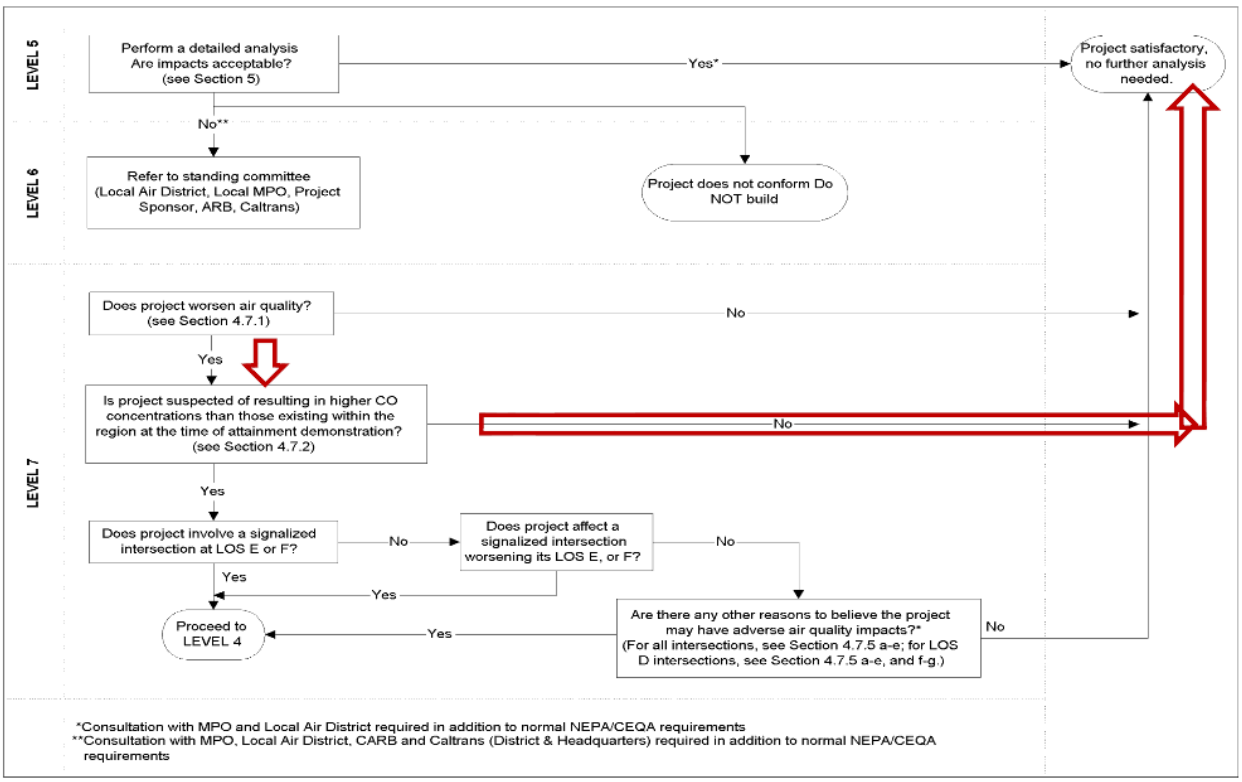
#	COUNTY	LEAD AGENCY	RTP ID	FTIP ID	SYSTEM	ROUTE NAME	DESCRIPTION	COMPLETION YEAR	REASON FOR AMENDMENT
42	LOS ANGELES	PALMDALE	1AL04	LA0G898	STATE HIGHWAY	14	PALMDALE IMPROVEMENT OF SR 14 ON AND OFF RAMPS AT AVE N; INSTALL TRAFFIC SIGNALS/SIGNAL INTERCONNECT AND INTERSECTION WIDENING AT SR 14/AVE N ON AND OFF RAMP LOCATIONS; IMPROVE SR 14/AVE N BRIDGE STRUCTURE; IMPROVE AVE N BETWEEN SR 14 & 10TH W; CONSTRUCT ADDITIONAL MAINLINE IMPROVEMENTS ON SR 14 NEAR AVE N ON AND OFF RAMP APPROACHES.	EXISTING: 2020 REVISED: 2024	REVISED COMPLETION DATE
43	LOS ANGELES	PALMDALE	1AL04	LA0G894	STATE HIGHWAY	138	WIDEN & MODIFY EXIST. STRIPING TO 3 LANES IN EACH DIRECTION ON SR 138 FROM 5TH E - 10TH E; INTERSECTION MODIFICATIONS/UPGRADES AT PALMDALE BLVD/6TH E. & PALMDALE BLVD/SIERRA HIGHWAY; RELOCATION OF EXIST. RAILROAD SIGNAL MAST-ARMS & RAIL EQUIPMENT; S/O PALMDALE BLVD. WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE R (INCLUDE S/B SIERRA HWY RIGHT TURN LANE @ AVE R); N/O PALMDALE BLVD., WIDEN SIERRA HWY FROM 4 TO 6 LANES TO AVE Q; EXTEND CLASS 1 BIKE LANE, 800' ON WEST SIDE OF SIERRA HWY TO AVE R.	EXISTING: 2019 REVISED: 2022	REVISED COMPLETION DATE
44	LOS ANGELES	PALMDALE	1AL04	LA0G897	STATE HIGHWAY	138	SR 138/14: WIDENING FROM RANCHO VISTA BLVD(RVB) TO PMDL BLVD. IMPROVE SR 138 (SR14) N/B OFF-RAMP ONTO RVB/AVE P. IMPR TRAFFIC SIGNAL AND CONSTRUCT RDWY IMPVMTS AT THE FOLLOWING INTERSECTION: SR138 (SR14) N/B OFF-RAMP AT RVB/ AVEP. IMPROVE THE FOLLOWING INTERSECTION: S/B RANCHO VISTA BLVD/AVENUE P ON-RAMP SR138 (SR-14). IMPROVE SR138 AT TECHNOLOGY DR BRIDGE STRUCTURE. WIDEN SB SR138 (SR-14) BEG S/O RVB /AVE P AND EXT TO PMDL BLVD. ADD'L MAINLINE LANE IMPVMTS BETWEEN RVB /AVE P AND PMDL BLVD.	EXISTING: 2018 REVISED: 2020	REVISED COMPLETION DATE

Appendix E- Air Quality CO Flow Chart






LEVEL 1
LEVEL 2
LEVEL 3
LEVEL 4
Is the project in a CO nonattainment area ?
No
Was the area redesignated as "attainment" after the 1990 Clean Air Act? (see section 4.1.2)
No
Proceed to LEVEL 7
Project satisfactory, no further analysis needed.
Yes
Yes
Has "continued attainment" been verified with the local Air District, if appropriate? (see section 4.1.3)
No
Yes
Is the project in an area with an approved CO attainment or maintenance plan?
Yes
Are all of the following conditions satisfied?
- Project does not significantly increase cold start percentage
- Project does not significantly increase traffic volumes
- Project improves traffic flow
- Project does not move traffic closer to a receptor site
Yes
No
No
Is the project in an area with a submitted CO attainment or maintenance plan?
Yes
Was the analysis in the attainment plan performed in sufficient detail to establish CO concentrations as a result of microcscale modeling? *
Yes
Were impacts acceptable? * (see Section 5)
Yes
No
No
Can CO concentrations in the area affected by the project under review be expected to be lower than at those locations specifically modeled in the attainment plan? * (see Section 4.3.2)
No
No
Yes
Perform a screening analysis considering project location, nearby receptors, traffic volumes, LOS and air quality conditions for current and future years.
Are impacts acceptable? (see Section 5)
Yes
No
Proceed to LEVEL 5


