Merced 99 Pavement Rehabilitation

State Route 99 in the City of Atwater in Merced County between the Buhach Road Overcrossing to 0.8 mile south of the Westside Boulevard Undercrossing

10-Merced-99-20.1/24.3
EA 10-3A720
Project ID# 1013000259
SCH # 2017092016

Initial Study with Mitigated Negative Declaration

Prepared by the
State of California Department of Transportation

November 2017
This document contains a Mitigated Negative Declaration that examines the environmental effects of a project on State Route 99 in Merced County.

The Initial Study with Mitigated Negative Declaration was circulated to the public from September 12, 2017 to October 12, 2017. Comments received on the draft document and Caltrans’ responses are shown in the Comments and Responses section (Appendix F), which has been added to this document. Another change, the species lists have been updated in Appendix B. Elsewhere in the document, a vertical line in the right margin of the page indicates where content changes have been made since the circulation of the draft document.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attn: Judith Lopez, Acting Senior Environmental Planner, Central Region Environmental Division, 855 M Street, Suite 200, Fresno CA 93721; 559-445-6172 (Voice), or use the California Relay Service 1-800-735-2929 (TTY), 1-800-735-2929 (Voice), or 711.
This is a resurfacing and restoration roadway rehabilitation project located on State Route 99 from post miles 20.1 to 24.3 within the City of Atwater in Merced County.

INITIAL STUDY
with Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

11/3/17
Date of Approval

Frank Meraz
Acting Office Chief, Central Region
Environmental North
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Merced 99 Pavement Rehabilitation • i
Mitigated Negative Declaration
Pursuant to: Division 13, Public Resources Code

Project Description
The California Department of Transportation (Caltrans) would resurface and restore the pavement along State Route 99 from 0.4 mile south of the Buhach Road overcrossing to 0.8 mile south of the Westside Boulevard undercrossing (post miles 20.1 to 24.3) in the City of Atwater in Merced County. The project includes constructing 1,250-foot-long deceleration lanes at the Applegate northbound and southbound off-ramps. To provide additional drainage capacity, the project would construct five new retention basins.

Determination
Caltrans has prepared an Initial Study for this project and, following public review, has determined from this study that the project would not have a significant effect on the environment for the following reasons.

The project would have no effect on agriculture and forest resources, air quality, cultural resources, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, transportation/traffic, recreation, tribal cultural resources and mandatory findings of significance.

The project would have less than a significant effect on: biological resources, aesthetics, hazards and hazardous waste materials, utilities and service systems.

In addition, the project would have no significantly adverse effect on paleontological resources because the following mitigation measures would reduce potential effects to insignificance:

• Impacts to paleontological resources will be mitigated by implementation of a paleontological mitigation plan, which includes full-time monitoring of all earthmoving activities and proper handling of any finds in accordance with generally accepted paleontological practices.

Frank Meraz
Acting Office Chief, Central Region
Environmental North
California Department of Transportation

11/3/17 Date
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Chapter 1  Proposed Project

1.1 Introduction

As the lead agency under the California Environmental Quality Act (CEQA), the California Department of Transportation (Caltrans) would resurface and restore the pavement on State Route 99 from 0.4 mile south of the Buhach Road overcrossing to 0.8 mile south of the Westside Boulevard undercrossing in the City of Atwater in Merced County (post miles 20.1 to 24.3). See Figures 1-1 and 1-2. The project would construct a 1,250-foot-long deceleration lane for the northbound off-ramp and the same for the southbound off-ramp at Applegate Road. The project would also construct five new retention basins, four of which would require the acquisition of right-of-way.

Within the project limits, State Route 99 is an urban four-lane divided freeway in the City of Atwater. The project area serves as an important commuter and commercial truck traffic route between northern and southern California as well as a vital link to work and housing for motorists going to Atwater and nearby communities in the cities of Merced, Livingston and Turlock.

For project funding, the project is part of the 2016 State Highway Operation and Protection Program (SHOPP) for resurfacing and restoration (2R) roadway rehabilitation, program code 20.20.201.122 (Pavement Rehab) Program in the 2018/19 fiscal year. Estimated cost of the project is $81,900,000 (2017 dollars). Anticipated start of construction is September 2020, and end construction is estimated to be October 2022 or approximately 300 working days.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of the project is to restore the facility to a state of good repair to reduce future roadway maintenance. In addition, the project would improve ride quality and extend the service life of the pavement.

1.2.2 Need

State Route 99 is a major component of the transportation infrastructure in the City of Atwater and nearby cities. Within the project limits, the existing Portland cement concrete (PCC) pavement has developed significant cracking and potholes. This pavement deterioration results in high maintenance costs and a rough riding pavement and exceeds what can be cost effectively maintained through pavement preservation projects. The existing asphalt pavement also triggers ongoing pavement repair.
1.3 Project Description

Caltrans would resurface and restore the pavement on State Route 99 from 0.4 mile south of the Buhach Road overcrossing to 0.8 mile south of the Westside Boulevard undercrossing (post miles 20.1 to 24.3) in Atwater in Merced County. The unpaved medians would be paved to provide sufficient pavement width to assist in maintaining two lanes of traffic in each direction during construction, resulting in a traffic shift of the highway at the overhead crossings.

The project would construct 1,250-foot-long deceleration lanes for the northbound and southbound off-ramps at the Applegate interchange. The deceleration lanes would be 12-foot wide and the adjacent outside shoulder would be 10-foot wide in the area of the Applegate interchange (see Figure 1-3).
Figure 1-2 Project Location Map
Chapter 1  •  Proposed Project

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Figure 1-3 Typical Cross Section

Not to Scale
Figure 1-4 Basin Locations
To provide additional drainage capacity, the project would construct five new retention basins through the project area (see Figure 1-4). Four basins would require the acquisition of right-of-way; the fifth basin (at post mile 21.1) would not require additional right-of-way since it is located within the existing state right-of-way.

In addition, the project would replace/construct existing traffic management system elements, such as traffic monitoring stations, roadside weather information system, closed-circuit television camera, changeable message sign, microwave vehicle detection system, and automated warning system. The project would also install fiber optic cable infrastructure alongside the freeway between Atwater and Livingston.

There is expected night work for temporary k-rail installation and removal, ramp rehab work involving removal of existing pavement as well as installation of either rapid strength or precast panels for ramp areas. A Transportation Management Plan would be developed to facilitate the roadway paving, minimize delays and increase operation for both freeway users and workers during construction as discussed in Chapter 2.1.2 Utilities and Emergency Services.

1.4 Project Alternatives

Two alternatives—the Build Alternative and No-Build Alternative were considered under consideration.

1.4.1 Build Alternative

For the Build Alternative, the primary pavement rehabilitation work consists of the following: 1) paving the depressed median and constructing a concrete barrier, 2) replacing portions of existing pavement structural section that has severe pavement deterioration, and 3) overlaying portions of existing pavement. Description of the rehabilitation work is provided below.

1) Pave the existing median and place a median concrete barrier along State Route 99 for approximately 3.5 miles. This work excludes the two overhead bridges, where no improvements are in the project scope. There are short portions of either northbound-only (NB) or southbound-only (SB) median widening within the median transitions at the southern and northern limits. The median paving work includes removing the paved inside shoulders, thrie-beam barriers, and oleander plants and vegetation; modifying or replacing existing median drainage systems and constructing new drainage features; earthwork for preparing the roadbed within the median; placing a new structural section with continuously reinforced concrete pavement (CRCP) as the surface pavement; and placing a new concrete barrier. The work is necessary to provide sufficient pavement width for traffic handling purposes during construction instead of placing and removing temporary paving, which would have permanent impacts to the median and require new median barrier. The traveled way would be shifted toward the median for most of the project.
limits with a median width that will vary from 24 feet to 36 feet, except at the two overheads and at the median transitions at the southern and northern project limits. The cross section (see Figure 1-3) would be consistent for the future urban 6-lane freeway with the exception of additional mainline widening and widening or replacing the two overhead structures.

2) Replace approximately 2.9 miles of the existing roadway, 1.6 miles in the northbound direction and 1.3 miles in the southbound direction, with a new structural section using CRCP as the surface pavement material. Several sections of existing pavement have severe deterioration and need to be replaced. Also, pavement would be replaced at approaches/departures at the overheads, including structure approach slabs, to conform the pavement to the existing bridge decks. The project would improve the vertical clearance beneath the Buhach Road overcrossing and the Applegate Road overcrossing structures. Since replacing or raising the bridges is not within the scope of this project and the pavement needs to be rehabilitated, the profile of State Route 99 would be lowered to provide the standard minimum vertical clearance; therefore, the pavement would be replaced.

3) Overlay approximately 3.8 miles of the existing roadway, 1.7 miles in the northbound direction and 2.1 miles in the southbound direction with CRCP and hot mix asphalt pavement materials. It is anticipated that replacement of small sections of roadway will take place. This process would be carried out without removing the base materials or soil.

The project would also include the following:

- Perform additional rehabilitation work for a portion of the existing 8 ramps within the project limits. The work includes dig-out and replacement of failed structural sections of the on-ramps and off-ramps and overlaying a portion of the ramps with rubberized hot mix asphalt. The work also includes replacing existing electrical lighting at ramps due to new pavement elevations. In addition, the ramp work at the Applegate Road interchange area consists of the operational improvement constructing northbound and southbound off-ramp deceleration lanes 1,000 feet long, with a 250-foot taper. Drainage modifications are anticipated, especially along the northbound off-ramp.

- Throughout the project limits, replace existing asphalt concrete dikes, metal beam guardrail and end treatments as part of the scope and roadside safety improvements. Construct Type 60 concrete barrier, where the existing soundwall is located within the southbound clear recovery zone (30 feet for freeway), at the northern end of the project limits.

- Construct five retention drainage basins to store surface runoff outside of the roadway cross section. To handle the additional surface runoff from the additional median pavement, the existing drainage capacity within the roadway cross section would be used to the extent possible. Additional storage capacity is required via
the five retention drainage basins. The drainage basins would be excavated to a depth of 20 feet below ground surface utilizing imported borrow material that has higher infiltration rates to minimize standing water levels. The drainage basin work includes earthwork, clearing and grubbing the areas, then revegetating with grass and fencing off each basin. Four of the retention drainage basins require acquisition of additional right-of-way, which is to be contiguous to the roadway right-of-way.

- Install fiber optic lines preferably along the same side of the freeway as the existing conduit between City of Atwater and Livingston and tie into that existing conduit. Replace existing traffic management system elements, and construct new facilities including roadside weather information systems, a closed-circuit television camera, a changeable message sign, microwave vehicle detection systems and automated warning systems.

- Future Highway Planting & Irrigation (HP&I) project for oleander replacement planting. The cost estimate for the replacement planting is included in the project construction capital costs for the HP&I.

1.4.2 No-Build (No-Action) Alternative

The No-Build Alternative would leave the roadway pavement as it is now. However, the pavement deterioration would continue, resulting in an ongoing high maintenance cost and a rough ride for commuters and motorists.

1.4.3 Identification of a Preferred Alternative

After the public circulation and review period ended on October 12, 2017, the Project Development Team identified the Build Alternative as the preferred alternative after comparing and weighing the benefits and impacts between the No-Build and Build Alternative.

The Build Alternative would construct five retention basins within the project limits. Four basins would acquire addition right-of-way (the fifth basin would not require additional right-of-way because it is in the state right-of-way). In addition, the Build Alternative would construct 1,250-foot-long deceleration lanes for the northbound and southbound off-ramps at the Applegate interchange. It would also replace/construct existing traffic management system elements, such as traffic monitoring stations, roadside weather information system, closed-circuit television camera, changeable message sign, microwave vehicle detection system, and automated warning system. The Build Alternative would also install fiber optic cable infrastructure alongside the freeway between Atwater and Livingston.

The No-Build Alternative would avoid all impacts because it would not construct new pavement or improve the existing transportation system.
Both alternatives were considered carefully in the environmental review process as described in Chapter 2. The preferred alternative would impact more than the No-Build Alternative in terms of cost and environmental impact. However, according to the environmental technical studies for the project, the impacts from the preferred alternative would not substantially impact the current project setting in the areas of social economics, land use and environmental in Chapter 2.

Under the preferred alternative, the additional right-of-way needed to construct retention basins is on vacant land or listed under industrial/commercial uses. Environmentally, biological, cultural and hazardous waste resources would have less-than-significant impact due to the following: the lack of suitable habitat for sensitive species; the project is not in the area of historical significance; and hazardous waste issues have been well documented. Therefore, the preferred alternative would satisfy the purpose and need to construct new pavement to improve ride quality, reduce future roadway maintenance and improve connectivity of the existing intercity transportation system. The No-Build Alternative would do nothing to extend the service life of the pavement, which would result in high maintenance costs and safety issues. Therefore, the No-Build Alternative would not meet the purpose and need of the project.

