# Arroyo de la Laguna Bridge Project

ALAMEDA COUNTY, CALIFORNIA
04-ALA-84 – PM 17.2
EA 04-0J550 / Project ID 0414000012

# DRAFT Environmental Impact Report/Environmental Assessment

**Prepared by the**
**State of California, Department of Transportation**

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

**July 2021**

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# General Information about This Document

**What's in this document:**
The California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Assessment (EIR/EA), which examines the potential environmental impacts of the proposed project located in Alameda County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). This document explains why the project is being proposed, what alternatives have been considered for the project, and how the existing environment could be affected by the project. It also presents the potential impacts of each of the alternatives and describes the proposed avoidance, minimization, and/or mitigation measures for each impact.

**What you should do:**
Please read this document.

Additional copies of this EIR/EA and related technical studies are available by request from Caltrans at the same contact for comments shown below. This EIR/EA may be accessed electronically at the following website: https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

As a result of the COVID-19 emergency and in accordance with the California Governor's Executive Orders N-33-20 and N-60-20, Caltrans is conducting public meetings via remote presence by video and teleconference to protect public health and safety. Participate in a public meeting on August 24 at 6:00 p.m. Information for the public meeting will be available at the project website: https://dot.ca.gov/caltrans-near-me/district-4/d4-projects/d4-alameda-84-arroyo-de-la-laguna-bridge-project.

We'd like to hear what you think. If you have any comments about the proposed project, please participate in the public meeting and/or send your written comments to Caltrans by the deadline.

- Send comments via U.S. mail to:
  Caltrans, District 4-Office of Environmental Analysis
  ATTN: Charles Winter, Associate Environmental Planner
  P.O. Box 23660 MS-8B
  Oakland, CA 94623-0660

- Send comments via email to: ArroyodelaLagunaBridgeProject@dot.ca.gov.

Be sure to send comments by the deadline: September 16.

**What happens next:**
Caltrans will circulate the EIR/EA for review for 45 days. During the 45-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 45-day public review period.

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

**Alternative formats:**
Printed copies of this document are available upon request. For individuals with sensory disabilities, this document can be made available in Braille, in large print, or digital audio. To obtain a copy in one of these alternate formats, please call or write to the California Department of Transportation, District 4-Office of Environmental Analysis, Attn: Charles Winter, Associate Environmental Planner, P.O. Box 23660, MS-8B, Oakland, CA 94623-0660; (510) 286-6025 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

SCH# 2018082045
04-ALA-84-17.2
EA No. 04-0J550
Project No. 0414000012

Repair bridge scour and correct structural deficiencies of the Arroyo de la Laguna Bridge at Post Mile 17.2 on State Route 84 between Pleasanton Sunol Road and Main Street in the town of Sunol, Alameda County, California.
(Post Mile 04-ALA-84-17.2)

# DRAFT Environmental Impact Report/Environmental Assessment

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

THE STATE OF CALIFORNIA
Department of Transportation

Cooperating Agencies:
National Marine Fisheries Service
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service

Responsible Agencies:
Alameda County Transportation Commission
California Transportation Commission
California Department of Fish and Wildlife, Region 3
California State Historic Preservation Officer
San Francisco Bay Regional Water Quality Control Board
San Francisco Public Utilities Commission

7/30/2021
Date

Dina A. El-Tawansy
District Director
California Department of Transportation
NEPA and CEQA Lead Agency

The following persons may be contacted for more information about this document:

Caltrans, District 4-Office of Environmental Analysis
ATTN: Charles Winter, Associate Environmental Planner
P.O. Box 23660 MS-8B
Oakland, CA 94623-0660

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# Summary

## NEPA Assignment

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

## Joint NEPA/CEQA Document

The proposed project is a joint project by Caltrans and the FHWA, and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and NEPA. Caltrans is the lead agency under NEPA and CEQA. In addition, FHWA’s responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a “lower level” document is prepared for NEPA. One of the most common joint document types is an Environmental Impact Report/Environmental Assessment (EIR/EA).

After receiving comments from the public and reviewing agencies, a Final EIR/EA will be prepared. Caltrans may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EA will include responses to comments received on the Draft EIR/EA and will identify the preferred alternative. If the decision is made to approve the project, a Notice of Determination will be published for compliance with CEQA, and Caltrans will decide whether to issue a Finding of No Significant Impact (FONSI) or require an Environmental Impact Statement (EIS) for compliance with NEPA. A Notice of Availability (NOA) of the FONSI will be sent to the affected units of federal, state, and local government, and to the State Clearinghouse in compliance with Executive Order 12372.

**Introduction**

Caltrans proposes to replace the Arroyo de la Laguna Bridge (Bridge No. 33-0043) to address scour and seismic concerns and meet current design standards for safety. The proposed project would take place on State Route (SR) 84, locally signed as Niles Canyon Road (hereafter referred to as SR 84), at post mile (PM) 17.2 in the town of Sunol in unincorporated Alameda County.

This draft environmental document for the Arroyo de la Laguna Bridge Project (project) evaluates the Build Alternative and the No Build Alternative. The Build Alternative proposes bridge replacement with associated roadway improvements on SR 84 and Paloma Way. The No Build Alternative would result in no project.

**Overview of the Project Area**

SR 84 is a 96-mile-long highway beginning at SR 1 in San Gregorio, Santa Clara County and traveling north to end in the city of Livermore, Alameda County. The proposed project area is located in the town of Sunol, Alameda County. Sunol is situated between the Niles Canyon corridor to the west and Interstate 680 (I-680) to the east. In recent years commuters have used the SR 84 Niles Canyon corridor to bypass heavy traffic on I-680 and I-880.

Several transportation improvement projects are currently under construction adjacent to or within 1 mile of the project area. These projects include the Niles Canyon Safety Improvements Project, as well as the SR 84 Expressway Widening and SR 84/I-680 Interchange Improvements Project. Another transportation improvement project, the I-680 Express Lanes Project, is scheduled for construction in 2022. The Niles Canyon Safety Improvements Project will conduct various safety improvements along the Niles Canyon Corridor immediately adjacent to the proposed project. The SR 84 Expressway

Widening and SR 84/I-680 Interchange Improvements Project will conform SR 84 to expressway standards from Ruby Hill Drive to the SR 84/I-680 interchange. The I-680 Express Lanes Project will add a new express lane in both directions of I-680 from SR 84 to Acosta Boulevard. For a more complete description of proposed projects in the EIR/EA study area, refer to Section 2.5.

This project proposes improvements on the existing Arroyo de la Laguna Bridge, which was built in 1939 and is supported by five piers and two abutments. The bridge measures 310 feet long and 38 feet wide and consists of two 11-foot-wide lanes with no shoulders, 5-foot-wide pedestrian sidewalks in each direction, original railings from 1939, and no bicycle accommodations outside of the travel lanes.

**Purpose**

The purpose of the proposed project is to maintain connectivity and provide an improved highway facility for the traveling public along SR 84 by replacing the existing bridge over Arroyo de la Laguna.

**Need**

Structural maintenance inspections completed in October 2013 identified scour at piers 4 and 5 of the bridge. Scour, a condition where the bed and bank material from around the piers is washed away by stream flows, is undermining the footing at Pier 5. The bridge is currently classified as “scour critical,” which means it has pier foundations that are rated as unstable due to scour. Additionally, in 2016, the Office of Earthquake Engineering Analysis and Research identified the bridge to be seismically vulnerable and a candidate for seismic retrofit.

The bridge railings, built in 1939, do not offer the structural integrity of modern railings and do not provide the capability to redirect vehicles back onto the roadway in the event of a collision.

Furthermore, the alignment of the existing bridge and approach directs eastbound traffic into the path of the Sunol Water Temple entry gates on the south side of SR 84, a potential hazard to travelers on the roadway and the historic structure. The curvature, lane alignment, shoulders, slope of the bridge, and the western and eastern approaches no longer meet Caltrans design standards. Caltrans establishes and supports the consistent application of highway design standards to ensure optimal safety for the traveling public and for those who work to construct, operate, and maintain the State Highway System.

**Proposed Action**

Caltrans proposes to replace Arroyo de la Laguna Bridge (Bridge No. 33-0043) to meet current design standards for safety and remediate the scour issue at the bridge crossing. The proposed project would take place on SR 84 at post mile (PM) 17.2 in the town of Sunol in unincorporated Alameda County.

The alternatives selected for further consideration are the Build Alternative and the No Build Alternative.

*Build Alternative*

The Build Alternative would replace the existing 310-foot-long and 38-foot-wide Arroyo de la Laguna Bridge with a new 310-foot-long and 64-foot-wide bridge consisting of two through lanes, one in each direction. The new bridge would either be flat (as the existing structure) and box-shaped, or it would contain an arch. The bridge profile would be raised by 1 to 3 feet to improve the existing non-standard stopping sight distance, which is the distance a driver needs to be able to stop before colliding with an object in the roadway. At completion, the finished structure would provide 12-foot-wide lanes, a 14-foot-wide shared east-west pedestrian path on the south side of the bridge, standard 42-inch-high barriers, 9-foot-wide shoulders to accommodate 6-foot-wide bicycle lanes, and a 2-foot-wide painted median rumble strip. The shared sidewalk would be protected from the roadway by concrete railing. The Build Alternative would also add sidewalks to the eastern side of the SR 84 and Main Street intersection and at the SR 84 and Pleasanton Sunol Road intersection. Construction would take three seasons, with each season lasting a year, for a total of three years. Project construction cost is currently estimated at $32,000,000.

*No Build Alternative*

The No Build Alternative would not change the Arroyo de la Laguna Bridge and would only continue standard maintenance of the bridge. The No Build Alternative is the baseline for evaluating environmental impacts under NEPA. The existing conditions at the time that the Notice of Preparation (NOP) was filed are considered the baseline for evaluating environmental impacts under the CEQA.

Table S-1 summarizes the potential environmental impacts that have been identified through the studies performed by Caltrans in preparation of this document. This table covers permanent impacts from both construction and operation of the proposed project. For a complete description of potential effects

and recommended measures, including temporary construction effects, please refer to the specific sections within Chapter 2 and Appendix C of this document.

**Project Impacts**

Table S-1 summarizes the impacts of the Build Alternative in comparison with the No Build Alternative and identifies avoidance, minimization, and/or mitigation measures for those resources impacted by the proposed project.

**Table S-1. Summary of Project Impacts**

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| **Existing and Future Land Use** | No impact. | The Build Alternative would require a permanent partial acquisition (0.02 acre) to accommodate the new, wider bridge and road shoulder. Temporary acquisitions would also be required for construction staging and access. No permanent or temporary acquisitions would affect the existing land uses of the rest of the properties. | None. |
| **Consistency with State, Regional, and Local Plans and Programs** | No impact. | No impact. The Build Alternative would be consistent with applicable regional and local plans and would not enable unplanned development to take place or stimulate unforeseen development. | None. |
| **Coastal Zone** | No impact. | No impact. The project is not located within the coastal zone. | None. |
| **Wild and Scenic Rivers** | No impact. | No impact. There are no state designated Wild and Scenic Rivers located in the project area. | None. |
| **Parks and Recreational Facilities** | No Impact. | The Build Alternative would result in temporary construction-related noise and visual effects to Sunol Glen Elementary School and Sunol Water Temple. In addition, access to these facilities would be impacted during construction. Project features, including a Traffic Management Plan (TMP) and Construction Mitigation Plan (CMP), would reduce adverse effects. | NOISE-1. Temporary Noise Control. |
| **Farmlands** | No impact. | The Build Alternative would require a permanent acquisition of approximately 0.11 acre of Prime Farmland and 0.52 acre of Grazing Land as defined by the Farmland Monitoring and Mapping Program (FMMP). Acquisition of these lands would not affect adjacent farmland or grazing land. Coordination with the U.S. Department of Agriculture, Natural Resource Conservation Service is ongoing. | None. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| **Williamson Act Property Acquisition** | No impact. | No impact. There are no Williamson Act properties within the project area. | None. |
| **Timberlands** | No impact. | No impact. No timberlands exist in or adjacent to the project area. | None. |
| **Growth** | No impact. | No impact. The Build Alternative would maintain the existing two-lane capacity of SR 84 and would have no impacts to growth, population, or housing in the area. | None. |
| **Community Character and Cohesion** | No impact. | No impact. The Build Alternative would not change existing community boundaries or physically divide an established community. | None. |
| **Relocations and Real Property Acquisition** | No impact. | No impact. The Build Alternative would not require any full property acquisitions and would not require relocation of any residences or businesses. | None. |
| **Utilities/Emergency Services** | No impact. | The Build Alternative would require relocation of utilities, and Caltrans would coordinate with utility providers to ensure no disruption of services during relocation. Construction of the Build Alternative would require full closure of SR 84. Project features, including implementation of the TMP and CMP, would reduce adverse impacts to emergency services during construction and address concerns from potential impacts to utilities. | None. |
| **Environmental Justice** | No impact. | No impact. No minority or low-income populations that would be adversely affected by the proposed project have been identified. Therefore, this project is not subject to the provisions of Executive Order (EO) 12898. | None. |
| **Traffic and Transportation, Pedestrian and Bicycle Facilities** | Under the No Build Alternative, the existing Arroyo de la Laguna Bridge | Construction of the Build Alternative would result in short-term impacts in the form of delays to auto traffic, pedestrians, and cyclists from temporary road closures. The use of a TMP and CMP would | None. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | would not be retrofit or remediated for scour damage. There would also be no improvements to pedestrian and bicycle facilities. | reduce adverse impacts. The Build Alternative would not affect bus transit or rail service.<br><br>Completion of construction of the Build Alternative would result in a wider bridge and road shoulders that would improve safety for motorists and wider sidewalks and a bicycle lane that would improve pedestrian bicycle mobility and accessibility in the project area. | |
| **Visual/Aesthetics** | No Impact. | The Build Alternative would result in visual resource changes including replacement of the existing bridge and railing, construction of a concrete retaining wall, and removal of trees and shrubs to the north and south of the existing bridge. The Build Alternative would remove or trim approximately 251 trees. No new or replacement lighting is proposed on the bridge or elsewhere in the project area.<br><br>The gates to the Sunol Water Temple would not be disturbed. Changes to the visual setting at and near the gates would be minor. The Sunol Water Temple and its access road would not be impacted.<br><br>The Build Alternative would have moderate to high levels of visual impact to highway users and highway neighbors. With implementation of project features and AMMs, these impacts could be reduced to moderate-low to moderate-high levels. | AMM VIS-1. Vegetation Removal Measures.<br>AMM VIS-2. Concrete Safety Barrier/Railing Aesthetics.<br>AMM VIS-3. Aesthetic Treatments.<br>AMM VIS-4. Construction Impact Measures. |
| **Cultural Resources** | No Impact. | The Build Alternative would result in *no adverse effect* to the Sunol Water Temple and associated structures. During construction, Caltrans would | AMM CULTURAL-1. Report of Unintended Discoveries to the San Francisco Public |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
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| | | implement AMM CULTURAL-3 to establish an environmentally sensitive area (ESA) that would protect the resource.<br><br>Construction of the Build Alternative would adversely affect one archaeological site. Caltrans will consult with the State Historic Preservation Officer (SHPO) on the Undertaking's Finding of Adverse Effect and develop a Memorandum of Agreement (MOA) for the treatment of the archaeological site. | Utilities Commission (SFPUC).<br>AMM CULTURAL-2. Worker Environmental Awareness Training.<br>AMM CULTURAL-3. Establishment of an ESA.<br>MM CULTURAL-1. Phase III Data Recovery Plan.<br>MM CULTURAL-2. Archaeological Monitoring Plan. |
| **Hydrology and Floodplain** | No Impact. | The project is within Federal Emergency Management Agency (FEMA) Base Floodplain for Arroyo de la Laguna, and the bridge would overtop in a 100-year storm. The Build Alternative would be modeled and designed so that post-construction flows would not have any negative impacts to the 100-year storm event elevations. The Build Alternative would not affect the existing FEMA base flood plain elevation. | None. |
| **Water Quality/Storm Water Runoff** | No Impact. | The Build Alternative could result in temporary impacts to Arroyo de la Laguna through staging and construction activities. Construction would also result in a disturbed soil area of about 7.03 acres, and construction activities would be subject to the Construction General Permit and a Stormwater Pollution Prevention Plan (SWPPP). After construction, the widening of SR 84 would result in a net new impervious area of approximately 0.48 acre.<br><br>With the construction work in the creek and the requirement of securing and complying with a 404 | None. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
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| | | permit, the Construction General Permit, and SWPPP, Caltrans would incorporate best management practices (BMPs) to reduce construction-related and permanent pollutants in stormwater discharges during construction and permanently to the maximum extent practicable. The project would have a less than significant impact on water quality and would not conflict with or obstruct implementation of a water quality plan. | |
| **Geology/Soils/Seismic Topography** | No Impact. | No impact. The project is not located on a geologic unit that is unstable, nor is it located on an expansive soil. There are no sensitive geologic or mineral resources within the proposed project area. The Calaveras fault is 0.40 mile from the project. No fault is within the immediate vicinity of the project.<br><br>The Build Alternative would not impact geologic resources and would not exacerbate the potential for shaking due to seismic activity. | None. |
| **Paleontology** | No Impact. | The Build Alternative would be constructed on previously disturbed soils. Paleontologically significant soils would not be encountered. | None. |
| **Hazardous Waste/Materials** | No Impact. | The project area may contain soils with lead deposition and the existing bridge structure may feature asbestos-containing materials. During the project's design phase, roadside soils would be tested for lead deposition and a bridge survey would be conducted to determine the presence of asbestos. If lead or asbestos is identified, Caltrans would follow proper procedure for handling and management of the hazardous materials. Introduction of hazardous materials to the project area would be limited to the use of gasoline and | |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | diesel during construction. Caltrans would use standard measures to limit exposure of the public to the hazardous wastes/substances. | |
| **Air Quality** | No Impact. | The Build Alternative is exempt from the requirement to determine project-level conformity per 40 CFR 93.126 because it is limited to "widening narrow pavements or reconstructing bridges (no additional lanes)." The project includes implementation of standard Caltrans measures, such as complying with air pollution control rules, regulations, ordinances, and statutes, which would avoid or minimize construction-related air quality effects. The project would not conflict with or obstruct implementation of an applicable air quality plan, result in cumulatively considerable net increase of any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in emissions or odors that would adversely affect a substantial number of people. | None. |
| **Noise** | | The Build Alternative would not increase the capacity of SR 84 or the Arroyo de la Laguna Bridge for motor vehicles and therefore would not result in a permanent increase in ambient noise levels. During construction, the highest noise levels would be produced during bridge demolition and preparation for bridge work (cast-in-drilled hole pile installation), which is close to the southern end of the Sunol Glen Elementary School's recreational field. Implementation of standard noise control measures and AMMs would limit construction noise impacts. | AMM NOISE-1. Temporary Noise Control. |
| **Energy** | No Impact. | No impact. The Build Alternative does not propose changes in the use of the current roadway and | None. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | would not increase capacity. Construction of the Build Alternative would result in energy use through gas and diesel consumption by construction vehicles and on-site equipment. The project would not have any long-term implications for energy consumption. Energy consumption during project construction would be temporary and minimized to the maximum extent practicable with Caltrans standard measures. | |
| **Natural Communities** | No Impact. | The Build Alternative would result in temporary, prolonged temporary, and permanent impacts to the natural communities in the project area. Permanent impacts (0.432 acre) would result from the installation of new bridge foundations, shoulder backing, and the retaining wall. Prolonged temporary impacts (3.807 acres) would result from trimming or removal of trees to complete construction of the bridge, and the use of the staging area and creek diversion system for three construction seasons. Temporary impacts (1.315 acres) would result from the temporary construction access roads. Based on the current preliminary design, Caltrans anticipates the Build Alternative would require the removal or trimming of 251 trees. This estimate assumes that all the trees within the impact areas would need to be removed. The project development team would work with the contractor to reduce this number to the extent feasible. All trees removed would be replaced at appropriate replacement ratios according to species of tree, location, and permit requirements. To reduce the above-mentioned potential permanent and temporary impacts for the Build Alternative, Caltrans would implement | AMM NATURAL COMMUNITIES-1. Revegetation Following Construction.<br>MM NATURAL COMMUNITIES-1. Upland Trees.<br>MM NATURAL COMMUNITIES-2. Riparian Trees. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | AMMs and MMs during and following construction. | |
| **Wetlands and Other Waters** | No Impact. | The Build Alternative would result in prolonged temporary (0.944 acre) and permanent impacts (0.001 acre) to wetlands and other waters due to the demolition of the existing bridge and installation of the new bridge. To limit the permanent and temporary impacts, Caltrans would implement AMMs and MMs during and following construction.<br><br>While the Build Alternative would result in impacts to wetlands and other waters, replacement of the bridge would result in reduction of permanent hard structure in the creek, allowing Arroyo de la Laguna to take on a more natural morphology and facilitating the development of linear in-stream wetlands along the banks. | AMM NATURAL COMMUNITIES-1. Revegetation Following Construction.<br>MM NATURAL COMMUNITIES-1. Upland Trees.<br>MM NATURAL COMMUNITIES-2. Riparian Trees. |
| **Plant Species** | No Impact. | No impact. No federally or state-listed species were observed in the project area. Seasonally timed special-status plant surveys would occur prior to construction of the Build Alternative. | None. |
| **Animal Species** | No Impact. | Several California special-status and California Department of Fish and Wildlife (CDFW) Special Animals List species have the potential to occur in the project area. These include bat species, migratory birds, San Francisco dusky-footed woodrat, and western pond turtle. Construction of the Build Alternative may result in temporary loss or disturbance of habitats to these species.<br><br>For bats, removal of the existing Arroyo de la Laguna Bridge would permanently remove known night roost sites for several species of bats, and | AMM BIO-1 to AMM BIO-8. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | tree removal that would occur during project construction would result in temporary and permanent effects to roosting bats. Implementation of AMMs, including provision of roosting habitat on the new bridge, would minimize these impacts to bats. Caltrans does not anticipate long-term impacts to bat species.<br><br>For migratory birds, the Build Alternative could result in temporary loss or disturbance of habitats that are used by the birds. This impact would be temporary in nature and limited to a relatively small area in relationship to the extensive nesting and foraging habitat adjacent to the project. No adverse impacts are expected.<br><br>For the San Francisco dusky-footed woodrat, middens—or nests—may occur in permanent impact areas. AMMs would address impacts to middens that may have to be removed or relocated.<br><br>For the western pond turtle, the Build Alternative would result in direct effects to the species from relocation efforts and habitat impacts during construction. Construction of the Build Alternative, though, would allow the stream to take on a more natural morphology and benefit the western pond turtle with improved habitat.<br><br>Project features and proposed AMMs would reduce adverse impacts to animal species in the area. | |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| **Threatened and Endangered Species** | No Impact. | Three federally and/or state-listed species (Alameda whipsnake, California red-legged frog, and Central California Coast Distinct Population Segment (DPS) steelhead) have a moderate to high potential to occur in the project area. Temporary, prolonged temporary, and permanent impacts could occur to these species from the construction of the Build Alternative.<br><br>Direct effects to individual whipsnakes may occur throughout the project area as a result of construction activities. Indirect effects may result from temporary habitat exclusion and degradation during periods of construction activities. All efforts to minimize direct effects would be made with the implementation of AMMs. The Build Alternative would also result in effects to land cover types used by Alameda whipsnake, including 3.149 acres of prolonged temporary impacts and 0.136 acre of permanent impacts.<br><br>Direct effects to individual frogs may occur throughout the project area as a result of construction activities. Indirect effects may result from temporary habitat exclusion and degradation during periods of construction activities. All efforts to minimize direct effects would be made with the implementation of AMMs and Caltrans BMPs. The Build Alternative would also result in effects to land cover types used by California red-legged frog, including 3.807 acres of prolonged temporary impacts and 0.137 acre of permanent impacts. | AMM BIO-9 to AMM BIO 17.<br>MM BIO-1. Compensatory Mitigation for California Red-legged Frog.<br>MM BIO-2. Compensatory Mitigation for Alameda Whipsnake. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | Direct effects to protected steelhead in the form of fish handling may occur during the creek dewatering process. Indirect effects may result from habitat exclusion. The Build Alternative would also result in 2.988 acres of prolonged temporary impacts and 0.137 acre of permanent impacts to steelhead habitat.<br><br>To further reduce impacts to Alameda whipsnake and California red-legged frog, Caltrans would provide compensation for impacts through on-site restoration of temporarily affected areas (at a 1:1 ratio) and off-site compensation for prolonged temporarily affected and permanently affected areas (at a 1.5:1 ratio and 3:1 ratio, respectively). To further reduce impacts to steelhead habitat, Caltrans proposes restoration of riparian woodland, forested wetland, and scrub-shrub wetland to offset permanent effects from the project. No compensatory mitigation is currently being proposed for the steelhead.<br><br>Pursuant to Section 7 of the federal Endangered Species Act, Caltrans has determined that the project *may affect and is likely to adversely affect* Alameda whipsnake, California red-legged frog, and Central California Coast steelhead. | |
| **Invasive Species** | No Impact. | During construction of the Build Alternative, there is potential for invasive species to be brought to the project area via equipment, material, and vehicles. AMMs would ensure all equipment and materials would be inspected for invasive species and cleaned, and that impacts of invasive species on the project area would be reduced. | AMM INVASIVE-1. Clean Construction Equipment.<br>AMM INVASIVE-2. Invasive Weed Removal.<br>AMM INVASIVE-3. Borrow Material. |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| **Greenhouse Gas Emissions** | No Impact. | The Build Alternative would result in greenhouse gas emissions during construction. However, the project would not increase the number of travel lanes on SR 84, and no increase in vehicle miles traveled would occur. The Build Alternative would result in a less than significant impact to greenhouse gas emissions. | None. |
| **Wildfire** | No Impact. | The project is about 0.15 mile south of a Very High fire hazard severity zone in a State Responsibility Area.<br><br>The Build Alternative does not propose changes to the use of the existing roadway and would not require or cause changes in the use of adjacent properties that would impact fire risks.<br><br>During construction of the Build Alternative, measures for minimizing fire risks would be incorporated, such as clearing vegetation and trees from the work area or prohibiting the use of highly flammable chemicals. Caltrans would also implement a TMP during construction to prevent impediment or disruption to evacuation routes during construction. | None. |
| **Cumulative Impacts** | No Impact. | Resources considered for contribution to cumulative effects include cultural resources and natural communities. Construction of the Build Alternative would affect an archaeology site, trees, and roosting bats in the project area. Caltrans would consult with the SHPO to develop a treatment and recovery plan for the archaeology site. In addition, Caltrans would mitigate impacted trees through appropriate tree replacement ratios and incorporate bat roosting habitat into the new | |

| Environmental Topic | No Build Alternative | Build Alternative | Avoidance, Minimization, and/or Mitigation Measures |
|---|---|---|---|
| | | bridge. The project would not result in a contribution to cumulative impacts on animals, cultural resources, or natural communities. | |

## Public and Agency Coordination

*Agency Coordination*

Table S-2, below, provides a summary of the environmental permits, authorizations, or agreements required for project construction.

**Table S-2. Required Permits and Approvals**

| Agency | Permit, Authorization, or Agreement | Status |
|---|---|---|
| U.S. Army Corps of Engineers | Section 404 Clean Water Act Permit | Caltrans will submit a Section 404 application following environmental document certification. |
| U.S. Fish and Wildlife Service (USFWS) | Section 7 Consultation under the Federal Endangered Species Act | Caltrans initiated consultation in fall 2020. A biological opinion is expected. |
| National Marine Fisheries Service (NMFS) | Section 7 Consultation under the Federal Endangered Species Act | Caltrans initiated consultation in fall 2020. A biological opinion is expected. |
| U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) | Farmland Impact Rating | Caltrans initiated consultation in summer 2021. Consultation to determine impacts is ongoing. |
| California Department of Fish and Wildlife Service | California Fish and Game Code 1602 Lake and Streambed Atleration Agreement and Incidental Take Permit for Alameda Whipsnake | Caltrans will submit 1602 Agreement and Incidental Take Permit applications following environmental document certification. |
| Native American Heritage Commission (NAHC) | Consultation | The NAHC was contacted in 2017, and letters initiating Section 106 and CEQA AB 52 consultation were sent to all parties listed in the NAHC response letter. Consultation is ongoing. |

| Agency | Permit, Authorization, or Agreement | Status |
|---|---|---|
| San Francisco Regional Water Quality Control Board | Section 401 Water Quality Certification under the Clean Water Act | Caltrans will submit a Section 401 application following environmental document certification. |
| State Historic Preservation Officer (SHPO) | Findings of Effect and Memorandum of Agreement (MOA) per Section 106 of the National Historic Preservation Act | Caltrans District 4's Office of Cultural Resource Studies (OCRS) initiated consultation with the SHPO on November 18, 2019 regarding the eligibility of the Sunol Water Temple for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). The SHPO concurred with the determination on December 17, 2019. Consultation with the SHPO on the Undertaking's finding of effects is ongoing. |

*Notice of Preparation and Scoping*

In compliance with CEQA, Caltrans filed the NOP with the State Clearinghouse on August 20, 2018, initiating the 30-day agency scoping period.