LEVEL 5
LEVEL 6
LEVEL 7
Perform a detailed analysis Are impacts acceptable? (see Section 5)
Yes*
Project satisfactory, no further analysis needed.
No**
Refer to standing committee (Local Air District, Local MPO, Project Sponsor, ARB, Caltrans)
Project does not conform Do NOT build
Does project worsen air quality? (see Section 4.7.1)
No
Yes
Is project suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration? (see Section 4.7.2)
No
Yes
Does project involve a signalized intersection at LOS E or F?
No
Does project affect a signalized intersection worsening its LOS E, or F?
No
Yes
Yes
Proceed to LEVEL 4
Yes
Are there any other reasons to believe the project may have adverse air quality impacts?* (For all intersections, see Section 4.7.5 a-e; for LOS D intersections, see Section 4.7.5 a-e, and f-g.)
No
*Consultation with MPO and Local Air District required in addition to normal NEPA/CEQA requirements
**Consultation with MPO, Local Air District, CARB and Caltrans (District & Headquarters) required in addition to normal NEPA/CEQA requirements

Appendix F- Glossary of Terms

Active Fault – The Alquist-Priolo Earthquake Fault Zoning Act defines an active fault as one that has evidence of rupture within the last 11,000 years (Holocene time). The Alquist-Priolo Zone only applies to surface traces of faults that the State Geologist considers "active" and the Zone itself does not define a potentially active fault. However, a potentially active fault is commonly considered to be a fault that shows evidence of movement within Quaternary time (within the last 1.8 million years) but not within recent (Holocene) time.
Acquisition – An asset or object bought or obtained, typically by a library or museum.

Administrative Record – The compilation of notices, background reports, and environmental review documents that provide a record of the environmental review, public involvement, and decision-making processes required by CEQA related to a project.

Adverse Impact – A term used to describe unfavorable, harmful, or detrimental environmental changes. Adverse impacts may be significant or not significant.

Adverse impact – An unwanted and unanticipated result of taking a particular action.

Advisory Council on Historic Preservation (ACHP) – Independent federal agency responsible for implementing the Section 106 review process.

Air Pollution/Pollutants – Substances that are foreign to the atmosphere or are present in the natural atmosphere to the extent that they may result in adverse effects on humans, animals, vegetation, and materials. Common air pollutants are ozone, nitrogen dioxide, particular matter, and carbon monoxide. Air pollution is defined in the California Health and Safety Code as any discharge release, or other propagation into the atmosphere and includes, but is not limited to, smoke, charred paper, dust soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof.

Air Pollution Control District (APCD) – A local agency with authority to regulate stationary, indirect, and area sources of air pollution (such as refineries, manufacturing facilities, and power plants) within a given country, and governed by a District Air Pollution Control Board composed of elected county supervisors.

Air Quality Management District (AQMD) – A group of countries or portions of countries, or an individual county specified in law with authority to regulate stationary, indirect, and area sources of air pollution within the region and governed by a regional air pollution control board comprised mostly of elected officials from within the region.

Air Quality Model – An algorithmic relationship between pollutant emissions and pollutant concentrations used in the prediction of a project's pollutant impact.

Air Quality Standards – Standards promulgated by state or federal pollution control districts. The specified average concentration of an air pollutant in ambient air during a specified time period at or above which undesirable effects may be produced. The prescribed level of a pollutant in the outside air that should not be exceeded during a specific time period to protect public health. Established by both federal and state governments.

Air Toxics – A generic term referring to a harmful chemical or group of chemicals in the air. Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e., excluding ozone, carbon monoxide, PM_{10}, sulfur dioxide, nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible chronic or acute health effects in humans. Substances that are especially harmful to health, such as those considered under U.S. EPA's hazardous air pollutant program or California's AB 1807 and/or AB 2588 air toxics programs, are considered to be air toxics. Technically, any compound that is in the air and has the potential to produce adverse health effects is an air toxic.

Alluvial fan deposits – A fan-shaped area of soil deposited where a mountain stream first enters a valley or plain.

Alluvial Soils – Soil developing from recent alluvium; typically found in floodplains.

Alquist-Priolo Earthquake Fault Zoning (AP) Act – was passed into law following the destructive February 9, 1971 Mw 6.6 San Fernando earthquake. This Act provides a mechanism for reducing losses from surface fault rupture on a statewide basis, by prohibiting the siting of most structures for human occupancy across traces of active faults that constitute a potential hazard to structures from surface faulting or fault creep.

Alluvium – Material developed by running water.

Ambient Noise – The background noise associated with a given environment, usually a composite of sounds from many sources near and far. The ambient noise level constitutes the normal or existing level or environmental noise at a given location regardless of source.

Americans with Disabilities Act (ADA) – is a civil rights law that prohibits discrimination based on disability.

Amentities – a desirable or useful feature or facility of a building or place.

Archeological Site – The location of past focused human activities, defined in close proximity of continuous distribution of artifacts.

Area of Potential Effect (APE) – A term used in section 106 of the National Preservation Act to describe the area in which historic resources may be affected by a federal undertaking.

Best Management Practice (BMP) – Any program, technology, process, operating method, measure, or device that controls, prevents, removes or reduces pollution.

Biological Diversity – The variety of life forms and its processes, including the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

Borrow – Soil brought from another area.

BSA – Biological Study Area

Bulb-outs – a traffic calming measure, primarily used to extend the sidewalk, reducing the crossing distance and allowing pedestrians about to cross and approaching vehicle drivers to see each other when vehicles parked in a parking lane would otherwise block visibility.

California Clean Air Act (CCAA) – A California law passed in 1998 that provides the basis for air quality planning and regulation independent of federal regulations, and that establishes new authority for attaining and maintaining California's air quality standards by the earliest practicable date. A major element of the CCAA is the requirement that local Air Pollution Control Districts in violation of the California Ambient Air Quality Standards must prepare attainment plans that identify air quality problems, causes, trends, and actions to be taken for attainment.

California Code of Regulations (CCR) – The regulations that implement California laws.

California Department of Fish and Wildlife (CDFW) – The state government agency responsible for regulating impacts to lakes and streambeds and upholding the California Endangered Species Act.

California Endangered Species Act (CESA) – Establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy.

California Environmental Quality Act (CEQA) – State legislation enacted in 1970 and subsequently amended. It requires public agencies to regulate activities which may affect the quality of the environment so that major consideration is given to preventing damage to the environment.

Capacity – The maximum amount of traffic that can be accommodated by a uniform segment of freeway under prevailing conditions.