1.4.4 Permits and Approvals Needed

There are no environmental permits for the project. Furthermore, the annual Construction General Permit Fee (Notification of Intent/Notice of Termination) for two year construction plus three year plant establishment would be approximately $20,000 and would be paid under the Construction fund.
Chapter 2

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

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

- **Land Use and Growth**—The project would not change land use in the project limits. The current land uses designated within the project limits are very low-density residential, manufacturing and a business park. (Field visit February 2017 and the City of Atwater General Plan)

- **Wild and Scenic Rivers**—There are no wild and scenic rivers within the project limits. (Field visit February 2017)

- **Parks and Recreation**—Parks facilities such as Ralston and Bloss Parks, exist in the City of Atwater. However, these parks are a distance away from the project area and would not be adversely affected by this project. (City of Atwater General Plan and field visit March 2017)

- **Farmlands and Timberlands**—There would be no agriculture or forest resource impacts from construction of the project in the project limits. (City of Atwater General Plan and field visit March 2017)

- **Community Character and Cohesion**—Because the project is a resurface and restore (2R) roadway pavement rehabilitation on existing freeway, it would not disrupt the community character or population cohesion or result in any impacts to businesses or residences.

- **Environmental Justice**—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. This project would not cause disproportionately high or adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

- **Traffic and Transportation**—A traffic safety screening was conducted within the project limits to analyze collision patterns, but no patterns were found. Current emergency response patterns would remain the same. The project would not
adversely impact traffic because this is a focused resurfacing and restoration (2R) pavement rehabilitation project. (2014 Project Scope Summary Report)

- Pedestrian and Bicycle Facilities—Americans with Disabilities Act (ADA) curb ramps are already built at the Applegate Road interchange, both ramp intersection areas. There is limited access to bicycle facilities in the City of Atwater; most are on the western side of Buhach Road, and some are on other local streets within the project area. The City of Atwater general plan requires future developers to devote space for additional bikeways with a goal to create three sections of Class I bike paths on the east side of Atwater. However, due to safety, non-motorized traffic, such as bicycles and pedestrians are prohibited on State Route 99 within the project limits. (Field review, Atwater’s 2004 Bicycle Plan, 2014 Regional Transportation Plan)

- Water Quality and Water Runoff—Construction site runoff, erosion, accidental spills of hazardous material and disruption of natural drainage patterns during construction would be addressed in both the design and construction phases. In the design phase, plans would ensure that there would be no detrimental discharge into any bodies of water. In the construction phase, the contractor would exercise every reasonable precaution, as stated in the Caltrans Standard Specifications Section 13-1.01, to eliminate potential impacts to local water quality during construction. No impaired water bodies are listed in the project area. With adequate measures and precautions implemented in accordance with the Caltrans Statewide National Pollutant Discharge Elimination System and Statewide Storm Water Management, the project would not adversely affect water quality. (Water Quality Memorandum, December 13, 2016).

- Air Quality—According to the Transportation Conformity Rule (40 Code of Federal Regulations Section 93.127, Table 2), this project (a pavement resurfacing and/or rehabilitation) is exempt from all emissions analyses. Caltrans Standard Specification pertaining to dust control and dust palliative requirement is a required part of all construction contracts and should effectively reduce and control emission impacts during construction. The contractor is required to comply with the San Joaquin Valley Unified Air Pollution Control District’s rules, ordinances and regulation under Section 14-9.02 “Air Pollution” and Section 10 “Dust Control.” (Air Quality Memorandum, December 13, 2016)

- Cultural Resources—An Archaeological Survey Report (ASR) was completed in March 2017 and a Section 106 Compliance memorandum was submitted on April 17, 2017. The ASR was negative on any cultural resources eligible or potentially eligible for the National Register of Historic Places or the California Register of Historic Resources. All architectural and archaeological resources within the project area were either previously found ineligible or exempt from evaluation per the January 2014 First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act. The Historic Merced Irrigation District is within the project vicinity, but no features associated with the district are present within the project.
area. Consultation with the Native American community was conducted and is documented in the ASR. No concerns were brought forth during consultation that could potentially change the conclusion of No Potential to Affect Historic Properties. (Section 106 Compliance-Screened Memorandum April 17, 2017).

- **Noise Study**—This project is not considered a Type 1 project under the National Environmental Policy Act according to the Noise Memorandum dated December 13, 2016. This project would resurface and restore the pavement on the existing alignment on State Route 99. Freeway traffic noise would be reduced when the project is complete. Noise from construction would be temporary. Therefore, construction of the project would not result in a significant noise impact under the California Environmental Quality Act. (Noise Memorandum, December 13, 2016, 2006 Caltrans Traffic Noise Analysis Protocol).

- **Coastal Zone**—This project is not within or near a coastal zone.

- **Hydraulics and Floodplain**—Most of the project area is under Zone X, which is determined to be outside of the 0.2 percent annual chance of floodplain. Within the project limits, State Route 99 has been realigned through the City of Atwater; the new alignment is a few feet higher than the original ground previously. The project would not affect local hydrology; with the modified drainage inlets and new drainage retention basins, the project would improve the drainage system within the project area. (Field review 2017 and Floodplain Evaluation Report Summary May 22, 2017).

- **Geology/Soils/Seismic/Topography**—The project is located in Merced County, in California’s Central Valley. The Central Valley is generally flat in topography with the Coast Mountain Range to the west and the Sierra Nevada Mountain Range to the east. The sediment from rivers flowing from these two mountain ranges produces very stiff silt/sandy silt with partial cementation. Groundwater is typically found at the depth of 5-10 feet below the surface at elevations that ranged from 145 feet to an elevation of 155 feet above sea level. There are three active faults near the project limits (Prairie Creek-Spenceville-Dentman, Midway San Joaquin/S and San Joaquin/S). The project would not result in land subsidence, and there are no slopes in the project area that are subject to landslide. No faults are known to be located in the project limits that could result in hazards from fault rupture. There are no known mineral resources in the project area. The project would not present a significant risk to life or property or a significant adverse impact on natural geology, soil, seismicity or topography. (Atwater-Merced Expressway Project DEIR March 2008).

- **Plant Species**—According to the California Native Plant Society (CNPS), sensitive plant species such as Heartscale (*Atriplex codulata var. cordulata*) and subtle orache (*Atriplex subtilis*) are present in the vicinity of the project. However, due to the scope of the project and lack of habitat within the project area, special-status species or their critical habitat would not be affected. (Biological No Effect Memorandum, May 5, 2017)

- **Invasive Species**—There are no records of any invasive species present in the project area. The project would have no potential to cause or promote the
introduction or spread of invasive species. During construction, extra precautions and measures would be implemented to prevent and control the spread of noxious weeds or invasive plants. (Biological No Effect Memorandum, May 5, 2017)

- **Natural Communities**—No impacts to natural communities are anticipated since the existing median was previously disturbed within the project area and the area lacks suitable habitat. (Biological No Effect Memorandum, May 5, 2017)

- **Fish Species**—The project would have no effect on any National Marine Fisheries Service (NMFS) statewide species list program due to lack of habitat within the project limits. (Biology Letter to NMFS, October 18, 2017)

- **Wetlands and Other Waters**—The project does not contain nor is located within a wetland area or near other waters of significance. (Biological No Effect Memorandum, May 5, 2017)

### 2.1 Human Environment

#### 2.1.1 Relocations and Real Property Acquisition

**Regulatory Setting**

Caltrans’ Relocation Assistance Program (RAP) is based on the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations Part 24. The purpose of the Relocation Assistance Program 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.

All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S. Code 2000d, et seq.). See Appendix C for a copy of Caltrans’ Title VI Policy Statement.

**Affected Environment**

The project limits are surrounded by commercial, industrial and residential properties. To provide additional drainage capacity, the project would construct five new retention basins, ranging from 1 acre to 3 acres, as follows:

- **Drainage Basin 1** is approximately 2 acres, located next to the existing eastside Olive Avenue frontage road, north of the northbound on-ramp, on the east side of State Route 99, southeast of the Merced Irrigation District canal, and northwest of homes, near post mile 23.8.
Drainage Basin 2 is 3 acres, located next to the West Atwater overhead abutment, southeast of the West Atwater overhead, and next to an empty field property along northbound State Route 99 near post mile 23.4. The current parcel is designated as vacant industrial land.
• Drainage Basin 3 is approximately 1.1 acres, located next to the existing Applegate interchange southbound on-ramp and next to a Panda Express business property near post mile 22.8. The current parcel is designated as vacant commercial land.

• Drainage Basin 4 is approximately 1.5 acres, located next to the East Atwater overhead abutment, northwest of the East Atwater overhead and a business property along northbound State Route 99 near post mile 21.8. The current parcel is designated as vacant industrial land.
• Drainage Basin 5 is approximately 1 acre, located next to the existing basin at the southbound on-ramp near post mile 21.1. A historical aerial image from 1946 to the present as well as field observations indicated this parcel has never been developed or ever used for agriculture. Most of the 1 acre belongs to Caltrans, and 0.1 acre located within right-of-way belongs to the City of Atwater. The project would not be acquiring City’s right-of-way.

**Environmental Consequences**

Under the No-Build Alternative, no right-of-way acquisition would occur.

The Build Alternative would require a full acquisition of three parcels and a partial acquisition for one parcel. Table 2.1 shows the right-of-way needs required for construction of the five retention basins.

<table>
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<th>Basin Number</th>
<th>Assessor's Parcel Number</th>
<th>Post Mile</th>
<th>Property Type</th>
<th>Acreage Acquired</th>
<th>Full or Partial Acquisition</th>
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<tbody>
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<td>1</td>
<td>001-051-001</td>
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<td>21.1</td>
<td>Caltrans</td>
<td>1</td>
<td>Partial</td>
</tr>
</tbody>
</table>
Retention basin locations 1, 2, 3 and 4 are privately owned and designated as vacant industrial/commercial land. Basin location 5 is within the state right-of-way. Because all four private parcels are vacant land, impacts to individual businesses, farms or residences are not anticipated.

**Avoidance, Minimization, and/or Mitigation Measures**

No relocation of any residential or business property is anticipated since all parcels affected are vacant. No avoidance, minimization, and/or mitigation measures are warranted.

### 2.1.2 Utilities and Emergency Services

#### Affected Environment

**Utilities**

Pacific Gas and Electric Company operates within the project limits. Utilities impacted are anticipated at three locations within the project limits. Utilities such as electricity, water, gas, and underground fiber optics involvement and the level of impacts would be available in the Plans, Specification and Estimate (PS&E) phase of the project.

**Emergency Services**

The City of Atwater Fire Department provides service for fire protection, medical emergencies as well as rescue service within the project limits. The Atwater Police Department provides law enforcement to the area.

#### Environmental Consequences

**Utilities**

The following utilities within the project limits would be modified during construction:

- At post mile 21.25, north of the Buhach overcrossing and the southbound on-ramp, south of the northbound off-ramp, an aerial overhead pole line is anticipated to be raised.
- At post mile 21.73, just north of the East Atwater overhead, an overhead pole line is anticipated to be raised.
- At post mile 22.10, north of the East Atwater overhead and south of the Applegate overcrossing, a low clearance pole line is anticipated to be raised.

**Emergency Services**

Temporary delays could occur during construction of the project.
Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization mitigation measures will reduce temporary impacts to utilities and emergency services:

Utilities

Utilities will be modified to accommodate construction of the project. Early coordination between affected companies and utilities customers will ensure disruptions are minimized during construction.

Emergency Services

A Transportation Management Plan will be developed to facilitate the roadway paving, minimize delays and increase safety for both freeway users and workers during construction. The Transportation Management Plan will include the following:

1. Work at the Atwater and Applegate ramps will be staged to keep the ramps open and avoid the use of fast-setting concrete mixes.
2. Nightly or weekend ramp closures are anticipated to be needed to shift traffic from one staging plan to the next.
3. The median will be paved and used for traffic staging during construction. State Route 99 will be open during construction. However, each direction of the mainline would then be shifted into the median to allow for paving the outer lanes.
4. Fixed and portable changeable message signs will be used to direct traffic and commuters through the construction zone.
5. The public will be kept informed through mailers, press releases and notices from the Caltrans Public Information Office.