The NOP was distributed to the State Clearinghouse; elected officials; local, regional, and state agencies; and public stakeholders (Caltrans 2018). Caltrans included members of the public in the scoping process to identify potential interested parties and engage the community in project planning.

*Public Scoping Meeting*

A public scoping meeting for the proposed project was held on August 2, 2018 at the Sunol Glen Elementary School Cafeteria, 11601 Main Street, Sunol, CA. Caltrans announced the scoping meeting by publishing a public notice in *The Independent* on July 19, 2018. The meeting was held to provide information regarding the project and

allow members of the public to ask questions and provide comments on the proposed project.

Caltrans project personnel attended the meeting to address questions and concerns. Project personnel in attendance included the design engineer, project manager, environmental analysis staff, and specialists in biology and archeology. Meeting attendees were encouraged to approach the specialists with questions and for clarification of concerns. Comments in writing were encouraged for submittal because no court reporter was present at the meeting.

The meeting was conducted in an open house format with poster boards highlighting three different alternatives, existing conditions, and concerns about the project. A presentation was held for the half hour prior to the open house to inform the public of the proposed project features.

Following the meeting, Sunol Citizens Advisory Council sent Caltrans a letter requesting expansion of the project scope to include three additional replacement alternatives:

- A fourth alternative that would include safe pedestrian and bicycle access across the new bridge.
- A fifth alternative that would angle the eastern end of the bridge slightly north to Pleasanton Sunol Boulevard so that cars do not approach the intersection close to the Sunol Water Temple gates.
- A sixth alternative that would accommodate roundabouts at the intersections of both Main Street/SR 84 and Pleasanton Sunol Road/SR 84.

At the recommendation of the project development team, these three additional alternatives were added to the project scoping process. A combination of elements from the fourth and fifth alternatives was developed as the Build Alternative described in this document.

# Table of Contents

## List of Tables

## List of Figures

## List of Appendices

# Chapter 1 Proposed Project

## 1.1 Introduction

The existing Arroyo de la Laguna Bridge was constructed in 1939 and is approximately 310 feet long and 38 feet wide. The current bridge consists of two 11-foot-wide lanes with no shoulders, 5-foot-wide pedestrian sidewalks in each direction, original railings from 1939, and no bicycle accommodations outside of the travel lanes.

Caltrans proposes to replace the Arroyo de la Laguna Bridge (Bridge No. 33-0043) to address scour and seismic concerns and meet current design standards for safety. The proposed project would take place on State Route (SR) 84, locally signed as Niles Canyon Road (hereafter referred to as SR 84) at post mile (PM) 17.2 in the town of Sunol in unincorporated Alameda County (Figure 1.1-1).

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

This project is included in the Metropolitan Transportation Commission's (MTC) financially constrained 2021 Transportation Improvement Program (TIP; MTC 2021, TIP ID VAR170010) and is proposed for funding from the State Highway Operation and Protection Program (SHOPP; Bridge Scour Mitigation SHOPP 201.111). It is also included in the MTC's Year 2017 Regional Transportation Plan (RTP) Plan Bay Area (ABAG and MTC 2017, RTP ID 17-10-0025). TIP and RTP project listings are provided in Appendix I.

## 1.2 Purpose and Need

### 1.2.1 Purpose

SR 84 is a heavily used commuter route, with annual average daily traffic of 13,000 vehicles per day. The route is a two-lane conventional highway and is listed as eligible for designation as a State Scenic Highway between SR 238 and Interstate 680, which is a popular bicycle corridor.

The purpose of this project is to maintain reliable connectivity and provide an improved highway facility for the traveling public along SR 84 by replacing the existing bridge over

Arroyo de la Laguna. As described below, the project is needed to address several critical structural deficiencies associated with the existing bridge.

### 1.2.2 Need

The existing Arroyo de la Laguna Bridge is a two-lane bridge with no shoulders that features old bridge railings and an alignment that poses potential hazards to travelers. Structural inspections concluded that the bridge has exceeded its original 50-year design life.

Structural maintenance inspections completed in October 2013 identified scour at piers 4 and 5 of the bridge. Scour, a condition where bed and bank material from around the piers is washed away by stream flows, is undermining the footing at Pier 5. The bridge is currently classified as “scour critical,” which means it has pier foundations that are rated unstable due to scour. Additionally, in 2016, the Office of Earthquake Engineering Analysis and Research identified the bridge to be seismically vulnerable and a candidate for seismic retrofit.

The existing bridge railings, built in 1939, also do not offer the structural integrity of modern railings to meet current safety standards and need to be updated. Modern bridge railings are better able to redirect errant vehicles back onto the roadway in the event of a collision.

Furthermore, the alignment of the existing bridge and approach directs eastbound traffic into the path of the Sunol Water Temple entry gates on the south side of SR 84, a potential hazard to travelers on the roadway and the historic structure. The curvature, lane alignment, shoulders, slope of the bridge, and the western and eastern approaches no longer meet Caltrans design standards. Caltrans establishes and supports the consistent application of highway design standards to ensure optimal safety for the traveling public and for those who work to construct, operate, and maintain the State Highway System.

To address this purpose and need, one Build Alternative and a No Build Alternative are being considered.

## 1.3 Independent Utility and Logical Termini

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the project be evaluated for independent utility and logical termini. “Logical termini” for a project are defined as rational end points for transportation improvements. These rational end points help facilitate a thorough review of environmental effects. Having

"independent utility" means a project's improvements are usable and constitute a reasonable expenditure, even if no additional transportation improvements are made in the area.

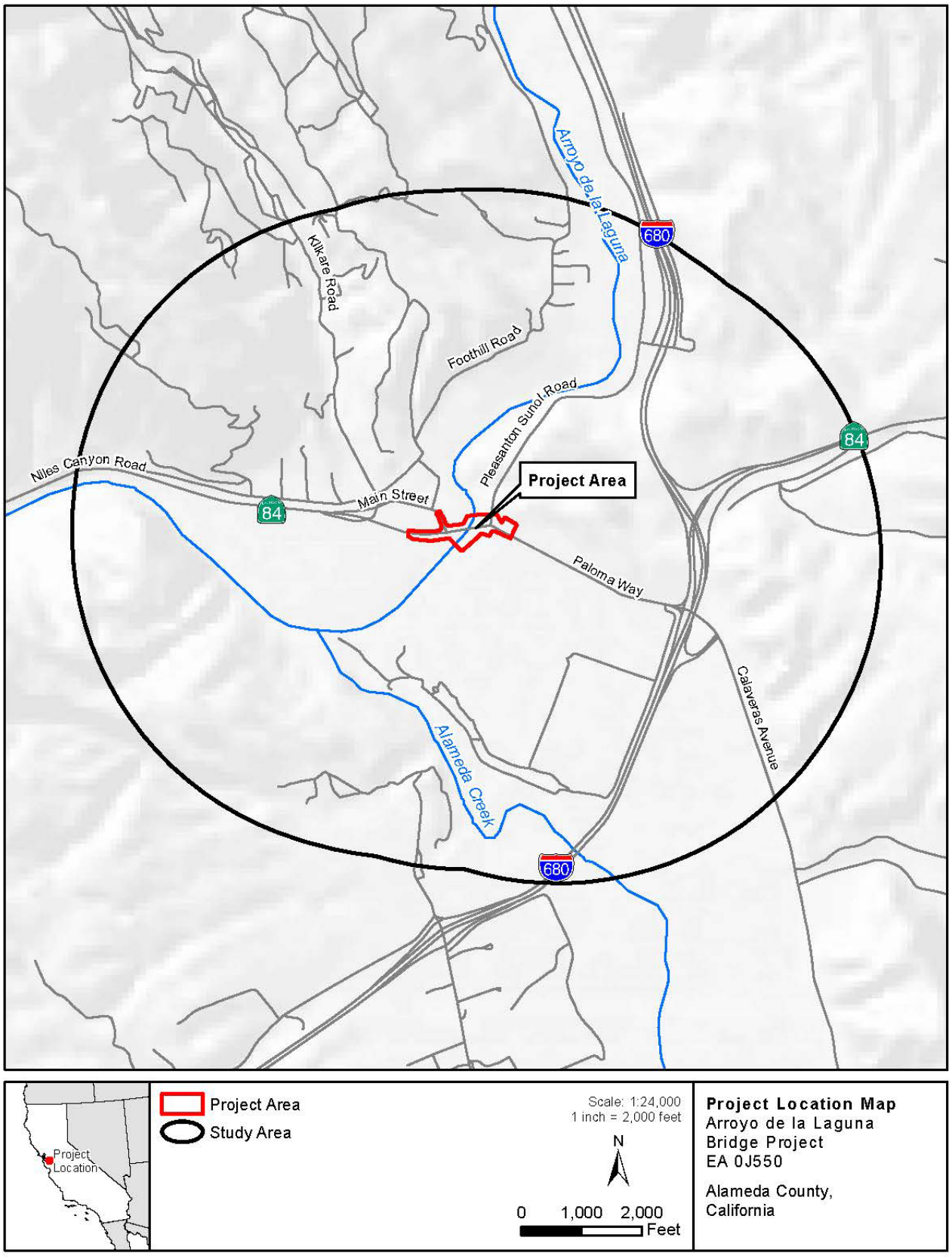
The Arroyo de la Laguna Bridge, identified as scour critical and seismically vulnerable, is considered "functionally obsolete." The proposed project would address the deficiencies identified in the structural maintenance inspections and seismic analysis of the existing bridge conducted in 2013 and 2016. The project also includes proposals for road shoulder and pedestrian sidewalk widening based on comments from the public during the scoping period. These additional proposed features have been included in the project description for analysis. The proposed project is considered a complete project, and it is not dependent on other operational improvements in the vicinity and provide benefits in the form of improved safety for the traveling public.

PMs 17.0 and 17.4 were selected as the logical termini for the project since these are the locations where the profile of the existing roadway matches the new bridge approaches. These project limits will serve as the area of environmental review for the project's environmental effects.

## 1.4 Project Description

The project proposes the replacement of the existing Arroyo de la Laguna bridge and associated roadway improvements on SR 84 and Paloma Way. The alternatives considered are the Build Alternative and the No Build Alternative. The Build Alternative would result in the construction of a replacement bridge and safety improvements, while the No Build Alternative would result in no project. The following sections describe the proposed project alternatives developed to meet the purpose and need of the project while avoiding or minimization the environmental impacts.

**Figure 1.1-1. Project Location**

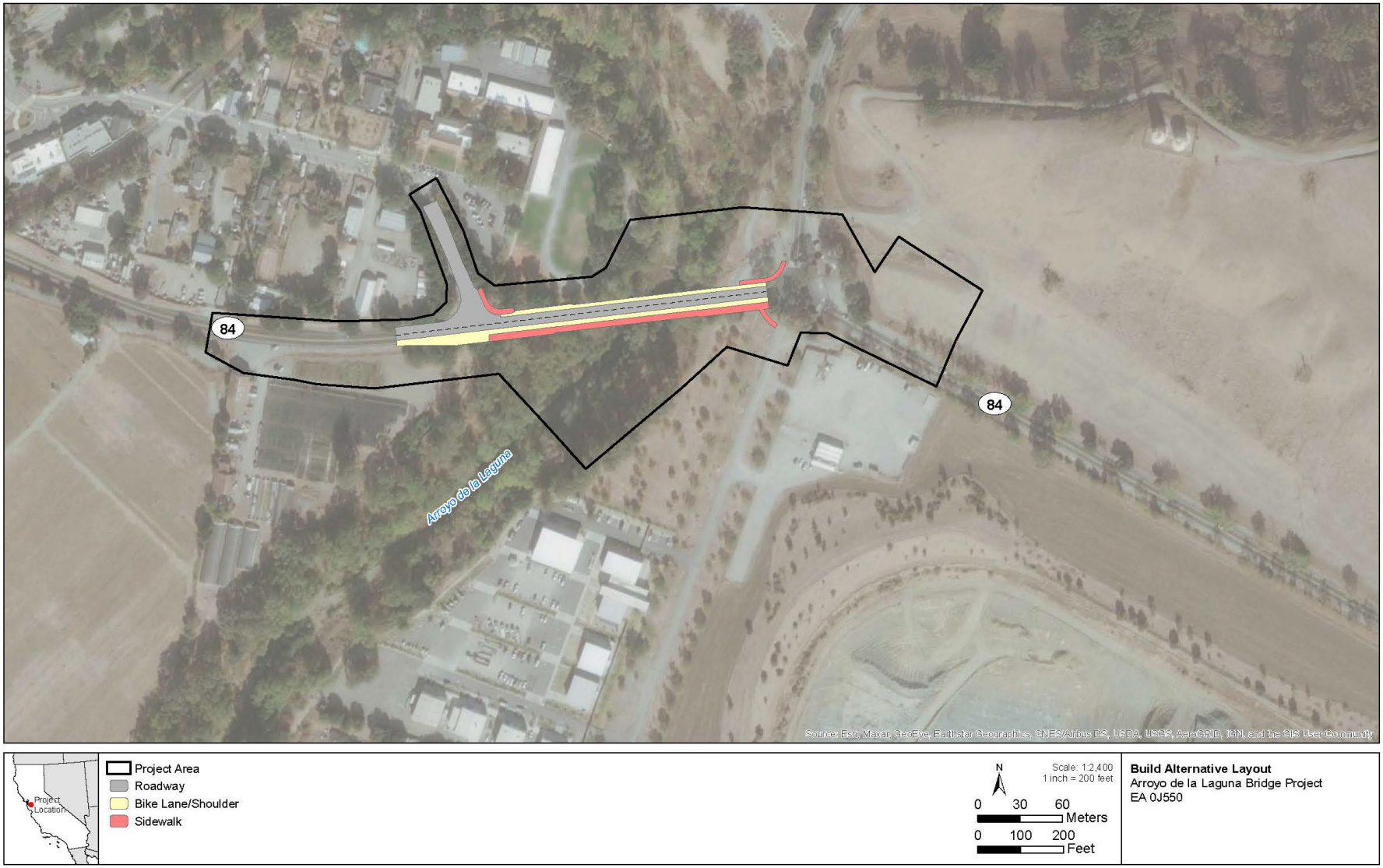


## 1.5 Build Alternative

The Build Alternative would replace the existing 38-foot-wide and 310-foot-long Arroyo de la Laguna Bridge with a new 64-foot-wide and 310-foot-long bridge consisting of two through lanes (Figure 1.5-2). The new bridge would either be flat (as the existing structure) and box-shaped, or it would contain an arch. The bridge profile would be raised approximately 1 to 3 feet to improve the existing non-standard stopping sight distance, or the necessary distance a driver needs in order to stop before colliding with an object in the roadway. At completion, the finished structure would provide two 12-foot-wide lanes, a 14-foot-wide shared east-west pedestrian path on the south side of the bridge, standard 42-inch-high barriers, 9-foot-wide shoulders to accommodate 6-foot-wide bicycle lanes, and a 2-foot-wide painted median rumble strip. The shared sidewalk would be protected from the roadway by concrete railing and include curb ramps that meet the standards of the Americans with Disabilities Act (ADA). Construction would take three seasons, with each season lasting a year, for a total of three years. Construction of the Build Alternative is currently estimated at $32,000,000.

Specific elements of the Build Alternative are described further below.

**Figure 1.5-1. Build Alternative Layout**



### 1.5.1 Temporary Creek Diversion

A temporary creek diversion would be constructed to dewater the work area within the creek bed during each of the annual construction seasons proposed for the Build Alternative. A dry working environment for the column and foundation concrete operations would prevent alkaline concrete materials from entering Arroyo de la Laguna. All work within suitable aquatic habitat for Central California Coast steelhead (*Oncorhynchus mykiss irideus*) and California red-legged frog (*Rana draytonii*) would occur between June 1 and October 15, when these species are less likely to be present in the project area and there is less potential for them to enter the work area.

The temporary creek diversion would involve the installation of two temporary dams—one upstream of the work area to prevent inflow, and one downstream to prevent backflow—and a diversion channel or pipe for diverting the flow in the creek. All equipment used for construction of the creek diversion would use the same access road needed to conduct work in the creek (See Section 1.5.8).

The means and methods of the temporary dam installation may include installation of temporary berms (plastic-wrapped gravel bags, aquadams, Super Sacks, or cofferdams) to create a dewatered work area and to control sediment dispersal within the creek.

Prior to placement of the temporary dam, sharp objects, boulders, and cobbles would be removed from the dam area to create a smooth streambed and prevent channels by which water can pass beneath the dam after it is built; these objects would be removed by hand or, if necessary, by a grapple located on either side of the creek. The water would flow by gravity through the construction site in a pipe or through a diversion channel. Following the implementation of the creek diversion, any ponded water located between the upstream berm and the downstream berm would be pumped out to create a dry working environment.

An additional area, 10 feet upstream from the base of the upstream dam to 10 feet downstream from the base of the downstream dam, is proposed for access to construct the temporary dams. Construction equipment and/or personnel may result in temporary impacts to this area.

During each stage of demolition of the existing Arroyo de la Laguna Bridge (see Section 1.5.5), the dewatered area underneath the portion of the bridge that is being demolished and extending approximately 10 feet from either edge of the bridge would be covered with a temporary ground cover to protect the creek. No temporary stockpiling of material

in the creek is proposed; if any material falls in the creek during demolition of the bridge, it would be removed daily.

Following each construction season, materials used for the creek diversion would be removed from the creek and the creek bed would be restored. Restoration of the creek bed after each season would include returning it to existing conditions to the extent practicable.

### 1.5.2 Bridge Foundations

The proposed three-span bridge would be supported by two abutment foundations and two piers consisting of six 36-inch-diameter piles. The piles would be installed via cast-in-drilled-hole (CIDH) method. The exact pile diameter would be determined during the design phase of the project. The western pier would be located outside the ordinary high water mark (OHWM). The eastern pier would be along the edge of the OHWM.

### 1.5.3 Retaining Wall

The proposed new bridge would require the construction of a retaining wall at the northwest corner of the bridge, in the immediate vicinity of Sunol Glen Elementary School. The retaining wall would avoid impacts to the school property. The wall would be about 120 feet in length, 10 feet in height at the abutment, and would taper down to 3 feet in height at the end of the wall near Main Street. The base of the wall would have a spread footing that would require excavation up to 3.5 feet below ground to construct. Formwork would be used to construct both the footing and the wall itself; wall materials would consist of steel rebar and Portland cement concrete. Color, texture, and/or patterning would be applied to the wall as aesthetic treatment.

The retaining wall would be constructed within the Caltrans right-of-way on the SR 84 roadway side, 8 feet away from the elementary school's right-of-way line. A chain-link fence and 8-foot-tall gawk screen would be placed on the SR 84 roadway at the elementary school's right-of-way line for the entire duration of construction. Construction of the retaining wall would be scheduled to occur only during the school's summer break. Construction and completion of the retaining wall would take three to five weeks. A special provision enforcing this timeline restriction would be added to the project contract. The retaining wall is expected to have aesthetic treatment.

### 1.5.4 Bridge Construction

Since the new bridge would be longer than the existing bridge, all excavation work for the new abutment foundations would be behind the existing abutments. The old

abutments would be removed before construction of the new abutments. The depth of excavation for new abutment foundations is expected to be 10 feet, and shoring support would be placed as needed.

A 30-foot-long cast-in-place cement concrete approach slab would be constructed on both ends of the bridge as a transition from the asphalt concrete roadway to the bridge. 100 cubic yards of cement concrete would be used for the construction of the approach slabs which would rest on an aggregate base.

Construction of the bridge deck would involve the placement of falsework within the Arroyo de la Laguna channel. Temporary falsework would be installed for support and to create a work area for the construction of each new section of bridge. To allow for adequate work space at each stage of construction, the falsework would be about 5 feet wider than the new bridge segment being constructed. Wooden falsework would be supported on temporary pads, approximately 16 feet wide by 40 feet long. The temporary pads would be constructed on the grade of the existing Arroyo de la Laguna channel. No pile-driving will be needed to install the falsework. Equipment used to create this pad would include cranes, loaders, man lifts, forklifts, dump trucks, hand tools, and a soil compactor. Falsework would be constructed using the same equipment necessary to build the temporary pads. After each construction season, falsework would be removed, and pads would be graded to match surrounding conditions.

With the implementation of the temporary creek diversion (see Section 1.5.1), a dry working environment is anticipated to set up the temporary falsework. Access to the creek bed for the construction of the temporary falsework would be via the construction access roads (see Section 1.5.8). All falsework installation and removal would be completed between June 1 and October 15.

### 1.5.5 Construction Staging and Traffic Management

*Construction Staging*

Demolition of the existing Arroyo de la Laguna Bridge and construction of the replacement bridge would occur in three stages. During the first stage of construction, the northern portion of the bridge would be demolished, leaving two 11-foot-wide lanes open to traffic. In this stage, the southern railing and sidewalk would also be removed and replaced with temporary K-rails. The existing concrete railings would most likely be jack-hammered and removed in smaller pieces. Construction of the new bridge would begin on the north side of the remaining bridge. Upon completion of the new north portion of the new bridge, westbound traffic would be shifted to the new bridge and

eastbound traffic would stay on the existing bridge. Shuttles would be provided on an on-call basis 24 hours a day, 7 days a week in lieu of sidewalks for pedestrian access during this stage of bridge construction, to take place June 1 to October 15.

In the second stage of construction, the southern portion of the new bridge would be constructed, and eastbound traffic would then be shifted to the remaining middle portion of the existing bridge. When the southern portion of the new bridge is completed, eastbound traffic would be shifted to this new portion of the bridge. Pedestrian access on the southern side of the bridge would be available during this stage of bridge construction.

In the third stage of construction, the middle segment of the existing bridge would be removed and then reconstructed, completing the new bridge. Pedestrian access on the northern side of the bridge would be available during this stage of bridge construction.

The specifics for each construction stage are shown below.

- Relocate utilities one year prior to start of construction
- **Stage 1**
    - Install construction area signs
    - Place temporary creek diversion
    - Construct access road in northeast corner of bridge
    - Install temporary traffic signals
    - Start clearing and grubbing
    - Place temporary railing (type K) on the existing bridge along the construction stage line and close bridge portion to be removed
    - Install temporary roadway paving and striping
    - Shift traffic to southern bridge portion that would not be removed
    - Construct access road in southeast corner of bridge
    - Implement Best Management Practices (BMPs) underneath the bridge
    - Saw-cut and remove the north side of the bridge deck
    - Remove northern portion of abutments, wing walls, and foundations
    - Construct the northern portion of the new bridge
    - Construct the retaining wall located near the elementary school right-of-way line
    - Install temporary roadway paving and striping
    - Shift westbound traffic to the northern portion of the new bridge
    - Remove temporary creek diversion

  - Place erosion control and temporary BMPs
  - Restore the area with the access road to preconstruction conditions
- **Stage 2**
  - Place temporary creek diversion
  - Start clearing and grubbing
  - Construct access roads in both northeast and southeast corners of the bridge
  - Place temporary railing (type K) on the existing bridge along the Stage 2 construction boundaries and close the roadway on the portion of the bridge to be removed
  - Install temporary roadway paving and striping
  - Shift eastbound traffic to the middle portion of the existing bridge
  - Remove southern portion of the existing bridge
  - Construct southern portion of new bridge
  - Install temporary roadway paving and striping
  - Shift eastbound traffic to the southern portion of the new bridge
  - Remove temporary creek diversion
  - Place erosion control and temporary BMPs
  - Restore areas with the access roads to preconstruction conditions
- **Stage 3**
  - Place temporary creek diversion
  - Construct access roads in both northeast and southeast corners of the bridge
  - Start clearing and grubbing
  - Remove middle portion of the existing bridge
  - Construct middle portion of the new bridge
  - Shift westbound traffic to the middle portion of the new bridge
  - Construct the shared sidewalk on the southern side of the new bridge
  - Remove temporary creek diversion
  - Place erosion control and temporary BMPs
  - Restore areas with the access roads to preconstruction conditions
  - Install Midwest guardrail system (MGS) or crash cushions
  - Repave the roadway to final grade and restripe to the final delineation
  - Remove lane closures and open the roadway to traffic
  - Complete implementation of permanent erosion control and site cleanup

*Traffic Management*

Two traffic lanes would always remain open during most periods of daytime construction. When needed, one-lane traffic control may be implemented during off-peak hours at night. Full nighttime closure of both the eastbound and westbound lanes of SR 84 would be needed for about 21 nights per construction stage. Operations requiring full lane closures include the following:

- Delivering and setting the CIDH pile rebar cages at the piers using a crane.
- Delivering and setting pier-column rebar and forms.
- Pouring concrete (CIDH piles and pier columns) with a pump.
- Delivering and setting the precast girders using large cranes.
- Delivering and setting the Bidwell deck finishing machine using a crane.
- Pouring deck concrete.

### 1.5.6 Roadway Widening

Limited roadway shoulder widening would be needed to conform to the new bridge north of the westbound travel way and south of the eastbound travel way. The existing east and west roadway approaches on SR 84 are about 25 feet wide. The SR 84 roadway shoulders would be widened to match the new wider shoulder on the bridge and would taper down to meet the existing shoulders approximately 400 feet west of the bridge, past Main Street, and approximately 200 feet east of the bridge. A 2-foot-wide portion of the asphalt concrete pavement at the existing edge of pavement would be removed completely and replaced with an aggregate base and a new asphalt concrete pavement to conform to the new bridge elevation. Removal and replacement of the pavement would require a maximum of 30-inch-deep excavations. Main Street would also be repaved 4 inches higher on its existing alignment from SR 84 to about 285 feet north to match the new raised profile of the bridge.

To construct the new pavement sections, the area to be widened would be cleared and grubbed, the original ground excavated (maximum depth of 30 inches) or filled as necessary with a bulldozer equipped with a scraper, and the area compacted with a compactor. The structural sections would then be built up by placing pavement structural subbase followed by asphalt concrete; each layer would be compacted after having been applied.

The profile of the existing bridge is at 0 percent slope and the roadway vertical curve immediately after the bridge on the eastern side has a nonstandard stopping sight distance. To improve these deficiencies the new bridge would be raised 1 to 3 feet

above the existing bridge profile and the roadway profile would also be raised to conform to the new bridge. All suitable excavated material would be used as fill. Any unused excavated materials would be disposed of properly at certified landfills.

### 1.5.7 Removal of Existing Arroyo de la Laguna Bridge

The Build Alternative would require removal of the existing Arroyo de La Laguna Bridge. Segments of the existing superstructure would be saw-cut into relatively large pieces and removed by a crane situated on SR 84 or an access road. The creek bed would be protected by placing timber mats on top of temporary railing (K-rail) placed along the edge of the creek bed under the existing bridge and extending 10 feet past the dripline of both sides of the bridge.

Following the complete removal of the existing bridge superstructure, construction personnel would access Arroyo de la Laguna and transport equipment using ramps from SR 84 down into the dry streambed to remove the abutments and columns. The abutments would be demolished from the top down to the foundation. The spread-footing foundations would be completely removed. Sheet piles would be driven to protect any roadway structure fallout that could result from demolishing the abutments. The piers and their foundations would be removed manually using hand-operated jackhammers. A backhoe or excavator with a fitted ram would be used to break up the abutments and piers. Then, a loader would be used to collect the debris to be hauled away by trucks. The steel portions of the piers and abutments would be reclaimed and recycled. All concrete debris would be recycled, and Caltrans would require contractors to utilize certified landfills for debris that cannot be recycled.