Complete streets – A transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

Corridor – A strip of land between two termini within traffic, topography, environment, and other characteristics are evaluated for transportation purposes.

Council on Environmental Quality (CEQ) – The National Environmental Policy Act (NEPA) established the CEQ within the Executive Office of the President to ensure that federal agencies meet their obligations under NEPA. CEQ oversees NEPA implementation, principally through issuing guidance and interpreting regulations that implement NEPA's procedural requirements.

Code of Federal Regulations (CFR) – The document that codifies all rules of the executive departments and agencies of the federal government. It is divided into 50 volumes, known as titles. Title 40 of the CFR (40 CFR) lists all the environmental regulations.

Cumulative Impact – Under NEPA, a cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or

person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (source: 40 CFR 1508.7)

Under CEQA, a cumulative impact refers to two or more individual affects which, when considered together, are considerable or which compound or increase other environmental impacts. The individual effects may be changes resulting from a single project or a number of separate projects. The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (source: CEQA Guidelines 15355).

dBA – A-weighted decibels are adjusted to approximate the way the average person hears sound.

Decibels (dB) – With respect to sound, decibels measure a scale from the threshold of human hearing, 0 decibels, upwards towards the threshold of pain, about 120-140 decibels. Because decibels are such a small measure, they are computed logarithmically and cannot be added arithmetically. An increase of 10 decibels is perceived by the human ear as a doubling of noise.

De Minimus – A condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

Drainage – The process by which atmospheric pollutants disseminate due to wind and vertical stability

Drainage Area – The portion of earth's surface from which precipitation or other runoff flows to a given location. With respect to a highway, this location may be a culvert, the farthest point of a channel, or an inlet to a roadway drainage system.

Dredge – Clean out the bed of (a harbor, river, or other area of water) by scooping out mud, weeds, and rubbish with a dredge.

Endangered – Plant or animal species that are in danger of extinction throughout all or a significant portion of its range.

Endangered Species Act – A federal law that protects threatened and/or endangered species from becoming extinct.

Environment – The physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved shall be the area in which significant effects would occur either directly or indirectly as a result of the project. The "environment" includes both natural and man-made conditions (source: CEQA Guidelines 15360)

Erosion – The wearing away of the land surface by running water, wind, ice, or other geological agents.

Excavation – remove earth carefully and systematically from a site in order to find buried remains.

Expansive Soils – Soils that swell when they absorb water and shrink as they dry.

Fault – A fracture in the earth's crust forming a boundary between rock masses that have shifted. An active fault is a fault that has moved recently and that is likely to again. An inactive fault is a fault that shows no evidence of movement in recent geologic time and no potential for movement in the relatively near future.

Feasible - Feasible means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (source: CEQA Guidelines §15364).

Feature - A large, complex artifact or part of a site such as a hearth, cairn, house pit, rock alignment, or activity area.

Federal Clean Air Act (FCAA) - A federal law passed in 1970 and amended in 1974, 1977, and 1990 that forms the basis for the national air pollution control effort. Basic elements of the act include national ambient air quality standards for major air pollutants, mobile and stationary control measures, air toxics standards, acid rain control measures, and enforcement provisions.

Federal Emergency Management Agency (FEMA) - The federal agency under which the National Flood Insurance Program is administered.

Federal Highway Administration (FHWA) – The Federal Agency within the United States Department of Transportation (USDOT) responsible for administering the Federal-Aid Highway Program and the Motor Carrier Safety Program.

Federal State Transportation Improvement Program (FSTIP) – A multiyear statewide, financially constrained, intermodal program of projects that is consistent with the statewide transportation plan (CTP) and regional transportation plans (RTP's). The FSTIP is developed by the California Department of Transportation and incorporates all of the MPO's and RTPA's FTIP's by reference. Caltrans then submits the FSTIP to FHWA.

Federal Transportation Improvement Program (FTIP) – A constrained 4-year prioritized list of all transportation projects that are proposed for federal and local funding. The FTIP is developed and adopted by the MPO/RTPA and is updated every 2 years. It is consistent with the RTP and it is required as a prerequisite for federal funding.

Federal Endangered Species Act (FESA) - he law requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and/or the NOAA Fisheries Service, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a "taking" of any listed species of endangered fish or wildlife. Likewise, import, export, interstate, and foreign commerce of listed species are all generally prohibited.

Fine Particulate Matter (PM_{10}) - PM10 causes a greater health risk than larger-sized particles, since these fine particles can be inhaled more easily and irritate the lungs by themselves and in combination with gases.

Floodplain – Any land area subject to inundation by floodwaters from any source.

Floodway – The channel of a river or other watercourse, plus any adjacent floodplain areas, which is designated a floodway by a public agency, that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without cumulatively increasing the water-surface elevation more than one foot above the BFE (Base Flood Elevation).

Fossil – Any remains, trace, or imprint of a plant or animal that has not been preserved in the earth's crust since some past geologic time (Bates and Jackson 1980:243)

Fossil localities – The position or site of fossil locations.

Geologic Review – The analysis of geologic hazards, including all potential seismic hazards, surface ruptures, liquefaction, landslides, mudslides, and the potential for erosion and sedimentation.

Geological – Relating to the form or surface features of the earth.

Greenhouse Gases (GHG's) – Gases that trap heat in the atmosphere.

Groundwater – The term usually refers to the "saturated" zone in the ground where all the pore space between the soil particles is occupied by water. Water under the earth's surface, often confined to aquifers capable of supplying wells and springs. Does not include water that is being produced with oil in the production of oil and gas or in a bona fide mining operation.

Groundwater table – The upper surface of the zone of saturation (all pores of subsoil filled with water), except where the surface if formed by an impermeable body.

Saline Water

Grubbed – Vegetation that has been removed by mechanical or manual methods.

Habitat – Place where a plant or animal lives.

Hazardous Material – A substance or combination of substances that because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, disposed of or otherwise managed.

Hazardous Waste – A waste or combination of wastes that, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause or significantly contribute to an increase in mortality or an increase in serious irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. A hazardous material than cannot be reused or recycled. A hazardous waste possesses at least one of four characteristics–ignitability, corrosivity, reactivity, or toxicity–or appears on special EPA or state lists. Hazardous waste is regulated under the federal Resource Conservation and Recovery Act and the California Health and Safety Code.

High Occupancy Vehicle (HOV) Lanes – A lane of freeway reserved for the use of vehicles with set minimum number of occupants. Buses, taxis, carpools (which satisfy the occupancy minimum), and motorcycles generally may use HOV lanes.

Holocene – The second epoch of the Quaternary Period characterized by man and modern animals.

Hydrology – The study of the water cycle.

Impact – The effect, influence, or imprint of an activity or the environment. Impacts include: direct or primary effects that are caused by the project and occur at the same time and place; indirect or secondary effects that are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect or secondary effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate and related effects on air and water and other natural systems, including ecosystems.

Initial Study (IS) – Under CEQA, the Initial Study is prepared to determine whether there may be significant environmental effects resulting from a project. The Initial Study is attached to the Negative Declaration (ND) or Mitigated Negative Declaration (MND). It can become the basis of an Environmental Impact Report (EIR) if it concludes that the project may cause significant environmental effects that cannot be mitigated below the level of significance.