By using the Transportation Management Plan process, Caltrans will minimize impacts to emergency services.

2.1.3 Visual/Aesthetics

Regulatory Setting

The National Environmental Policy Act of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S. Code 4331 (b)(2)]. To further emphasize this point, the Federal Highway Administration in its implementation of the National Environmental Policy Act [23 U.S. Code 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest, taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.
Likewise, the California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state “with… enjoyment of aesthetic, natural, scenic, and historic environmental qualities” [California Public Resources Code Section 21001(b)].

**Affected Environment**

A Preliminary Scenic Resource Evaluation/Visual Scoping was prepared for this project on April 24, 2017. The evaluation included a field review to identify possible scenic resources within the project limits and determine the project’s impact on the existing visual quality.

State Route 99 is a four-lane divided highway in an urban setting as it passes through the project limits. This is a vital route to transport goods and services as well as interregional travelers and commuters through the Central San Joaquin Valley of California.

In this area, the roadway is mostly straight, on flat terrain, with some curves. Growing within the roadway median are established oleander shrubs that stretch through about 70 percent of the project limits. The mature oleanders as well as other shrubs and trees in the median along the route create a steady line in the landscape. Visually, this line provides a visual screen from opposing traffic headlight glare and blends the highway with the natural environment. Mature oleander shrubs also help control dust, erosion and provides fire and weed control.

**Environmental Consequences**

Potential visual impacts consist of the removal of all mature oleanders shrubs in the median within the project limits. Oleander shrubs have been planted in the medians of state highways and freeways in the Central Valley for decades. They provide pleasant visual interest for commuters and reduce traffic headlight glare. The removal of oleander shrubs would decrease the natural character of the existing quality of view and would not relieve highway drivers from the tediousness of driving so many straight and flat miles of highway within the Central Valley.

Also, nighttime headlight glare from opposing traffic would likely increase when the median width shrinks from 46 feet to 22 feet.

**Avoidance, Minimization, and/or Mitigation Measures**

Any aesthetic treatments that are removed from the project during construction must be replaced in kind, such as oleander plants, stained or textured median barriers, or extended gore paving. Implementation of these recommendations will minimize the visual impacts within the project limit and reduce headlight glare from oncoming traffic as described in Appendix D, Minimization and/or Mitigation Summary.
2.2 Physical Environment

2.2.1 Paleontology

Regulatory Setting
Paleontology is the study of life in past geologic time based on fossil plants and animals. Under California law, paleontological resources are protected by the California Environmental Quality Act, the California Administrative Code, Title 14, Section 4306 et seq., and Public Resource Code Section 5097.5.

Affected Environment
A Paleontological Identification Report (PIR) for the project was prepared on December 8, 2016. This report provided evaluations and recommendations relating to paleontological resources based on professional experience and the review of paleontological literature, geologic maps and the Paleontological Sensitivity Mapping Project database prepared by California State University, Fresno (2000).

The project sits within the City of Atwater and the Arena 7.5-minute U.S. Geological Survey quadrangle map (this map depicts geographic features on the surface of the earth, including roads, grids, geographic names, elevation contours and hydrography) as well as in the Great Valley of California geomorphic province. A review of published geologic maps identified the geologic surface materials of the project area as Modesto Formation.

According to the Paleontological Sensitivity Mapping Project database, the post mile segment of the project is identified as having a low sensitivity rating for the likelihood of encountering fossils during earth disturbance from construction. Although the database identifies the post mile segment as low sensitivity, numerous scientifically significant fossils have been discovered in the Modesto Formation since the database was prepared. Due to these discoveries, the Modesto Formation is now classified as having high sensitivity for paleontological resources.

To further identify and evaluate potential construction-related impacts to paleontological resources, a combined Paleontological Evaluation Report (PER)/preliminary Paleontological Mitigation Plan (pPMP) was prepared for the project. According the PER/pPMP report (dated June 16, 2017), the whole site is mapped mostly as high paleontological sensitivity Pleistocene-aged Modesto Formation, lower member, with a minor amount of high sensitivity Pleistocene-aged Riverbank Formation, upper member, in the southeastern portion of the project limits. There are no documented paleontological localities within the boundaries of the project limits, and no fossils were discovered during the site visit; however, sediments conducive to fossil preservation were observed.

Environmental Consequences
The combined Paleontological Evaluation Report (PER)/preliminary Paleontological Mitigation Plan (pPMP) identified potential impacts to paleontological resources
resulting from the project. Based on the findings in the PER/pPMP, project-related construction activities will impact high sensitivity soils for paleontological resources, especially from the excavation of five drainage retention basins located within the project limits. Project excavation may potentially result in impacts to paleontological resources.

**Avoidance, Minimization, and/or Mitigation Measures**

The preliminary Paleontological Mitigation Plan (pPMP) requires that full-time monitoring be conducted during excavation into native, undisturbed soils of the Modesto and Riverbank formations, excluding pile driving, drilling less than 3 feet in diameter. A qualified paleontologist will evaluate the extent of the mitigation effort to take place dependent upon the type and location of excavation. Monitoring will not be conducted during excavations entirely within previously disturbed sediments or artificial fill. In the event of unanticipated paleontological resource discoveries during project-related construction activities, work will be halted within 25 feet of the discovery until it can be evaluated by a qualified paleontologist. The preliminary Paleontological Mitigation Plan includes the following:

- Prior to earthmoving activities, a qualified paleontologist shall provide a worker training program to inform construction personnel of the possibility for fossil discoveries, and will instruct personnel to immediately inform their supervisor if any bones or other potential fossils are unearthed at the project site and a paleontological monitor is not present.

- If a fossil is discovered by a monitor in a construction excavation, the monitor must immediately notify the equipment operator and Resident Engineer (RE) to stop work, and then mark the area surrounding the site with flagging until the discovery can be fully explored and evaluated. The paleontological monitor will immediately notify the RE, Principal Paleontologist, site project manager, and the Caltrans Task Order Manager. Construction activities in the immediate vicinity of the site will stop until authorization for work to continue is provided by the qualified paleontologist.

- If a concentration of fossils is found, the area will be flagged and the RE, site project manager, Caltrans Task Order Manager, and Principal Paleontologist will be notified to determine necessary action. Any action will be communicated to the contractor and Caltrans.

- When scientifically significant fossil discoveries are made by construction monitors, they will be quickly and professionally explored and evaluated in order to minimize construction delays.

- All fossils and bulk matrix samples collected at the project site will be removed to a secure paleontological laboratory for preparation to the point of identification and curation.

- If paleontological resources are discovered, a paleontological summary mitigation report will be created by a qualified paleontologist documenting the processes carried out to comply with the pPMP during and post construction.
2.2.2 Hazardous Waste and Materials

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

- 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 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 California Health and Safety Code and is also authorized by the federal government to implement the Resource Conservation and Recovery Act in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5
Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

**Affected Environment**

An Initial Site Assessment was conducted for the project on May 4, 2017. The assessment was performed to determine the presence of contaminated properties within the project limits that may affect right-of-way property acquisition and construction of the drainage basins. Background information for the assessment was obtained from regulatory databases such as the State Water Resources Control Board Geotracker database, the Department of Toxic Substances Control Cortese List/EnviroStor database, Caltrans departmental records, and a field review. Four of the five parcels to be acquired for right-of-way acquisition to construct the new retention basins have traditionally been used for agriculture. Although agricultural properties are commonly exposed to pesticide/herbicide use, it is unlikely such use has occurred in significant quantities on these parcels. Historic aerial photographs and recent field observations indicate no intensive agricultural operations on these parcels, and no evidence of pesticide or herbicide mixing or storage within these parcels was observed. Testing of the soil on these parcels for the presence of agricultural chemicals does not appear warranted at this time. It was recommended that the old gas station property (assessor’s parcel number (APN) 001-260-036) be tested for petroleum contaminants. A Preliminary Site Investigation was prepared in April 2017 for the gas station to determine the presence and magnitude of Title 22 contaminants and petroleum hydrocarbons in the soil at post mile 22.8 (APN 001-260-036).

**Environmental Consequences**

A search of regulatory databases and a review of departmental and City of Atwater records did not indicate any open leaking underground storage tank (LUST) cases with the potential to impact the project. However, during a field survey conducted on December 6, 2016, a former gas station site, with no record of existence was identified near post mile 22.8. The 1.8-acre parcel (APN 001-260-036), which is slated for use as a drainage basin, is next to the existing Applegate Road/State Route 99 southbound on-ramp.

As no record of the gas station was available, a review of historical aerial photographs was done to identify when the gas station was built and when it was demolished. Aerial photographs above the subject parcel were available in 1946, 1958, 1998, 2005, 2009, 2010 and 2012. The gas station superstructure first appeared in the 1958 aerial photograph and is absent from the 1998 aerial photograph. However, due to the 12-year and 40-year gaps in available aerial photographs, respectively, it is unclear exactly what year the gas station was built or demolished.
The owner of the subject parcel was contacted by the Caltrans Right of Way unit to gain permission to enter the property. At that time, the owner was asked for any information regarding the historic use of the property. The property owner confirmed that the parcel was indeed used as a gas station and that the underground gasoline storage tank had been removed.

Based on the confirmation that there was an underground storage tank on the subject parcel and no sampling data is available, a Preliminary Site Investigation was conducted to confirm the presence and extent of potential contamination. The parcel was tested for Title 22 constituents as well as petroleum hydrocarbons. The samples were collected at set intervals to a depth of 25 feet or to a maximum depth before refusal.

The results of the Preliminary Site Investigation indicated that the soil on the APN 001-260-036 property is above the regulatory threshold for Total Petroleum Hydrocarbons at a spot location. The regulated soil is confined to a sealed bottom metal casing embedded in the concrete foundation. It is recommended that the oil-contaminated soil confined to the vault be removed and retested during construction and later disposed of at an appropriate facility. The soil throughout the rest of the parcel is free of contaminants above regulatory limits.

Previous studies in the vicinity of this project indicated levels of lead in the soil above regulatory limits as a result of aerially deposited lead from the historical use of leaded gasoline.

Therefore, it is recommended that a Preliminary Site Investigation for aerially deposited lead be conducted throughout the project area to ensure the health and safety of workers and to ensure the proper handling, transport, and disposal of potentially contaminated soils.

**Avoidance, Minimization, and/or Mitigation Measures**

The project may require removal of yellow thermoplastic striping or yellow paint striping, both of which are known to contain high concentrations of lead and chromium. If either of these materials is ground out separately, then the grindings will be tested and properly disposed of. Caltrans Standard Special Provision 14-11.12 (Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue) will be added to the construction contract. A Lead Compliance Plan will be prepared to ensure workers in the area are aware of the potential for lead exposure and proper protective equipment is implemented.


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2.3 Biological Environment

2.3.1 Animal Species

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) and the California Department of Fish and Wildlife are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.2 below. All other special-status animal species are discussed here, including California Department of Fish and Wildlife fully protected species and species of special concern, and U.S. Fish and Wildlife Service or NOAA Fisheries Service candidate species.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act
- Federal Endangered Species Act
- Magnuson-Stevens Fishery Conservation and Management Act of 1976

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
- California Endangered Species Act

Affected Environment

A No Effect memorandum for the project was completed in May 2017. Searches of the California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS)-Information, Planning, and Consultation System (IPaC) in addition to field surveys were conducted within the project limits to determine the presence or absence of all special-status animal species. Table 2.2 shows whether the special-status animal species are present in the project limits and states the effects finding for each species.
Table 2.2 Special-Status Animal Species in the Project Limits

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific Name</th>
<th>Status (FC-Federal candidate for listing, SC-State Species of Concern)</th>
<th>Habitat Present/Absent</th>
<th>Species Present/Absent</th>
<th>Effect Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western burrowing owl</td>
<td><em>Athene cunicularia</em></td>
<td>SC</td>
<td>A</td>
<td>A</td>
<td>No effect due to avoidance measures. Preconstruction surveys would be required no more than 30 days prior to any construction activities.</td>
</tr>
<tr>
<td>Western pond Turtle</td>
<td><em>Emys marmorata</em></td>
<td>SC</td>
<td>A</td>
<td>A</td>
<td>No effect due to lack of suitable habitat.</td>
</tr>
<tr>
<td>Tricolored blackbird</td>
<td><em>Agelaius tricolor</em></td>
<td>SC</td>
<td>A</td>
<td>A</td>
<td>No effect due to lack of suitable habitat.</td>
</tr>
</tbody>
</table>

Special-status animal species potentially present in the project limits are described below:

**Western Burrowing Owl**
The western burrowing owl (*Athene cunicularia*) is a Species of Concern in California. The project area itself is regularly disturbed from human use and adjacent highway noise that would not provide suitable habitat for burrowing owls. Through the use of avoidance measures such as timing of construction and pre-construction surveys, it was determined the project would have no effect on the western burrowing owl.