### 1.5.8 Staging Areas, Temporary Construction Easements (TCEs), and Environmentally Sensitive Areas (ESAs)

The Build Alternative would have one construction staging area northeast of the Pleasanton Sunol Road and SR 84 intersection and several temporary construction easements (TCEs) outside of Caltrans right-of-way. Preparation of the staging area and TCEs would include clearing and grubbing. Gravel would then be placed on top of a filter fabric on the unpaved portions of the staging area and TCEs. Heavy equipment, such as cranes, could enter the staging area and TCEs. The staging area and TCEs would be considered as temporarily impacted and would be restored to original conditions upon completion of construction.

Temporary access roads would be provided at two locations. The first access road would be at the northeast corner of the existing bridge. The second access road would be near the southeast corner of the bridge. The access roads would be paved with

gravel. These access roads would be used for utility relocation as well. Fill may be required to even out the slopes in sections of the access roads. Gravel and any additional fill would be removed from the creek bed after construction each year. During winter suspensions, appropriate erosion control measures would be implemented. Heavy equipment, trucks, the drill rig, and other construction equipment would use the temporary ramps while working in the creek area.

### 1.5.9 Midwest Guardrail System/Crash Cushions

All existing metal beam guard rails on both sides of the bridge would be removed and replaced with new MGS or crash cushions. The metal beam guard rails and their hardware would have a patina or similar treatment.

### 1.5.10 Utilities

The overhead electric and cable lines, underground gas line, underground fiber optic lines along the eastern side of the existing bridge and roadway, in addition to the water line crossing the eastern end of the bridge, would all be relocated within the project footprint one year prior to the start of construction. A total of about 205 feet of overhead lines would be relocated, along with three poles. The gas line to be relocated is 600 feet long; the water line to be relocated is 600 feet long; and the fiber optic line to be relocated is approximately 600 feet long.

Light equipment, such as backhoes, hand operated augers, and trenchers would be used for utility relocation. Utility relocation is not expected to require work in the creek.

### 1.5.11 Drainage

Drainage system improvements may be needed to support roadway widening, the new sidewalks, the new bridge, and permanent BMPs. New drainage systems could consist of ditches, drainage inlets, and culverts. The inlets would be precast cement concrete boxes approximately 4 feet wide, 6 feet long, and 6 feet in depth. The average depth of excavation to place a drainage culvert would be about 4 feet.

Light equipment, such as back hoes, hand operated augers, and trenchers, would be used for drainage system placement.

### 1.5.12 Revegetation

Within the project footprint, tree and vegetation removal would be minimized to the extent feasible. Trees and vegetation outside of clearing and grubbing limits would be protected from the contractor’s operations, equipment, and materials storage.

In areas of temporary construction impacts, appropriate replacement native vegetation would be planted in areas in Caltrans right-of-way where it would not affect roadway safety. Where appropriate, areas impacted by construction would be hydroseeded and/or replanted with native vegetation and trees. Specifications regarding vegetation and tree replacement would be provided during the design phase of the project (estimated to be completed in 2023).

### 1.5.13 Project Features

Project features are design elements and/or standard measures that are incorporated into a project and are intended to reduce environmental effects resulting from proposed project activities. The proposed project contains several standard measures which are employed on most, if not all, of Caltrans' projects and were not developed in response to any specific environmental impact resulting from the proposed project. These components are referenced as project features and are separated out from avoidance and minimization measures (AMMs) and mitigation measures (MMs), which directly relate to the impacts resulting from the proposed project.

The following discussion describes standard project features that would be implemented as part of the project to reduce or avoid potential impacts to the natural and human environments.

#### 1.5.13.1 FEATURE-1. TRAFFIC MANAGEMENT PLAN

During the final design phase, a Traffic Management Plan (TMP) will be prepared in accordance with Caltrans requirements and guidelines to minimize the construction-related delays and inconvenience for travelers, residents, and businesses within the project limits. The TMP will include details about the project's construction hours and address the potential traffic impacts as they relate to lane closures and other traffic handling concerns associated with construction of the project. The TMP will include:

- Distribution of press releases and other public outreach necessary to notify local jurisdictions, agencies, and the public of upcoming lane closures and expected delays;
- Coordination with California Highway Patrol (CHP) and local law enforcement on contingency plans;
- Use of portable changeable message signs and CHP Construction Zone Enhanced Enforcement Program where possible to minimize delays.

Access will be maintained for emergency response vehicles.

#### 1.5.13.2 FEATURE-2. CONSTRUCTION IMPACTS

Sunol Glen Elementary School and single-family residences are located immediately north and northwest, respectively, of the Build Alternative's construction site.

To preclude unauthorized entry, vandalism, and potential safety risks, contractors, as part of their routine construction procedures, will install temporary chain-link fences with gawk screening around all construction sites and laydown/mobilization areas. The contractor will also provide traffic controls during school hours, with the specifics to be developed with the local jurisdiction.

Finally, Caltrans will coordinate with the town of Sunol in the formulation of construction plans to minimize construction impacts on the neighborhood and elementary school. Specific measures to mitigate construction impacts include a public information program to alert residents and meeting with the Sunol Glen Unified School District to address concerns.

#### 1.5.13.3 FEATURE-3. CONSTRUCTION MITIGATION PLAN (CMP)

Caltrans will implement a CMP for the duration of construction of the Build Alternative. The CMP is intended to anticipate and reduce the potential impacts from construction activities and minimize impacts of construction activities to both Sunol Glen Elementary School and neighbors. Impacts that will be addressed in the CMP relate to construction, erosion control, air quality, noise, and traffic. Caltrans will meet with the school district early in the construction planning process to identify specific procedures for minimizing disruption of student activities.

A key component of the CMP is the implementation of regular communications with the community and the school district regarding concerns, process, and schedule. Caltrans will designate an individual to fill the position of "Construction Contact" to the local community to address comments regarding ongoing operations and schedule. Additionally, Caltrans will designate an individual to fill the position of "Community Liaison" to the local community.

#### 1.5.13.4 FEATURE-4. CONSTRUCTION NOISE

To limit noise during construction, Caltrans will follow Standard Specifications Section 14-8.02 (Caltrans 2018), which specifies that construction activities between 9 PM and 6 PM are not to exceed 86 dBA $L_{max}$ at a distance of 50 feet from the job site.

$L_{max}$, or Maximum Sound Level, is used to describe the highest sound level measured during a single noise event.

#### 1.5.13.5 FEATURE-5. AIR

The project's construction contract will include the 2018 Caltrans Standard Specifications 7-1.02C and 14-9.02. Caltrans Standard Specification 7-1.02C requires contractors to certify that they are aware of and will comply with all California Air Resources Board emissions reduction regulations. Caltrans Standard Specification 14-9.02 requires all work to be performed in accordance with air pollution control rules, regulations, ordinances, and statutes, including those provided in Government Code Section 11017 (California Public Contract Code Section 10231).

In addition, the following measures will be included in the construction contract to minimize construction impacts to nearby residences and businesses:

- Regular vehicle and equipment maintenance;
- BMPs to maintain engines and minimize idling of construction equipment to minimize tailpipe emissions; and
- Dust control measures, including use of water sprays or other non-toxic dust control methods on unpaved roadways, minimizing vehicle speed while traveling on unpaved surfaces, covering soil stockpiles when practical, and minimizing work during periods of high winds.

#### 1.5.13.6 FEATURE-6. HAZARDOUS MATERIALS

The long-term use of the existing roadway facility provides the opportunity for contaminated soils and groundwater to be encountered during project construction. During the final project design phase, a Preliminary Site Investigation will be performed in accordance with current Caltrans guidance to investigate hazardous materials concerns related to soil, groundwater, and building materials within the project limits and will include required measures for managing hazardous materials encountered during project construction. These measures will be incorporated in the final project design and would address the potential adverse effects to human health and the environment (if any) that could result from the disturbance of hazardous materials in order to protect human health and the environment.

Anticipated measures include the following as outlined in Caltrans Standard Specifications Section 13-4, Job Site Management and Section 14-11, Hazardous Waste and Contamination:

- Soils contaminated with aerially deposited lead (ADL) exceeding California hazardous waste thresholds will be reused in accordance with the Department of

Toxic Substances Control's 2016 Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils.

- Lead compliance plans for ADL-contaminated soils and pavement markings containing lead will be prepared in accordance with the Caltrans Standard Special Provisions and implemented by the project construction contractor(s) to ensure compliance with the California Occupational Safety and Health Administration (Cal/OSHA) worker safety regulations.
- A bridge survey would be conducted during the project design phase to assess the presence of asbestos-containing materials on the bridge structure, which would be removed according to regulatory requirements, if present.
- Groundwater from dewatering of excavations will be stored in Baker tanks during construction activities and characterized to determine the appropriate treatment requirements for discharge and disposal. The extracted groundwater shall be collected and managed for disposal/treatment in compliance with local and state regulations.
- All loose and peeling lead-based paint and asbestos-containing material shall be removed by a certified contractor(s) in accordance with local, state, and federal requirements. All other hazardous materials will be removed from structures in accordance with Cal/OSHA regulations.
- Asphalt concrete and Portland cement concrete grindings shall be reused in accordance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) guidance to protect water quality or transported off-site for recycling or disposal.
- Job site perimeter air monitoring will be required when the project work disturbs regulated lead-contaminated soils. Air monitoring program requirements will be defined in Standard Special Provision 14-11.08 (Regulated Material Containing Aerially Deposited Lead), Section 14-11.08F (Air Monitoring).

Before any excavation work begins, the contractor will be required to submit a plan for excavating, loading, and transporting contaminated soils, for review and acceptance by the state's resident engineer, as stated in Standard Special Provision 14-11.08, Regulated Material Containing Aerially Deposited Lead, subsection D(3).

#### 1.5.13.7 FEATURE-7. WATER QUALITY MEASURES

To avoid and minimize impacts to water quality during and after construction, Caltrans will implement the following measures:

- Water Diversion Structures. Cofferdam and water diversion will be designed to exclude construction activities from adversely impacting the water quality of Arroyo de la Laguna while maintaining flow through the project area. The contractor will be required to submit a Water Diversion Plan to appropriate regulatory agencies for approval prior to construction.
- Water Treatment BMPs. The potential for adverse effects to water quality will be avoided by implementing temporary and permanent BMPs outlined in Section 13.2 of the 2019 Caltrans Standard Specifications. Caltrans erosion control BMPs will be used to minimize any wind- or water-related erosion. The State Water Resources Control Board (SWRCB) has issued a National Pollution Discharge Elimination System Statewide Storm Water Permit to Caltrans to regulate storm water and non-storm water discharges from Caltrans facilities.
- Permanent Water Treatment BMPs. Caltrans will work with the RWQCB to determine potential areas for permanent treatment BMPs during the process for obtaining the Section 401 permit. Off-site locations/mitigation will be considered if there is not enough room for the required square footage of treatment BMPs on-site.
- Water Quality Inspection. Water quality inspector(s) will inspect the site after a rain event to ensure that the stormwater BMPs are adequate.
- Concrete Waste and Stockpiles. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.
- Stormwater Pollution Prevention Plan (SWPPP). A SWPPP will be prepared by the contractor and approved by Caltrans. A SWPPP is required for all projects that have at least one acre of soil disturbance. The SWPPP complies with the Caltrans Storm Water Management Plan (SWMP) and addresses potential temporary impacts via implementation of appropriate BMPs to protect water quality. These BMPs include covering exposed soil, installing temporary creek diversions, street sweeping, and use of drainage inlet protection, fiber rolls, silt fence, and concrete washouts. Disturbed soil areas would be stabilized by paving, rock slope protection, or erosion control.
- Erosion Prevention. Revegetation and erosion control netting will be incorporated into the project design in order to prevent and minimize permanent erosion of exposed soils after the project is constructed.
- Permits. Caltrans will include a copy of all relevant permits, including the RWQCB 401 Certification, within the construction bid package of the proposed

project. The Resident Engineer or their designee will be responsible for implementing the Conditions of the USACE 404 permit.

#### 1.5.13.8 FEATURE-8. CULTURAL RESOURCES

During project construction, if previously unidentified cultural resources are unearthed, all earth-moving activity within and around the immediate discovery area will be halted until a qualified archaeologist can assess the nature and significance of the find.

If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Office of Cultural Resource Studies (OCRS) will be called. Caltrans OCRS staff will assess the remains and, if determined human, will contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

#### 1.5.13.9 FEATURE-9. DESIGN STANDARDS

Caltrans establishes and supports the consistent application of highway design standards to ensure optimal safety for the traveling public and those who work to construct, operate, and maintain the State Highway System. Exceptions to these standards are considered when the proposed design deviates from the standard design features presented in the Caltrans Highway Design Manual.

Caltrans Project Development Procedures Manual Chapter 21 defines Boldface design standards as those who have the approval for design exceptions. Underlined design standards are important also but allow greater flexibility in application to accommodate design constraints or be compatible with local conditions on resurfacing or rehabilitation projects.

Within the project limits, the existing roadway contains nonstandard design elements that do not meet current design standards. The following roadway elements would be designed to current Caltrans standards:

- Width of roadway shoulders
- Curb ramps to be upgraded to current ADA standards
- Width of sidewalks
- Sight distance

- Stormwater runoff control and treatment

Exceptions from Boldface and underlined design standards would be considered based on engineering judgment to minimize adverse environmental impacts.

Caltrans design and construction guidelines also incorporate engineering standards to address seismic risk, including ground shaking and ground failure from liquefaction, landslides, and lateral spreading. Seismic design is informed by geotechnical and design investigations required during the next phase of project design.

### 1.5.13.10 FEATURE-10. BIOLOGY MEASURES

To minimize impacts to biological resources in the project area, the project will implement the following measures:

- Night Work. To the extent practicable, nighttime construction will be minimized.
- Night Lighting. Artificial lighting of the proposed construction area during nighttime hours will be minimized to the maximum extent practicable and will be pointed away from sensitive resources.
- Trash Control. 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 a day from the work area.
- Pets. To prevent harassment, injury, or mortality of sensitive species, no pets will be permitted on the construction area.

### 1.5.13.11 FEATURE-11. VISUAL MEASURES

To mitigate visual impacts, the project will implement the following measures after construction:

- Highway Replacement Planting**.** Replace removed trees at a minimum 1:1 replacement ratio where feasible. Some native and habitat trees will require a 3:1 or higher ratio. The replacement planting, with a minimum three-year plant establishment period, will be funded through the parent roadway contract to be implemented as a separate contract within two years after the roadway contract acceptance. Mitigation planting will have five years of plant establishment followed by five years of monitoring.
- Revegetation Planting. All patches of disturbed soil will be reseeded using native grasses and forbs.

## 1.6 No Build Alternative

Under the No Build Alternative, no scour remediation or safety improvements would be made to the Arroyo de la Laguna Bridge. Structural, safety, and operational deficiencies would persist along SR 84 in the project area.

## 1.7 Comparison of Alternatives

After the public circulation period, all comments will be considered, and Caltrans will select a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, Caltrans will certify that the project complies with CEQA, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. Caltrans will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, if mitigation measures were included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted. Similarly, if Caltrans, as assigned by the FHWA, determines the NEPA action does not significantly impact the environment, Caltrans will issue a Finding of No Significant Impact (FONSI). If it is determined that the project is likely to have a significant effect on the environment, an Environmental Impact Statement (EIS) will be prepared.

## 1.8 Alternatives Considered but Eliminated from Further Discussion

An interdisciplinary team developed the alternatives that were under consideration during the preliminary stages of the project to achieve the project purpose while avoiding or minimizing environmental impacts. Several criteria were taken into consideration when evaluating the various alternatives for the project, including the project's purpose and need, cost, design, construction strategies, environmental impacts, and comments received from the Sunol Citizens Advisory Council dated September 24, 2018.

### Alternative 1: Bridge Rehabilitation

The bridge rehabilitation alternative would rehabilitate the existing Arroyo de la Laguna Bridge by mitigating the scour, replacing the bridge rails, widening the sidewalks, and seismically retrofitting the bridge. This alternative was rejected because a bridge replacement alternative represented the best engineering and cost-effective alternative when the age of the existing bridge was considered.

Unlike a bridge replacement, this alternative would not offer further improvements on SR 84, such as the inclusion of bike lanes and expansion of sidewalks. Furthermore, scour remediation would require installation of rock riprap and the addition of concrete to reinforce the existing bridge piers. Federal and state permitting agencies opposed the inclusion of these additional structural and human-made elements in the creek.

**Alternative 2: 52-foot-wide Bridge Replacement**

A 52-foot-wide bridge replacement alternative consisting of single lanes in each direction was analyzed and rejected due to potential effects to properties adjacent to the project, impacts to resources protected under Section 106 and Section 4(f), and non-standard design elements.

The completed bridge in this alternative would have 12-foot-wide lanes, 6.25-foot-wide sidewalks on each side of the bridge, 42-inch-high barriers, and 5-foot-wide shoulders with Class III shared bicycle lanes. To accommodate the new bridge profile, the SR 84 roadway would be widened at the bridge approaches to match the new bridge width, then gradually conform to the existing roadway at about 750 feet west and 175 feet east of the bridge.

The shoulder widths on the new bridge would be of non-standard width and would make accommodating bicycle lanes difficult.

Additionally, construction of the new roadway would require partial acquisition of an agricultural parcel and removal and relocation of the Sunol Water Temple gates. The Sunol Water Temple is a Section 106 and Section 4(f) resource, and relocation of the Water Temple gates would result in an adverse effect to and Section 4(f) use of the resource. The left side of the bridge face and retaining walls would also be 11 inches away from the existing chain-link fence at Sunol Glen Elementary School, requiring a right-of-way acquisition of the recreational field at the elementary school, which qualifies for protection under Section 4(f).

**Alternative 3: 64-foot-wide Bridge Replacement**

A 64-foot-wide bridge replacement consisting of single lanes in each direction was analyzed and rejected due to non-standard design elements. The completed bridge in this alternative would have two 12-foot-wide lanes, 8.75-foot-wide shoulders, and 8.25-foot-wide sidewalks on each side of the bridge. This facility would have the same bridge alignment as the existing bridge, which directs westbound traffic into the path of the existing Sunol Water Temple gates before shifting immediately to the left away from the gates using a non-standard curve alignment. Both federal and state highway design

policies have established that correcting irregular alignments, especially abrupt kinks in alignment, improves the overall safety of a highway facility.

**Alternative 4: 71-foot-wide Bridge Replacement with Left-turn Lane**
A 71-foot-wide bridge replacement consisting of two through lanes and one left turn lane from eastbound SR 84 to Pleasanton Sunol Road was analyzed and rejected due to potential impacts to properties adjacent to the project and impacts to resources protected under Section 106 and Section 4(f). The completed bridge in this alternatie would have two 12-foot-wide lanes, one 12-foot-wide center turn lane, 6.25-foot-wide sidewalks on each side of the bridge, 42-inch-high barriers, and 9.25-foot-wide shoulders with Class III shared bicycle lanes. To accommodate the new bridge profile, the SR 84 roadway would be widened at the bridge approaches to match the new bridge width, then gradually conform to the existing roadway at about 750 feet west and 175 feet east of the bridge.

It was determined that the larger width and roadway improvements would require either relocation of the existing Sunol Water Temple gates, a Section 106 and Section 4(f) resource, or a right-of-way acquisition from Sunol Glen Elementary School that would affect recreational resources that qualify for protection under Section 4(f).

**Alternative 5: 62.5-foot-wide Bridge Replacement with Left-turn Lane**
A 62.5-foot-wide bridge replacement consisting of two through lanes and one left turn lane from eastbound SR 84 to Pleasanton Sunol Road was analyzed and rejected due to potential impacts to properties adjacent to the project and impacts to resources protected under Section 106 and Section 4(f). The completed bridge in this alternative would have two 12-foot-wide lanes, one 12-foot-wide center turn lane, 5-foot-wide outside shoulders, and 6.25-foot-wide sidewalks on each side of the bridge. The left side of the bridge face would be 11 inches from the existing chain-link fence at Sunol Elementary School.

This alternative would require a right-of-way acquisition from Sunol Glen Elementary School that would affect recreational resources that qualify for protection under Section 4(f). In addition, it was determined that the roadway improvements would require relocation of the existing Sunol Water Temple gates, a Section 106 and Section 4(f) resource.

**Alternative 6: 52-foot-wide Bridge Replacement with Roundabouts**
A 52-foot-wide bridge replacement alternative including roundabouts at the SR 84 and Main Street and Pleasanton Sunol Road intersections was analyzed and rejected due to

potential effects to properties adjacent to the project and impacts to resources protected under Section 106 and Section 4(f). This alternative included two options, both of which would remove the traffic signal improvements and replace them with a roundabout at each intersection.

The first option looked at a roundabout design at the SR 84/Pleasanton Sunol Drive intersection where the Sunol Water Temple would be at the perimeter of the roundabout. This alternative option would require shifting the SR 84 alignment 55 to 60 feet to the south of the existing alignment between the intersections of Main Street and Pleasanton Sunol Road. Shifting the alignment would allow for a one-lane road around the roundabout that would be wide enough to support trucks. With the shift in alignment, the new roadway would require partial acquisition of an agricultural parcel and removal and relocation of the Sunol Water Temple gates. This alternative option was rejected because relocation of the Water Temple gates would result in an adverse effect to this Section 106 and Section 4(f) resource. Additionally, construction of the new bridge and roadway in this alternative would impact the recreational resources at Sunol Glen Elementary School, which also qualifies for protection under Section 4(f). The option was further rejected based on the findings of a Caltrans Traffic Operations Analysis report. This report determined that a one-lane roundabout would not be able to maintain the current levels of traffic volume on this section of SR 84.

The second option looked at a design where the roundabout at the SR 84/Pleasanton Sunol Drive intersection would be positioned toward the northwest corner in order to avoid conflict with the Sunol Water Temple gates. This alternative option was also rejected based on the findings of the Caltrans Traffic Operations Analysis report that stated that a one-lane roundabout would not be able to maintain the current levels of traffic volume on this section of SR 84. This alternative option was also rejected because it would require removal of Sunol Corners Littler Market’s outside benches.

## 1.9 Permits and Approvals Needed

Table 1.9-1, below, summarizes the permits, agreements, and approvals required for project construction.

**Table 1.9-1. Required Permits and Approvals**

| Agency | Permit, Authorization, or Agreement | Status |
|---|---|---|
| U.S. Army Corps of Engineers (USACE) | Section 404 Clean Water Act Permit | Caltrans will submit a Section 404 application following environmental document certification. |
| U.S. Fish and Wildlife Service (USFWS) | Section 7 Consultation under the federal Endangered Species Act | Caltrans initiated consultation in fall 2020. A Biological Opinion (BO) is expected. |
| National Marine Fisheries Service (NMFS) | Section 7 Consultation under the federal Endangered Species Act | Caltrans initiated consultation in fall 2020. A BO is expected. |
| U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS) | Farmland Impact Rating | Caltrans initiated consultation in summer 2021. Consultation to determine impacts is ongoing. |
| California Department of Fish and Wildlife (CDFW) | California Fish and Game Code 1602 Lake and Streambed Atleration Agreement and Incidental Take Permit for Alameda Whipsnake | Caltrans will submit 1602 Agreement and Incidental Take Permit applications following environmental document certification. |
| Native American Heritage Commission (NAHC) | Consultation | The NAHC was contacted in 2017, and letters initiating Section 106 and CEQA AB 52 consultation were sent to all parties listed in the NAHC response letter. Consultation is ongoing. |

| Agency | Permit, Authorization, or Agreement | Status |
|---|---|---|
| San Francisco Regional Water Quality Control Board | Section 401 Water Quality Certification under the Clean Water Act | Caltrans will submit a Section 401 application following environmental document certification. |
| State Historic Preservation Officer (SHPO) | Findings of Effect and Memorandum of Agreement (MOA) per Section 106 of the National Historic Preservation Act | Caltrans District 4's Office of Cultural Resource Studies (OCRS) initiated consultation with the SHPO on November 18, 2019 regarding the eligibility of the Sunol Water Temple for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR). The SHPO concurred with the determination on December 17, 2019. Consultation with the SHPO on the Undertaking's finding of effects is ongoing. |

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

This section discusses the resources and communities that were assessed for potential impacts from the Build Alternative. Each section in this chapter will cover one of the following areas of potential impact: the regulatory setting governing that subject in discussion; the environmental consequences of the Build Alternative; and the proposed avoidance and minimization and/or mitigation measures for potential impacts. A summary of the avoidance and minimization and/or mitigation measures can be found in Appendix C: Avoidance, Minimization and/or Mitigation Summary.

## 2.1 Topics Considered but Determined Not to be Relevant

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

### 2.1.1 Coastal Zone

There will be no effects to coastal resources because the project is not located within the coastal zone.

### 2.1.2 Wild and Scenic Rivers

There are no state designated Wild and Scenic Rivers located in the project area.

### 2.1.3 Timberlands

No timberlands exist in or adjacent to the project area.

### 2.1.4 Growth

The project is a highway safety improvement project that would not alter or increase the capacity of SR 84. The proposed Build Alternative would maintain the existing two-lane capacity of SR 84 and would have no impacts to growth, population, or housing in the area. The project would not create additional land availability, change existing land use in the project area, or provide new access to previously undeveloped land.

The project is not expected to encourage more people or employers to move to Sunol or surrounding areas in unincorporated Alameda County. The project would maintain existing access and has no potential to influence growth.

### 2.1.5 Environmental Justice

An analysis of the local racial and economic profile of this region of Alameda County was completed using U.S. Census Bureau data provided from the 2015-2019 American Community Survey (ACS). No minority or low-income populations that would be adversely affected by the proposed project have been identified. Therefore, this project is not subject to the provisions of Executive Order (EO) 12898.

### 2.1.6 Geology/Paleontology

Caltrans conducted analysis for native geologic and soil conditions as well as paleontologic resources in the proposed project area. This analysis determined there are no sensitive geologic, paleontologic, or mineral resources within the proposed project area.

Caltrans' design and construction guidelines incorporate engineering standards that address seismic risks. Project elements would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the final project design and engineering phase. These standards and requirements would avoid the potential for adverse impacts to the public from earthquakes, landslides, liquefication, or other geologic hazards.

### 2.1.7 Air Quality

The project would not change the existing or future capacity of SR 84 within the project limits and would therefore not affect long-term air quality. Construction activities would not last more than five years at any individual site. Therefore, construction-related emission increases would be temporary.

The project was submitted to the Air Quality Conformity Task Force on April 22, 2021 for interagency consultation, and it was determined on May 10, 2021 that the project is exempt from project-level air quality conformity determination under 40 CFR 93.126, Table 2 as a project that is limited to "widening narrow pavements or reconstructing bridges (no additional travel lanes)."

The following sections of this chapter (Sections 2.2 through 2.4) analyze topics determined to be relevant to the project.