Infiltration – The introduction of underground water, such as groundwater, into wastewater collection system. Infiltration results in increased wastewater flow levels.

Intersection Capacity Utilization Method (ICU) – A method of analyzing intersection level of service by calculating a volume-to-capacity (V/C) ratio for each governing "critical" movement during a traffic signal phase. The V/C ratio for each phase is summed with the others at the intersection to produce an overall V/C ratio for the intersection as a whole. The ICU is usually expressed as a percent. The percent represents that portion of the hour required to provide sufficient capacity to accommodate all intersection traffic if all approaches operate at capacity. The V/C ratio represents the percent of intersection capacity used. For example, a V/C ratio of 0.85 indicates that 85 percent of capacity is being used.

Landslide – Down slope movement of soil and/or rock, that typically occurs during an earthquake or following heavy rainfall.

Lead Agency (CEQA) – “Lead Agency” means the public agency which has primary responsibility for carrying out or approving a project which may have a significant effect on the environment and preparing the environmental document.

Lead Agency (NEPA) – The agency or agencies preparing or having taken primary responsibility for preparing the environmental impact statement.

Level of Service (LOS) – A measure describing operational conditions within a traffic stream. It measures such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The six defined levels of services use letter designations from A to F, with Level of Service A representing the best operating conditions and Level of

Service F representing the worst. Each Level of Service represents a range of operating conditions.

> Level of Service A: Indicates a relatively free flow of traffic, with little or no limitation on vehicle movement or speed.
>
> Level of Service B: Describes a steady flow of traffic, with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.
>
> Level of Service C: Denotes a reasonably steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical approaches.
>
> Level of Service D: Designates the level where traffic nears an unstable flow. Intersections still function, but short queues develop and cars may have to wait through one cycle during short peaks.
>
> Level of Service E: Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.
>
> Level of Service F: Describes unsatisfactory stop-and-go traffic characterized by "traffic jams" and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and "upstream" intersections may be blocked by the long queues.

Liquefaction – The loss in the shearing resistance of a cohesion less soil, caused by an earthquake wave. The soil is turned into a fluid mass.

Lithic – Of and pertaining to a stone (obsidian, chert, basalt, etc.), as "lithic artifacts."

Local Agency – Local agency means any public agency other than a state agency, board, or commission. Local agency includes but is not limited to cities, counties, charter cities and counties, districts, school districts, special districts, redevelopment agencies, local agency formation commissions, and any board, commission, or organizational subdivision of a local agency when so designated by order or resolution of the governing legislative body of the local agency (source: CEQA Guidelines §15368).

Median – The portion of a divided highway separating the traveled ways in opposite directions. A median is often installed to prohibit unsafe turning movements. It can also be used to beautify a streetscape.

Memorandum of Understanding (MOU) – A common form of formal agreement between government agencies.

Mitigated Negative Declaration (MND) – The CEQA document that is used when the Initial Study concludes that a project's potential significant effect on the environment can be reduced below the level of significance with the incorporation of mitigation measures.

Mitigation – Mitigation refers to (1) avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action

and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or, (5) compensating for the impact by replacing or providing substitute resources or environments (source: CEQA Guidelines §15370).

Mitigation, under NEPA, includes (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments. (source: 40 CFR 1508.20)

Mitigation Measure – Action taken to reduce or eliminate environmental impacts. Mitigation includes: avoiding the impact altogether by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments.

Mitigation Monitoring Program – When a lead agency adopts a mitigated negative declaration or an EIR, it must adopt a program of monitoring or reporting which will ensure that mitigation measures are implemented. (See CEQA Statute Section 21081.6(a) and CEQA Guidelines Sections 15091(d) and 15097).

Multimodal – Pertaining to more than one method of traveling

National Ambient Air Quality Standards (NAAQS) - Standards set by the U.S. Environmental Protection Agency for the maximum levels of air pollutants that can exist in the ambient air without unacceptable effects on human health or public welfare. There are two types of NAAQS. Primary standards set limits to protect public health and secondary standards set limits to protect public welfare.

National Environmental Policy Act (NEPA) – Enacted in 1969, NEPA requires all federal agencies to consider environmental factors through a systematic interdisciplinary approach before committing to a course of action. The NEPA process is an overall framework for the environmental evaluation of federal actions.

National Pollutant Discharge Elimination System (NPDES) Permits – Under the NPDES Program (Federal Clean Water Act), any person responsible for the discharge of a pollutant or pollutants into any waters of the United States from any point source must apply for and obtain a permit. According to Section 402 of the Clean Water Act, the Environmental Protection Agency is the issuing authority for all NPDES permits in a state until such time as the state elects to take over the administration and obtains EPA approval of its programs. (The State Water Resources Control Board (SWRCB) has this authority in California.) Dischargers are required to disclose the volume and nature of their discharges. Further, the EPA or equivalent State Agency has the authority to specify limitations to be imposed on discharges and to require monitoring and reporting as to compliance or non-compliance.

National Register of Historic Places – The official inventory established by the National Historic Preservation Act of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering and culture.

Negative Declaration (ND) – The CEQA document that is used when the Initial Study concludes that a project will have no significant impact on the environment.

Paleontological Site – Any area or location containing a trace or impression, or the remains, of plants or animals from past ages.

Paleontological Species – A morphologic species based on fossil specimens. It may include specimens that would be considered specifically distinct if living individuals could be observed (Bates and Jackson 1980:451)

Paleontological Resource – A locality containing vertebrate, invertebrate, or plant fossils (i.e., fossil location, fossil bearing formation, or a formation with the potential to bear fossils).

Paleontology – The study of life in past geologic time based on fossil plants and animals and including phylogeny, their relationships to existing plants, animals, and environments, and chronology of the earth's history (Bates and Jackson 1980:451).

Phase I – For cultural resources, generally consists of a records search, a pedestrian field survey, and a written report.

Phase II – Usually will include test excavation pits. The goals are to determine the site's boundaries, an assessment of the site's integrity, and evaluation of the site's importance or significance through a study of its features and artifacts.

Plans, Specifications, and Estimates (PS&E) – The bid documents, including general design, specifications, and estimate costs.

Pleistocene – The first epoch of the Quaternary Period characterized by the first indications of social life in man.

Pollutant – Any introduced gas, liquid, or solid that makes a resource unfit for its normal or usual purpose.

Pollution – The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

Preservation – As used in historic preservation, the process of sustaining the form and extent of a structure essentially as it exists. Preservation aims at halting further deterioration and providing structural stability but does not contemplate significant rebuilding.

Preserve – An area in which beneficial uses in their present condition are protected; for example, a nature preserve or agricultural preserve. To keep safe from destruction or decay; to maintain or keep intact.

Project Lot Area – The total land area of a project after all required dedications or reservations for public improvements, including, but not limited to, streets, parks, schools, flood control channels, etc.