**Western Pond Turtle**
The western pond turtle (*Emys marmorata*) is a Species of Concern in California. No suitable habitat for the western pond turtle is present within the project limits, and the species was not seen during field reviews. It was determined the project would have no effect on the western pond turtle.

**Tricolored Blackbird**
The tricolored blackbird (*Agelaius tricolor*) is a Species of Concern in California and also a candidate species for California Endangered Species Act which is also found in the California Natural Diversity Database. It is found mostly near marshes or dense vegetation or areas with cattails. Due to lack suitable habitat within the project area to support this sensitive species, it was determined the project would have no effect on the tricolored blackbird.
Environmental Consequences

Western Pond Turtle
Due to the scope of the project, no suitable habitat for the western pond turtle is present within the project limits. No direct or indirect effects are anticipated for the western pond turtle.

Western Burrowing Owl
No direct or indirect effects are anticipated for the western burrowing owl.

Tricolored Blackbird
No direct or indirect effects are anticipated for the tricolored blackbird due to the construction of this project.

Avoidance, Minimization, and/or Mitigation Measures
The project is anticipated to have no effect on special-status animal species. However, preconstruction surveys will be performed to determine if minimization and/or avoidance measures should be implemented as stated in Appendix D-Biology if special-status animal species are discovered prior to construction within the project limits.

2.3.2 Threatened and Endangered Species

Regulatory Setting
The main federal law protecting threatened and endangered species is the Federal Endangered Species Act: 16 U.S. Code Section 1531, et seq. (see also 50 Code of Federal Regulations Part 402). This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystem upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration’s National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion or an Incidental Take statement. Section 3 of the Federal Endangered Species Act 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, California Fish and Game Code, Section 2050, et seq. The State Endangered Species Act 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
Chapter 2 • Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

California Department of Fish and Wildlife is the agency responsible for implementing the State Endangered Species Act.

Section 2081 of the Fish and Game Code prohibits “take” of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

The State Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by the California Department of Fish and Wildlife. For projects requiring a Biological Opinion under Section 7 of the Federal Endangered Species Act, the California Department of Fish and Wildlife may also authorize impacts to the state endangered species by issuing a consistency determination under Section 2080.1 of the Fish and Game Code.

Affected Environment

General field surveys for threatened and endangered species were conducted on December 6 and 7, 2016 and April 12–14, 2017 by Caltrans biologists to determine if habitat exists within the project limits. According to the California Natural Diversity Database (CNNDB) and U.S. Fish and Wildlife Service’s Information, Planning, and Consultation System (IPaC), known federally listed species include the San Joaquin kit fox (*Vulpes macrotis mutica*) and valley elderberry longhorn beetle (*desmocerus californicus dimorphus*); also, state-listed species such as Swainson’s hawk (*Buteo swainsoni*) and State endangered candidate species, the tricolored blackbird (*Agelaius tricolor*) have historical occurrences in the vicinity of the project.

Table 2.3 shows threatened and endangered species in the project area, their presence or absence, and the associated effect finding.

### Table 2.3 Threatened and Endangered Species in the Project Area

<table>
<thead>
<tr>
<th>Common name</th>
<th>Scientific Name</th>
<th>(FT-Federally Threatened, FE-Federally Endangered, ST-State Threatened)</th>
<th>Habitat Present/Absent</th>
<th>Species Present/Absent</th>
<th>Effect Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swainson's Hawk</td>
<td><em>Buteo swainsoni</em></td>
<td>ST</td>
<td>A</td>
<td>A</td>
<td>No effect due to lack of habitat and through the use of avoidance measures.</td>
</tr>
<tr>
<td>Valley elderberry longhorn beetle</td>
<td><em>Desmocerus californicus dimorphus</em></td>
<td>FT</td>
<td>A</td>
<td>A</td>
<td>No effect due to lack of habitat.</td>
</tr>
<tr>
<td>San Joaquin kit fox</td>
<td><em>Vulpes macrotis mutica</em></td>
<td>FE, ST</td>
<td>A</td>
<td>A</td>
<td>No effect due to lack of habitat and through the use of avoidance measures.</td>
</tr>
</tbody>
</table>
**San Joaquin Kit Fox**

The San Joaquin kit fox is a federally endangered and state threatened species with potential to occur in the project limits. The San Joaquin kit fox requires underground dens for temperature regulation, shelter and predator avoidance. Kit foxes also use human-made structures such as abandoned pipelines, culverts or roadbeds as dens sites. Due to lack of suitable habitat within the project area to support this sensitive species, it was determined the project would have no effect on the San Joaquin kit fox through the use of avoidance measures.

**Swainson’s Hawk**

The Swainson’s hawk is listed by the State of California as threatened and is protected by the Migratory Bird Treaty Act. The Swainson’s hawk is not listed under the Federal Endangered Species Act. Swainson’s hawks roost in large trees such as eucalyptus and oak trees, but will roost on the ground if no trees are available. Due to lack of suitable habitat within the project area to support this sensitive species, it was determined the project would have no effect on the Swainson’s hawk through the use of avoidance measures.

**Valley Elderberry Longhorn Beetle**

The valley elderberry longhorn beetle is unique to California’s Central Valley. It is listed as a federally protected threatened species. This species is always found near its host plant—red or blue elderberry shrubs along rivers or streams below 3,000 feet throughout the Central Valley and surrounding foothills. Adult valley elderberry longhorn beetles eat elderberry leaves and flowers while the larvae hatch and burrow into elderberry stems. Due to lack of suitable habitat within the project area to support this sensitive species, it was determined the project would have no effect on the valley elderberry longhorn beetle.

**Critical Habitat**

No critical habitat for listed species occurs within the project limits.

**Environmental Consequences**

Most of the area in the project vicinity is occupied by industrial and commercial uses, with a few residences in spots. Most impacts from this project would be from the retention basin locations. Based on the limited scope of the project and a lack of habitat that would support sensitive species and threatened species within the project limits, a “No Effect” determination was made under the Federal Endangered Species Act (FESA) for the San Joaquin kit fox and valley elderberry longhorn beetle and under the California Endangered Species Act (CESA) for the Swainson’s hawk.

**Avoidance, Minimization, and/or Mitigation Measures**

If active bird nests, dens or elderberry shrubs are discovered within the project area prior to construction, then the following measures will be implemented to avoid and minimize any potential impacts to the following threatened and endangered species:
San Joaquin Kit Fox
Although no habitat is present within the action area to support this species, protection measures will be used in the unlikely event San Joaquin kit foxes are dispersing though the project limits.

- At the end of each day, the contractor will take measures to prevent the accidental entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or trenches. These measures will include covering excavations with plywood or providing dirt or plank escape ramps. The contractor will also inspect all pipes and culverts before burying, capping or other such activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert will not be disturbed (other than to move it to a safe location if necessary) until after the fox has escaped.

- The contractor will immediately notify the engineer if a dead, injured or entrapped San Joaquin kit fox is found. All construction activity within 200 feet of the kit fox will be halted and may not resume until the engineer provides written authorization. Any entrapped kit fox will be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.

- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den will be halted and the engineer will be contacted immediately. Construction may not continue within the 150-foot radius until the engineer provides written authorization.

- All food-related trash items such as wrappers, cans, bottles and food scraps will be disposed of in closed containers and removed at least once every day from the entire project site.

Swainson’s Hawk
Although no habitat is present within the action area to support this species, protection measures will be used in the unlikely event Swainson’s hawks are dispersing though the project limits.

- A Bird Protection Special Provision would be included in the construction contract. A preconstruction survey for migratory birds and raptors will be required two weeks prior to construction, if construction activities occur within the migratory birds nesting season (February 1 to September 30).

- If an active Swainson’s hawk nest is observed, a 600-foot Environmentally Sensitive Area buffer must be installed around the nest and avoided until the young have fledged. Coordination with the California Department of Fish and Wildlife will also be necessary.
Valley Elderberry Longhorn Beetle
Although no habitat is present within the action area to support this species, protection measures will be used in the unlikely event Valley Elderberry Longhorn Beetles are dispersing within the project limits.

- If discovered prior to construction, an Environmental Sensitive Area fence will be placed surrounding elderberry shrubs throughout the construction process. The elderberry shrubs will need to be avoided during construction at least 20 feet from the dripline.

2.4 Construction Impacts

Affected Environment
The project area is on State Route 99, an urban four-lane divided freeway in the City of Atwater. The project area serves as an important commuter and commercial truck route between Northern and Southern California as well as a vital link to work and housing for motorists going to Atwater and nearby communities in the cities of Merced, Livingston and Turlock.

The project would pave the existing median, replace/construct existing traffic management system elements, install fiber optic cable infrastructure and place a median concrete barrier along State Route 99 for approximately 3.5 miles. In addition, the project would construct 1,250-foot-long deceleration lanes for the northbound and southbound off-ramps at the Applegate interchange. Furthermore, to provide additional drainage capacity, the project would construct five new retention drainage basins to store surface runoff outside of the roadway cross section.

Noise
The project limits are surrounded by commercial, industrial and residential properties. This project is a not considered Type 1 under NEPA, and a traffic noise impact analysis is not required. A combination of techniques with equipment noise control and administrative measures can be selected to provide the most effective means to minimize the effect of the construction activity impacts. A Noise Study Memorandum was prepared for the project in December 2016.

Environmental Consequences

Noise
Noise due to project construction would be intermittent, and its intensity would vary. The degree of construction noise impacts would vary for different areas of the project site and would depend on the construction activities. Long-term noise exposure descriptors are difficult to quantify due to the intermittent nature of the construction noise. Highway construction is accomplished in several different phases. These phases and their estimated overall noise levels at the right-of-way can be characterized by the information in the following table.

### Typical Construction Noise

<table>
<thead>
<tr>
<th>Construction Phase</th>
<th>Leq(h), dBA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 meters (50 feet) from Centerline</td>
</tr>
<tr>
<td>Clearing and Grubbing</td>
<td>86</td>
</tr>
<tr>
<td>Earthwork</td>
<td>88</td>
</tr>
<tr>
<td>Foundation</td>
<td>85</td>
</tr>
<tr>
<td>Base Preparation</td>
<td>88</td>
</tr>
<tr>
<td>Paving</td>
<td>89</td>
</tr>
</tbody>
</table>

Temporary noise impacts would occur from traffic delay due to temporary ramp closures and from construction equipment during the construction phase. Caltrans Standard Specifications for construction activities Chapter 14-8.02 “Noise and Vibration” and Best Management Practices, such as equipment noise control and administrative measures, would lessen temporary noise impacts.

The project would not result in long term construction impacts. The project would restore the pavement using durable materials with longer pavement life and improve ride quality on the mainline and ramps. This would lessen the frequency of highway maintenance activities needed on the alignment and reduce associated restrictions imposed onto the traveling public in the future.

### Avoidance, Minimization, and/or Mitigation Measures

Anticipated construction impacts will be temporary. A Transportation Management Plan will be developed to help minimize delays and increase operation for both freeway users and workers during construction.

- Work at the Atwater and Applegate ramps will be staged to keep the ramps open and avoid the use of fast-setting concrete mixes.
- Nightly or weekend ramp closures are anticipated to be needed to shift traffic from one staging plan to the next.
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- The median will be paved and used for traffic staging during construction. Each direction of the mainline will then be shifted into the median to allow for paving the outer lanes.

- Fixed and portable changeable message signs will be used to direct traffic and commuters through the construction zone.

- The public will be kept informed through mailers, press releases and notices from the Caltrans Public Information Office.

During construction, the project will also include these measures:

- Use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers’ recommended noise abatement measures, such as mufflers, engine enclosures, and engine vibration isolators intact and operational.

- Use construction methods or equipment that will provide the lowest level of noise and ground vibration impact, such as alternative low-noise pile installation methods.

- Turn off idling equipment.

- Make temporary noise barriers with heavy plywood, or use and relocate movable insulated sound blankets, as needed, to protect sensitive receptors against excess noise from construction activities. Keep noise levels relatively uniform, and avoid impulsive noises.

- Implement a construction noise and/or vibration monitoring program to limit the impacts.

- Limit construction activities to daytime hours, if possible. Caltrans will follow local regulations to obtain the proper permits for nighttime construction.