## 2.2 Human Environment

### 2.2.1 Existing and Future Land Use

This section describes the existing and future regional land use in the immediate project area and surrounding vicinity. Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

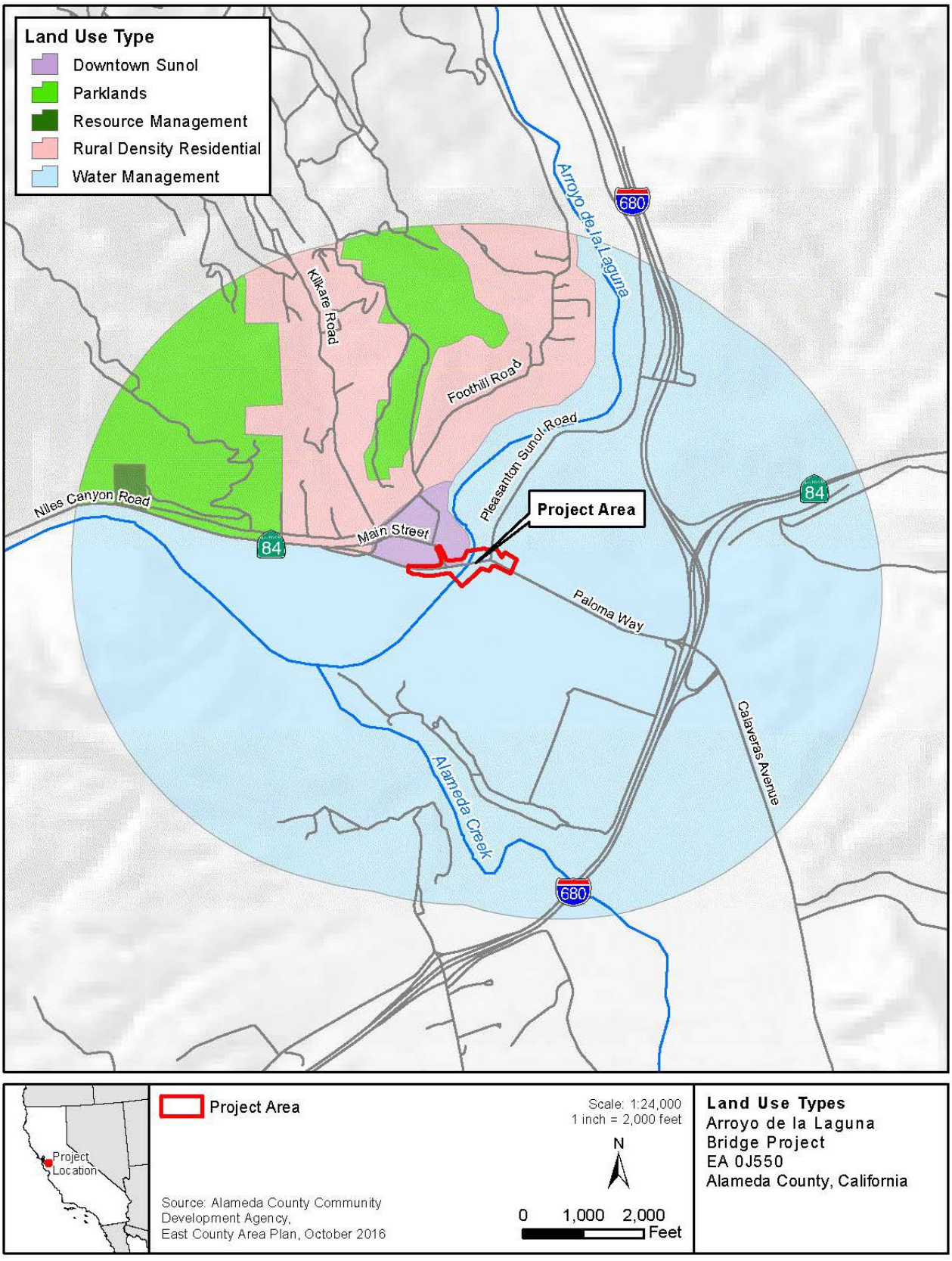
#### 2.2.1.1 AFFECTED ENVIRONMENT

The project is located within the town of Sunol in unincorporated Alameda County. Existing land use types in the project area and surrounding the project, shown in Figure 2.2.1-1, include Water Management, Downtown Sunol, Rural Density Residential, Parklands, and Resource Management (Alameda County Community Development Agency 2016). Parcels surrounding the project are zoned for agricultural uses to the west, east, and south; single-family residences to the northwest; and downtown Sunol to the immediate north (Alameda County Municipal Code 2020).

Alameda County has policies to support employment and housing development while preserving agricultural and open space. Such policies include an urban growth boundary that restricts where and what type of development can occur in the future. The urban growth boundary is described in the East County Area Plan (Alameda County Community Development Agency 2002).

The town of Sunol is outside of the urban growth boundary set in the East County Area Plan, which strictly limits growth in unincorporated areas of the County that do not fall within the general plan boundaries of Dublin, Livermore, Pleasanton, and a portion of Hayward. Other than downtown Sunol, the majority of lands outside of the urban growth boundary in the Sunol area are designated for water management, resource management, and large parcel agriculture. For unincorporated areas, the plan provides for an increase of only 170 housing units between 1990 and plan buildout, and no increase in jobs (Alameda County Community Development Agency 2002). Therefore, the land use trend in Sunol is maintenance of agriculture and open space and other low-density uses outside of the urban growth boundary.

**Figure 2.2.1-1. Land Uses**



### 2.2.1.2 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The proposed Build Alternative would replace the existing bridge and repave the existing roadway. The land uses in the project area are Water Management and Downtown. These land uses are designated by the East County Area Plan, described in more detail in Section 2.2.2. The Build Alternative would not substantially widen or add vehicle capacity to the Arroyo de la Laguna Bridge or roadway approaches and is not anticipated to cause changes to the land uses of any properties that are within the project area or its surroundings.

Potential property acquisitions for construction the Build Alternative are described in Section 2.2.6. No full parcels would be permanently or temporarily acquired, and the partial acquisitions would not affect the existing land uses of the rest of the properties. Therefore, construction of the Build Alternative would not result in major changes to the land use or zoning of any parcels in the project area.

The Build Alternative would not provide access to new parcels, although access to some parcels along SR 84 may be altered. Property access changes for the Build Alternative are further discussed in Section 2.2.6.

*No Build Alternative*

The project's No Build Alternative would not impact existing land uses or access to parcels in the project area.

### 2.2.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project would not impact existing or future land uses. No avoidance, minimization, and/or mitigation measures are proposed.

### 2.2.2 Consistency with State, Regional, and Local Plans and Programs

#### 2.2.2.1 AFFECTED ENVIRONMENT

This section identifies existing regional, local, and area plans and policies that apply to the project area. Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

Future growth and development in the project area are guided by land use policies and programs set forth in numerous planning documents, as described in the following sections. In addition, several other location or element-specific plans are considered important planning tools and are briefly summarized below.

Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) Plan Bay Area 2040

MTC and ABAG's *Plan Bay Area 2040,* adopted in 2017, is an update of the 2013 *Plan Bay Area*, a long-range integrated transportation and land-use/housing strategy through 2040 for the San Francisco Bay Area (MTC and ABAG 2017). The Plan, which serves as a regional growth plan and Sustainable Communities Strategy, proposes a strategy and supporting transportation investment to guide future growth patterns in a sustainable and equitable manner. Plan objectives related to the project and project area include fostering healthy and safe communities, preserving open space and agriculture, and supporting transportation system effectiveness.

Alameda County Transportation Commission (ACTC) Countywide Transportation Plan

The 2020 update to the Countywide Transportation Plan (2020 CTP) specifies strategic priorities, programs, and transportation improvement projects to be undertaken by the ACTC in the coming 30 years (ACTC 2020). The goals of the 2020 CTP have been designed to be consistent with those outlined by the MTC and ABAG in the *Plan Bay Area*. The 2020 CTP focuses on four goals for a multimodal transportation system:

- Accessible, Affordable, and Equitable: Improve and expand connected multimodal choices that are available for people of all abilities, affordable to all income levels, and equitable.
- Safe, Healthy, and Sustainable: Create safe multimodal facilities to walk, bike, and access public transportation to promote healthy outcomes and support strategies that reduce reliance on single-occupant vehicles and minimize impacts of pollutants and greenhouse gas emissions.

- High Quality and Modern Infrastructure: Deliver a transportation system that is of a high quality, well-maintained, resilient, and maximizes the benefits of new technologies for the public.
- Economic Vitality: Support the growth of Alameda County's economy and vibrant local communities through a transportation system that is safe, reliable, and efficient, cost-effective, high-capacity and integrated with sustainable transit-oriented development facilitating multimodal local, regional, and interregional travel.

Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas

In the 2019 Alameda County Bicycle and Pedestrian Master Plan for the Unincorporated Area (BPMP), the Alameda County Public Works Agency (ACPWA) builds on the previous 2012 plan to examine existing conditions, review existing plans, and provide a needs assessment to improve bicycle and pedestrian infrastructure in the unincorporated areas of Alameda County (ACPWA 2019). Areas covered in the plan include San Lorenzo, Ashland, Cherryland, Castro Valley, and Sunol, and the plan proposes bikeways in the project area in Sunol.

The framework for improving the BPMP's bicycle and pedestrian network focuses on six goals:

- Goal 1- Connectivity: Develop and maintain a connected and continuous bicycle and pedestrian network.
- Goal 2- Access: Provide access for all users.
- Goal 3- Safety: Improve safety for all modes of transportation.
- Goal 4- Comfort: Consider the whole walking and biking experience through the provision of support facilities.
- Goal 5- Awareness: Build community awareness of walking and biking as an alternative to driving; and an understanding of the safety responsibilities of all users.
- Goal 6- Supportive land uses: Ensure that land uses support and promote walking and bicycling.

Alameda County General Plan

The Alameda County General Plan (General Plan) is a statement of community priorities and values to be used to guide public decision making in future years and is a compilation of goals, objectives, policies, and actions designed to manage change within the County. The General Plan is designed to work in concert with Alameda

County's more detailed Area Plans, such as the *East County Area Plan*, described below. The goals of the General Plan are implemented through decisions and actions consistent with the objectives, policies, and actions of each of the Plan Elements. Countywide elements of the General Plan that apply to the study area and project include conservation and safety elements.

East County Area Plan

The East County Area Plan (adopted in 1994; most recently updated in 2002) covers eastern Alameda County, including unincorporated territory of the town of Sunol (Alameda County Community Development Agency 2002).

East County Area Plan goals applicable to the project include the following:

- Policy 13: The County shall not provide nor authorize public facilities other than infrastructure in excess of that needed to permissible development consistent with the Initiative. This policy shall not bar 1) new, expanded or replacement infrastructure necessary to create adequate service for the East County, 2) maintenance, repair or improvement of public facilities which do not increase capacity, and 3) infrastructure such as pipelines, canals, and power transmission lines which have no excessive growth-inducing effect of the East County area and have permit conditions to ensure that no service can be provided beyond that consistent with the development allowed by the Initiative. "Infrastructure" shall include the public facilities, community facilities, and all structures and development necessary to the provision of public services and utilities.
- Policy 176: The County shall allow development and expansion of transportation facilities (e.g., streets, highways, public transit, bicycle and pedestrian paths, airports, etc.) in appropriate locations inside and outside of the urban growth boundary consistent with the policies and Land Use Diagrams of the *East County Area Plan*.

Alameda County Measure D

In November 2000, Alameda County voters approved the Save Agriculture and Open Space Lands Initiative (Measure D; effective December 22, 2000). Measure D enacted several changes to the Alameda County East County Area Plan that included revising the urban growth boundary in the East County to reserve less land for urban growth and more land for agriculture and open space, requiring new housing to be located primarily within existing cities, modifying land use restrictions applicable to rural areas, and requiring a county-wide vote on changes to these policies.

In addition to changes to the urban growth boundary, Measure D stipulates the following:

> The County is prohibited from providing or authorizing expansion of public facilities or other infrastructure that would create more capacity than needed to meet the development allowed by the Initiative. The Initiative does not prohibit public facilities or other infrastructure that have no excessive growth inducing effect on the East County area and have permit conditions to ensure that no service can be provided beyond that consistent with development allowed by the Initiative.

East Alameda County Conservation Strategy

The East Alameda County Conservation Strategy was developed to provide a blueprint for regional conservation and mitigation for biological species in East Alameda County and to streamline the environmental permitting process (East Alameda Conservation Strategy 2009). No Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs) are in effect in the project area.

Goals and objectives of the conservation strategy related to the project are as follows:

- Preserve major local and regional connections between key habitat areas and among existing protected areas.
- Restore natural communities that have been degraded or lost over time where possible.

California Scenic Highway Program

The California Scenic Highway Program was established in 1963 to protect and enhance California's natural scenic beauty by requiring special conservation treatment to scenic corridors identified adjacent to portions of the State Highway System. Scenic corridors are defined as land, comprised primarily of scenic and natural features, that is visible from, adjacent to, and outside of the highway right-of-way. The project is located within an identified Scenic Highway.

#### 2.2.2.2 ENVIRONMENTAL CONSEQUENCES

Impacts would occur if proposed project effects would either conflict with General Plan land use designations or zoning, or with applicable environmental plans and policies.

Table 2.2.2-1 summarizes the consistency of the proposed Build Alternative and No Build Alternative with applicable state, regional, and local plans and policies.

The Build Alternative would be consistent with applicable regional and local plans, and would not enable unplanned development to take place or stimulate unforeseen development.

**Table 2.2.2-1. Consistency with State, Regional, and Local Plans and Programs**

| **Plan or Policy**<br>- Goals/Objectives | **Build Alternative** | **No Build Alternative** |
|---|---|---|
| **MTC Plan Bay Area 2040** | | |
| - Healthy and Safe Communities | Consistent. Replacing the bridge would increase safety to the traveling public by increasing the bridge's lifespan. In addition, the Build Alternative would widen shoulders to allow for safer vehicle pullover and a bike lane, and provide a wider, protected ADA-compliant sidewalk to increase pedestrian travel space. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge, update railings to redirect errant vehicles to the roadway, increase shoulder size to provide room for safer vehicle pullover and bike lanes, or widen sidewalks for increased pedestrian travel space, thus reducing safety for the traveling public. |
| - Open Space and Agricultural Preservation | Consistent. Replacement of the bridge would not change land use in the project area and would not impact existing open space. | Consistent. The No Build Alternative would not change land use in the project area and would not impact existing open space. |
| - Transportation System Effectiveness | Consistent. Replacement of the bridge would increase its service life, contributing to an effective transportation system. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge, diminishing the service life of the bridge. |
| **ACTC Countywide Transportation Plan** | | |
| - Accessible, Affordable, and Equitable | Consistent. The Build Alternative would provide a wider, protected ADA-compliant sidewalk and a bike path, expanding multimodal choices in the project area. | Generally consistent. The No Build Alternative would not change the existing pedestrian access on the bridge. However, it would not update shoulders to accommodate bike lanes and safe bike access to |

| **Plan or Policy**<br>- Goals/Objectives | **Build Alternative** | **No Build Alternative** |
|---|---|---|
| | | improve multimodal choices in the project area. |
| - Safe, Healthy, and Sustainable | Consistent. The Build Alternative would increase bridge safety, provide a wider, protected ADA-compliant sidewalk, and create a bike lane to support a safe, healthy, and sustainable transportation system. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge and would not result in changes necessary to support a safe, healthy, and sustainable transportation system. |
| - High Quality and Modern Infrastructure | Consistent. Replacement of the bridge would support a well-maintained, resilient transportation system. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge and would not support high quality infrastructure. |
| - Economic Vitality | Consistent. The Build Alternative would increase bridge safety, provide a wider, protected ADA-compliant sidewalk, and create a bike lane to facilitate local multimodal travel, which would support the project area's economic vitality. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge, reducing the service life of the bridge, and would not improve sidewalks or install bike lanes to facilitate local multimodal travel. Thus, this alternative would not contribute to the project area's economic vitality. |
| **Alameda County Bicycle and Pedestrian Master Plan for Unincorporated Areas** | | |
| - Goal 1: Connectivity | Consistent. The Build Alternative would provide a wider, protected ADA-compliant sidewalk and create a bike lane, contributing to bike and pedestrian connectivity in the project area. | Not consistent. The No Build Alternative would not create new bike lanes and would not support a continuous bike and pedestrian network. |

| **Plan or Policy**<br>- Goals/Objectives | **Build Alternative** | **No Build Alternative** |
|---|---|---|
| - Goal 2: Access | Consistent. The Build Alternative would provide a wider, protected ADA-compliant sidewalk and create a bike lane, providing multimodal access. | Not consistent. The No Build Alternative would not increase sidewalk width or create new bike lanes and would not support multimodal access. |
| - Goal 3: Safety | Consistent. The Build Alternative would support safety of all modes of transportation through the installation of a new seismically sound bridge, provision of a wider, protected ADA-compliant sidewalk, and installation of a bike lane. | Not consistent. The No Build Alternative would not address scour damage on the existing bridge and would not widen sidewalks or install bike lanes to support safety of all modes of transportation. |
| - Goal 4: Comfort | Consistent. The Build Alternative would consider the whole walking and biking experience by providing a wider, protected ADA-compliant sidewalk and creating a new bike lane. | Not consistent. The No Build Alternative would not increase sidewalk width or create new bike lanes and would not consider the whole walking and biking experience. |
| - Goal 5: Awareness | Consistent. The Build Alternative would provide a wider, protected ADA-compliant sidewalk and install a bike lane, promoting walking and biking and lending to a community awareness of alternatives to driving. | Not consistent. The No Build Alternative would not widen sidewalks or provide bike lanes and would not promote alternatives to driving that could build community awareness of walking and biking as alternatives to driving. |
| - Goal 6: Supportive Land Uses | Consistent. The Build Alternative would provide a wider, protected ADA-compliant sidewalk and install a bike lane to improve and promote walking and biking. | Not consistent. The No Build Alternative would not support or promote walking and biking. |
| **Alameda County General Plan** | Generally consistent. The Build Alternative would not conflict with plan objectives | Not consistent. The No Build Alternative would not support the safety element |

| **Plan or Policy**<br>- Goals/Objectives | **Build Alternative** | **No Build Alternative** |
|---|---|---|
| | and would support the safety element through installation of a seismically stable new bridge. | since it would not address scour and seismic stability on the existing bridge. |
| **East County Area Plan** | | |
| - Policy 13: The County shall not provide nor authorize public facilities other than infrastructure in excess of that needed to permissible development consistent with the Initiative | Consistent. The Build Alternative would replace infrastructure as necessary to create adequate service for the East County Area. | Not consistent. The No Build Alternative would not allow for repair or replacement of infrastructure as necessary to create adequate service for the East County Area. |
| - Policy 176: The County shall allow development and expansion of transportation facilities | Consistent. The Build Alternative would improve transportation facilities in the general footprint of the existing bridge. No transportation facilities would be expanded in a way that would change the project area's current land use as defined by the East Area County Plan. | Not consistent. The No Build Alternative would not improve transportation facilities and would not change the project area's current land use as defined by the East Area County Plan. |
| **Alameda County Measure D** | Consistent. The Build Alternative would not directly or indirectly intensify development outside of city urban growth boundaries beyond that already planned in the East County Area Plan, as revised based on Measure D. | Consistent. The No Build Alternative would not directly or indirectly intensify development outside of city urban growth boundaries beyond that already planned in the East County Area Plan, as revised based on Measure D. |
| **East Alameda County Conservation Strategy** | | |
| - Preserve major local and regional | Consistent. The Build Alternative has been | Consistent. The No Build Alternative would not |

| **Plan or Policy**<br>- Goals/Objectives | **Build Alternative** | **No Build Alternative** |
|---|---|---|
| connections between key habitat areas and among existing protected areas | designed to preserve and minimize impacts to the project areas that would be considered connections to key habitat and protected areas. | conflict with the intent of the East Alameda County Conservation Strategy. |
| - Restore natural communities that have been degraded or lost over time where possible | Consistent. With the Build Alternative, after project construction, all natural communities impacted by construction would be restored to original conditions. | Consistent. The No Build Alternative would not conflict with the intent of the East Alameda County Conservation Strategy. |
| **California Scenic Highway Program** | | |
| - Protect and enhance scenic corridors adjacent to the State highway system | Consistent. With the Build Alternative, all impacted areas considered to be within the scenic corridor adjacent to SR 84 would be restored. | Consistent. The No Build Alternative would not impact scenic corridors adjacent to SR 84. |

#### 2.2.2.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project would be consistent with state, regional, and local plans. No avoidance, minimization, and/or mitigation measures are proposed.

## 2.2.3 Parks and Recreational Facilities

### 2.2.3.1 REGULATORY SETTING

The Park Preservation Act (California PRC Sections 5400-5409) prohibits local and state agencies from acquiring any property which is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

### 2.2.3.2 AFFECTED ENVIRONMENT

Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

A total of one regional park and two recreational facilities are within 0.25 mile of the project (Figure 2.2.3-1): Pleasanton Ridge Regional Park, Sunol Glen Elementary School recreational field, and Sunol Water Temple. These facilities are further described below.

The East Bay Regional Park District's (EBRPD's) Pleasanton Ridge Regional Park sits 0.12 mile north of the project area. The park is accessible via Foothill Road, west of the project area. Within this park and starting at the Foothill Road park entrance is Thermalito Trail, a multi-purpose trail system that accommodates hikers, equestrians, and bicyclists (EBRPD 2018). This park is protected under both the Park Preservation Act and Section 4(f).

East of Pleasanton Ridge Regional Park and within the north side of the project area is Sunol Glen Elementary School. This public school provides a field for recreational activities to the general public when the school is out of session. The recreational field is a Section 4(f) resource. The field is not considered a park protected under the Park Preservation Act.

The second recreational facility, the Sunol Water Temple, is in the immediate project area. The Sunol Water Temple is a San Francisco Public Utility Commission (SFPUC)

property, open to the public. The temple was constructed by the Spring Valley Water Company in 1910 to mark the converging waters of Alameda Creek, Arroyo de la Laguna, and the Pleasanton Wells flowing into the Sunol Valley (SFPUC 2018a). The Sunol Water Temple property also features the Sunol AgPark, an urban-edge agricultural center, and will feature a new recreational resource—the Alameda Creek Watershed Center with an outdoor discovery trail. The Center, currently under construction, will provide information about the watershed, its natural resources and role in the water supply system, and the history of the Sunol Valley (SFPUC 2018b). The Sunol Water Temple is a Section 4(f) resource.

Pleasanton Ridge Regional Park, the Sunol Glen Elementary School recreational field, and Sunol Water Temple are protected by the Park Preservation Act of 1971 (California PRC Sections 5400-5409), as well as Section 4(f) of the Department of Transportation Act of 1966 (49 USC 303), both of which protect park land from being converted to non-park land.

#### 2.2.3.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Proposed construction activities on SR 84 for the Build Alternative would occur primarily along SR 84 between the Main Street and Pleasanton Sunol Road intersections.

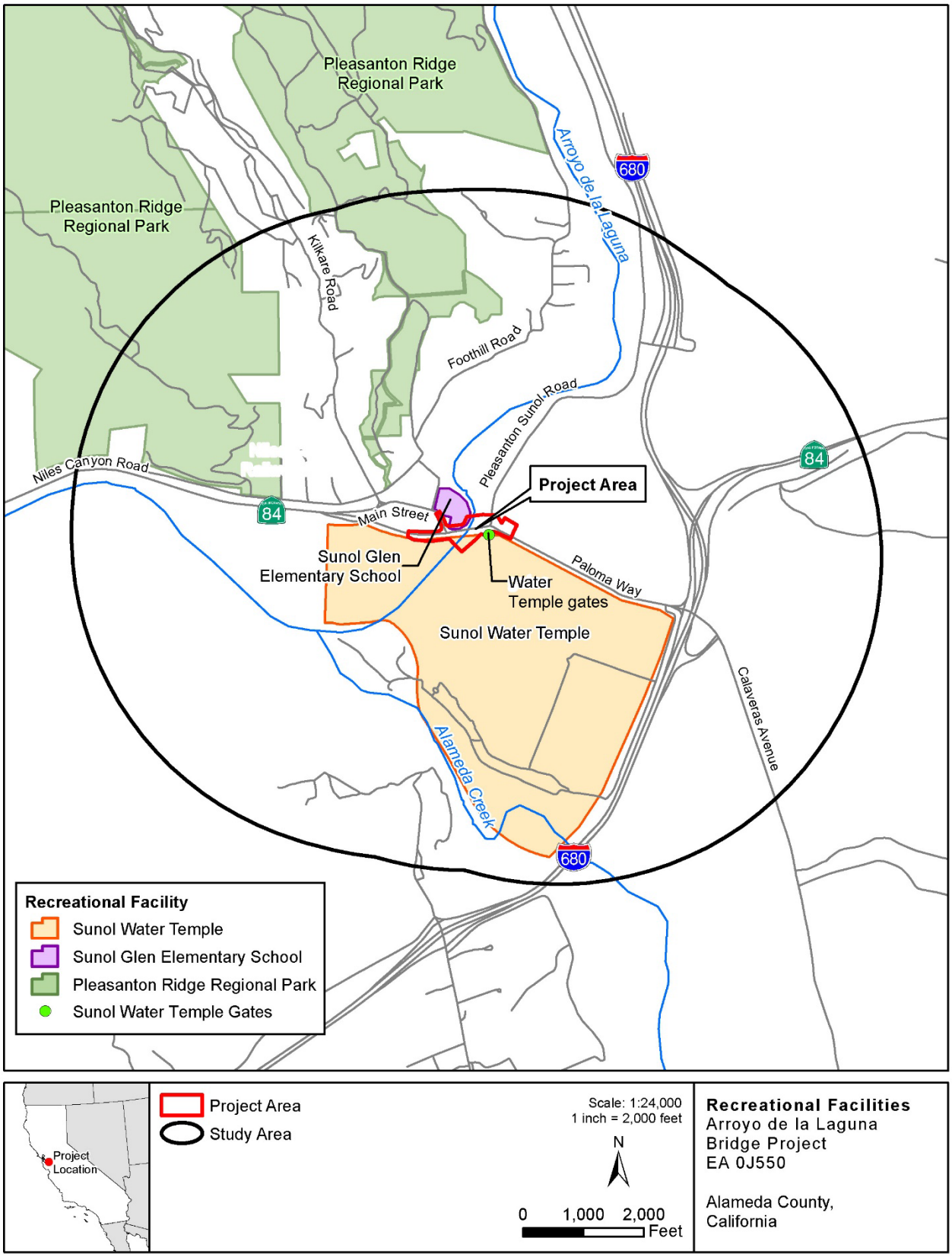
The Build Alternative would not result in temporary or permanent impacts to Pleasanton Ridge Regional Park or Thermalito Trail; access to the park and trail is from Foothill Road, outside of the project area, and would not be affected. For the Build Alternative, during construction, Depot and Park visitors could experience temporary construction-related noise effects but would not experience any loss of access or use of these recreational facilities. Depot and Park visitors would not experience any visual effects during construction due to distance of these recreational sites from proposed construction areas as well as visual shielding from trees and hills.

The Sunol Glen Elementary School recreational field and Sunol Water Temple, two sites within the project area, would be indirectly and directly affected by construction of the Build Alternative.

The Build Alternative would result in temporary construction-related noise effects to Sunol Glen Elementary School and Sunol Water Temple. The project would avoid and/or minimize potential noise impacts to these resources through implementation of

Caltrans Standard Specification Section 14-8.02 (see Section 1.5.13.4) and AMM NOISE-1 (see Section 2.3.4.4).

**Figure 2.2.3-1. Parks and Recreational Facilities**



The Build Alternative would also result in temporary construction-related visual effects to the Sunol Glen Elementary School recreational field. To limit visual impacts to the school and to ensure safety, a chain-link fence and 8-foot gawk screen would be placed on the SR 84 roadway at the elementary school's right-of-way line for the entire duration of construction. To limit both visual and noise impacts, construction of the retaining wall would be scheduled to occur only during the school's summer break.

Additionally, staging of equipment during construction of the Build Alternative would temporarily impact access to the Sunol Water Temple, whose entry gates are located immediately east of the project footprint. Implementation of a TMP (see Section 1.5.13.1) would minimize the potential for short-term construction impacts. Caltrans would coordinate with the SFPUC prior to construction to ensure alternate access to the Sunol Water Temple.

In addition to temporary construction impacts, due to the proposed SR 84 roadway improvements and widening, the Build Alternative would result in a permanent partial property acquisition of an SFPUC agricultural parcel adjacent to SR 84. This permanent partial property acquisition would not affect use of the property for recreation.

The Sunol Water Temple and Sunol Glen Elementary School recreational field are both also recreational facilities that are protected by Section 4(f) of the Department of Transportation Act of 1966. A Section 4(f) analysis was prepared for both facilities (see Appendix A). Results of that analysis are described below.

Permanent or temporary acquisition of property from the Sunol Glen School would not be required during construction or operation of the Build Alternative. Therefore, direct use of the recreational facilities at the school would not occur. The Build Alternative would result in "no use" of the Sunol Glen Elementary School recreational field, as defined by Section 4(f).

For the Sunol Water Temple, the preliminary finding under Section 106 is that construction and operation of the Build Alternative would result in no adverse effects on the activities, features, and attributes of the Sunol Water Temple and associated structures that are subject to protection under Section 4(f). The Build Alternative would result in a *de minimis* impact to the Sunol Water Temple, as defined by Section 4(f).