Rare Species – In accordance with the CEQA Guidelines, a "Species" means a species or subspecies of animal or plant or a variety of plant. A species of animal or plant is: "Rare" when either: (a) Although not presently threatened with extinction, the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens; or (b) The species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered "threatened" as that term is used in the Federal Endangered Species Act. A species of animal or plant shall be presumed to be endangered, rare or threatened, as it is listed in: (1) Sections 670.2 or 670.5, Title 14, California; (2) Title 50, Code of Federal Regulations Section 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered. A species not included in any listing shall nevertheless be considered to be endangered, rare or threatened, if the species can be shown to meet specific criteria. This definition shall not include any species of the Class Insecta which is a pest whose protection under the provisions of CEQA would present an overwhelming and overriding risk to man as determined by: The Director of Food and Agriculture with regard to economic pests; or The Director of Health Services with regard to health risks (source: CEQA Guidelines §15380).

Receptors – Term used in air quality and noise studies that refers to houses or businesses that could be affected by a project.

Regulatory Agency – An agency that has jurisdiction by law.

Right-Of-Way – A general term denoting land, property, or interest therein, usually in a strip acquired for or devoted to transportation purposes.

Risk Assessment – The qualitative and quantitative evaluation of the risk posed to human health and/or the environment by the actual or potential presence and/or use of specific pollutions.

Ruderal – Disturbed area with a prevalence of introduced weedy species. Ruderal habitats are associated with unpaved highway shoulders and weedy areas around and between dwellings and other structures.

Runoff – That portion of rain or snow that does not percolate into the ground and is discharged into streams instead.

Scoping – NEPA defines scoping as an early and open process for determining the scope or issues to be addressed and for identifying the significant issues related to a proposed action (40 CFR 1501.7). Under CEQA, scoping is designed to examine a proposed project early in the Environmental Impact Report (EIR) analysis/review process and is intended to identify the range of issues pertinent to the proposed project and feasible alternatives or mitigation measures to avoid potentially significant environmental effects.

Scour – Erosion caused by moving water.

Section 106 – Provision in the National Historic Preservation Act that requires federal agencies to consider effects of proposed undertakings on properties listed or eligible for listing in the National Register of Historic Places.

Sediment – Organic or inorganic material that is carried by or is suspended in water that settles out to from deposits in the storm drain system or receiving waters.

Sedimentation – Process by which material suspended in water is deposited in a body of water.

Seiche – A free standing-wave oscillation of the surface of water in an enclosed or semi-enclosed basin (such as a lake, bay, or harbor). It is generally caused by local changes in atmospheric pressure, aided by winds, tidal currents and small earthquakes.

Seismic – Caused by or subject to earthquakes or earth vibrations.

Significance (CEQA) – CEQA defines a "significant effect on the environment" as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change is significant" (15382).

CEQA requires that the lead agency identify each "significant effect on the environment" resulting from the project and avoid or mitigate it.

The CEQA Guidelines include mandatory findings of significance for certain effects, thus requiring the preparation of an Environmental Impact Report (EIR).

Significance (NEPA) – Under NEPA, an Environmental Impact Statement (EIS) is required when the proposed federal action has the potential to "significantly affect the quality of the human environment." To determine that potential, one must consider both the context in which the action takes place and the intensity of its effect. Section 1508.27 of the Council on Environmental Quality (CEQ) regulations defines the term "significantly" as:

Significantly as used in NEPA requires considerations of both context and intensity:

A. Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short-and long-term effects are relevant.
B. Intensity. This refers to the severity of impact. Responsible officials must bear in mind more than one agency may make decisions about partial aspects of major action. The following should be considered in evaluating intensity:
    1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
    2. The degree to which the proposed action affects public health or safety.
    3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial
5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
7. Whether the action is related to other actions with individually insignificant but cumulatively impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historic resources.
9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
10. Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment. [43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979].

Slope – Land gradient described as the vertical rise divided by the horizontal run and expressed in percent.

Special-Status Species – Plant or animal species that are either (1) federally listed, proposed for or a candidate for listing as threatened or endangered; (2) bird species protected under the federal Migratory Bird Treaty Act; (3) protected under state endangered species laws and regulations, plant protection laws and regulations, Fish and Game codes, or species of special concern listings and policies; or (4) recognized by national, state, or local environmental organizations (e.g., California Native Plant Society).

Stratum – A layer of sedimentary rock; plural is strata.

Stratigraphy – The study of rock layers, especially their formation, distribution, composition, and age.

Storm Runoff – Surplus surface water generated by rainfall that does not seep into the earth but flows overland to flowing or stagnant bodies of water.

Stratum – A layer of material deposited by cultural or geological processes.

Subsidence – A localized mass movement that involves the gradual downward settling or sinking of the earth's surface.

Sustainability – Community use of natural resources in a way that does not jeopardize the ability of future generations to live and prosper.

Topography – The physical shape of the ground surface. Configuration of a surface, including its relief and all position of natural and man-made features.

Threatened – A species that is likely to become endangered in the foreseeable future in the absence of special protection.

Threatened Species – A species in danger of becoming endangered within the foreseeable future throughout all or a significant portion of its range. The species is determined to be threatened by the U.S. Fish and Wildlife Service in accordance with the federal Endangered Species Act of 1973, resulting in the prohibition of activities that harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct without a incidental take permit.

Under CEQA, a species of animal or plant is endangered when its survival and reproduction in the wild are in immediate jeopardy form one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, disease, or other factors. Although when not presently threatened with extinction, the species exists in such small numbers that it may become endangered if its environment worsens. A species of animal or plant shall be presumed to be rare or endangered as it is listed in: Sections 670.2 or 670.5, Title 14, California Code of Regulations; or Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered.

Traffic Model – A mathematical representation of traffic movement within an area or region based on observed relationships between the kind and intensity of development in specific areas. Many traffic models operate on the theory that trips are produced by persons living in residential areas and are attracted by various non-residential land uses.

Vehicle Miles Traveled (VMT) – The number of miles traveled by vehicles for a specified time period.

Watershed – The area of land that drains into a specific waterbody.

Zone – A specifically delineated area or district in a municipality within which regulations and requirements uniformly govern the use, placement, spacing and size of land and buildings.

Zoning – The division of a municipality by legislative regulations into areas or zones for the purpose of regulating land use, types of buildings, required yards and setbacks, parking, and other prerequisites to development. Zones are generally shown on a map and the text of the zoning ordinance specifies requirements for each zoning category. A program that implements policies of the General Plan.