2.5 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 greenhouse gas emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of greenhouse gases generated by
human activity, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of greenhouse gas emissions is electricity generation, followed by transportation.¹ In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) are the largest contributors of greenhouse gas emissions.² The dominant greenhouse gas emitted is CO₂, mostly from fossil fuel combustion.

Two terms are typically used when discussing how we address the impacts of climate change: “greenhouse gas mitigation” and “adaptation.” “Greenhouse gas mitigation” is a term for reducing greenhouse gas emissions to reduce or “mitigate” the impacts of climate change. “Adaptation” refers to 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

**Regulatory Setting**

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

**Federal**

To date, no national standards have been established for nationwide mobile-source greenhouse gas reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and greenhouse gas emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 U.S. 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 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. The Federal Highway Administration 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.⁴ This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—“the triple bottom line of sustainability.”⁵ Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility,

² [https://www.arb.ca.gov/cc/inventory/data/data.htm](https://www.arb.ca.gov/cc/inventory/data/data.htm)
³ [http://climatechange.transportation.org/ghg_mitigation/](http://climatechange.transportation.org/ghg_mitigation/)
⁵ [https://www.sustainablehighways.dot.gov/overview.aspx](https://www.sustainablehighways.dot.gov/overview.aspx)
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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 main 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 set forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) Indian energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Standards: This act established 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.

Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 74 Federal Register 52117 (October 8, 2009): This federal order set sustainability goals for federal agencies and focuses on making improvements in their environmental, energy, and economic performance. It instituted as policy of the United States that federal agencies measure, report, and reduce their greenhouse gas emissions from direct and indirect activities.

Executive Order 13693, Planning for Federal Sustainability in the Next Decade, 80 Federal Register 15869 (March 2015): This order reaffirmed the policy of the United States that federal agencies measure, report, and reduce their greenhouse gas emissions from direct and indirect activities. It set sustainability goals for all agencies to promote energy conservation, efficiency, and management by reducing energy consumption and greenhouse gas emissions. It built on the adaptation and resiliency
goals in previous executive orders to ensure agency operations and facilities prepare for impacts of climate change. This order revoked Executive Order 13514.

U.S. EPA’s authority to regulate greenhouse gas emissions stems from the U.S. Supreme Court decision in Massachusetts v. EPA (2007). The Supreme Court ruled that greenhouse gases 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, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence, it found that six greenhouse gases 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.

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) issued the first of a series of greenhouse gas emission standards for new cars and light-duty vehicles in April 2010\(^6\) 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 the 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 the NHTSA, EPA, and Air Resources Board will decide on CAFE and greenhouse gas emissions standard stringency for model years 2022–2025. The 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 Donald Trump ordered the EPA to reopen the review and reconsider the mileage target.\(^7\)

The 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.

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth, of March 28, 2017, ordered all federal agencies to apply cost-benefit analyses to regulations of greenhouse gas emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

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State

With the passage of legislation including State Senate and Assembly bills and executive orders, California has been innovative and proactive in addressing greenhouse gas emissions and climate change.

Assembly Bill 1493, Pavley Vehicular Emissions: Greenhouse Gases, 2002: This bill required the California Air Resources Board to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order S-3-05 (June 1, 2005): The goal of this order is to reduce California’s greenhouse gas 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 greenhouse gas emissions reduction goals as outlined in Executive Order S-3-05, while further mandating that the Air Resources Board create a scoping plan and implement rules to achieve “real, quantifiable, cost-effective reductions of greenhouse gases.” The Legislature also intended that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020 (Health and Safety Code Section 38551(b)). The law requires the Air Resources Board to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas reductions.

Executive Order S-20-06 (October 18, 2006): This order established the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard (LCFS) for California. Under this order, the carbon intensity of California’s transportation fuels is to be reduced by at least 10 percent by the year 2020. The Air Resources Board 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 greenhouse gas 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 greenhouse gas emissions. The amendments became effective on March 18, 2010.
Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill required the Air Resources Board 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 required the State’s long-range transportation plan to meet California’s climate change goals under AB 32.

Executive Order B-16-12 (March 2012): This order mandated State entities under the direction of the Governor, including the Air Resources Board, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directed these entities to achieve various benchmarks related to zero-emission vehicles.

Executive Order B-30-15 (April 2015): This order established an interim statewide greenhouse gas emission reduction target of 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. It further ordered all state agencies with jurisdiction over sources of greenhouse gas emissions to implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. It also directed the Air Resources Board to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). Finally, it required 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: This bill codified the greenhouse gas reduction targets established in Executive Order B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

**Environmental Setting**
In 2006, the Legislature passed the California Global Warming Solutions Act of 2006 (AB 32), which created a comprehensive, multi-year program to reduce greenhouse gas emissions in California. AB 32 required the Air Resources Board to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing greenhouse gas emissions to 1990 levels by 2020. The Scoping Plan was first approved by the Air Resources Board in 2008 and must be updated every 5 years. The Air Resources Board approved the *First Update to the Climate Change Scoping Plan* on May 22, 2014. The Air Resources Board is moving forward with a discussion draft of an updated Scoping Plan that will reflect the 2030 target established in Executive Order B-30-15 and SB 32.
The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce greenhouse gas emissions. As part of its supporting documentation for the Draft Scoping Plan, the Air Resources Board released the greenhouse gas inventory for California.\(^8\) The Air Resources Board is responsible for maintaining and updating California’s greenhouse gas inventory per H&SC Section 39607.4. The associated forecast/projection is an estimate of the emissions anticipated to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented.

An emissions projection estimates future emissions based on current emissions, expected regulatory implementation, and other technological, social, economic, and behavioral patterns. The projected 2020 emissions provided in Figure 2-1 represent a business-as-usual (BAU) scenario assuming none of the Scoping Plan measures are implemented. The 2020 BAU emissions estimate assists the Air Resources Board in demonstrating progress toward meeting the 2020 goal of 431 MMTCO\(_2\)e.\(^9\) The 2016 edition of the greenhouse gas emissions inventory (released June 2016) found total California emissions of 441.5 MMTCO\(_2\)e, showing progress toward meeting the AB 32 goals.

The 2020 BAU emissions projection was revisited in support of the First Update to the Scoping Plan (2014). This projection accounts for updates to the economic forecasts of fuel and energy demand as well as other factors. It also accounts for the effects of the 2008 economic recession and the projected recovery. The total emissions expected in the 2020 BAU scenario include reductions anticipated from Pavley I and the Renewable Electricity Standard (30 MMTCO\(_2\)e total). With these reductions in the baseline, estimated 2020 statewide BAU emissions are 509 MMTCO\(_2\)e.

**Figure 2-1 2020 Business as Usual (BAU) Emissions Projection 2014 Edition**

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\(^8\) 2016 Edition of the GHG Emission Inventory Released (June 2016): [https://www.arb.ca.gov/cc/inventory/data/data.htm](https://www.arb.ca.gov/cc/inventory/data/data.htm)

\(^9\) The revised target using Global Warming Potentials (GWP) from the IPCC Fourth Assessment Report (AR4)
Project Analysis

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations.

Qualitative Analysis

This pavement rehabilitation project would not add roadway capacity or result in additional vehicle miles traveled. Accordingly, it is not expected to increase greenhouse gas emissions during operations. The project would result in better traffic flow due to a smoother traveled way, as vehicles would not need to slow down to below speed limits or weave to avoid pavement cracks and holes. This would help avoid stop-and-go flow as drivers try to navigate cracked pavement. In addition, Intelligent Transportation System features planned as part of the project may also facilitate better traffic flow. According to a white paper by the Department of Civil and Environmental Engineering at University of California, Davis (Harvey et al. 2015),\textsuperscript{10} travel speed and congestion factors may affect vehicle fuel use. To the extent that the project would allow drivers to maintain the speed limit, fuel consumption and vehicle emissions would be reduced.

With the smoother ride and longer pavement service life, the roadway will require minimal maintenance, meaning fewer road closures for construction repair. Greenhouse gas emissions may be generated as operations are slowed during construction, but in the long term, smoother and better quality pavement on the roadway will help reduce greenhouse gas emissions.

Construction Emissions

Construction greenhouse gas emissions would result from material processing, onsite 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.

Construction emissions were estimated using the Road Construction Emission Model, Version 8.1.0. Project construction will generate approximately 1,659 pounds of CO$_2$ emissions per days and total 1,508 tons of CO$_2$ emissions over the 1.5-year construction period.

The project would restore the pavement to good repair using durable materials with longer pavement life than existing pavement, and improve ride quality. This would allow for greenhouse gas emissions produced during construction to be offset to some degree by longer intervals between maintenance and rehabilitation activities.

In addition, the median would be paved and used to handle traffic during construction. Each direction would then be shifted into the median to allow for paving

the outer lanes. Regular continuously reinforced concrete pavement (CRCP) would be used for the large portion of the new pavement. However, there may be a few small portions such as in front of off-ramps or downstream of on-ramps (Atwater/Applegate ramps) where rapid-set concrete (RSC) may be used due to its quicker setting times, which will minimize ramp closures. Avoiding lengthy ramp closures would help keep traffic flowing and reduce greenhouse gas emissions that would result from construction-related congestion.

**CEQA Conclusion**

While the project will result in a slight increase in greenhouse gas emissions during construction, it is anticipated that the project will not result in any increase in operational greenhouse gas emissions. While it is Caltrans’ determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a significance determination regarding the project’s direct impact and its contribution on the cumulative scale to climate change, Caltrans is firmly committed to implementing measures to help reduce greenhouse gas emissions. These measures are outlined in the following section.

**Greenhouse Gas Reduction Strategies**

**Statewide Efforts**

In an effort to further the vision of California’s greenhouse gas reduction targets outlined in AB 32 and SB 32, Governor Brown identified key climate change strategy pillars (concepts). See Figure 2-2.

These pillars highlight the idea that several major areas of the California economy will need to reduce emissions to meet the 2030 greenhouse gas 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.
The transportation sector is integral to the people and economy of California. To achieve greenhouse gas 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. Greenhouse gas emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled. One of Governor Brown’s key pillars sets the ambitious goal of reducing today’s petroleum use in cars and trucks by up to 50 percent by 2030.

Governor Brown called for support to manage natural and working lands, including forests, rangelands, farms, wetlands, and soils, so they can store carbon. These lands have the ability to remove carbon dioxide from the atmosphere through biological processes, and to then sequester carbon in above- and below-ground matter.

**Caltrans Activities**

Caltrans continues to be involved on the Governor’s Climate Action Team as the Air Resources Board works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Executive Order B-30-15, issued in April 2015, and SB 32 (2016), set a new interim target to cut greenhouse gas 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 greenhouse gas emissions. The plan 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 California Transportation Plan to meet California’s climate change goals under AB 32. Accordingly, the California Transportation Plan 2040 identifies the statewide transportation system needed to achieve maximum feasible greenhouse gas emission reductions while meeting the state’s transportation needs. While Metropolitan Planning Organizations have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, California Transportation Plan 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 greenhouse gas emissions, among other goals. Specific performance targets in the plan that will help to reduce greenhouse gas emissions include:

- Increasing the percentage of non-auto mode share
- Reducing vehicle miles traveled per capita
- Reducing Caltrans’ internal operational (buildings, facilities, and fuel) greenhouse gas emissions

**Funding and Technical Assistance Programs**

In addition to developing plans and performance targets to reduce greenhouse gas emissions, Caltrans also administers several funding and technical assistance programs that have greenhouse gas 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 greenhouse gas emissions resulting from agency operations.
Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

- Intelligent Transportation System elements, such as fiber optic installation, additional traffic monitoring system, closed-circuit TV cameras, changeable message signage, roadside weather information system and an automated warning system, will be added as part of the project, to enhance efficient traffic flow.

- Caltrans Standard Specification 14-9.02 requires contractors to comply with all Air Resources Board and air district rules, regulations, ordinances, and statutes.

- The project’s traffic management plan to keep ramps open and pave the median to handle traffic during other paving work will minimize congestion during construction.

- Generally, trees reduce surface warming through photosynthesis and decrease carbon dioxide. The project will provide replacement planting of the existing oleanders in the right-of-way within the project limits according to the preliminary scenic resource evaluation.

- Environmentally friendly practices and materials will be used in the project as part of the highway planting, such as PVC irrigation pipe with recycled content, irrigation controllers that include water conservation features and use of reclaimed water where feasible if it becomes available.