Under CFR 774.5(B), prior to making a final *de minimis* impact determination, written concurrence must be received from the SHPO. Caltrans is continuing to consult with the SHPO and other stakeholders regarding the Finding of Effect and to develop avoidance,

minimization, and mitigation measures for impacted historic properties, pursuant to Stipulation XI of the 2014 Section 106 PA and 36 CFR Part 800.6.

*No Build Alternative*

The No Build Alternative would not impact the three recreational and one park facility in the project area.

#### 2.2.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Project features listed below would reduce adverse impacts to parks and recreational facilities. AMM NOISE-1 (see Section 2.3.4.4) would also include noise control measures to further reduce impacts. No additional avoidance, minimization, and/or mitigation measures are proposed.

**FEATURE-1.** Traffic Management Plan. During the duration of project construction, a TMP will be implemented to minimize the construction-related delays and inconvenience for travelers, residents, and businesses within the project limits.

**FEATURE-3.** Construction Mitigation Plan. During the duration of project construction, a CMP will be implemented to minimize construction activity impacts to both Sunol Glen Elementary School and neighbors.

**FEATURE-4.** Construction Noise. To limit noise during construction, Caltrans will follow Standard Specifications Section 14-8.02 (Caltrans 2018), which specifies that construction activities between 9 PM and 6 AM are not to exceed 86 dBA $L_{max}$ at a distance of 50 feet from the job site.

### 2.2.4 Farmlands

#### 2.2.4.1 REGULATORY SETTING

NEPA and the Farmland Protection Policy Act (FPPA, 7 USC 4201-4209; and its regulations, 7 Code of CFR Part 658) require federal agencies, such as the FHWA, to coordinate with the Natural Resources Conservation Service (NRCS) if their activities may irreversibly convert farmland (directly or indirectly) to nonagricultural use. For purposes of the FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance.

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

#### 2.2.4.2 AFFECTED ENVIRONMENT

Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

There are three organizations/agencies that monitor farmlands in and around the project area: the California Department of Conservation, Division of Land Resource Protection; Alameda County, which administers Williamson Act contracts; and the Tri-Valley Conservancy.

Farmland is classified and mapped by the California Department of Conservation, Division of Land Resource Protection for the purposes of tracking farmland development throughout the state. The Farmland Mapping and Monitoring Program (FMMP) classifies farmland according to five types:

- Prime Farmland: Land with the best combination of physical and chemical features for long-term agricultural production.
- Farmland of Statewide Importance: Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture.
- Unique Farmland: Farmland of lesser quality soils used for the production of the state's leading agricultural crops.

- Farmland of Local Importance: Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- Grazing Land: Land on which the existing vegetation is suitable for livestock grazing or browsing (California Department of Conservation 2019; Caltrans 2020).

The primary agricultural use in and adjacent to the project area is Prime Farmland southeast of the SR 84/Main Street intersection and south of the SR 84/Pleasanton Sunol Road intersection and Grazing Land both to the north and south of SR 84 (Figure 2.2.4-1). No Williamson Act parcels are within the project area.

### 2.2.4.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The Build Alternative would require the permanent partial property acquisition of 0.11 acre of Prime Farmland and 0.52 acre of Grazing Land to accommodate the widened bridge and roadway shoulder widening. In addition, the Build Alternative would temporarily impact 0.149 acre of Prime Farmland and 3.051 acres of Grazing Land during project construction. The Build Alternative would not convert Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance.

The partial property acquisition would be along the frontage of a parcel currently operated by the SFPUC.

Caltrans initiated consultation with the U.S. Department of Agriculture, NRCS in June 2021 to determine the project's impacts to farmland. Consultation is ongoing, and more information is provided in Section 4.2.7. Temporary and permanent acquisition of Prime Farmland and Grazing Land are not anticipated to significantly affect farmlands.

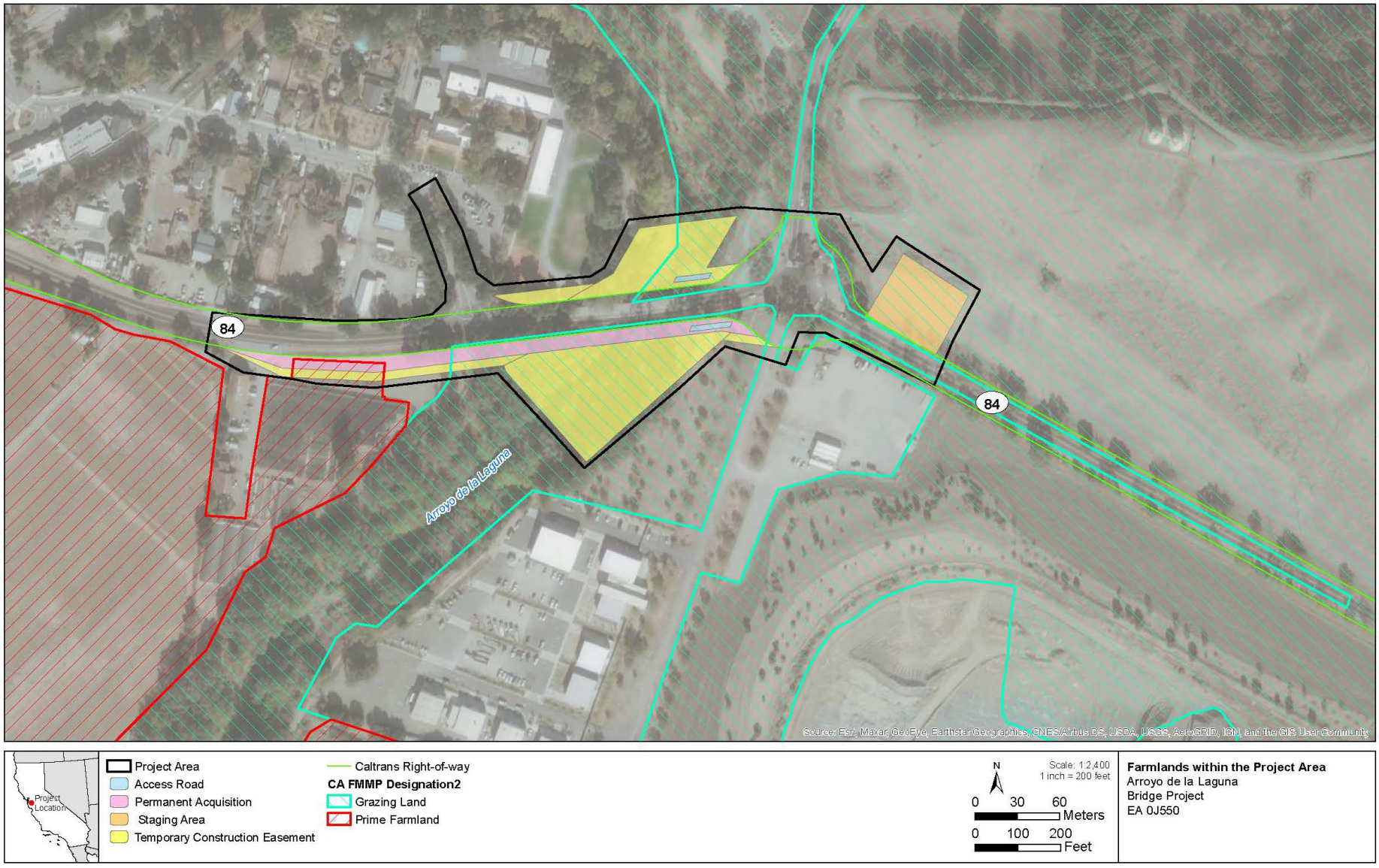
*No Build Alternative*

The No Build Alternative would have no impact to farmlands.

### 2.2.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project would not significantly impact farmlands. No avoidance, minimization, and/or mitigation measures are proposed.

**Figure 2.2.4-1. Farmlands within the Project Area**




***** Farmland polygons have been amended based on 7/1/2021 communications with the NRCS (see Section 4.2.6).

### 2.2.5 Community Character and Cohesion

#### 2.2.5.1 REGULATORY SETTING

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

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

#### 2.2.5.2 AFFECTED ENVIRONMENT

Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

The town of Sunol, which surrounds and incorporates the project area, has an older, relatively ethnically homogenous population. Of the residents, 87 percent identify as White, 11 percent as Asian, 7 percent as Hispanic, and 0.5 percent as Black. With regard to age, 60.5 percent of the Sunol population is 45 years and older (U.S. Census Bureau ACS 2019).

Sunol also possesses relatively high incomes, with a median household income of $129,231. Only 9.7 percent of Sunol is recorded as below the poverty level (which was $26,200 for a family of four in 2020 [U.S. Department of Health and Human Services 2020]).

Land uses in the project area are described in Section 2.2.1. Immediately within the project area is Sunol Glen Elementary School, Sunol Corners Little Market, and the Sunol Water Temple, a property that includes Sunol AgPark, an urban-edge agricultural center, and recreational facilities (discussed more in Section 2.2.3). The project area

also includes downtown Sunol, which features small stores and restaurants along Main Street and Kilkare Road.

Low-density residences are to the north and northwest of the project and have access to the project area via Main Street. Little Brown Church of Sunol, an interfaith church that regularly holds services, is also located north of the project on Kilkare Road.

Housing data can be an indicator of community cohesion. In Sunol, 78.5 percent of residents are homeowners while 21.5 percent are renters, suggesting a higher degree of community cohesion since homeowners often live in their community longer. A high percentage of residents in Sunol, 67 percent, also moved into their homes prior to 2000 (U.S. Census Bureau ACS 2015-2019).

#### 2.2.5.3 ENVIRONMENTAL CONSEQUENCES

The project is a highway safety improvement project that would not alter or increase the capacity of SR 84. The project Build and No Build alternatives would not change existing community boundaries or physically divide an established community. Neither project alternative would influence growth patterns. Construction of the Build Alternative would temporarily impact access to properties adjacent to the project area and permanently alter the pedestrian pathways in the project area.

*Build Alternative*

The Build Alternative is not expected to encourage more people or employers to move to Sunol or the surrounding unincorporated Alameda County areas. The Build Alternative would not create additional land availability or affect population or demographic characteristics in the project area or at a regional level.

Residents and businesses could experience temporary access impacts from construction closures and detours during construction of the Build Alternative. Full nighttime roadway closures of SR 84 are anticipated for the Build Alternative. Detours would be made available to ensure access to and from surrounding properties. SR 84 would always remain open during daytime construction, and automobiles and bicyclists would be able to use a shared roadway. Pedestrian access would also be affected during construction of the Build Alternative. During the first stage of construction, the Build Alternative would temporarily close the sidewalk to pedestrians for approximately five months, from June 1 to October 15. During this time, pedestrian access across the bridge would be provided through a 24-hour shuttle. In addition, pedestrian access

would be closed on the bridge during the scheduled nighttime closures. Implementation of a TMP would minimize the potential for short-term construction impacts.

After construction of the Build Alternative, pedestrian access across the bridge would only be available on the southern side of the bridge. The southern shared sidewalk would include a concrete railing barrier to protect pedestrians from vehicles. In addition, new sidewalks continuing off the bridge would be available on the eastern side of the Main Street/SR 84 intersection and on the Sunol Pleasanton Road/SR 84 intersection (Figure 1.5-1).

*No Build Alternative*

The No Build Alternative would not impact community character and cohesion in the project area.

#### 2.2.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of **FEATURE-1.** Traffic Management Plan (see Section 1.5.13.1) would reduce impacts to community character and cohesion. No avoidance, minimization, and/or mitigation measures are proposed.

## 2.2.6 Relocations and Real Property Acquisition

### 2.2.6.1 REGULATORY SETTING

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

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

### 2.2.6.2 AFFECTED ENVIRONMENT

Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

The project is located on SR 84 on Caltrans right-of-way. Properties immediately adjacent to the project include Sunol Glen Elementary School, Sunol Corners Little Market, and SFPUC-owned agricultural parcels, which includes the Sunol Water Temple.

### 2.2.6.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Based on the preliminary design, the Build Alternative would affect the private and public properties listed in Table 2.2.6-1. The land required for construction of the Build Alternative consists of areas immediately adjacent to SR 84. Permanent property acquisition for the Build Alternative includes a portion of a SFPUC agricultural parcel. Temporary construction easements would be needed to accommodate construction equipment and vehicles during construction of the Build Alternative (Figure 2.2.6-1).

The Build Alternative would not require any full property acquisitions and would not require relocation of any residences or businesses. The Build Alternative would require acquisition of 0.88 acre of an SFPUC property and would convert 0.11 acre of Prime Farmland to transportation use. This partial property acquistion would not interfere with or affect the continued use of the parcel for its existing purpose. No economic or relocation effects are anticipated to result from the proposed property acquisitions.

Property owners whose access may be temporarily affected by project construction would be notified in advance.

**Figure 2.2.6-1. Build Alternative – Temporary and Permanent Property Acquistions**

The project area is along SR 84 and intersects with Main Street and Pleasanton Sunol Road. Both these intersections provide access to various properties in the project area, including Sunol Glen Elementary School, Sunol Water Temple, and Sunol Corners Little Market. SR 84 would remain open to vehicles during dayttime construction of the Build Alternative. Full nighttime roadway closures of SR 84 are also anticipated during construction. Detours would be made available to ensure access to and from surrounding properties. A TMP would be implemented for the project to minimize construction-related delays and inconvenience to project area residents, businesses, and the traveling public. Caltrans would coordinate with SFPUC prior to construction to ensure access to the Sunol Water Temple.

After construction of the Build Alternative, vehicle access to SR 84 would remain unchanged. Pedestrian access, however, would be limited to the southern section of SR 84 starting from Main Street to Pleasanton Sunol Road. Access to Sunol Corners Little Market and Sunol Glen Elementary School would require crossing the SR 84 roadway. Crosswalks across SR 84 would be striped according to current design standards.

**Table 2.2.6-1. Identification of Proposed Permanent and Temporary Property Acquisitions for Build Alternative**

| APN # | Properties/Address | Permanent/Temporary Acquisition | Acres |
|---|---|---|---|
| 96-375-12-2 | Government-owned Parcel SFPUC/8301 Niles Canyon Road | Permanent | 0.02 |
| 96-375-12-2 | Government-owned Parcel SFPUC/8301 Niles Canyon Road | Temporary | 1.62 |
| 96-376-5 | Government-owned Parcel SFPUC/Pleasanton Sunol Road | Temporary | 0.77 |
| 96-376-7-2 | Government-owned Parcel SFPUC/11640 Pleasanton Sunol Road | Temporary | 0.69 |

*No Build Alternative*

The No Build Alternative would have no impact to properties.

#### 2.2.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of **FEATURE-1.** Transportation Management Plan (see Section 1.5.13.1) would reduce adverse impacts to properties adjacent to the project. No avoidance, minimization, and/or mitigation measures are proposed.

## 2.2.7 Utilities/Emergency Services

### 2.2.7.1 AFFECTED ENVIRONMENT

Information from this section is from the Community Impact Assessment prepared for the project in May 2021.

Power, gas, telecommunication (fiber optic), and water utilities are located within the project area. Pacific Gas & Electric (PG&E) provides gas and electricity service and American Telephone & Telegraph Company (AT&T) provides telecommunication service. SFPUC and Zone 7 Water Agency manage water utilities within the project area.

Police protection and traffic enforcement services in the project area are provided by the Alameda County Sherriff's Department. The CHP has jurisdiction over the SR 84 corridor for matters involving traffic violations and emergency services. Fire protection services in the project area are provided by the Alameda County Fire Department. The California Department of Forestry and Fire Protection (Cal Fire), under contract to Alameda County, operates the Sunol Fire Station at 11345 Pleasanton-Sunol Road, less than a quarter mile from the project area.

Emergency services in the project area are provided under contract to Alameda County. First responders are also deployed from the Alameda County Fire Dispatch Center near the Lawrence Livermore National Laboratory.

### 2.2.7.2 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Construction of the Build Alternative would result in the relocation of the three PG&E utility poles, approximately 205 feet of overhead power line, 600 feet of gas line, and 600 feet of fiber optic cable along the east end of the bridge. In addition, construction would require the relocation of the water line crossing the east end of the bridge. All utilities would be relocated within the project footprint one year prior to the start of construction. Relocation of the gas line and fiber optic cable is not expected to require work in the creek.

The creek diversion would result in temporary impacts to Arroyo de la Laguna. There would be no temporary or long-term impacts to utility services from the relocation of

utility poles and lines. Coordination efforts with all utility providers would continue through final project design and construction.

Law enforcement, fire, and/or emergency services would experience temporary impacts during project construction. Two lanes of SR 84 would remain open during daytime construction. When needed, one-lane traffic control may be implemented during off-peak hours at night. Full nighttime closures of the SR 84 eastbound and westbound lanes would be needed in the project area for 21 days each construction season in order to install the new bridge foundations and bridge deck. However, movement through the surrounding area would be provided for law enforcement, fire, and/or emergency services. Prior to construction, Caltrans would develop a TMP to minimize short-term construction impacts. The TMP would include a detour to ensure access to and from surrounding properties during roadway closures in the night.

No law enforcement, fire, and/or emergency services would be permanently affected by the proposed construction as access to SR 84 would not be permanently altered by the project.

*No Build Alternative*
The No Build Alternative would have no impact to utilities/service systems.

#### 2.2.7.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of **FEATURE-1** and **FEATURE-3** (the TMP and CMP, see Section 1.5.13) would reduce adverse impacts to emergency services during construction and address concerns from potential impacts to utilities. No avoidance, minimization, and/or mitigation measures are proposed.

## 2.2.8 Traffic and Transportation/Pedestrian and Bicycle Facilities

### 2.2.8.1 REGULATORY SETTING

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

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

### 2.2.8.2 AFFECTED ENVIRONMENT

The information presented in this section is based on the Traffic Operations Analysis Memorandum completed by the Caltrans Office of Highway Operations in January 2021 and the Draft Project Report drafted by Caltrans Office of Engineering in May 2021.

*Roadway Network and Travel Conditions*

The Arroyo de la Laguna Bridge is located on SR 84 in the town of Sunol, between Pleasanton Sunol Road (PM 17.29) and Main Street (PM 17.21).

SR 84 is a major route that connects the East Bay with the San Francisco Peninsula to the west. The Arroyo de la Laguna Bridge is a vital transportation facility along SR 84 because it provides a primary and direct crossing over the stream corridor near I-680.

In the project area, Paloma Way is signed as SR 84 between I-680 and Pleasanton Sunol Road. West of Pleasanton Sunol Road, the local street name of SR 84 is Niles Canyon Road. Paloma Way and Niles Canyon Road have one lane in each direction and a speed limit of 45 miles per hour (mph).

Pleasanton Sunol Road extends from SR 84 in the south to Castlewood Drive near the I-680/Sunol Boulevard interchange in the north. The road has one lane in each direction and a speed limit of 45 mph. The road generally parallels I-680 and provides an alternate route to avoid congestion on I-680.

Temple Road provides access to SFPUC property and extends south of SR 84 to the Sunol Water Temple and other facilities on the property. The road has one lane in each direction. The posted speed limit is 15 mph.

Main Street is on the north side of SR 84 and has one lane in each direction. The posted speed limit is 25 mph. A limit of 15 mph is posted for travel over speed humps located near the school.

The SR 84/Pleasanton Sunol Road/Temple Road/Paloma Way and SR 84/Main Street intersections are unsignalized. The SR 84 and Pleasanton Sunol Road/Temple Road intersection is an all-way stop-controlled intersection. The SR 84 and Main Street intersection has a stop sign on the Main Street leg.

In the summer of 2021, the Niles Canyon Safety Improvement Project (EA 2A3324) will install traffic signals along SR 84 at Main Street and Pleasanton Sunol Road/Temple Road. Traffic flow on SR 84 is expected to improve with the new traffic signals and should reduce bypass traffic using Main Street during peak periods.

*Bicycle and Pedestrian Facilities*

SR 84 is a designated Scenic Highway that is popular with cyclists. Other local roadways along the I-680 corridor and project area provide popular routes for cyclists.

The bridge has no bicycle facilities and a sidewalk on the north side only. Sidewalks are not provided along SR 84 or at the SR 84 intersections with Main Street and Pleasanton Sunol Road.

*Transit Service*

There are no existing or proposed future bus transit facilities on SR 84 between Mission Boulevard in Fremont and the SR 84/I-680 interchange.

Union Pacific Railroad tracks follow SR 84. These tracks provide an active route for freight trains and the Altamont Commuter Express (ACE). ACE provides commuter rail service from Stockton to San Jose. The Niles Canyon Railway (a recreational railroad

operated by the Pacific Locomotive Association) also operates Sunday service throughout the year.

*Safety*

An investigation into the accident history for PM 16.7 through 17.7 was performed for a three-year study period, from October 1, 2016 to September 30, 2019. These data are obtained from the Caltrans Traffic Accident Surveillance and Analysis System-Transportation System Network. Accident data are presented in Table 2.2.8-1.

**Table 2.2.8-1. Accident Data (All) – Mainline SR 84 PM 16.7 – PM 17.7**

| Number of Accidents / Significance | | | | Accident Rates (accident(s) per million vehicle-miles) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Actual Accident Rates within the Project Limits* | | | Average Accident Rates for Similar Facilities Statewide | | |
| Total | F | I | F + I | F | F + I | Total | F | F + I | Total |
| 20 | 0 | 5 | 5 | 0.000 | 0.38 | 1.53 | 0.042 | 0.80 | 1.61 |

*Bold indicates actual accident rates that are higher than their corresponding average accident rates for similar facilities statewide.

Notes: F = fatal accident (s) I = injury accident(s)

The collision history of the portion of SR 84 that includes the project area indicates that the accident rate of 1.53 accidents per million vehicle-miles is lower than the statewide average rate of 1.61.

Twenty collisions occurred within the project limits during the study period, of which five (25%) involved injuries, and 15 (75.0%) involved property damage only. The primary causes of collisions were speeding (10 collisions - 50.0%), failure to yield (five collisions - 25.0%), improper turn (three collisions - 15.0%), influence of alcohol (one collision - 5.0%), and other violations (one collision - 5.0%). The types of collision were rear end (10 collisions - 50.0%), broadside (five collisions - 25.0%), hit object (three collisions - 15.0%), and sideswipe (two collisions - 10.0%).

A total of 19 (95.0%) of the accidents were on dry road surface and one (5.0%) was on wet road surface. A total of 17 (85.0%) of the accidents occurred during the day, one

(5.0%) during the dusk/dawn, and two (10.0%) during the night. A total of 20 (100%) of the accidents had no unusual roadway conditions.

No fatalities occurred within the project limits during the study period.

As described in Section 1.2, the existing bridge railings do not meet current safety standards, and the bridge and adjacent roadway approaches no longer comply with Caltrans highway design standards.

#### 2.2.8.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The Build Alternative would not increase the capacity of the Arroyo de la Laguna Bridge or change long-term traffic operations in the project area or the SR 84 corridor. The following describes the potential for short-term impacts to motor vehicles, cyclists, and pedestrians during construction.

No buses use SR 84 in the project area, and project construction would be at least 500 feet from the closest section of railroad tracks. The Build Alternative would not affect bus transit or rail service.

Construction Period Motor Vehicle Delays

Construction would occur over approximately three years. Construction activities would mostly be performed at night because of the high daytime traffic volumes and relatively low nighttime traffic volumes. When needed, one-lane traffic control may be implemented during off-peak hours at night. Full nighttime closures of both the eastbound and westbound lanes would be needed for about 21 nights per construction season. Detours would be defined, and wayfinding signs would be provided to direct motorists around the closures. Similar detour routes were put into place during construction of the Niles Canyon Bridge Replacement Project, where SR 84 traffic was detoured south to I-680 and SR 238.

Construction period delays would be temporary and occur primarily at night to minimize delay during peak travel periods. The duration of the delays would be minimized through the implementation of the TMP and CMP, which are described in Section 1.5.13.

Construction Period Bicycle and Pedestrian Delays

Construction of the project has the potential to result in access delays for pedestrians

and cyclists. Shuttles would be provided 24 hours a day during the first stage of bridge construction, as described in Section 1.5.5, and during full nighttime road closures.

The proposed shuttle and implementation of the TMP and CMP (Section 1.5.13) would reduce adverse impacts to bicycle and pedestrian circulation during construction.

Safety

The Build Alternative would replace the two existing 11-foot travel lanes with two 12-foot lanes, widen the shoulders to 9 feet from their current width of 0 to 2 feet, and provide a 2-foot-wide painted median rumble strip. The approaches to the bridge would be widened and aligned to match the new bridge cross section. These modifications would improve safety for motor vehicles and increase the length of the roadway ahead that is visible to travelers.

The Build Alternative would improve pedestrian and bicyclist safety by increasing shoulder width on the south side of SR 84 between Main Street and Pleasanton Sunol Road and providing a 14-foot-wide shared path on the south side of the bridge for pedestrians/bicyclists. The shared path would have directional curb ramps that meet the standards of the ADA and a new crosswalk at Main Street. The path would be wide enough to allow pedestrians to walk comfortably, separated from motor traffic. The north and south roadway shoulders would accommodate 6-foot-wide bicycle lanes.

The Build Alternative has long-term beneficial effects on pedestrian and bicycle mobility and accessibility. No post-construction adverse effects to pedestrian and bicycle mobility and accessibility are expected.

*No Build Alternative*

The No Build Alternative would make no physical or operational changes to the project area that would affect transportation. The beneficial transportation effects associated with the Build Alternative would not occur with the No Build Alternative.

#### 2.2.8.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The proposed shuttle (see Section 1.5.5) and implementation of **FEATURE-1** and **FEATURE-3** (the TMP and CMP, see Section 1.5.13), would reduce adverse impacts to motor vehicle, bicycle, and pedestrian circulation during construction. No avoidance, minimization, and/or mitigation measures are proposed.

## 2.2.9 Visual/Aesthetics

### 2.2.9.1 REGULATORY SETTING

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

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

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

SR 84 is an Officially Designated State Scenic Highway between Mission Boulevard (SR 238) and I-680. The project area is in the eastern portion of the Scenic Highway segment, west of Paloma Way.

The enabling legislation establishing the Scenic Highway Program states that scenic highways "shall take into consideration the concept of a 'complete highway', which is a highway that incorporates not only safety, utility, and economy, but also beauty… In the development of official scenic highways, the department shall give special attention both to the impact of the highway on the landscape, and to the highway's visual appearance." (California Streets and Highways Code Section 261).

The following four criteria are used to determine if a state or county highway may be designated as scenic:

1. A memorable landscape that showcases the natural scenic beauty or agriculture of California;
2. A corridor that is not substantially affected by visual intrusions;
3. Demonstration of strong local support for the proposed scenic highway designation; and

4. A continuous length of not less than 1 mile.

### 2.2.9.2 AFFECTED ENVIRONMENT

*Assessment Method*
This section is summarized from the Visual Impact Assessment (VIA), which Caltrans completed in May 2021. The VIA generally follows the guidance outlined in the *Visual Impact Assessment for Highway Projects* guidelines (FHWA 1981). Terminology used in the VIA and following discussion are briefly described below.

- Visual character: Attributes of views within a project corridor such as form, line, color, texture, dominance, and glare. Visual character is neither inherently "good" nor "bad"; however, a change in visual character can be evaluated when it is compared to the viewer response to that change.
- Visual quality: Evaluated by identifying the vividness, intactness, and unity present in the project corridor.
    - Vividness: The extent to which the landscape is memorable and associated with distinctive, contrasting, and diverse visual elements;
    - Intactness: The integrity of the visual features and extent to which the existing landscape is free from non-typical visual intrusions; and
    - Unity: The extent to which all visual elements combine to form a coherent, harmonious visual pattern.
- Resource change: Assessed by evaluating the visual character and quality of visual resources within a project corridor before and after construction of a proposed project.
- Viewers: People whose views of the landscape may be altered by a project—either because the landscape itself has changed or because their perception of the landscape has changed. There are two major types of viewer groups for highway projects:
    - Highway users are people who have views from the road. They can be subdivided into different viewer groups in two different ways:
        - mode of travel (e.g., pedestrians, bicyclists, transit riders, car drivers and passengers, and commercial transport drivers).
        - reason for travel (e.g., tourism, commute, and commercial vehicles).
    - Highway neighbors are people who have views to the road. They can be subdivided into different viewer groups by land use. For example,

residential, commercial, industrial, retail, institutional, civic, educational, recreational, and agricultural land uses may generate highway neighbors or viewer groups with distinct reasons for being in the corridor and therefore having distinct responses to changes in visual resources.