Appendix G- Acronym List

A

AADT	Average Annual Daily Traffic
ACM	Asbestos Containing Material
ADA	Americans with Disabilities Act
ADL	Aerially Deposited Lead
AIA	Airport Influence Area
APCD	Air Pollution Control District
ARB	Air Resource Board
AVAP	Antelope Valley Area Plan
AVAQMD	Antelope Valley Air Quality Management District
AQMD	Air Quality Management District

B

BA	Biological Assessment
BAU	Business as Usual
BFE	Base Flood Elevation
BMP	Best Management Practices
BSA	Biological Study Area

C

CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CDFW	California Department of Fish and Wildlife
CDTFA	California Department of Tax and Fee Administration
CERCLA 1980	Comprehensive Environmental Response, Compensation and Liability Act of
CERFA	Community Environmental Response Facilitation Act

CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geotechnical Survey
CHP	California Highway Patrol
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CTP	California Transportation Plan
CWA	Clean Water Act

D

DOT	California Department of Transportation
DPGR	District Preliminary Geotechnical Report
DTSC	California Department of Toxic Substances Control

E

EB	East Bound
EDF	Evaluation Documentation Form
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPACT92	Energy Policy Act of 1992
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESA	Environmental Site Assessment
ESHA	Environmentally Sensitive Habitat Area

F

FCAA	Federal Clean Air Act
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIRM	Flood Insurance Rate Map
FRID	Final Relocation Impact Document
FTIP	Federal Transportation Improvement Program

G

GHG	Green House Gas

H

HDC	High Desert Corridor

I

ICE	Intersection Control Evaluation
IPAC	Information, Planning, and Consultation System
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study

L

LACM	Natural History Museum of Los Angeles County
LCFs	Low Carbon Fuel Standard
LCP	Lead Compliance Plan
LEDPA	Least Environmentally Damaging Practicable Alternative
LOS	Level of Service

M

MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration.
MPH	Miles Per Hour
MPM	Maximum Probability Magnitude
MPO	Metropolitan Planning Organization
MBTA	Migratory Bird Treaty Act
MS4	Municipal Separate Storm Sewer Systems

N

NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NB	North Bound
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Association
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service

O

OEE	Office of Environmental Engineering
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Act
OSTP	Office of Science and Technology Policy

P

PBDB	Paleobiology Database
PDT	Project Development Team
PER	Paleontological Evaluation Report
PF	Project Feature

PM	Post Mile
PPDG	Project Planning and Design Guide
PRC	Public Resource Code
PS&E	Project Specifications and Estimates

R

RAP	Relocation Assistance Program
RCRA	Resource Conservation and Recovery Act
RE	Resident Engineer
ROW	Right-of-Way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board

S

SB	South Bound
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SFHA	Special Flood Hazard Area
SIP	State Implementation Plan
SLR	Sea Level Rise
SMARTS	Storm Water Multiple Application and Report Tracking System
SSC	Species of Special Concern
STLC	Soluble Threshold Limit
SUSMP	Standard Urban Storm Water Mitigation Plan
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TASAS	Traffic Accident Surveillance and Analysis System
TMDL	Total Maximum Daily Loads
TMP	Transportation Management Plan
TNSR	Traffic Noise Study Report
TOD	Transit-Oriented Development
TSCA	Toxic Substance Control Act
TTLC	Total Threshold Limit Concentration
TWW	Treated Wood Waste

U

UCMP	University of California Museum of Paleontology
USACE	United States Army Corps of Engineers
USC	United States Code
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

V

VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled

W

WB	West Bound
WDR	Waste Discharge Requirements
WPCP	Water Pollution Control Program

Appendix H- List of Technical Studies

Air Quality Report (April 2019)

Prepared by Caltrans

FHWA Conformity Determination (August 2019)

Prepared by Caltrans

District Preliminary Geotechnical Report (August 2018)

Prepared by Caltrans

Visual Impact Assessment-Minor Level (October 2019)

Prepared by Caltrans

Noise Study Report (February 2019)

Prepared by Caltrans

Noise Abatement Decision Report (NADR) (September 2019)

Prepared by Caltrans

Natural Environmental Study (Minimal Impacts) (February 2019)

Prepared by Caltrans

Community Impacts Assessment (September 2019)

Prepared by Ecorp Consulting

Hazardous Waste Assessment (January 2019)

Prepared by Caltrans

Water Quality Assessment Memorandum (February 2019)

Prepared by Caltrans

Storm Water Data Report (October 2019)

Prepared by Caltrans

Preliminary Hydraulic Report (January 2019)

Prepared by Caltrans

Paleontological Identification Report and Paleontological Evaluation Report (August 2018)

Prepared by Ecorp Consulting

*Cost Estimate Map (*September 2019*) and Right of Way Data Sheet* (October 2019)

Prepared by Caltrans

Historic Property Survey Report (HPSR) (April 2019)

Prepared by Caltrans

Archaeological Survey Report (ASR) (April 2019)

Prepared by Caltrans

Supplemental HPSR and ASR (October 2019)

Prepared by Caltrans

Final Traffic and Intersection Control Evaluation (ICE) Study Report (TSR) (January 2018)

Prepared by Parsons and Cambridge Systematics

Supplemental Traffic Analysis (February 2019)

Prepared by Caltrans

Project Report (November 2019)

Prepared by Caltrans

Appendix I- References

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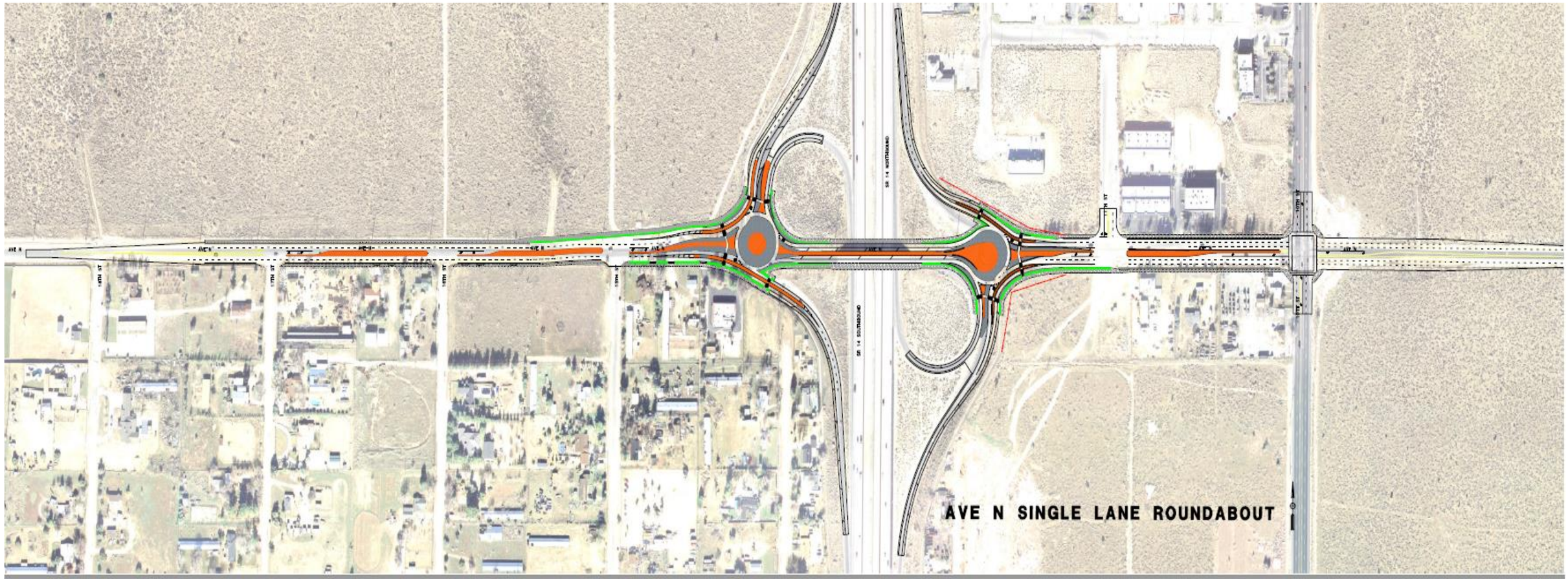
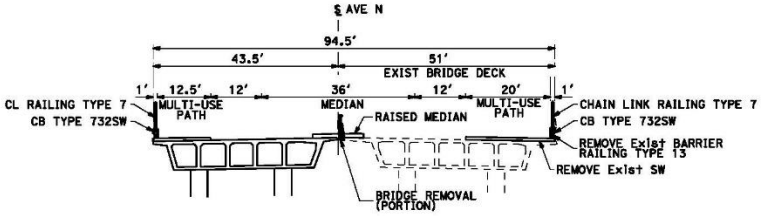
Appendix J- Project Plans and Cross Sections