- The project will incorporate the use of energy-efficient lighting, such as LED traffic signals. LED bulbs cost $60 to $70 each, but last five to six years, compared to the one-year average lifespan of the incandescent bulbs previously used. The LED bulbs themselves consume 10 percent of the electricity of traditional lights, which will also help reduce the project’s CO2 emissions.11

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 Council on Environmental Quality (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, 2011,12 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 (DOT) issued the *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.”13

To further the DOT Policy Statement, on December 15, 2014, the Federal Highway Administration issued Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*).14 This directive established Federal Highway Administration policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. The Federal Highway Administration 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.

The Federal Highway Administration has developed guidance and tools for transportation planning that fosters resilience to climate effects and sustainability at the federal, state, and local levels.15

State Efforts

On November 14, 2008, then-Governor Arnold Schwarzenegger signed Executive Order S-13-08, which directed a number of state agencies to address California’s vulnerability to sea-level rise caused by climate change. This order 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

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12 https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience
14 https://www.fhwa.dot.gov/legsregs/directives/orders/5520.cfm
15 https://www.fhwa.dot.gov/environment/sustainability/resilience/
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.

Then-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),\(^\text{16}\) 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 Executive Order 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* (December 2009),\(^\text{17}\) 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 Executive Order 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 Executive Order 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.

Executive Order 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.” The March 2013 update\(^\text{18}\) finalizes the SLR Guidance by incorporating findings of the National


\(^\text{17}\) [http://www.climatechange.ca.gov/adaptation/strategy/index.html](http://www.climatechange.ca.gov/adaptation/strategy/index.html)

Academy’s 2012 final Sea-Level Rise Assessment Report; the policy recommendations remain the same as those in the 2010 interim SLR Guidance. The guidance will be updated as necessary in the future to reflect the latest scientific understanding of how the climate is changing and how this change may affect the rates of SLR.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation, and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is actively engaged in working toward identifying these risks throughout the state and will work to incorporate this information into all planning and investment decisions as directed in Executive Order B-30-15.

The 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.
Chapter 3  Comments and Coordination

Early and continuing 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 consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team meetings and interagency coordination meetings.

This chapter summarizes the results of Caltrans’ efforts to identify, address, and resolve project-related issues through early and continuing coordination.

Coordination with Public Agencies
On November 16, 2016, Section 106 letters were sent to the Merced County Public Works Department and Merced County Courthouse Museum. No responses have been received to date.

Coordination with U.S. Fish and Wildlife Service
On April 7, 2017, a Caltrans biologist obtained a species list from the U.S. Fish and Wildlife Service’s IPaC (Information, Planning, and Consultation System) database for federally threatened or endangered species that could occur in the project area or may be affected by the project. Due to the limited scope of the project and a lack of habitat that would support sensitive species within the project limits, a “No Effect” determination with the use of avoidance measures was made for federal listed species.

Coordination with National Oceanic and Atmospheric Administration
On October 18, 2017, a Caltrans biologist submitted a letter in accordance with the National Marine Fisheries Service (NMFS) statewide species list program. This letter is the results of the NMFS’s kmz tool for project 10-3A720 MER-99 Pavement Rehabilitation project located in the Arena and Atwater, California, U.S. Geological Survey 7.5-minute topographic quadrangle maps. The environmental review, consultation, and any other actions required by applicable Federal Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans. The project would have no effect on any NOAA Fisheries list species due to lack of habitat within the project limits. Construction was anticipated to begin in 2019.

Coordination with Native American Groups
Caltrans policy and procedures ensure that Native Americans are involved in all aspects of identifying, evaluating and treating Native American historic properties or historical resources. Caltrans consults Native American Tribes early on and continues throughout the life of the project. Native Americans’ recommendations on the treatment of Native American human remains, associated grave artifacts and sacred
objects that may be unearthed by Caltrans activities are giving maximum consideration.

On October 18, 2016, initial consultation began for Assembly Bill 52 (AB 52) with local Native American tribes. Only one Native American tribe was identified and interested in the project area—the Buena Vista Rancheria Me-Wuk Indians. Consultation letters included project design and mapping, construction activities, request for comments, and request for information regarding any known cultural resources within the project limits.

In addition to the AB 52 consultation, on November 3, 2016, an email was sent to the Native American Heritage Commission to request Sacred Lands Files and Native American listings for the project area. The district Native American consultation list for the project area was accessed under Section 106. On December 29, 2016, Section 106 consultation letters regarding construction activities, questions, comments and mapping were sent to the following individuals:

<table>
<thead>
<tr>
<th>Contacts</th>
<th>Tribe</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mike DeSpain</td>
<td>Buena Vista Rancheria Me-Wuk Indians</td>
<td>Expressed no concern over the proposed project. Consultation Concluded.</td>
</tr>
<tr>
<td>Edward Ketchum</td>
<td>Amah Mutsun Tribal Band</td>
<td>Expressed no concern over the proposed project. Consultation Concluded.</td>
</tr>
<tr>
<td>Reggie Lewis</td>
<td>Chairperson Picayune Rancheria of Chukchansi</td>
<td>No email or phone number available within the consultation list to follow up.</td>
</tr>
<tr>
<td>Les James</td>
<td>Spiritual Leader Southern Sierra Miwuk Nation</td>
<td>Was not called or emailed per previously expressed wishes.</td>
</tr>
<tr>
<td>Robert Ledger</td>
<td>Chairperson Dumna W-Wah Tribal Government</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Valentin Lopez</td>
<td>Chairperson Amah Mutsun Tribal Band</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Jerry Brown</td>
<td>Chowchilla Tribe of Yokuts</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Lois Martin</td>
<td>Chairperson Southern Sierra Miwuk Nation</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Katherine Perez</td>
<td>Chairperson Northern Valley Yokuts Tribe</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Anthony Brochini</td>
<td>Southern Sierra Miwuk Nation</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Silva Burley</td>
<td>Chairperson California Valley Miwok Tribe</td>
<td>No Response have been received to date.</td>
</tr>
<tr>
<td>Mary Matola</td>
<td>Tribal Historic Preservation Officer Picayune Rancheria of Chukchansi</td>
<td>No email or phone number available within the consultation list to follow up.</td>
</tr>
<tr>
<td>Lorrie Planas</td>
<td>Choinumni Tribe/Mono</td>
<td>No Response have been received to date.</td>
</tr>
</tbody>
</table>
On January 6, 2017, the Native American Heritage Commission responded via email with the results of the Sacred Lands Files—no resources were located within the project limits.

After 30 days, when no response was received to requests for consultation, follow up requests were emailed to the above tribes, groups, and individuals on January 27, 2017. However, two individuals could not be contacted for follow-up: Reggie Lewis and Mary Matola as there was no email or phone number available within the consultation list. Les James was also not called or emailed per previously expressed wishes. Follow-up efforts resulted in responses from two individuals. Mike DeSpain of the Buena Vista Rancheria Me-Wuk Indians expressed no concern over the project. Ed Ketchum of the Amah Mutsun Tribal Band expressed no concern or information regarding the project. No other responses have been received to date.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease any area or nearby area suspected to overlie remains, and the local coroner contact. Pursuant to California Public Resource Section 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission who would then notify the Most Likely Descendent. At the time, the person who discovered the remains will contact Environmental Branch Chief so that they may work with the Most Likely Descendent on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.
This document was prepared by the following Caltrans Central Region staff:

Christene Coffman, Associate Environmental Planner (Natural Sciences). B.S., Ecological, Evolutionary, and Organismal Biology, California State University, Chico; 10 years of experience in biological studies and research. Contribution: Biological No Effect Memorandum.

Jeffrey Delsescaux, Associate Environmental Planner (Archaeology). M.A., Anthropology (Archaeology Option), California State University, Los Angeles; B.A., Anthropology, California State University, Fullerton; 8 years of experience in archaeology, 2 years in Cultural Resource Management. Contribution: Section 106 Compliance Memorandum and Archaeological Survey Report.

Phong Duong, Associate Environmental Planner. B.S., Environmental/Health Science, California State University, Fresno; 5 years of transportation planning experience and 10 years of environmental planning experience. Contribution: Environmental Coordinator.

Jay Haghparast, Project Manager. M.S., Civil Engineering, California State University, Fresno; over 30 years of experience in Design, Maintenance Design, R/W Engineering, Construction, Structures Construction, and Project Management in 9 districts.

Anton Kismetian, Transportation Engineer (Civil). B.S., Civil Engineering, California State University, Fresno; 16 years of transportation engineering experience. Contribution: Project Engineer/Build Alternative Development.

Judith Lopez, Associate Environmental Planner and Acting Senior Environmental Planner. B.S., Business Administration, California State University, Fresno; 18 years of environmental planning experience. Contribution: QA/QC Reviewer (draft environmental document); Environmental Branch Senior (final environmental document).

Frank Meraz, Acting Supervising Environmental Planner. B.S., Biology, University of California, Fresno; 11 years with Caltrans in environmental analysis. Contribution: QA/QC Acting Office Chief reviewer (final environmental document).

David Meyers, Audio Visual Specialist. Fine Arts/Music, California State University, Fresno; A.A., Liberal Studies, College of the Sequoias, Visalia; more than 25 years of visual design, public participation, multimedia and fine arts/music experience. Contribution: Document graphics.
Jon Schlee, Hazardous Waste Specialist. B.S., Biological Sciences, California State University, Sacramento; 9 years of environmental planning and site assessment experience. Contribution: Hazardous Waste ISA.

Jane Sellers, Associate Environmental Planner. B.A., Journalism—News-Editorial Sequence, California State University, Fresno; more than 25 years of technical writing/editing, Request for Proposal, and corporate technical communications experience; more than 16 years of reviewing Caltrans environmental documents and technical reports. Contribution: QA/QC Technical Editor.

Richard C. Stewart, Engineering Geologist, P.G. B.S., Geology, California State University, Fresno; more than 29 years of hazardous waste and water quality experience; 15 years of paleontology/geology experience. Contribution: Paleontological Identification Report/Paleontological Evaluation Report.

Vladimir Timofei, Transportation Engineer. M.S., Civil Engineering, California State University, Fullerton; 16 years of environmental technical studies experience. Contribution: Air, Noise and Water Memorandum.
Appendix A  California Environmental Quality Act Checklist

The following checklist identified biological, social, physical, and economic factors that might be affected by the project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

Supporting documentation for all California Environmental Quality Act checklist determinations is provided in Chapter 2 of this Initial Study.
**CEQA Environmental Checklist**

<table>
<thead>
<tr>
<th>10-MER-99</th>
<th>20.1-24.3</th>
<th>10-3A7200</th>
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</thead>
<tbody>
<tr>
<td>Dist.-Co.-Rte.</td>
<td>P.M/P.M.</td>
<td>E.A.</td>
</tr>
</tbody>
</table>

This checklist identifies physical, biological, social and economic factors that might be affected by the project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

**I. AESTHETICS:** Would the project:

a) Have a substantial adverse effect on a scenic vista?

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

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

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

**II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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))?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d) Result in the loss of forest land or conversion of forest land to non-forest use?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
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</tbody>
</table>

### III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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)?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
</tbody>
</table>

### IV. BIOLOGICAL RESOURCES

Would the project:

<table>
<thead>
<tr>
<th>Impact Level</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
<td>☒</td>
</tr>
<tr>
<td>Impact Level</td>
<td>Potentially Significant Impact</td>
<td>Less Than Significant with Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
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<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | ☐ | ☐ | ☐ | ☒ |

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | ☐ | ☐ | ☐ | ☒ |

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |

d) Disturb any human remains, including those interred outside of dedicated cemeteries? | ☐ | ☐ | ☐ | ☒ |

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | ☐ | ☐ | ☐ | ☒ |

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | ☐ | ☐ | ☐ | ☒ |

ii) Strong seismic ground shaking? | ☐ | ☐ | ☐ | ☒ |

iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |
iv) Landslides?

<table>
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<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

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

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<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

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?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

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?

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<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tr>
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</table>

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?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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?

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

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<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

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?