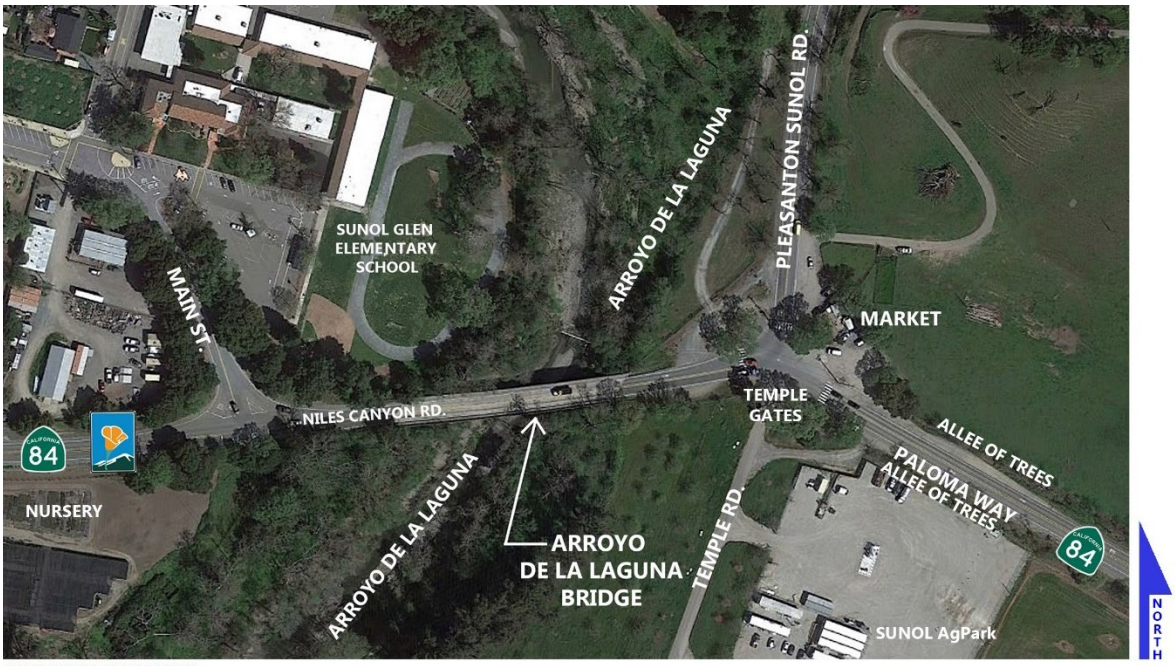
- Viewer response: A measure or prediction of the viewer's reaction to changes in the visual environment. Viewer response has two dimensions:
    - Viewer exposure is a measure of the viewer's ability to see an object, based on the viewer's location in relation to the object, how many viewers see the object, and how long the object is in view.
    - Viewer sensitivity is a measure of the viewer's recognition of an object and tends to correlate with whether viewers will have a high concern for any visual change.

*Project Location and Setting*

The project location and setting provide the context for determining the type and severity of changes to the existing visual environment. The project setting is defined as the area of land that is visible from, adjacent to, and outside the highway right-of-way, and is determined by topography, vegetation, and viewing distance.

The project area is located toward the eastern terminus of Niles Canyon, an east-west oriented canyon and part of the Diablo Range. The approximately 7.5-mile-long Arroyo de la Laguna tributary crosses under the bridge and flows into Alameda Creek. The landscape is characterized by flat portions of land surrounded by mature trees and shrubs, with rolling hills in the distance. Land cover visible from SR 84 is predominantly either natural grassland or pasture. The local setting is shown in Figure 2.2.9-1.

**Figure 2.2.9-1. Local Setting**



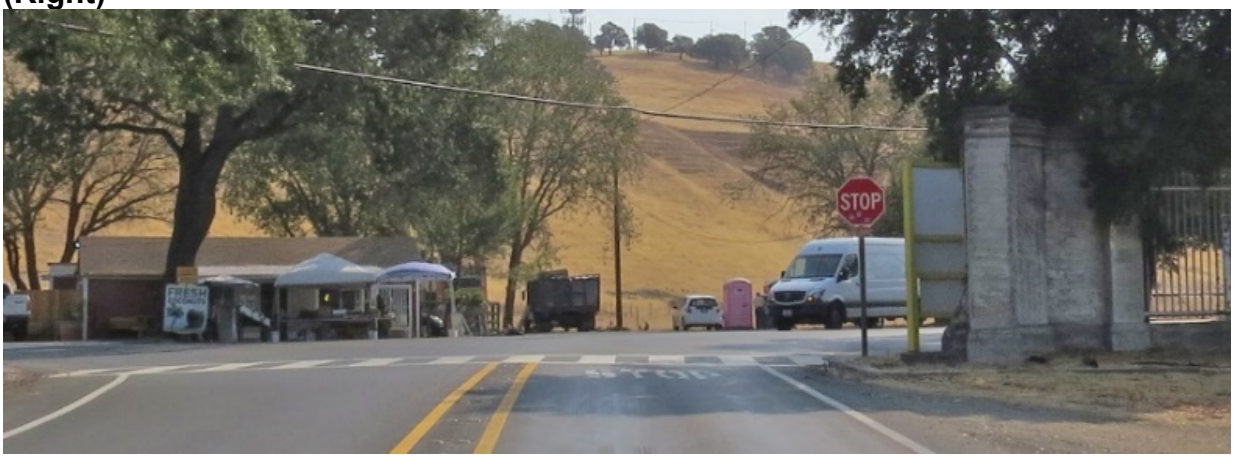

IMAGES FROM GOOGLE EARTH

Land uses in the project area are primarily rural, with most residential, educational, and commercial development screened from highway views by dense mature trees and shrubs. An allée (a row of trees on both sides of a roadway) of walnut, oak, and sycamore trees lines Paloma Way from the Pleasanton Sunol Road intersection to I-680.

Development visible from SR 84 includes a small market with outdoor benches on the northeast corner of the Pleasanton Sunol Road/Paloma Way/Niles Canyon Road (SR 84)/Temple Road intersection, and the distinctive entrance gates to the Sunol Water Temple on the southern side of SR 84 (Figures 2.2.9-2 and 2.2.9-3). The gates consist of two outer structures adjacent to Paloma Way and Niles Canyon Road, joined by metal railings to two inner structures that border the Temple Road entrance. The Sunol Water Temple is located approximately 0.5 mile south of the bridge and is visible from SR 84 and Pleasanton Sunol Road. To the south on the Sunol Water Temple property is the Sunol AgPark, which promotes sustainable farming.

**Figure 2.2.9-2. Eastbound SR 84, Paloma Way Tree Allée (Left) and Sunol Water Temple Gates (Right)**


**Figure 2.2.9-3. Eastbound SR 84 at Intersection with Pleasanton Sunol Road/Paloma Way/Temple Road, Market (Left) and Sunol Water Temple Gates (Right)**




Northwest of the bridge, behind a dense grove of trees, is the Sunol Glen Elementary School and its recreational field (Figure 2.2.9-4). The trees that currently screen the bridge and roadway from the recreational field are located outside the school's chain link fencing, within Caltrans right-of-way (Figure 2.2.9-8).

**Figure 2.2.9-4. View South from Sunol Glen Elementary School Recreational Field toward SR 84, Western Bridge Terminus Shielded by Trees**

A nursery is located just southeast of the SR 84/Main Street intersection.

*Visual Assessment Unit*

A project corridor is often divided into a series of "outdoor rooms" or Visual Assessment Units (VAUs). Each VAU has its own visual character and visual quality. Each VAU is typically defined by the limits of a particular viewshed. One VAU has been defined for this relatively short project corridor: the Sunol Valley VAU.

Key views in the Sunol Valley VAU include the development described above and open, undeveloped oak-grassland hillsides; dense oak-evergreen woodland; and riparian woodland (especially at Arroyo de la Laguna). The eastern end of Main Street in Sunol is just west of the Arroyo de la Laguna Bridge but visually isolated from SR 84 by distance and intervening trees (Figure 2.2.9-5).

**Figure 2.2.9-5. View West from Arroyo de la Laguna Bridge; Main Street to the Northwest**

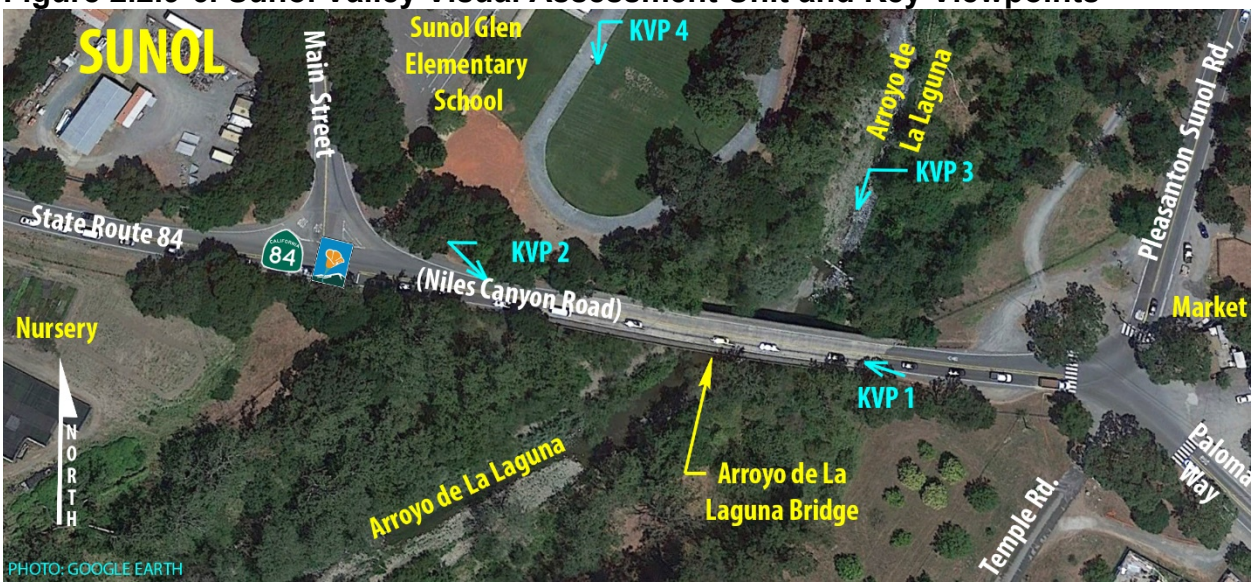
*Key Viewpoints*

Four key viewpoints were selected to characterize prominent visual resources and important views within the Sunol Valley VAU.

- Key Viewpoint 1: Existing view looking northwest at eastbound SR 84 (Niles Canyon Road) from the eastern terminus of the Arroyo de la Laguna Bridge.
- Key Viewpoint 2: Existing view looking southeast at SR 84 (Niles Canyon Road) and the Arroyo de la Laguna Bridge from the Main Street/SR 84 intersection.
- Key Viewpoint 3: Existing view from the north side of the Arroyo de la Laguna Bridge. (This viewpoint is from a location that is generally not open to the public; however, it best represents the visual character of the existing bridge structure).
- Key Viewpoint 4: Existing view of the Arroyo de la Laguna Bridge and SR 84 from the Sunol Glen Elementary School's recreational field.

Figure 2.2.9-6 shows the general limits of the Sunol Valley VAU and key viewpoints.

**Figure 2.2.9-6. Sunol Valley Visual Assessment Unit and Key Viewpoints**




Photographs from the key viewpoints are presented in Section 2.2.9.3, along with visual simulations showing proposed project features.

*Viewers and Viewer Response*

For this project, the following highway neighbors and their associated sensitivities were considered:

- **Employees and patrons of the market at the intersection of Pleasanton Sunol Road, Niles Canyon Road (SR 84), Temple Road, and Paloma Way and the nursery near the Main Street intersection.** The market is a popular destination within the project area. Although the parking lot of the market has direct views of the intersection and the eastern side of the Arroyo de la Laguna Bridge, viewer exposure is predicted to be short in duration. Market users and employees are anticipated to be focused on interactions inside the market and not on outward views. Similar conditions can be predicted for patrons and employees of the nursery. The one exception would be patrons using the outdoor benches at the market. They would have longer exposure to the project elements.
- **Employees and students of the Sunol Glen Elementary School.** Employees and students of the school have highly filtered views of the project through dense groupings of trees and shrubs from the play yard area.
- **Residents of the town of Sunol.** Residential properties do not have direct views of the project elements; however, residents would be frequently exposed to views

while traveling on SR 84. Residents are predicted to have moderate-high levels of exposure due to brief but repeated experiences of the project elements. Sensitivity to the same elements is anticipated to be high as residential viewers have appreciated the existing level of visual quality for many years and will be highly attuned to visual changes (positive or negative).

No private residences or other permanent uses adjoin the immediate project viewshed. The closest residential properties are along Main Street near the school. There are no nearby public recreational trails. Recreational use of the Arroyo de la Laguna tributary is not permitted, so views of the bridge from the creek are limited.

For this project, the following highway users were considered:

- **Commuters, recreational/tourists, and commercial transport drivers.** Viewer exposure of motorists in this group would generally be rated as high because SR 84, including the bridge site, is an Officially Designated Scenic Highway. The duration of views in the bridge area is short when vehicles are traveling at the speed limit.
- **Cyclists.** Viewer exposure of cyclists would be rated as high and the duration of their views is longer than for vehicles.

Table 2.2.9-1 summarizes visual exposure, sensitivity, and response for each viewer type.

**Table 2.2.9-1. Summary of Highway Neighbors and Users and their Associated Exposure, Sensitivity, and Response**

| HIGHWAY NEIGHBORS | EXPOSURE | SENSITIVITY | RESPONSE |
|---|---|---|---|
| Employees and patrons of the market and nursery | Low | Moderate-Low | Moderate |
| School employees and students | Moderate-High | Moderate-High | Moderate-High |
| Residents | Moderate-High | High | High |
| **HIGHWAY USERS** | **EXPOSURE** | **SENSITIVITY** | **RESPONSE** |
| Commuters, recreational/tourists, and commercial transport drivers | Moderate | Moderate | Moderate |
| Cyclists | Moderate-High | High | High |

### 2.2.9.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Visual Impacts from Key Views

This section summarizes visual impacts, compares existing conditions to the Build Alternative, and includes the predicted viewer response.

KEY VIEWPOINT (KVP) 1 – Looking northwest at eastbound SR 84 on the Arroyo de la Laguna Bridge from the existing shoulder: KVP-1 is representative of visual impacts for viewers on the bridge. The viewpoint was selected to convey several aspects of proposed visual change in this location: the widening of the bridge, the general character of changes to the adjacent landscape after construction, the replacement of the railing, and the impacts to vegetation.

The visual character is composed of dense groupings of mature trees lining the bridge, with long-distance views of the hills of the Sunol Valley to the west. The largely undisturbed natural setting visually dominates the man-made character of the existing roadway and bridge. Visual quality is high. Viewer exposure of highway users is rated as moderate for motorists to moderate-high for bicyclists. Overall viewer response for viewpoint KVP-1 is predicted to be moderate-high.

The existing view and simulated view are shown in Figure 2.2.9-7.

**Figure 2.2.9-7. Key Viewpoint 1: Existing View Looking Northwest from Shared Path, Eastern Bridge Terminus (Top), and Simulated View (Bottom)**

**Photo Date: 2018**

As shown in the simulated view of the Build Alternative, the replacement bridge would have new railings (shown below in Figure 2.2.9-8) and wider shoulders and sidewalk

than the existing bridge. The bridge would be approximately 26 feet wider than the existing bridge, slightly increasing the visual ratio of roadway to the natural environment. Trees and shrubs on both sides of the existing bridge would be impacted by the construction of access roads and the new bridge. The project is anticipated to require removal of approximately 251 trees. The new concrete barrier/railing, while not matching the original's design, would have openings to allow views of the creek corridor. The areas cleared for construction would be revegetated with appropriate erosion control and tree species as part of measures to help restore the scenic quality and natural screening of the structure (Section 2.2.9.4). The areas disturbed to create construction access roads will be restored and revegetated.

**Figure 2.2.9-8. Existing View of Bridge Railing (Left), and Simulated View (Right)**

Intactness and unity for this view would decline slightly from existing conditions with the bridge widening, replaced railing, and tree removal. Replacement planting would fill in after a period of 10 to 15 years, as shown in the simulated KVPs (Figures 2.2.9-7 through 2.2.9-11). The overall change in visual quality and visual resource change would be moderate-high. In the context of moderate (motorists) and high (bicyclists) viewer responses, the project is predicted to result in moderate-high (motorists and passengers) and high (bicyclists) levels of visual impact. Also affected by this viewpoint, the residents of Sunol are anticipated to have high levels of visual impact from the project due to their increased sensitivity to change.

KVP-2 – Existing view looking southeast at SR 84 (Niles Canyon Road) from the Main - Street/SR 84 intersection: The visual character of the KVP-2 viewshed is composed of dense groupings of mature trees lining the bridge, with long distance views of the Pleasanton-Sunol Road intersection, the small public market, and distant hills to the east. Visible to the west are the hills of the Sunol Valley.

The largely undisturbed natural setting visually dominates the man-made character of the existing roadway, bridge, and intersections. Visual quality of the project viewshed and the Sunol Valley is high. Viewer sensitivity of highway users is rated as moderate (for motor vehicle users), moderate-high (for passengers), and high (for bicyclists). Highway neighbors would have viewer sensitivity ratings of moderate-high (Sunol Glen Elementary) and high (Sunol residents). Viewer exposure of highway users is rated as moderate (for motorists) to moderate-high (for bicyclists). Highway neighbor exposure is rated as moderate-high (Sunol Glen Elementary and Sunol residents). The overall viewer response for KVP-2 is predicted to be moderate-high for highway users and neighbors.

The existing view and simulated view are shown in Figure 2.2.9-9.

**Figure 2.2.9-9. Key Viewpoint 2: Existing View Looking Southeast from Bridge Shoulder, near SR 84/Main Street Intersection (Top), and Simulated View (Bottom)**

**Photo Date: 2018**

KVP-2 is representative of visual impacts for viewers turning onto SR 84 from Main Street in Sunol, headed eastward. The viewpoint was selected to convey several aspects of proposed visual change in this location: the realignment and widening of the bridge, the general character of changes to the adjacent landscape after construction, the replacement of the railing, and tree and shrub removal to the north and south of the existing bridge due to the construction of the new bridge and construction access roads.

The viewpoint also reflects the change in the visual experience of motorists traveling at the posted speed limit of 45 mph, which is expected to remain similar to existing conditions.

The resource change with the Build Alternative would be generally the same as described above for KVP-1. Adjacent to the SR 84/Main Street intersection, any trees removed outside of state right-of-way will be negotiated with the town of Sunol during the design phase.

For all viewers, vividness, intactness, and unity of the project area would decline slightly compared to existing conditions due to the increased pavement and wider bridge, new railing, and tree removal. The visual character of the area after project completion would result in a moderate level of change. The overall change in visual quality would be moderate-high. Overall, this alternative would represent a moderate-high level of visual resource change.

The level of visual impact is anticipated to be moderate-high for motorists/passengers, high for bicyclists, high for Sunol residents, and moderate-high for viewers in the Sunol Glen Elementary School recreational field. Viewers would have their attention split between activities and views of the bridge and highway. After construction, the tree and vegetation removal would result in open views of the project elements.

KEY VIEWPOINT (KVP) 3 – Looking south toward the bridge from Arroyo de la Laguna: The viewpoint depicted in KVP-3 is from a location that is not generally open to the public; however, it is included to represent the proposed changes to the outer bridge structure. Highway neighbors at the Sunol Glen Elementary School recreational field could have partial, screened access to this viewpoint from farther west.

The visual character of the KVP-3 viewshed is composed of dense groupings of mature trees lining the south side of the bridge, screening long-distance views. The north side also has trees along the banks of Arroyo de la Laguna, but is more open in areas without trees, as shown in Figure 2.2.9-10.

The largely undisturbed natural setting visually dominates the man-made character of the existing roadway on the bridge. Visual quality is high.

KVP-3 is representative of changes to the bridge structure and general character of changes to the adjacent landscape after construction. Although Arroyo de la Laguna is not open to public access, highway neighbors from the Sunol Glen Elementary School will have open views of the bridge due to tree removal during and after construction.

Viewers at the school are predicted to have moderate-high levels of sensitivity, exposure, and overall viewer response.

The existing view and simulated view are shown in Figure 2.2.9-10.

**Figure 2.2.9-10. Key Viewpoint 3: Existing View of North Side of Bridge (Top), and Simulated View (Bottom)**

**Photo Date: 2018**

Visual differences in the bridge from SR 84 are shown in the simulated views of the Build Alternative for KVP-1 and KVP-2 (Figures 2.2.9-8 and 2.2.9-9) and described above. As shown in the simulated view of the bridge in Figure 2.2.9-10, the new embankments would be treated with appropriate erosion control and stabilization measures, and rock riprap would be placed around the bridge piers for protection. Rock

riprap is commonly used along waterways to protect piers and has a natural appearance.

For highway neighbors at the Sunol Glen Elementary School recreational field (the only potential viewers of the bridge from farther west than the view shown in Figure 2.2.9-9), the levels of vividness, intactness, and unity of the project area would decrease from existing conditions because tree removal would make the new bridge and highway highly visible. Views of the existing bridge and highway are heavily screened by trees, as shown below for KVP-4. With the Build Alternative, the loss of trees to the north and south of the current bridge due to construction and temporary access roads would result in a moderate-high level of change in visual character and quality. With the implementation of the measures described in Section 2.2.9.4, visual character and quality impacts are anticipated to be reduced to moderate levels. The replacement planting would, over time, provide visual buffering and partial screening of the bridge and highway from the school recreational field.

KEY VIEWPOINT (KVP) 4 – Looking south at SR 84 from Sunol Glen Elementary School Sports Field: The project's viewshed is composed of dense groupings of mature shrubs and trees lining the north side of the bridge, screening views of the existing bridge and highway from the Sunol Glen Elementary School recreational field. Chain link fencing separates the school property from the highway, Arroyo de la Laguna, and the bridge.

The largely undisturbed natural setting visually dominates the character of the school's recreational field. Visual quality is high.

Employees and students of the Sunol Glen Elementary School have highly filtered views of the project area through dense groupings of trees and shrubs from the recreational field area. Vegetation removal during and after construction, and before revegetation, would create direct views of the bridge, retaining wall along SR 84, and roadway. Exposure duration is anticipated to be moderate-high due to the proximity to the bridge and highway, and the fact that viewers' attention would be split between their activities at the recreational field and views of the project elements. Highway neighbors would have moderate-high sensitivity and overall viewer response.

The existing view and simulated view are shown in Figure 2.2.9-11.

**Figure 2.2.9-11. Key Viewpoint 4: Existing View of Bridge and SR 84 from Sunol Glen Elementary School Recreational Field (Top), and Simulated View (Bottom)**

**Photo Date: July 2019**

The simulated view of KVP-4 with the Build Alternative is representative of changes to the bridge structure, including the retaining wall, and to views from the Sunol Glen Elementary School recreational field after construction. The recreational field, which has filtered views of the bridge, will have more open views after construction due to removal of mature trees and vegetation. As noted above, the Build Alternative would require removal of approximately 251 trees, including to allow the existing eastern and western bridge approaches to be conformed to the wider bridge. Although only trees within the

state right-of-way along the frontage of Sunol Glen Elementary School are anticipated to be removed, trees on school property that overhang into the construction area may require pruning.

The areas cleared for construction would be revegetated where feasible (dependent on safety setback requirements) with appropriate tree and shrub species (Section 2.2.9.4). Revegetation would help to restore the scenic quality and partial screening of the bridge and highway from the recreational field. Trees cannot be replanted in all areas along the right-of-way fence within State property due to insufficient setback/safety requirements, so 100% rescreening of the bridge is not possible. In those areas, screen shrubs will be planted to reduce views of the new bridge and highway from the recreational field. In addition, new chain link fencing to be installed as part of the Build Alternative would have privacy screening to help shield views to and from the recreational field from SR 84 and the new bridge.

The new retaining wall will be aesthetically treated to blend in with the surrounding environment. The texture shown in the simulation is for illustrative purposes, and the actual treatment may be different.

For highway neighbor viewers at the Sunol Glen Elementary School recreational field, vividness, intactness, and unity of the project area would decrease from existing conditions because the new bridge and highway would become more visible and a retaining wall would be added. The dominance of the natural environment would decrease in relation to hardscape elements. The Build Alternative would result in a moderate-high level of change to the visual character and quality of the area. With the implementation of the measures described in Section 2.2.9.4, visual character and quality impacts are anticipated to be reduced to moderate levels. The replacement planting would, over time, compensate for the loss of some tree screening and continue to provide partial physical and visual buffering of the bridge and highway from the school recreational field.

Summary of Impacts at Key Viewpoints

A summary of impacts is provided in Table 2.2.9-2.

**Table 2.2.9-2. Summary of Visual Impacts at Key Viewpoints**

| Key Viewpoints | Resource Change | Viewer Response | Visual Impact After Construction | Visual Impact After 10-15 Years |
|---|---|---|---|---|
| 1 and 2 | MH | LM (Patrons)<br>M (Patrons on benches)<br>MH (School)<br>M (Motorists)<br>MH (Passengers)<br>H (Cyclists/Residents) | M (Patrons)<br>MH (Patrons on benches)<br>MH (School)<br>MH (Motorists)<br>MH (Passengers)<br>H (Cyclists/Residents) | LM (Patrons)<br>M (Patrons on benches)<br>M (School)<br>M (Motorists)<br>M (Passengers)<br>MH (Cyclists/Residents) |
| 3 | MH | MH (Only viewers =School) | MH (Only viewers = School) | M (Only viewers = School) |
| 4 | MH | MH (Only viewers =School) | MH (Only viewers = School) | M (Only viewers = School) |

L = Low LM = Low-Moderate M = Moderate MH = Moderate-High H = High

Temporary Visual Effects during Construction

Construction would involve three years of activity with bridge-related activities in and near the stream corridor occurring between June and October. Visual and aesthetic changes during construction would include bridge and pavement demolition, tree and shrub removal, the presence of construction equipment and materials on the site and in storage/laydown areas, construction of two temporary access roads, paving, bridge construction, lighting for nighttime activity, and other activities associated with roadway reconstruction.

Two storage areas are needed during construction. One storage area (180 feet by 180 feet) would be located 100 feet east of the Pleasanton Sunol Road/Paloma Way/Water Temple Road/SR 84 intersection on the north side of the road. The other staging area (50 feet by 50 feet) would be located at the northwest corner of the Pleasanton Sunol Road/Paloma Way/Water Temple Road/SR 84 intersection. These storage areas would be screened where possible but would remain visible, creating temporary disruptions to the visual character in the vicinity.

Trees and vegetation would be removed or trimmed to facilitate construction of the two temporary construction access roads and demolition and reconstruction of the bridge. Tree and shrub impacts will occur in the areas shown in Figure 2.2.9-12.

**Figure 2.2.9-12. Tree and Shrub Removal Map**


Vegetation impacts will be limited to an area 200 feet to the north and 300 feet south of the existing bridge along Arroyo de la Laguna. The project would impact approximately 251 trees. The final number of trees to be removed or trimmed will be determined later during the detailed design phase. Most of the trees to be removed are in Caltrans right-of-way. Any trees removed outside of state right-of-way will be negotiated with the town of Sunol during the design phase. The mature allée of trees along SR 84 east of Pleasanton Sunol Road and the trees adjacent to the Sunol Water Temple gates will be protected from construction activity and construction staging.

Trees on school property that overhang into the construction area may require pruning. Root zones of those trees extend into Caltrans right-of-way and may be impacted during construction. An arborist would be consulted to assess the trees on school property along the construction area and the pruning proposed to protect trees to the maximum extent feasible.

The measures listed in Section 2.2.9.4 would reduce visual impacts in the years to follow by providing partial rescreening of the project elements. Any removed riparian vegetation would be replanted and/or restored naturally over time at feasible locations where proper safety setbacks are available.