AVE N
14TH ST
SR 14 NORTHBOUND
SR 14 SOUTHBOUND
AVE N SINGLE LANE ROUNDABOUT

NOTES

1. FOR LIMITS MEDIAN OR SPLITTER ISLAND SEE LAYOUTS

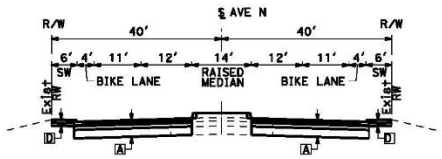


WESTBOUND **EASTBOUND**

STA XX+64 TO XX+40

RTE 14 SB RAMPS TO RTE 14 NB RAMPS

AVENUE "N" OVERCROSSING Br No 53-2222



WESTBOUND **EASTBOUND**

STA XX+40 TO XX+40

17TH ST WEST TO RTE 14 SB RAMPS

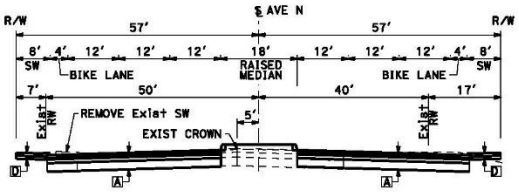
WEST AVENUE N

A
0.20' RHMA-G (Rubberized Hot Mix Asphalt)
0.35' HMA-A (Hot Mix Asphalt, Type A)
0.55' LCB (Lean Concrete Base)
1.05' AB-CL3 (Aggregate Base, CLASS-3)

B
1.15' JPCP (Joint Plain Concrete Pavement)
0.35' LCB (Lean Concrete Base)
0.70' AB-CL3 (Aggregate Base, CLASS-3)

C
0.20' RHMA-G (Rubberized Hot Mix Asphalt)
0.45' HMA-A (Hot Mix Asphalt, Type A)
0.70' LCB (Lean Concrete Base)
1.35' AB-CL3 (Aggregate Base, CLASS-3)

D
0.35' Minor Concrete
0.35' AB-CL3 (Aggregate Base, CLASS-3)



WESTBOUND **EASTBOUND**

STA 94+80 TO 95+45 STA 94+80 TO 97+06

RTE 14 NB RAMPS TO 10TH STREET WEST

EAST AVENUE N

ALTERNATIVE 5 - HYBRID

TYPICAL CROSS SECTION

NO SCALE

X-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	63.7		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. Exp. CIVIL — STATE OF CALIFORNIA

REVISED BY | DATE REVISED

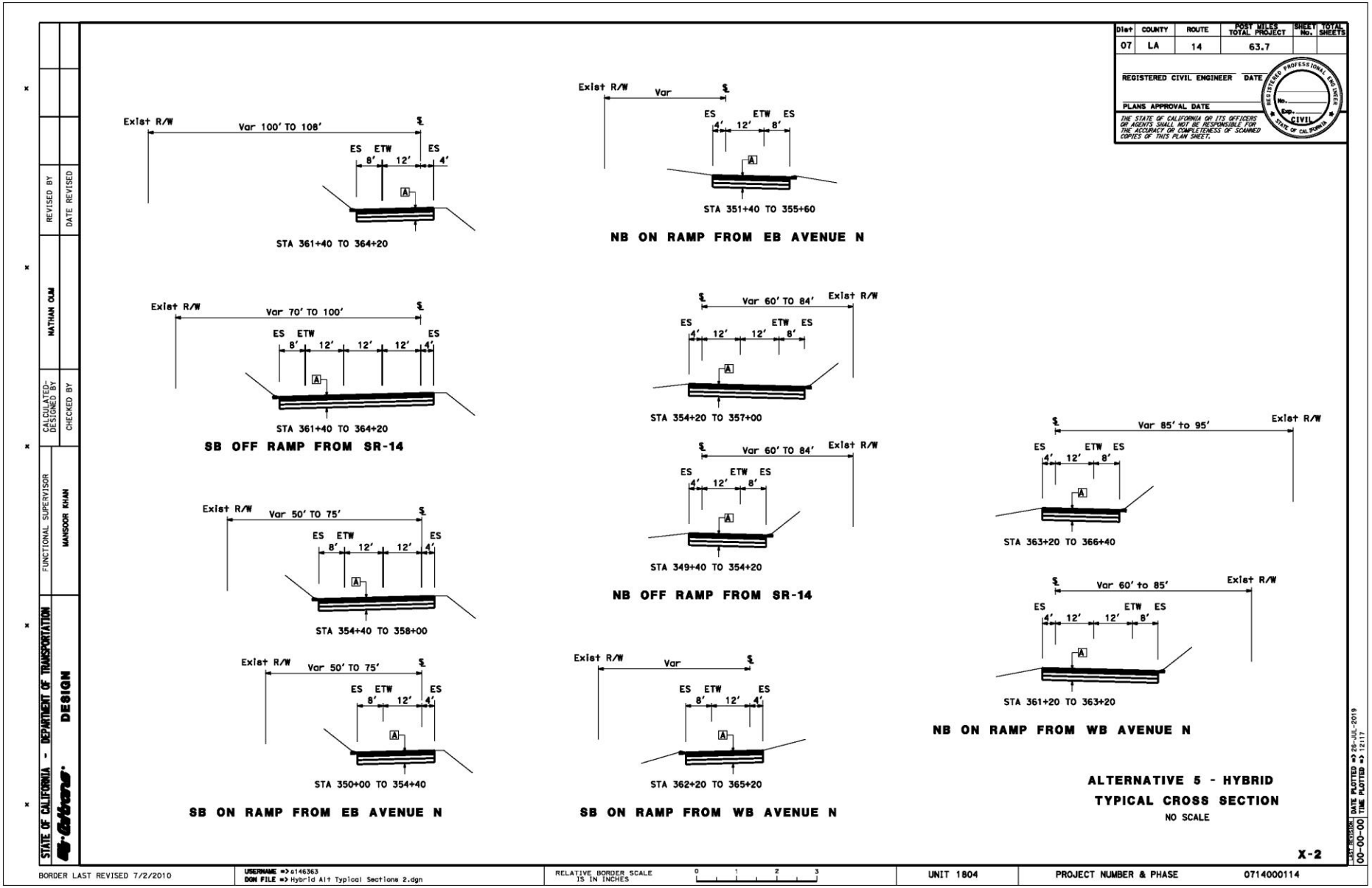
NATHAN OLM | CALCULATED-DESIGNED BY

FUNCTIONAL SUPERVISOR: MANSOOR KHAN | CHECKED BY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — DESIGN

LAST REVISION DATE PLOTTED => 26-JUL-2019
00-00-00 TIME PLOTTED => 12:16

BORDER LAST REVISED 7/2/2010 | USERNAME => s146363 DGN FILE => Hybrid Alt Typical Sections 1.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1804 | PROJECT NUMBER & PHASE 0714000114