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<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
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</table>

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
<table>
<thead>
<tr>
<th>Question</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
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<tbody>
<tr>
<td>d) Be located on a site which is included on a list of hazardous</td>
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<td>materials sites compiled pursuant to Government Code Section 65962.5 and,</td>
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<tr>
<td>as a result, would it create a significant hazard to the public or the</td>
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<tr>
<td>environment?</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where</td>
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<td>such a plan has not been adopted, within two miles of a public</td>
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<td>airport or public use airport, would the project result in a safety</td>
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<tr>
<td>hazard for people residing or working in the project area?</td>
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<tr>
<td>f) For a project within the vicinity of a private airstrip, would the</td>
<td></td>
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<tr>
<td>project result in a safety hazard for people residing or working in</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>the project area?</td>
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<tr>
<td>g) Impair implementation of or physically interfere with an</td>
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<tr>
<td>adopted emergency response plan or emergency evacuation plan?</td>
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<tr>
<td>h) Expose people or structures to a significant risk of loss, injury</td>
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<td></td>
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<tr>
<td>or death involving wildland fires, including where wildlands are</td>
<td></td>
<td></td>
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<tr>
<td>adjacent to urbanized areas or where residences are intermixed with</td>
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<tr>
<td>wildlands?</td>
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</tbody>
</table>

**IX. HYDROLOGY AND WATER QUALITY**: Would the project:

a) Violate any water quality standards or waste discharge requirements?  |                               |                                     |                            | X         |

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)?                         |                               |                                     |                            | X         |

c) Substantially alter the existing drainage pattern of the site or      |                               |                                     |                            | X         |
   area, including through the alteration of the course of a stream or|
   river, in a manner which would result in substantial erosion or silt|
   ation on- or off-site?                                              |                               |                                     |                            | X         |

d) Substantially alter the existing drainage pattern of the site or      |                               |                                     |                            | X         |
   area, including through the alteration of the course of a stream or|
   river, or substantially increase the rate or amount of surface      |                               |                                     |                            | X         |
   runoff in a manner which would result in flooding on- or off-site?   |                               |                                     |                            | X         |

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?                              |                               |                                     |                            | X         |

f) Otherwise substantially degrade water quality?                      |                               |                                     |                            | X         |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ![ ] | ![ ] | ![ ] | ![ ] |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | ![ ] | ![ ] | ![ ] | ![ ] |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ![ ] | ![ ] | ![ ] | ![ ] |
| j) Inundation by seiche, tsunami, or mudflow | ![ ] | ![ ] | ![ ] | ![ ] |

**X. LAND USE AND PLANNING:** Would the project:

| a) Physically divide an established community? | ![ ] | ![ ] | ![ ] | ![ ] |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ![ ] | ![ ] | ![ ] | ![ ] |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | ![ ] | ![ ] | ![ ] | ![ ] |

**XI. MINERAL RESOURCES:** Would the project:

| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ![ ] | ![ ] | ![ ] | ![ ] |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | ![ ] | ![ ] | ![ ] | ![ ] |

**XII. NOISE:** Would the project result in:

| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ![ ] | ![ ] | ![ ] | ![ ] |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | ![ ] | ![ ] | ![ ] | ![ ] |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ![ ] | ![ ] | ![ ] | ![ ] |
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
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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?

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<tr>
<th>Potentially Significant Impact</th>
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</table>

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?

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<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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</tbody>
</table>

XIII. POPULATION AND HOUSING: Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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</table>

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

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<thead>
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<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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</table>

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

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<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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</table>

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

<table>
<thead>
<tr>
<th>Fire protection?</th>
<th></th>
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<tbody>
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</table>

<table>
<thead>
<tr>
<th>Police protection?</th>
<th></th>
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<thead>
<tr>
<th>Schools?</th>
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<table>
<thead>
<tr>
<th>Parks?</th>
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<table>
<thead>
<tr>
<th>Other public facilities?</th>
<th></th>
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<tr>
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</table>
XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☒

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? ☒

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? ☒

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? ☒

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? ☒

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

e) Result in inadequate emergency access? ☒

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? ☒

XVII. 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:

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.

<table>
<thead>
<tr>
<th>Potential Significant Impact</th>
<th>Less Than Significant with Mitigation</th>
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XVIII. UTILITIES AND SERVICE SYSTEMS: Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

| ☐ | ☐ | ☐ | ☒ |

| ☐ | ☐ | ☒ | ☐ |

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

| ☐ | ☐ | ☒ | ☐ |

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

| ☐ | ☐ | ☒ | ☐ |

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?

| ☐ | ☐ | ☒ | ☐ |

f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?

| ☐ | ☐ | ☒ | ☐ |

g) Comply with federal, state, and local statutes and regulations related to solid waste?

| ☐ | ☐ | ☒ | ☐ |
### XIX. MANDATORY FINDINGS OF SIGNIFICANCE

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
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</table>

**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?

[ ] ☑ ☑ ☑ ☑
Appendix B  Species List

U.S. Fish and Wildlife Service Endangered Species List

United States Department of the Interior
FISH AND WILDLIFE SERVICE
Sacramento, Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2695
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-8713

In Reply Refer To:  
Consultation Code: 08ESMF00-2017-SLI-0111  
Event Code: 08ESMF00-2018-E-00411  
Project Name: 10-3A720 MER 9920.5 / 24.3 Pavement Rehabilitation

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, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.nos.noaa.gov/protected_species/species_list/species_lists.html

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(c) 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) (e)). 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/ssa-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.towerrisk.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:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600
**Project Summary**

Consultation Code: 08ESMF00-2017-SLI-0111

Event Code: 08ESMF00-2018-E-00411

Project Name: 10-3A720 MER 5920.5 / 24.3 Pavement Rehabilitation

Project Type: TRANSPORTATION

Project Description: Pavement rehab

Project Location:

Approximate location of the project can be viewed in Google Maps: [https://www.google.com/maps/place/37.34463761192108/120.61340925648548W](https://www.google.com/maps/place/37.34463761192108/120.61340925648548W)

Counties: Merced, CA
Endangered Species Act Species

There is a total of 12 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. 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.

Mammals

NAME: San Joaquin Kit Fox *Vulpes macrotis mutica*

 STATUS: Endangered

Species profile: [https://ecos.fws.gov/ecp/species/2873](https://ecos.fws.gov/ecp/species/2873)

Reptiles

NAME: Blunt-nosed Leopard Lizard *Gambelia silt*

 STATUS: Endangered

Species profile: [https://ecos.fws.gov/ecp/species/423](https://ecos.fws.gov/ecp/species/423)

NAME: Giant Garter Snake *Thamnophis gigas*

 STATUS: Threatened

Species profile: [https://ecos.fws.gov/ecp/species/4482](https://ecos.fws.gov/ecp/species/4482)

Amphibians

NAME: California Red-legged Frog *Rana draytonii*

 STATUS: Threatened

There is final critical habitat for this species. Your location is outside the critical habitat.

Species profile: [https://ecos.fws.gov/ecp/species/2891](https://ecos.fws.gov/ecp/species/2891)

NAME: California Tiger Salamander *Ambystoma californiense*

 Population: U.S.A. (Central CA DPS)

 STATUS: Threatened

There is final critical habitat for this species. Your location is outside the critical habitat.

Species profile: [https://ecos.fws.gov/ecp/species/2076](https://ecos.fws.gov/ecp/species/2076)
### Fishes

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
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</thead>
<tbody>
<tr>
<td>Delta Smelt <em>Hypomesus transpacificus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/371">https://ecos.fws.gov/ecp/species/371</a></td>
<td></td>
</tr>
<tr>
<td>Steelhead <em>Oncorhynchus (~Salmo) mykiss</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>Population: Northern California DPS</td>
<td></td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/1607">https://ecos.fws.gov/ecp/species/1607</a></td>
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</table>

### Insects

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valley Elderberry Longhorn Beetle <em>Desmocerus californicus dimorphus</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a></td>
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### Crustaceans

<table>
<thead>
<tr>
<th>NAME</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservancy Fairy Shrimp <em>Branchinecta conservatio</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Fairy Shrimp <em>Branchinecta lynchii</em></td>
<td>Threatened</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a></td>
<td></td>
</tr>
<tr>
<td>Vernal Pool Tadpole Shrimp <em>Lepidurus packardi</em></td>
<td>Endangered</td>
</tr>
<tr>
<td>There is final critical habitat for this species. Your location is outside the critical habitat.</td>
<td></td>
</tr>
<tr>
<td>Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a></td>
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</tbody>
</table>
Flowering Plants

NAME
Colusa Grass *Neostipa colusana*

STATUS
Threatened

There is final critical habitat for this species. Your location is outside the critical habitat.

Species profile: [https://ecos.fws.gov/ceo/species/5690](https://ecos.fws.gov/ceo/species/5690)

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.
<table>
<thead>
<tr>
<th>Species</th>
<th>Element Code</th>
<th>Federal Status</th>
<th>State Status</th>
<th>Global Rank</th>
<th>State Rank</th>
<th>Rare Plant Rank/CDFW SSC or FP</th>
</tr>
</thead>
<tbody>
<tr>
<td>alkali milk-vetch</td>
<td>POFAB0F8R1</td>
<td>None</td>
<td>None</td>
<td>G2T2</td>
<td>S2</td>
<td>1B.2</td>
</tr>
<tr>
<td>burrowing owl</td>
<td>ABNSB1001</td>
<td>None</td>
<td>None</td>
<td>G4</td>
<td>S3</td>
<td>SSC</td>
</tr>
<tr>
<td>California alkali grass</td>
<td>PMPOA53110</td>
<td>None</td>
<td>None</td>
<td>G3</td>
<td>S2</td>
<td>1B.2</td>
</tr>
<tr>
<td>California linderella</td>
<td>ICBRA00K10</td>
<td>None</td>
<td>None</td>
<td>G2G3</td>
<td>S2S3</td>
<td></td>
</tr>
<tr>
<td>coast horned lizard</td>
<td>ARACF12100</td>
<td>None</td>
<td>None</td>
<td>G3G4</td>
<td>S3S4</td>
<td>SSC</td>
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<tr>
<td>Colusa grass</td>
<td>PMPOA4C010</td>
<td>Threatened</td>
<td>Endangered</td>
<td>G1</td>
<td>S1</td>
<td>1B.1</td>
</tr>
<tr>
<td>Conservancy fairy shrimp</td>
<td>ICBRA03010</td>
<td>Endangered</td>
<td>None</td>
<td>G2</td>
<td>S2</td>
<td></td>
</tr>
<tr>
<td>Coulter's goldfields</td>
<td>POAST5LO1</td>
<td>None</td>
<td>None</td>
<td>G4T2</td>
<td>S2</td>
<td>1B.1</td>
</tr>
<tr>
<td>ferruginous hawk</td>
<td>ABNKC19120</td>
<td>None</td>
<td>None</td>
<td>G4</td>
<td>S3S4</td>
<td>WL</td>
</tr>
<tr>
<td>hardhead</td>
<td>AFCJB25010</td>
<td>None</td>
<td>None</td>
<td>G3</td>
<td>S3</td>
<td>SSC</td>
</tr>
<tr>
<td>heartscale</td>
<td>POCHE04030</td>
<td>None</td>
<td>None</td>
<td>G3T2</td>
<td>S2</td>
<td>1B.2</td>
</tr>
<tr>
<td>Heckard's pepper-grass</td>
<td>POBRA1M01</td>
<td>None</td>
<td>None</td>
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## CNPS Inventory of Rare and Endangered Plants

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1/1
Appendix C  Title VI Policy Statement

March 2013

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964 and related statutes, ensures that no person in the State of California shall, on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity it administers.

For information or guidance on how to file a complaint based on the grounds of race, color, national origin, sex, disability, religion, sexual orientation, or age, please visit the following web page: http://www.dot.ca.gov/hq/bep/title_vi/t6_violated.htm.

Additionally, if you need this information in an alternate format, such as in Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, 1823 14th Street, MS-79, Sacramento, CA 95811. Telephone: (916) 324-0449, TTY: 711, or via Fax: (916) 324-1949.

MALCOLM DOUGHERTY
Director
Appendix D  Minimization and/or Mitigation Summary

Paleontology

The preliminary Paleontological Mitigation Plan (pPMP) requires that full-time monitoring be conducted during excavation into native, undisturbed soils of the Modesto and Riverbank formations, excluding pile driving, drilling less than 3 feet in diameter. A qualified paleontologist will evaluate the extent of the mitigation effort to take place dependent upon the type and location of excavation. Monitoring should not be conducted during excavations entirely within previously disturbed sediments or artificial fill. In the event of unanticipated paleontological resource discoveries during project-related construction activities, work must be halted within 25 feet of the discovery until it can be evaluated by a qualified paleontologist. The preliminary Paleontological Mitigation Plan includes the following:

- Prior to earthmoving activities, a qualified paleontologist will provide a worker training program to inform construction personnel of the possibility for fossil discoveries, and will instruct personnel to immediately inform their supervisor if any bones or other potential fossils are unearthed at the project site and a paleontological monitor is not present.