The areas cleared for construction would be revegetated with appropriate erosion control and tree species to help restore the scenic quality and natural screening of the bridge. There would be areas that are not suitable for replanting that would result in views of the new bridge and highway from the school yard. The areas disturbed for the access roads would be restored/revegetated. Similarly, the new embankments would be treated with appropriate erosion control/stabilization treatments. Rock riprap would be placed around the bridge piers for protection.

Potential temporary construction lighting would be limited to within the area of work and would be set up to avoid light trespass using directional lighting, shielding, and other measures, as needed. Potential lighting impacts during construction would be reduced to a minor level.

Project construction would impact each of the four key viewpoints. Views of the bridge from KVP-1, KVP-2, and KVP-4 would be changed the most as the bridge is demolished, facilities are put into place to maintain traffic flow, and bridge reconstruction occurs. Motorists enjoying the scenic characteristics of SR 84 would have their experience degraded. Commuters would likely be less concerned about the visual characteristics of standard construction activities. No public vantage points are associated with KVP-3, so no effects are anticipated. Construction phase effects on school and field users associated with KVP 4 would involve vegetation removal and temporary roadway construction disturbances.

Summary of Visual Impacts

The Build Alternative would result in visual resource changes including replacement of the existing bridge and railing, construction of a concrete retaining wall, and removal of trees and shrubs to the north and south of the existing bridge. Trees would be removed

along SR 84 from adjacent to the Main Street intersection to east of the eastern terminus of the bridge, to accommodate temporary access roads, bridge demolition and new bridge construction, and longer and wider approaches between the roadway and new bridge deck. The project would impact approximately 251 trees.

No new or replacement lighting is proposed on the bridge or elsewhere in the project area.

The gates to the Sunol Water Temple would not be disturbed. Changes to the visual setting at and near the gates would be minor. The Sunol Water Temple and its access road would not be impacted.

The traffic signals that will be installed at the SR 84/Main Street and Pleasanton Sunol Road/Paloma Way/SR 84/Temple Road intersections before this project will remain in place.

Viewer response for highway neighbors is predicted to be moderate-low for employees and patrons of the market and nursery, moderate for viewers sitting on the market's outdoor benches, moderate-high for students and employees of the Sunol Glen Elementary School, and high for residents of the town of Sunol. Viewer response for highway users would be moderate for commuters, tourists, and commercial transport drivers, moderate-high for passengers sitting in motor vehicles, and high for bicyclists.

Visual impacts from the Build Alternative would be reduced by incorporating design features for the new bridge that relate to existing architectural elements and the see-through quality of the existing railing. The concrete retaining wall would be aesthetically treated to blend in with the natural environment. The trees and other vegetation to be removed for construction would be revegetated with appropriate erosion control and tree/shrub species where feasible to help restore the scenic quality and natural screening of the bridge structure. Areas of soil disturbance would be hydroseeded to allow for regrowth of native grasses. Rock riprap around bridge support columns will blend in with the natural environment. Any trees removed outside of the state right-of-way will be negotiated with the town of Sunol and/or Sunol Glen Elementary School during the design phase.

No scenic vistas were identified within the project area. Scenic views for motorists and bicyclists through Niles Canyon and the Sunol Valley would not be adversely affected. The project area is relatively small, and travelers' views of visual changes would be

short in duration. With tree replacement and appropriate aesthetic treatment applied to the bridge and retaining wall, visual impacts would be reduced.

The Build Alternative would have moderate to high levels of visual impact to highway users and highway neighbors. With implementation of project features and AMMs (see Section 2.2.9.4), these impacts could be reduced to moderate-low to moderate-high levels.

*No Build Alternative*
Under the No Build Alternative, the visual and aesthetic changes described for the Build Alternative would not occur. The existing visual and aesthetic conditions would remain as they exist currently.

### 2.2.9.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following project features and AMMs to avoid or minimize visual impacts will be incorporated into the project:

**FEATURE-11.** Visual Measures

- Highway Replacement Planting**.** Replace removed trees at a minimum 1:1 replacement ratio where feasible. Some native and habitat trees will require a 3:1 or more ratio. The replacement planting, with a minimum three-year plant establishment period, will be funded through the parent roadway contract to be implemented as a separate contract within two years after the roadway contract acceptance. Mitigation planting will have five years of plant establishment and five years of monitoring.
- Revegetation Planting. All disturbed areas of soil shall receive hydroseeded treatment of erosion control grasses, and if appropriate, locally native grasses.

**AMM VIS-1.** Vegetation Removal Measures

- Avoid or minimize vegetation removal (groundcover, shrubs, and mature trees) due to construction and staging operations:
  - Minimize the removal of groundcover, shrubs, and mature trees to the greatest extent possible, utilizing open areas first.
  - Protect existing vegetation outside the clearing and grubbing limits from the contractor's operations, equipment, and materials storage.
  - Place high visibility temporary fencing around vegetation to be protected before roadway work begins.

- Provide replacement screen tree plantings between the Sunol Glen Elementary School and SR 84/Arroyo de la Laguna Bridge. Shrubs will be planted in lieu of trees where insufficient setback requirements exist. An Arborist will analyze possible impacts to trees within the Sunol Glen Elementary School right-of-way where branches and root zones fall within state right-of-way, resulting in possible harm to these trees. Negotiations between the school and State should be conducted to plant trees outside state right-of-way where school trees are harmed.

**AMM VIS-2.** Concrete Safety Barrier/Railing Aesthetics

- New concrete safety barriers and/or railing should closely match the aesthetics of the existing structures. See-through barriers and/or railings should be considered where feasible at locations where outward views exist to reduce screening of views.
- Midwest Guardrail Systems and/or metallic safety crash cushions before and after the bridge barriers should receive an aesthetic treatment of Natina coating (or similar rustic coating) to reduce possible glare and blend in with the natural environment.

**AMM VIS-3.** Aesthetic Treatments

- The design, color, and aesthetic treatment for the new bridge, support columns, and support walls shall be similar in design to the existing structure so to be visually compatible and consistent with the historic conditions along the corridor.
- The proposed retaining wall shall be aesthetically treated with color, texture, and/or patterning to blend in with the natural environment and reduce the incidence of glare or graffiti.

**AMM VIS-4.** Construction Impact Measures

- Place unsightly materials, equipment storage, and staging so that they are not visible within the foreground of the highway corridor to the maximum extent feasible. Where such siting is unavoidable, material and equipment shall be visually screened to minimize visibility from the roadway and nearby sensitive off-road receptors.
- Revegetate all areas disturbed by construction, staging, and storage per highway replacement and revegetation standard measures.

- Limit all construction lighting to within the area of work and avoid light trespass using directional lighting and shielding as needed.

With implementation of project features and the avoidance and minimization measures described above, additional mitigation measures would not be necessary to address potential visual impacts of the project.

## 2.2.10 Cultural Resources

### 2.2.10.1 REGULATORY SETTING

The term "cultural resources," as used in this document, refers to the "built environment" (e.g., structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under federal and state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "historic properties," "historic sites," "historical resources," and "tribal cultural resources." Laws and regulations dealing with cultural resources include:

The National Historic Preservation Act of 1966, as amended, sets forth national policy and procedures for historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for listing in the NRHP. Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties and to allow the Advisory Council on Historic Preservation (ACHP) the opportunity to comment on those undertakings, following regulations issued by the ACHP (36 CFR 800). On January 1, 2014, the First Amended Section 106 Programmatic Agreement (PA) among the FHWA, the ACHP, the SHPO, and Caltrans went into effect for Department projects, both state and local, with FHWA involvement. The PA implements the ACHP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to Caltrans. The FHWA's responsibilities under the PA have been assigned to Caltrans as part of the Surface Transportation Project Delivery Program (23 USC 327).

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

historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires Caltrans to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the NRHP or are registered or eligible for registration as California Historical Landmarks. Procedures for compliance with PRC Section 5024 are outlined in a Memorandum of Understanding (MOU) between Caltrans and SHPO, effective January 1, 2015. For most Federal-aid projects on the State Highway System, compliance with the Section 106 PA will satisfy the requirements of PRC Section 5024.

#### 2.2.10.2 AFFECTED ENVIRONMENT

Information from this section is from the OCRS Section 106 Summary Memo that summarizes the Historic Property Survey Report completed in November 2019 and updated in November 2020.

The study area for cultural resources, or Area of Potential Effects (APE) was established in consultation with the Caltrans Professionally Qualified Staff (PQS) Co-Principal Investigator – Historic Archaeology, the Caltrans PQS Principal Architectural Historian, and the Caltrans Project Manager. The APE includes all of Caltrans right-of-way from PM 17.12 to PM 17.32, as well as areas proposed for TCEs, and partial acquisitions for staging, access, and road-widening activities. At Arroyo de la Laguna, the APE extends 50 feet upstream and 30 feet downstream. Portions of parcels adjacent to the project site are also within the APE, including the following Assessor's Parcel Numbers (APNs): 96-140-15, 96-140-21-2, 96-140-16-3, 96-155-5, 96-376-5, 96-376-7-2, and 96-375-12-2.

The vertical APE is 17 feet below ground surface for abutment excavation work.

*Built Environment Resources*

Numerous buildings and structures have been included in the Architectural History APE. All are exempt resources per Attachment 4 of the Section 106 PA except for the Sunol Water Temple, which is to the southeast of the project. The Sunol Water Temple entry gates are immediately to the southeast of the project area at the SR 84 and Paloma Way intersection. The Sunol Water Temple and entry gates are eligible for the NRHP

under Criterion C due to the structures' distinctive characteristics of the Classical Revival style that represent the work of a master, Willis Polk, and because the structures possess high artistic values. The Water Temple gates mark the entrance to the long straight paved drive that leads to the Sunol Water Temple. They are constructed of reinforced concrete curved pylons with metal gates. The pylons are concave with a tripartite design that sits on a simple pedestal, topped with simple capitals. The pylons are also adorned with polychrome relief.

*Archaeological Resources*

Cultural resource testing identified a prehistoric site within the APE. The archaeological site, located adjacent to Caltrans right-of-way, is eligible for the NRHP as a historic property under Criterion D, meaning that it has yielded or may be likely to yield information important in prehistory or history.

The NAHC was contacted on January 30, 2017 with a request to search their Sacred Lands File for Native American cultural resources within the project area, and for a list of culturally affiliated Native American parties. The NAHC responded with a list of Native American parties and positive results from the Sacred Lands File search. On March 13, 2017, letters initiating Section 106 and CEQA Assembly Bill 52 (AB 52) consultation were sent to all parties listed in the NAHC letter, including Chairpersons from Costanoan Rumsen Carmel Tribe, Amah Mutsun Tribal band of Mission San Juan Bautista, Muwekma Ohlone Indian Tribe of the SF Bay Area, Indian Canyon Mutsun Band of Costanoan, and the Ohlone Indian Tribe. Follow-up emails were sent to all parties in April 2017. No responses have been received to-date. During archaeological testing within the project area for another Caltrans project in August 2019, discussions were held with representatives from the Muwekma Ohlone Indian Tribe of the SF Bay Area concerning Caltrans projects in Sunol, including the current project. Impacts of potential replacement of Arroyo de la Laguna Bridge and possible treatment and mitigation options were discussed.

Due to project changes, updated Native American consultation letters were sent to the following contacts for tribes traditionally associated with the project area on December 22, 2020:

- Valentin Lopez, Chairperson, Amah Mutsun Tribal Band
- Irenne Zwierlein, Chairperson, Amah Mutsun Tribal Band of Mission San Juan Bautista

- Tony Cerda, Chairperson, Costanoan Rumsen Carmel Tribe
- Ann Marie Sayers, Chairperson, Indian Canyon Mutsun Band of Costanoan
- Monica Arellano, Muwekma Ohlone Indian Tribe of the SF Bay Area
- Katherine Perez, Chairperson, North Valley Yokuts Tribe
- Andrew Galvan, The Ohlone Indian Tribe
- Corrina Gould, Chairperson, The Confederated Villages of Lisjan

Ms. Perez, Chairperson to the North Valley Yokuts Tribe responded on January 2, 2021 requesting further consultation on the project. No additional responses have been received to-date; however, consultation is ongoing.

#### 2.2.10.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*
The Build Alternative would result in *no adverse effect* to the Sunol Water Temple and associated structures.

During construction, Caltrans would establish an ESA to protect the Water Temple entry gates and trees that are within the historic resource boundary. A qualified archaeologist and architectural historian would prepare an ESA Action Plan before project construction. The Plan would include requirements to protect these resources where there is the potential for indirect construction impacts. ESA fencing or other markings would be placed, where needed, around historic properties, protecting resources from inadvertent project-related effects. The ESAs would also be delineated in the contractor's package. No project-related activities (e.g., grubbing, staging, equipment parking, etc.) would occur within the ESAs.

As described in the Section 4(f) analysis, due to the implementation of the ESA, the preliminary finding under Section 106 is that construction and operation of the Build Alternative would result in no adverse effects on the activities, features, and attributes of the Sunol Water Temple and associated structures that are subject to protection under Section 4(f). The Build Alternative would result in a *de minimis* impact to the Sunol Water Temple, as defined by Section 4(f).

Prior to making a final *de minimis* impact determination, under CFR 774.5(b), coordination with the SHPO will continue. Caltrans is continuing to consult with the SHPO and other stakeholders regarding the Finding of Effect and to develop avoidance,

minimization, and mitigation measures for impacted historic properties, pursuant to Stipulation XI of the 2014 Section 106 PA and 36 CFR Part 800.6.

Caltrans OCRS initiated consultation with the SHPO on November 18, 2019 regarding the Sunol Water Temple.

Construction of the Build Alternative would adversely affect one archaeological site within the APE. Caltrans will consult with the SHPO on the Undertaking's Finding of Adverse Effect and develop a MOA for the treatment of the archaeological site. Caltrans is also consulting with Native American tribes in the area regarding the treatment of the archaeological site.

Section 4(f) does not apply to the archaeological site; the site is important for what can be learned by data recovery and has minimal value for preservation in place.

Due to the Build Alternative's adverse effect to the archaeological site, the project (undertaking) as a whole has an adverse effect on historic properties.

*No Build Alternative*
The No Build Alternative would have no impact to cultural resources.

#### 2.2.10.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Project features discussed in Section 1.5.13.8 and relisted below and the following AMMs would reduce adverse impacts to cultural resources.

**FEATURE-8. Cultural Resources.** If remains are discovered during excavation, all work within 60 feet of the discovery will halt and Caltrans' Office of Cultural Resource Studies (OCRS) will be called. Caltrans OCRS staff will assess the remains and, if determined human, will contact the County Coroner as per Public Resources Code (PRC) Sections 5097.98, 5097.99, and 7050.5 of the California Health and Safety Code. If the Coroner determines the remains to be Native American, the Coroner will contact the Native American Heritage Commission who will assign a Most Likely Descendant. Caltrans will consult with the Most Likely Descendant on treatment and reburial of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

**AMM CULTURAL-1.** Report any unintended discoveries of human remains or artifacts within SFPUC jurisdiction to SFPUC.

**AMM CULTURAL-2.** Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by an agency-approved archaeologist prior to working on the project.

**AMM CULTURAL-3.** Establishment of an Environmentally Sensitive Area around the Sunol Water Temple and associated features.

**MM CULTURAL-1.** If archaeological resources cannot be avoided, a preconstruction Phase III Data Recovery Plan will be implemented by a qualified archaeologist for the significant archaeological site that is directly affected. Data Recovery will only occur in the portion of the site being directly affected.

**MM CULTURAL-2.** Caltrans is preparing an Archaeological Monitoring Plan to be implemented during construction. This would include establishing an Archaeological Monitoring Area (AMA) and having an archaeologist and Tribal representative monitor job site activities within the archaeological monitoring area to reduce the project's impacts to the resource within the project limits. No work can be conducted within the AMA unless the archeological monitor is present. Reference Caltrans Standard Specification 14-2.03.

## 2.3 Physical Environment

### 2.3.1 Hydrology and Floodplain

#### 2.3.1.1 REGULATORY SETTING

EO 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A.

To comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments.
- Risks of the action.
- Impacts on natural and beneficial floodplain values.
- Support of incompatible floodplain development.
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values affected by the project.

The base floodplain is defined as “the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year.” An encroachment is defined as “an action within the limits of the base floodplain.”

#### 2.3.1.2 AFFECTED ENVIRONMENT

A Location Hydraulics Study was completed for this project in June 2017 by the Caltrans Office of Hydraulics. Information from the study is summarized in this section.

The project is located within the Alameda Creek watershed, and Arroyo de la Laguna is a water body immediately within the project area. Arroyo de la Laguna is the primary tributary to the Alameda Creek System, which is the second largest watershed that drains into the San Francisco Bay.

Floodplains are defined using Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), which categorize floodplains into different areas.

The Arroyo de la Laguna Bridge is located within the FEMA Base Floodplain for Arroyo de la Laguna. FEMA defines the Base Flood as the flood that has a one percent chance of being equaled or exceeded in any given year (100-year flood).

Per the FEMA FIRM, dated 2009, the base flood elevation in the project area is just under 245 feet. The elevation on the traveled way on the bridge is approximately 244.8 feet (Vertical Datum NAVD 88).

Just beyond the bridge, a small portion of SR 84 is within a Zone X, indicating an area of minimal flood hazard (Figure 2.3.1-1).

### 2.3.1.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Based on the base flood elevation, the existing bridge will overtop in a 100-year storm event. Per the Structures Hydraulics department, the bridge replacement and scour remediation within the creek as part of the Build Alternative would be modeled and designed in such a way so that the post-construction flows would not have any negative impacts to the 100-year storm event elevations. As such, the bridge replacement would not affect the existing FEMA base floodplain elevations. Related roadway widening would also have no impact to the base floodplain elevation. Removal of existing bridge footings from the creek channel would allow the creek to take on a more natural morphology and would improve floodplain values in the project area. The project would not significantly encroach or impact the existing base floodplain and would not result in incompatible floodplain development.

*No Build Alternative*

The No Build Alternative would have no impacts to hydrology and floodplains.

### 2.3.1.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The Build Alternative would not result in adverse temporary or permanent impacts on floodplain values. No avoidance, minimization, and/or mitigation measures are proposed.

**Figure 2.3.1-1. FEMA Flood Insurance Rate Map**

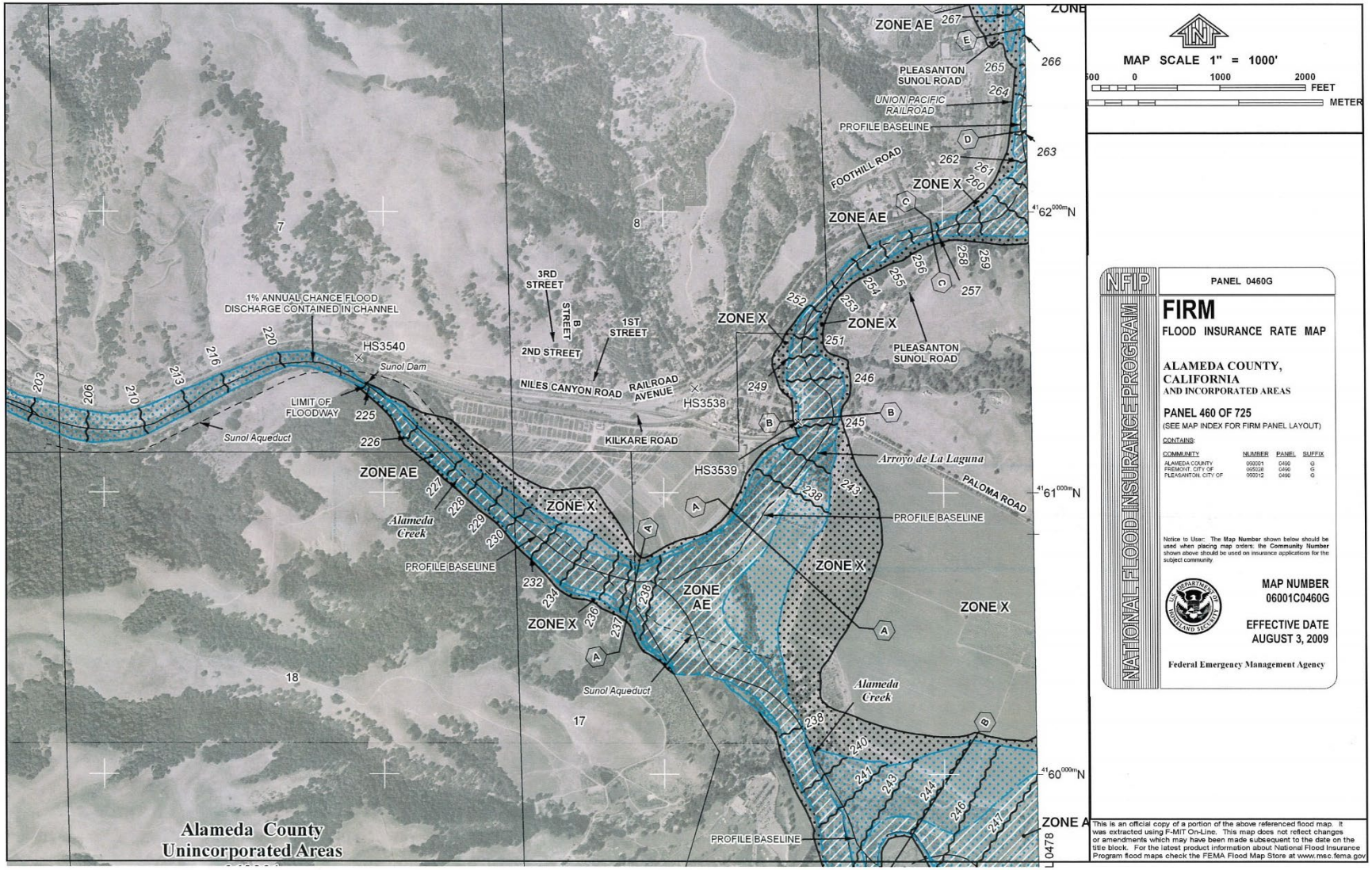
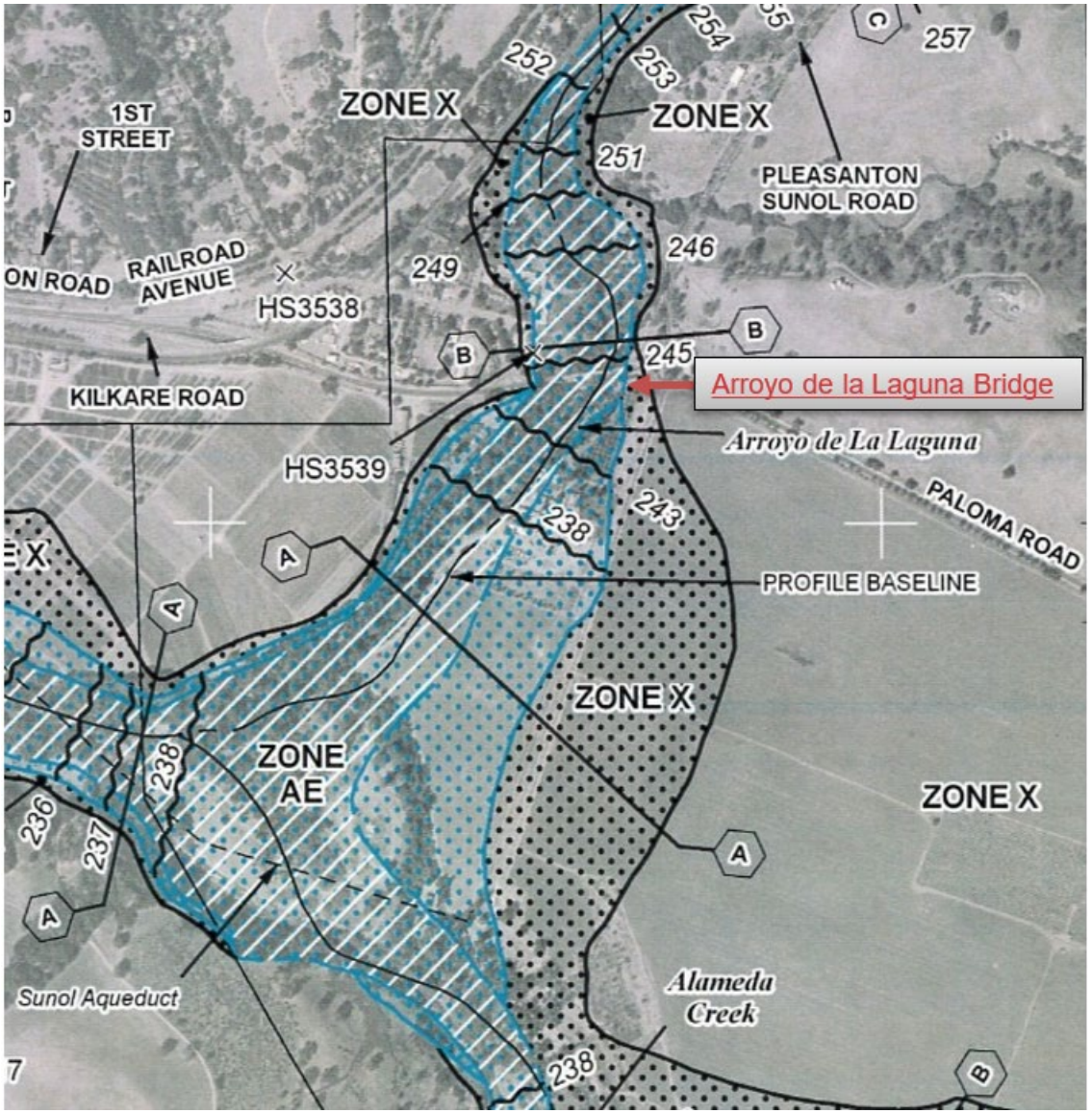


**Figure 2.3.1-2. FEMA Flood Insurance Rate Map & Project Location**



## 2.3.2 Water Quality and Storm Water Runoff

### 2.3.2.1 REGULATORY SETTING

*Federal Requirements: Clean Water Act*

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source, such as a pipe or a man-made ditch, unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. A point source is any discrete conveyance such as a pipe or a man-made ditch.

This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

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

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 CFR Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. The U.S. EPA defines "effluent" as wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in Section 2.4.2 Wetlands and Other Waters.

*State Requirements: Porter-Cologne Water Quality Control Act*

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

broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

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

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

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4): Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans' MS4 permit covers all

Caltrans rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans' MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below);

2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the SWMP to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Construction General Permit: Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one

acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop SWPPPs; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' SWMP and Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with DSA less than one acre.

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

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

#### 2.3.2.2 AFFECTED ENVIRONMENT

A Water Quality Study was prepared for this project in October 2020 by Caltrans Office of Water Quality and Mitigation. Information from the study is summarized in this section.

The Arroyo de la Laguna is a part of the Arroyo de la Laguna watershed and Alameda Creek watershed, which are regulated by the San Francisco Bay RWQCB, Region 2. These watersheds are currently impaired with Diazinon, a pollutant that is being addressed by the U.S. EPA through an approved TMDL, or a maximum amount of pollutant allowed to enter a water body in order for the water body to meet water quality standards. Runoff from the project site directly discharges to Arroyo de la Laguna.

The Region 2 Basin Plan published by the San Francisco Bay RWQCB establishes beneficial uses for waterways and water bodies within the Region. Beneficial uses include: Municipal and Domestic Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PRO); Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Contact/Non-Contact Water Recreation (REC-1/REC-2); Commercial and Sport Fishing (COMM); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Estuarine Habitat (EST); Marine Habitat (MAR); Wildlife Habitat (WILD); Preservation of Areas of Special Biological Significance (ASBS); Rare, Threatened, or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN); and, Shellfish Harvesting (SHELL). Per San Francisco Bay Region 2's Basin Plan, updated through May 04, 2017, the Receiving Water Bodies within the project limits contain all three beneficial uses of COLD, MIGR, SPWN, and REC2.

#### 2.3.2.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The Build Alternative could result in temporary impacts to Arroyo de la Laguna through staging and construction activities, which could result in the release of fluids, construction debris, sediment, and litter beyond the perimeter of the construction site. Construction activities that could affect water quality include earthwork and stockpiling of soil, structure demolition, concrete curing and waste, dewatering, piling. and foundation construction.