Dist 07 | COUNTY LA | ROUTE 14 | POST MILES TOTAL PROJECT 63.7 | SHEET No. | TOTAL SHEETS
REGISTERED CIVIL ENGINEER DATE
PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.
REGISTERED PROFESSIONAL ENGINEER CIVIL STATE OF CALIFORNIA
Exist R/W
Var 100' TO 108'
ES ETW ES
8' 12' 4'
STA 361+40 TO 364+20
SB OFF RAMP FROM SR-14
Exist R/W
Var 70' TO 100'
ES ETW ES
8' 12' 12' 12' 4'
STA 361+40 TO 364+20
SB ON RAMP FROM EB AVENUE N
Exist R/W
Var 50' TO 75'
ES ETW ES
8' 12' 12' 4'
STA 354+40 TO 358+00
Exist R/W
Var 50' TO 75'
ES ETW ES
8' 12' 4'
STA 350+00 TO 354+40
Exist R/W
Var
ES ETW ES
4' 12' 8'
STA 351+40 TO 355+60
NB ON RAMP FROM EB AVENUE N
Var 60' TO 84'
Exist R/W
ES ETW ES
4' 12' 12' 8'
STA 354+20 TO 357+00
Var 60' TO 84'
Exist R/W
ES ETW ES
4' 12' 8'
STA 349+40 TO 354+20
NB OFF RAMP FROM SR-14
Exist R/W
Var
ES ETW ES
8' 12' 4'
STA 362+20 TO 365+20
SB ON RAMP FROM WB AVENUE N
Var 85' to 95'
Exist R/W
ES ETW ES
4' 12' 8'
STA 363+20 TO 366+40
Var 60' to 85'
Exist R/W
ES ETW ES
4' 12' 12' 8'
STA 361+20 TO 363+20
NB ON RAMP FROM WB AVENUE N
ALTERNATIVE 5 - HYBRID
TYPICAL CROSS SECTION
NO SCALE
X-2
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR MANSOOR KHAN
CALCULATED-DESIGNED BY NATHAN OUM
CHECKED BY
REVISED BY
DATE REVISED
DATE PLOTTED => 26-JUL-2019
TIME PLOTTED => 12:17
BORDER LAST REVISED 7/2/2010
USERNAME => s146363
DGN FILE => Hybrid Alt Typical Sections 2.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1804
PROJECT NUMBER & PHASE 0714000114

NOTES

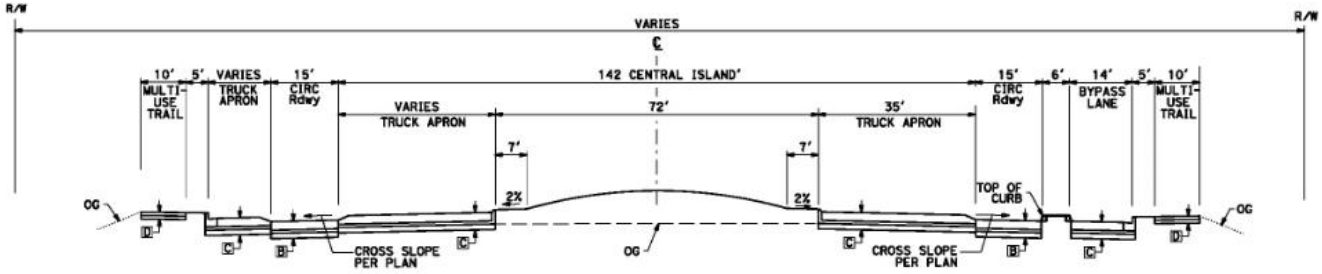
1. FOR LIMITS OF MEDIAN OR SPLITTER ISLAND SEE LAYOUTS
2. ROUNDABOUT GEOMETRICS IS PENDING FINAL TRAFFIC STUDY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	14	63.7		

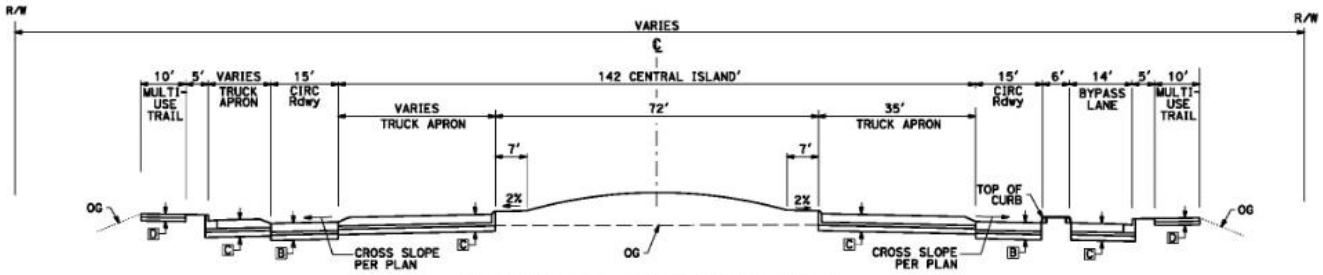
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

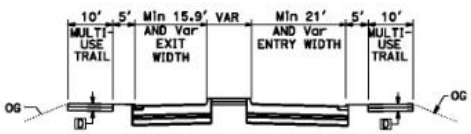
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



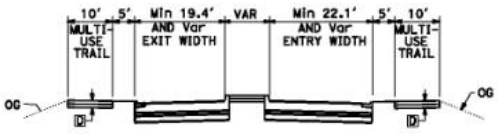
ROUNDABOUT - ROUTE 14 SB RAMPS



ROUNDABOUT - ROUTE 14 NB RAMPS



ROUNDABOUT APPROACHES
ROUTE 14 NORTHBOUND RAMPS



ROUNDABOUT APPROACHES
ROUTE 14 SOUTHBOUND RAMPS

ALTERNATIVE 5 - HYBRID
TYPICAL CROSS SECTION
NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: MANSOOR KHAN
CALCULATED-DESIGNED BY: NATHAN OUM
CHECKED BY
REVISED BY
DATE REVISED

LAST REVISION DATE PLOTTED => 26-JUL-2019
TIME PLOTTED => 12:17
00-00-00

BORDER LAST REVISED 7/2/2010
USERNAME => a146363
DGN FILE => Hybrid Alt Typical Sections 3.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 1804
PROJECT NUMBER & PHASE 0714000114