- If a fossil is discovered by a monitor in a construction excavation, the monitor must immediately notify the equipment operator and Resident Engineer (RE) to stop work, and then mark the area surrounding the site with flagging until the discovery can be fully explored and evaluated. The paleontological monitor will immediately notify the RE, Principal Paleontologist, site project manager, and Caltrans Task Order Manager. Construction activities in the immediate vicinity of the site will stop until authorization for work to continue is provided by the qualified paleontologist.

- If a concentration of fossils is found, the area will be flagged and the RE, site project manager, Caltrans Task Order Manager, and Principal Paleontologist will be notified to determine necessary action. Any action will be communicated to the contractor and Caltrans.

- When scientifically significant fossil discoveries are made by construction monitors, they will be quickly and professionally explored and evaluated in order to minimize construction delays.

- All fossils and bulk matrix samples collected at the project site will be removed to a secure paleontological laboratory for preparation to the point of identification and curation.

- If paleontological resources are discovered, a paleontological summary mitigation report will be created by a qualified paleontologist documenting the processes carried out to comply with the pPMP during and post construction.
**Biology**

**Animal Species**

The following avoidance and minimization measures list below will be implemented by the project:

- Preconstruction surveys for Western Pond Turtle, Western Burrowing Owl and Tricolored Blackbird.

- If an active western burrowing owl nest is observed in the project vicinity from April 1 to October 15, a 565-foot Environmentally Sensitive Area buffer must be installed around the nest and avoided until the young have fledged.

- If an active western burrowing owl nest is observed from October 16 to March 31, a 165-foot Environmentally Sensitive Area buffer must be installed around the nest and avoided until the young have fledged.

- If an active tricolored blackbird nest is observed, a 250-foot Environmentally Sensitive Area buffer must be installed around the nest and avoided until the young have fledged.

Prior to the initiation of groundbreaking, a Caltrans biologist will conduct an education and training session on special-status animal species in the project limits for all construction personnel. All individuals who will be involved in the site preparation or construction will be present, including the project representative(s) responsible for reporting injuries or deaths of animals to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife. Training sessions will be repeated for all new employees before they begin work at the project site.

**Threatened and Endangered Species**

If active bird nests, dens and elderberry shrubs are discovered within the project area prior to construction, then the following measures will be implemented to avoid and minimize any potential impacts to the following threatened and endangered species:

**Swainson’s Hawk**

- A Bird Protection Special Provision will be included in the construction contract. A preconstruction survey for migratory birds and raptors will be required two weeks prior to construction, if construction activities occur within the migratory birds nesting season (February 1 to September 30).

- If an active Swainson’s hawk nest is observed, a 600-foot Environmentally Sensitive Area buffer must be installed around the nest and avoided until the young have fledged.

**San Joaquin Kit Fox**

- At the end of each day, the contractor will take measures to prevent the accidental entrapment of San Joaquin kit foxes in all excavated, steep-walled holes or
trenches. These measures will include covering excavations with plywood or providing dirt or plank escape ramps. The contractor will also inspect all pipes and culverts before burying, capping or other such activities. If a San Joaquin kit fox is discovered during this inspection, the pipe or culvert will not be disturbed (other than to move it to a safe location if necessary) until after the fox has escaped.

- The contractor will immediately notify the engineer if a dead, injured or entrapped San Joaquin kit fox is found. All construction activity within 200 feet of the kit fox will be halted and may not resume until the engineer provides written authorization. Any entrapped kit fox will be permitted to escape. No injured or dead kit fox may be handled or otherwise disturbed.

- If a San Joaquin kit fox den is discovered, all construction activity within a 150-foot radius of the den will be halted and the engineer will be contacted immediately. Construction may not continue within the 150-foot radius until the engineer provides written authorization.

- All food-related trash items such as wrappers, cans, bottles and food scraps will be disposed of in closed containers and removed at least once every day from the entire project site.

**Valley Elderberry Longhorn Beetle**

- If discovered prior to construction, an Environmental Sensitive Area fence will be placed surrounding elderberry shrubs throughout the construction process. The elderberry shrubs will need to be avoided during construction at least 20 feet from the dripline.

**Visual/Aesthetics**

If the median oleander shrubs are removed, then a Type 60G concrete barrier (56 inches high) will be installed within the existing median to reduce oncoming headlight glare.

The Merced County Master Plan recognized that the oleander shrubs are part of California’s highway design era and foster a valleywide sense of identity. According to Caltrans Project Development Procedures Manual (PDPM) policy, Chapter 29 Landscape Architecture, replacement planting must be funded from the highway construction project and must be under construction within two years of the acceptance of the highway that removed the highway planting in the first place.

Within the project limits, there is adequate right-of-way for replacement planting of the oleander shrubs. The replacement planting should take place beyond the minimum 20 feet from the edge of shoulder along the mainline of State Route 99 and along the on- and off-ramps. A new irrigation system will be installed to provide water to the new plants and must include three years of plant establishment.
Any aesthetic treatments that are removed from the project during construction must be replaced in kind, such as oleander, stained or textured median barriers, or extended gore paving. Implementation of these recommendations will minimize the visual impacts within the project limit and reduce headlight glare from oncoming traffic.

**Hazardous Waste and Materials**

The project will require removal of yellow thermoplastic striping or yellow paint striping, both of which are known to contain high concentrations of lead and chromium. If either of these materials is ground out separately, then the grindings will be tested and properly disposed of. Caltrans Standard Special Provision 14-11.12 (Remove Yellow Traffic Stripe and Pavement Marking with Hazardous Waste Residue) will be added to the construction contract. A Lead Compliance Plan will be prepared to ensure workers in the area are aware of the potential for lead exposure and proper protective equipment is implemented.

**Utilities and Emergency Services**

The following avoidance and minimization mitigation measures will reduce temporary impacts to utilities and emergency services:

**Utilities**

Utilities will be modified to accommodate construction of the project. Early coordination between affected companies and utilities customers will ensure disruptions are minimized during construction.

**Emergency Services**

A Transportation Management Plan will be developed to facilitate the roadway paving, minimize delays and increase safety for both freeway users and workers during construction. The Transportation Management Plan will include the following:

- Work at the Atwater and Applegate ramps will be staged to keep the ramps open and avoid the use of fast-setting concrete mixes.
- Nightly or weekend ramp closures may also be needed to shift traffic from one staging plan to the next.
- The median will be paved and used for traffic staging during construction. Each direction of the mainline will then be shifted into the median to allow for paving the outer lanes.
- Fixed and portable changeable message signs will be used to direct traffic and commuters through the construction zone.
- The public will be kept informed through mailers, press releases and notices from the Caltrans Public Information Office.

By using the Transportation Management Plan process, Caltrans will minimize impacts to emergency services. Otherwise, the current emergency response routes will remain the same.
Appendix E  List of Acronyms

AC—Asphalt concrete
ADA—Americans with Disabilities Act
APN—Assessor’s parcel number
ARB—Air Resources Board
ASR—Archaeological Survey Report
AWS—Automated warning system
BAU—business-as-usual scenario (climate change strategy)
Caltrans—California Department of Transportation
CEQ—Council on Environmental Quality
CEQA—California Environmental Quality Act
CNNDB—California Natural Diversity Database
CNPS—California Native Plant Society
CO-CAT—Coastal and Ocean Working Group of the California Climate Action Team
CRCP—continuously reinforced concrete pavement
CTP—California Transportation Plan
ESA—Environmental (or Environmentally) Sensitive Area
FHWA—Federal Highway Administration
GHG—Greenhouse gas
HMA—Hot Mix Asphalt
IPaC—Information, Planning, and Consultation System
IPCC—Intergovernmental Panel on Climate Change
JPCP—join plan concrete pavement
LCFS—low carbon fuel standard

LED—light-emitting diode

NEPA—National Environmental Policy Act

NHSTA—National Highway Traffic Safety Administration

NOAA Fisheries Service—National Oceanic and Atmospheric Administration’s National Marine Fisheries Service

OSTP—Office of Science and Technology Policy

PCC—Portland cement concrete

PDPM—Project Development Procedures Manual

PER/pPMP—Paleontological Evaluation Report/preliminary Paleontological Mitigation Plan

PIR—Paleontological Identification Report

PM—Post Mile

RAP—Relocation Assistance Program

RHMA—Rubberized hot mix asphalt

RSC—Rapid-set concrete

SHOPP—State Highway Operation and Protection Program

TMS—Traffic Monitoring System

USFWS—U.S. Fish and Wildlife Service
Appendix F Comments and Responses

This appendix contains the comments received during the public circulation and comment period of the Initial Study with Mitigated Negative Declaration from September 12, 2017 to October 12, 2017. A Notice of Intent to Adopt a Mitigation Negative Declaration was published in The Merced Sun Star on 9/12/2017.

On October 10, 2017, a letter was received from the State Clearinghouse acknowledging that Caltrans has complied with review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

One comment was received from a private citizen/property owner, Mr. Kashian. The comment and Caltrans response is in this appendix. There was no request for a hearing for this project.
State Clearinghouse Letter

October 10, 2017

Juan Torres
California Department of Transportation, District 10
555 M St, Suite 200
Fresno, CA 93721

Subject: Merced 99 Pavement Rehabilitation
SCHR: 2019092016

Dear Juan Torres:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on October 5, 2017, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-6613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TEPPH STREET, P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
Merced 99 Roadway Rehabilitation

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<td>Type</td>
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**Lead Agency Contact**

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</tr>
<tr>
<td>Phone</td>
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</tr>
<tr>
<td>Address</td>
<td>855 M St, Suite 200</td>
</tr>
<tr>
<td>City</td>
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**Project Location**

| County    | San Joaquin |
| City      |              |
| Region    |              |
| Cross Streets | Westside Blvd and Buhach Rd |
| Parcel No. |              |
| Township  |              |
| Range     |              |
| Section   |              |
| Base      |              |

**Proximity to:**

- Highways: hwy 99
- Airports: UPRR
- Railways: Aileen Coburn ES
- Waterways: Schools
- Land Use: Aileen Coburn ES

**Project Issues**: Aesthetic/Visual; Biological Resources; Toxic/Hazardous; Other Issues

**Reviewing Agencies**

- Resources Agency; Central Valley Flood Protection Board; Department of Fish and Wildlife, Region 2; Department of Parks and Recreation; Department of Water Resources; Regional Water Quality Control Bd., Region 5 (Sacramento); Delta Protection Commission; Delta Stewardship Council; Native American Heritage Commission; Public Utilities Commission

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Comment from jkashian@caddispropertiesllc.com

From: jkashian@caddispropertiesllc.com [mailto:jkashian@caddispropertiesllc.com]
Sent: Monday, September 18, 2017 1:32 PM
To: Torres, Juan@DOT <juan.torres@dot.ca.gov>
Subject: Initial Study- Merced 99 Pavement Rehabilitation- Project ID#
1013000259

Juan- Please accept this email as my written comment to the above referenced Cal Trans Project.

I have read the report and Cal Trans mentions the construct five retention basins to store surface runoff outside of the roadway cross sections. One of the five basins is located on a property I have in escrow to purchase and develop. It is basin #3 on Cal Trans report located on Applegate Road. I have a tenants with signed Letter of Intents and into draft leases to locate on property.

Juan, I do not see any mention of alternative site for basins... I believe you will need to do this for Basin #3 as I intend to develop the parcel per the City of Atwater general plan. If Cal Trans wants to purchase site they will have it to appraise with the leases in place and a comparable cap rate to existing buildings of this type in State of California.

Response to Comments from jkashian@caddispropertiesllc.com

Thank you for your comments on the project.

Response to comment 1: Thank you, J. Kashian, for your comment. Caltrans evaluated multiple locations for drainage basins and also evaluated improving existing longitudinal ditches, parallel to the State Route 99 roadway. But, based on the need to lower State Route 99 in the Applegate Road interchange area as well as the proximity to the interchange ramps, the drainage basin you cite is being considered during the Project Approval & Environmental Document phase of the project. Further evaluation and discussions with the City of Atwater and potentially other property owners would occur during the Plans, Specifications & Estimates phase and Right of Way phase of this project to determine other possible locations for drainage basins.
List of Technical Studies

Air Quality Clearance Memorandum—2016
Noise and Water Study Clearance Memorandum—2016
Biological No Effect Memorandum—2017
Cultural Resources Section 106 Compliance Memorandum—2017
Archaeological Survey Report—2017
Hazardous Waste Reports—2017
  • Initial Site Assessment
  • Limited Preliminary Site Investigation
Preliminary Scenic Resource Evaluation—2017
Paleontological Identification Report—2017
Floodplain Evaluations Report Summary Memorandum—2017