Arroyo de la Laguna is considered a Waters of the U.S. Therefore, adherence to a Section 404 Permit from USACE and a Section 401 Water Quality certification from the RWQCB would be required during construction.

Construction would also result in a disturbed soil area estimated at 7.03 acres, which is greater than the 1.0-acre threshold; therefore, the construction activities are subject to the Construction General Permit and a SWPPP.

With the construction work in the creek and the requirement of securing and complying with a 404 permit, Construction General Permit, and SWPPP, Caltrans would incorporate BMPs to reduce construction-related and permanent pollutants in stormwater discharges during construction and permanently to the maximum extent practicable. Water pollution control consists of various temporary measures implemented during construction to control sedimentation, erosion, or the discharge of other pollutants into the water.

After construction, the widening of SR 84 would result in a net new impervious area of approximately 0.48 acre. With the construction of permanent BMPs, compliance with Caltrans Standard Specifications, and the implementation of AMMs in accordance with Section 404 permitting, this increase in impervious surface would not result in the deposition and transport of sediment and vehicular-related pollutants in excess of existing conditions.

*No Build Alternative*
The No Build Alternative would have no impact to water quality or storm water runoff.

#### 2.3.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Implementation of project features that include water quality measures (management measures and BMPs) are required to avoid and minimize project-related water quality impacts during construction, operation, and maintenance of the project. Compliance with federal, state, and local requirements for potential short-term (during construction) and long-term (post-construction/maintenance) impacts is required. To avoid and minimize water quality or hydrologic issues from project construction, the project would need to comply with requirements from the Municipal Regional Storm water NPDES Permit and the San Francisco RWQCB Section 401 permit.

### 2.3.3 Hazardous Waste/Materials

#### 2.3.3.1 REGULATORY SETTING

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

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

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

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

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

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

#### 2.3.3.2 AFFECTED ENVIRONMENT

Information from this section is summarized from the Hazardous Waste Branch Memorandum prepared for the project in June 2019.

Aerially deposited lead (ADL) from the historical use of leaded gasoline exists along roadways throughout California. In the project area, streambed soils around the existing bridge piers are not expected to have any accumulated contamination related to the roadway and leaded-fuel vehicle emissions, though the current bridge roadway and approaches may contain ADL.

Existing bridge barriers and railings, built in 1939, may contain asbestos materials.

#### 2.3.3.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The Build Alternative would replace the existing bridge, requiring the removal and demolition of the existing bridge, excavation of the soil in the Arroyo de la Laguna streambed, as well as excavation of the existing bridge approaches to allow for roadway repaving and installation of new approaches.

During the project's design phase, a bridge survey will be conducted to determine the presence or absence of asbestos-containing materials on the bridge structure. Any identified asbestos-containing materials that might be disturbed by the proposed construction work would be removed in accordance with regulatory requirements.

Excavation of bridge approaches and roadway repaving may require testing of roadside soils for lead deposition. If encountered, soil with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

During construction of the bridge, any transportation of hazardous materials, such as fuel, through the project limits must comply with Caltrans Standard Specifications in Section 13-4 (Caltrans 2018). Section 13-4 identifies specifications for performing job site management, including hazardous material storage, spill prevention, spill containment, vehicle fueling and maintenance practices, and waste management to promote the protection of storm drain systems and receiving waters.

*No Build Alternative*
The No Build Alternative would not impact hazardous waste and materials.

#### 2.3.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

Project features discussed in Section 1.5.13.6 and relisted below would reduce the potential for hazardous materials to impact the project area. No avoidance, minimization, and/or mitigation measures are proposed.

**FEATURE-6.** Hazardous Materials

- Soils contaminated with aerially deposited lead (ADL) exceeding California hazardous waste thresholds will be reused in accordance with the Department of Toxic Substances Control's 2016 Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils.
- Lead compliance plans for ADL-contaminated soils and pavement markings containing lead will be prepared in accordance with the Caltrans Standard Special Provisions and implemented by the project construction contractor(s) to ensure compliance with the California Occupational Safety and Health Administration (Cal/OSHA) worker safety regulations.
- A bridge survey would be conducted during the project design phase to assess the presence of asbestos-containing materials on the bridge structure, which would be removed according to regulatory requirements, if present.
- Groundwater from dewatering of excavations will be stored in Baker tanks during construction activities and characterized to determine the appropriate treatment requirements for discharge and disposal. The extracted groundwater shall be collected and managed for disposal/treatment in compliance with local and state regulations.
- All loose and peeling lead-based paint and asbestos-containing material shall be removed by a certified contractor(s) in accordance with local, state, and federal

requirements. All other hazardous materials will be removed from structures in accordance with Cal/OSHA regulations.

- Asphalt concrete and Portland cement concrete grindings shall be reused in accordance with the San Francisco Bay Regional Water Quality Control Board (RWQCB) guidance to protect water quality or transported off-site for recycling or disposal.
- Job site perimeter air monitoring will be required when the project work disturbs regulated lead-contaminated soils. Air monitoring program requirements will be defined in Standard Special Provision 14-11.08 (Regulated Material Containing Aerially Deposited Lead), Section 14-11.08F (Air Monitoring).

## 2.3.4 Noise

### 2.3.4.1 REGULATORY SETTING

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

*California Environmental Quality Act*

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. Please see Chapter 3 of this document for further information on noise analysis under CEQA.

*National Environmental Policy Act and 23 CFR 772*

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

**Table 2.3.4-1. Noise Abatement Criteria**

| Activity Category | NAC, Hourly A- Weighted Noise Level, $L_{eq}(h)$ | Description of activity category |
|---|---|---|
| A | 57 (Exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B[1] | 67 (Exterior) | Residential. |
| C[1] | 67 (Exterior) | Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings. |
| D | 52 (Interior) | Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios. |
| E | 72 (Exterior) | Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A–D or F. |
| F | No NAC—reporting only | Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical, etc.), and warehousing. |
| G | No NAC—reporting only | Undeveloped lands that are not permitted. |

1. Includes undeveloped lands permitted for this activity category.

*Other Criteria*

California Streets and Highway Code

California Streets and Highway Code Section 216 states that the interior noise level in the classrooms, libraries, multipurpose rooms, and spaces used for pupil personnel services during roadway construction shall not exceed 52 A-weighted decibels (dBA) $L_{eq}$. $L_{eq}$ is an abbreviation for Equivalent Noise Level. The measurements shall be made

at appropriate times during regular school hours and shall not include noise from sources that exceed the maximum permitted by law.

Annual school calendars and related details regarding student activities within the school are available in the summer. Details are posted online and change every year. The first day of the school year for students is typically in early August. The last day is typically in early June.

Five breaks occur during the school year:

1. Fall Break (late September–early October)
2. Thanksgiving Break (late November)
3. Winter Break (late December–early January)
4. February Break (mid-February)
5. Spring Break (early April)

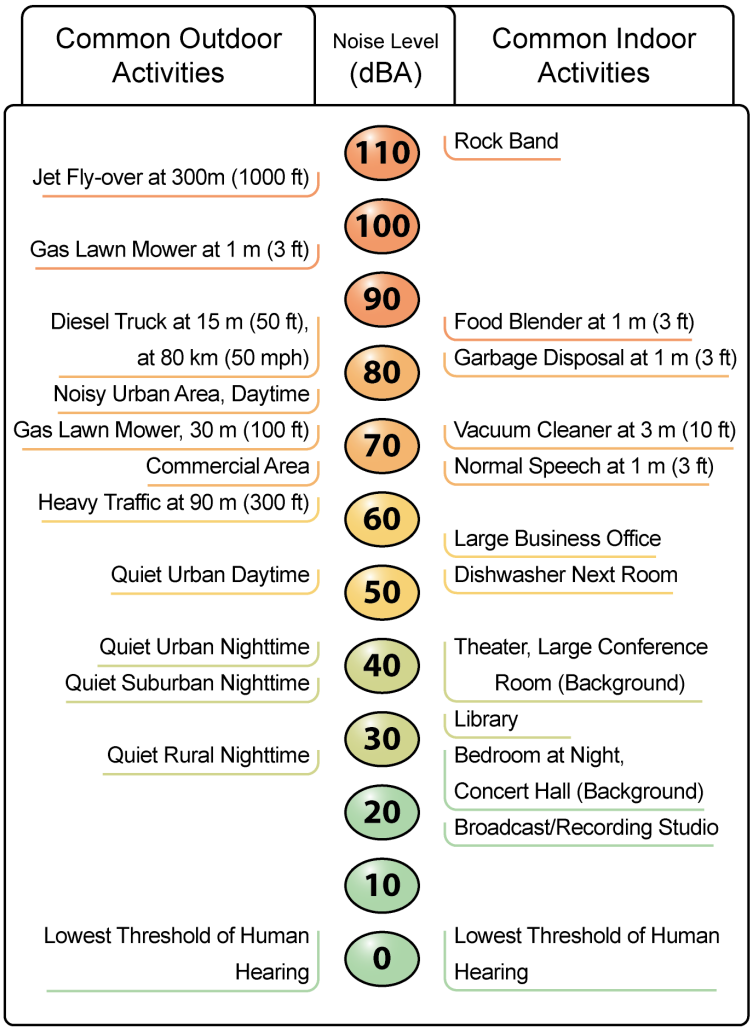
Student activities and formal classes begin early in the morning and end in the midafternoon. In previous academic years, classes end early on Wednesdays (2 PM). After-school programs extend into the afternoon and may involve inside activities on Monday through Friday.

Alameda County

Exterior noise limits for unincorporated areas of Alameda County are established in Chapter 6.60, Section 6.60.040, Table 6.60.040A for residential, school, hospital, church, or public library land uses. However, construction noise is exempted from these limits during the allowable hours of 7 AM to 7 PM on weekdays and 8 AM to 5 PM on Saturday or Sunday. Typically, work within the Caltrans right-of-way is not subject to local noise ordinances; however, Caltrans will work with the contractor to meet local requirements where feasible.

Noise levels for common activities is shown in Figure 2.3.4-1, below.

**Figure 2.3.4-1. Noise Levels of Common Activities**




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

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

The Caltrans' *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dB at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dB at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

#### 2.3.4.2 AFFECTED ENVIRONMENT

The project site is in a low density, rural environment with relatively low daytime and nighttime noise levels. Traffic from SR 84 and local roadways are the primary noise sources.

The nearest noise receptor to the project's construction boundary is Sunol Glen Elementary School's recreation field, which is about 50 feet north of SR 84. The nearest school building is 260 feet north of SR 84. The nearest residence, 11768 Main Street, is located 240 feet north of SR 84.

#### 2.3.4.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

The following discussion is based on the Construction Noise Analysis Memorandum prepared by Caltrans in May 2021.

The Build Alternative is not a Type I project per 23 CFR 772 because it would not substantially change the horizontal or vertical alignment of the Arroyo de la Laguna Bridge or increase traffic capacity. Therefore, the Build Alternative would not increase traffic noise levels compared to the No Build Alternative or existing conditions. A traffic noise study and consideration of traffic noise abatement is not required.

California Streets and Highway Code Section 216 requires school interior noise levels not to exceed 52 dBA $L_{eq}$ and—due to the proximity of Sunol Glen Elementary School to

bridge demolition and bridge and roadway construction activities—a construction noise analysis was conducted. Since nighttime work is proposed, the construction noise analysis included the two nearest residential locations.

The Roadway Construction Noise Model (RCNM, version 1.1) was used to estimate noise levels during construction. This model is FHWA's national model for the prediction of construction noise. The model includes representative sound levels for the most common types of construction equipment and the estimated percentage of time that the equipment would be operating at full power. Vehicles and equipment likely to be used during each construction activity were input into the model. The model estimates the maximum hourly noise levels ($L_{max}$) and the average hourly noise levels ($L_{eq}$) at the modeled locations within the project limits.

$L_{max}$ is the highest instantaneous noise level during a specified time period. $L_{eq}$ is the equivalent steady-state noise level in a stated period of time that would contain the same acoustic energy as the time-varying noise level during the same period. $L_{eq}$ is also known as the time-average noise level. In some instances, the maximum noise level estimated is slightly lower than the average noise level.

The following four sites were selected for modeling:

- A: Sunol Glen Elementary School track and soccer oval (active recreational area)
- B: Sunol Glen Elementary School nearest school building
- C: Residence, 247 Bond Street
- D: Residence, 11768 Main Street

The site locations represent conditions at sensitive receptors nearest to the construction area. Sensitive receptors are noise-sensitive locations, such as a school or residential backyard. Figure 2.3.4-2 shows the four locations where construction noise levels were modeled.

**Figure 2.3.4-2. Construction Noise Modeling Sites**


Image source: Google 2021

The locations considered and the estimates of noise resulting from construction of the Build Alternative are presented in Table 2.3.4-2. Predicted noise levels are shown in A-weighted decibels (dBA), or relative loudness as perceived by the human ear.

**Table 2.3.4-2. Construction Noise Modeling Results**

***Bridge Demolition***

| Map Label | D[4] (ft) | $L_{max}$ (dBA) | $L_{eq}$ (dBA) |
|---|---|---|---|
| **A[1]** | 40 | **92** | 90 |
| **B** | 260 | 76 | 74 |
| **B interior[2]** | N/A | N/A | **54** |
| **C** | 620 | 68 | 66 |
| **D** | 580 | 68 | 67 |
| **Hypothetical[3]** | 50 | **90** | **88** |

***Preparation[5] including Pile Driving***

| Map Label | D[4] (ft) | $L_{max}$ (dBA) | $L_{eq}$ (dBA) |
|---|---|---|---|
| **A[1]** | 40 | **86** | 87 |
| **B** | 260 | 70 | 70 |
| **B interior[2]** | N/A | N/A | 51 |
| **C** | 620 | 63 | 63 |
| **D** | 580 | 63 | 63 |
| **Hypothetical[3]** | 50 | 84 | 85 |

***Bridge Building***

| Map Label | D[4] (ft) | $L_{max}$ (dBA) | $L_{eq}$ (dBA) |
|---|---|---|---|
| **A[1]** | 40 | 83 | 85 |
| **B** | 260 | 67 | 69 |
| **B interior[2]** | N/A | N/A | 49 |
| **C** | 620 | 60 | 61 |
| **D** | 580 | 60 | 62 |
| **Hypothetical[3]** | 50 | 81 | 83 |

***Excavation / Grading***

| Map Label | D[4] (ft) | $L_{max}$ (dBA) | $L_{eq}$ (dBA) |
|---|---|---|---|
| **A[1]** | 100 | 79 | 79 |
| **B** | 215 | 72 | 72 |
| **B interior[2]** | N/A | N/A | **52** |
| **C** | 368 | 68 | 67 |
| **D** | 270 | 70 | 70 |
| **Hypothetical[3]** | 50 | 85 | 85 |

***Paving***

| Map Label | D[4] (ft) | $L_{max}$ (dBA) | $L_{eq}$ (dBA) |
|---|---|---|---|
| **A[1]** | 100 | 79 | 79 |
| **B** | 215 | 72 | 72 |
| **B interior[2]** | N/A | N/A | **52** |
| **C** | 368 | 68 | 68 |
| **D** | 270 | 70 | 70 |
| **Hypothetical[3]** | 50 | 85 | 85 |

**Notes:**

1. Location A is an active area (school oval/soccer field) and assumed not to have students (receptors) at night (i.e., 9:00 pm to 6:00 am).
2. California Streets and Highway Code, Section 216 requires interior noise not to exceed 52 dBA $L_{eq}$ in classrooms, library, multipurpose room, or space used for pupil personnel services. The noise levels assumed that the school building type is "Light frame, Ordinary Sash (closed), with transmission loss of 20 dBA (FHWA-HEP-10-025). Noise level in exceedance is highlighted in yellow and at noise level limit shown in red.
3. Standard Specification 14-8.02 specifies that during construction the noise levels should not exceed 86 dBA $L_{max}$ at 50 feet from the job site from 9:00 pm to 6:00 am. Noise levels in exceedance or at noise limit are shown in red.
4. D is the nearest estimated distance of construction activity to receptors (i.e., residence or school). These estimated distances were measured in Google Earth.
5. Prep-work for bridge building includes CIDH pile installation. The pile installation methods depend on actual site conditions during construction. Prep-work for bridge building does not include temporary creek diversion installation/removal because work will normally be manual. It also does not include the retaining wall near the active recreational area because per project information, construction would be scheduled to occur only during the school's summer break and would take three to five weeks. The project contract would include a special provision enforcing this timeline restriction.

As shown in Table 2.3.4-2, the highest noise levels would be produced during bridge demolition and preparation for bridge work (CIDH pile installation), which is closest to Site A. The modeled construction noise levels at Site A, the southern part of the active recreational area, are expected to exceed the 86 dBA $L_{max}$ at 50 feet limit required by Caltrans' Standard Specifications during bridge demolition and construction preparation. This exposure is expected to occur primarily between 9:00 PM and 6:00 AM, when use of the recreational field at Site A will be especially low.

Modeled construction noise levels at Site B, the closest school building, will exceed the 52 dBA $L_{eq}$ interior noise level limit required by the California Streets and Highway Code Section 216. This exposure is expected to occur primarily between 9:00 PM and 6:00 AM when students are not present and other school activities are not occurring and during months when school is not in session. There will be times when the interior noise limit is exceeded while school activities are ongoing. If such work must be conducted on school days during school hours, temporary construction noise control measures would

be necessary, as feasible, to block line of sight between the construction equipment/ construction noise and the school buildings.

One possible measure is a temporary noise barrier. Caltrans' "Technical Supplement to the Traffic Nosie Analysis Protocol" (TeNS), dated September 2013, states that a temporary noise barrier would reduce the modeled noise level by 10 dBA to 20 dBA, assuming a material of plywood at 0.5-inch thickness and 1.7 pound/square foot.

No vibration effects are expected due to the distances between construction vibration sources and nearby receptors.

*No Build Alternative*
The No Build Alternative would make no physical or operational changes to the project area that would generate noise.

#### 2.3.4.4 AVOIDANCE, MINIMIZATION, AND/OR ABATEMENT MEASURES

According to the 2018 Caltrans Standard Specifications Section 14-8.02, construction activities are not to exceed 86 dBA $L_{max}$ at a distance of 50 feet from 9 PM to 6 AM. In addition, California Streets and Highway Code Section 216 requires that interior noise levels in elementary or secondary schools should not exceed 52 dBA $L_{eq}$.

The following AMM would also be implemented to avoid, minimize, and mitigate impacts from construction noise.

**AMM NOISE-1:** Temporary noise control, including but not limited to the following:

1. The Contract Specifications should include a Special Provision requiring a noise control and monitoring plan. Measures in the plan may include a temporary noise barrier and other methods, i.e., scheduling and the measures below.
2. Provide public outreach or communication plan for residents and the school to get accurate project information.
3. Locate staging and storage areas away from the school and residential areas.
4. Consider reducing impact of detours.
5. Use quieter alternative methods of equipment.
6. Prevent idling of equipment near sensitive receptors.
7. Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the project site without the appropriate muffler.
8. If feasible, use solar or electricity as power source instead of diesel generators.

## 2.3.5 Energy

### 2.3.5.1 REGULATORY SETTING

The NEPA (42 USC Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

The CEQA Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

### 2.3.5.2 AFFECTED ENVIRONMENT

The project is on a two-lane undivided highway in the town of Sunol in unincorporated Alameda County.

### 2.3.5.3 ENVIRONMENTAL CONSEQUENCES

An Energy Analysis Report was prepared for this project in May 2021 by Caltrans Office of Air Quality and Noise. Information from the report is summarized in this section.

*Build Alternative*

The project is a highway safety improvement project that would not alter or increase the capacity of SR 84. The project would not result in an increase in long-term energy consumption rates from existing baseline conditions.

Energy use would increase as a result of construction activities; however, this impact would be temporary and would not result in a permanent increase in energy consumption rates.

*No Build Alternative*

The No Build Alternative would not impact existing energy use levels.

### 2.3.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

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

## 2.4 Biological Environment

### 2.4.1 Natural Communities

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

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species, Section 2.4.5. Wetlands and other waters are also discussed below in Section 2.4.2.

#### 2.4.1.1 AFFECTED ENVIRONMENT

Caltrans Office of Biological Sciences and Permits prepared a Natural Environment Study (NES) for the proposed project in November 2020. The NES analyzed a biological study area (BSA) to evaluate the effects of the proposed project on natural communities and other biological resources. The BSA encompasses the project footprint, the Caltrans right-of-way, and additional areas that project construction activities may directly or indirectly impact.

Information from the study is summarized in this section.

The project is located on the east end of Niles Canyon at an elevation of approximately 225 feet. The project site is mostly surrounded by developed properties, with the exception of riparian vegetation that runs along the creek and the less developed area to the northeast. SR 84 is located within Niles Canyon and runs through the center of the project site. The affected environment is discussed in the context of nine land cover types that exist within the project area: coastal oak woodland, eucalyptus, grassland, valley-foothill riparian, forested wetland, scrub-shrub wetland, riverine, ruderal, and road. Acreages of land cover types are shown in Table 2.4.1-1 and Figure 2.4.1-1.

**Table 2.4.1-1. Land Cover Types and Acreages within the BSA**

| Land Cover Type | Acreage |
|---|---|
| Coastal Oak Woodland | 0.267 |
| Eucalyptus | 0.548 |
| Grassland | 0.502 |
| Valley Foothill Riparian | 3.155 |
| Forested Wetland | 0.230 |
| Scrub-shrub Wetland | 0.090 |
| Riverine | 0.840 |
| Ruderal/Urban | 12.436 |
| Road | 2.842 |
| **Total** | **20.910** |

*Coastal Oak Woodlands*

Coastal oak woodland (0.267 acre) overstory consists of deciduous and evergreen hardwoods. Stands vary from upland savannas and woodlands to bottomland, riparian forests with closed tree canopies. The understory is variable; sometimes composed of shrubs from adjacent chaparral or coastal shrub which forms a dense, almost impenetrable understory. The coastal oak woodland within the BSA is predominately coast live oak (*Quercus agrifolia*) with an understory of French broom (*Genista monspessulana*), snowberry (*Symphoricarpos albus*), mint (*Mentha* sp.), and non-native forbs. Coast live oak woodland borders valley foothill riparian habitat within the northwest corner of the BSA.

The dense understory and thick layer of leaf litter common to this woodland type provide habitat for many common species of amphibians, reptiles, birds, and small mammals. Special-status species that may occur in oak woodland habitats include California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylii*), California tiger salamander (*Ambystoma californiense*), Alameda whipsnake (*Masticophis lateralis euryxanthus*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), and San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*).

*Eucalyptus*

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with closed canopy. Within the eucalyptus habitat in the BSA (0.548 acre), there is stand of Tasmanian blue gum (*Eucalyptus globulus*) that borders the southeast corner of the BSA beyond the valley foothill riparian habitat.

The herbaceous understory and thick layer of leaf litter common to this habitat type provide habitat for many common species of amphibians, reptiles, and small mammals. Special-status species that may occur in eucalyptus habitats include California red-legged frog, foothill yellow-legged frog, California tiger salamander, Alameda whipsnake, pallid bat, western mastiff bat, and San Francisco dusky-footed woodrat.

*Grassland*

Grassland was identified in the northeast section of the BSA, adjacent to ruderal/urban land cover. Annual grassland is often found within the Caltrans right-of-way and is characterized by non-native dominated grasslands, including the presence of introduced forbs, found in California. The semi-natural herbaceous stands found in the BSA include the following:

- Wild oats grasslands (*Avena* [*barbata, fatua*] – Semi-Natural Herbaceous Stands)
- Annual bromes grasslands (*Bromus* [*diandrus, hordeaceus*] – *Brachypodium distachyon* Semi-Natural Herbaceous Stands

Grassland provides important foraging and breeding habitat for mammals, birds, and reptiles. Listed species that may occur in grasslands within the BSA include California red-legged frog (*Rana draytonii*) and Alameda whipsnake (*Masticophis lateralis euryxanthus*).

*Valley Foothill Riparian*

Valley foothill riparian (3.155 acres) has a canopy height of approximately 100 feet in a mature riparian forest, with a canopy cover of 20 to 80 percent. Most trees are winter deciduous. There is generally a subcanopy tree layer and an understory shrub layer. Valley foothill riparian is the dominant natural habitat along Arroyo de la Laguna throughout the BSA. Dominant over-story species include California sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii*), big leaf maple (*Acer macrophyllum*), and white alder (*Alnus rhombifolia*). Sub-canopy species include arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and narrowleaf willow (*Salix exigua*). Understory species include poison oak (*Toxicodendron diversilobum*), California blackberry (*Rubus ursinus*), Himalayan blackberry (*Rubus armeniacus*), and mugwort (*Artemisia californica*).

Riparian habitats provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife, including amphibians and

reptiles that occur in lowland riparian systems, bats that use riparian woodlands as foraging and roosting habitat, bird species that nest there or visit riparian habitats in the winter, and mammals. Special-status species that may occur in riparian woodlands include California red-legged frog, California tiger salamander, foothill yellow-legged frog, western pond turtle (*Emys marmorata*), yellow warbler (*Dendroica petechia brewsteri*), pallid bat, western mastiff bat, and San Francisco dusky-footed woodrat.

*Forested Wetland*

Forested wetlands (0.230 acre) typically consist of an overstory of trees, an understory of shrubs, and an herbaceous layer. The forested wetland within the BSA was identified on the west side of Arroyo de la Laguna south of the bridge. This wetland included narrowleaf willow, arroyo willow, and red willow.

A wide variety of wildlife could be expected to occur in forested wetland habitat. The trees and understory provide a substrate for nesting birds. The taller vegetation also provides cover for small to large mammals that drink from the creek. Amphibian species may disperse through this habitat, using the understory for cover. Reptiles, such as aquatic garter snake (*Thamnophis atratus*) and western pond turtle, spend the majority of their life cycles in and around freshwater and wetland habitats. Special-status species that may occur in forested wetland habitat include California red-legged frog, foothill yellow-legged frog, California tiger salamander, western pond turtle, tricolored blackbird (*Agelaius tricolor*), yellow warbler, pallid bat, and western mastiff bat.

*Scrub-Shrub Wetland*

Two scrub-shrub wetlands (0.090 acre) were identified on each side of Arroyo de la Laguna north of the bridge. The scrub-shrub wetlands are relatively small and adjacent to the edge of the creek. The dominant vegetation of the first scrub-shrub wetland is narrowleaf willow. The second scrub-shrub wetland was identified on the east side of the creek on a very steep slope. The dominant vegetation of the second scrub-shrub wetland is arroyo willow.

Common wildlife that could be expected to occur in scrub-shrub wetland habitat is similar to those listed in the above *Forested Wetland* section.

*Riverine*

The riverine community (0.840 acres) is typically characterized by intermittent or continually running water. The riverine community within the BSA is the active floodplain of Arroyo de la Laguna, including the cobble and boulder margins and islands within the

creek. Riverine habitat contains vegetation such as torrent sedge (*Carex nudata*), shadowed by overstory trees, including white alder, Northern California black walnut (*Juglans hindsii*), Fremont cottonwood, and California sycamore. Tules (*Schoenoplectus* spp.), rushes (*Juncus* spp.), and a variety of strictly hydrophytic vegetation may also occur within this habitat. The riverine habitat in the BSA consists of species such as Northern California black walnut and California sycamore.

Open water areas within large creeks or rivers provide resting and escape cover for many species of waterfowl. Common mammals found in riverine habitats include river otter (*Lontra canadensis*), mink (*Mustela vison*), muskrat (*Ondatra zibethicus*), and beaver (*Castor canadensis*). Special-status species that may occur in riverine habitats include California red-legged frog, foothill yellow-legged frog, river lamprey (*Lampetra ayresii*), Pacific lamprey (*Entosphenus tridentatus*), steelhead (*Oncorhynchus mykiss irideus*), coho salmon (*Oncorhynchus kisutch),* Chinook salmon *(Oncorhynchus tshawytscha*), western pond turtle, tricolored blackbird, yellow warbler, pallid bat, and western mastiff bat.

*Ruderal/Urban*

The term ruderal/urban (12.436 acres) is used to describe the areas along the existing roadway and shoulders, as well as the developed properties within the town of Sunol.

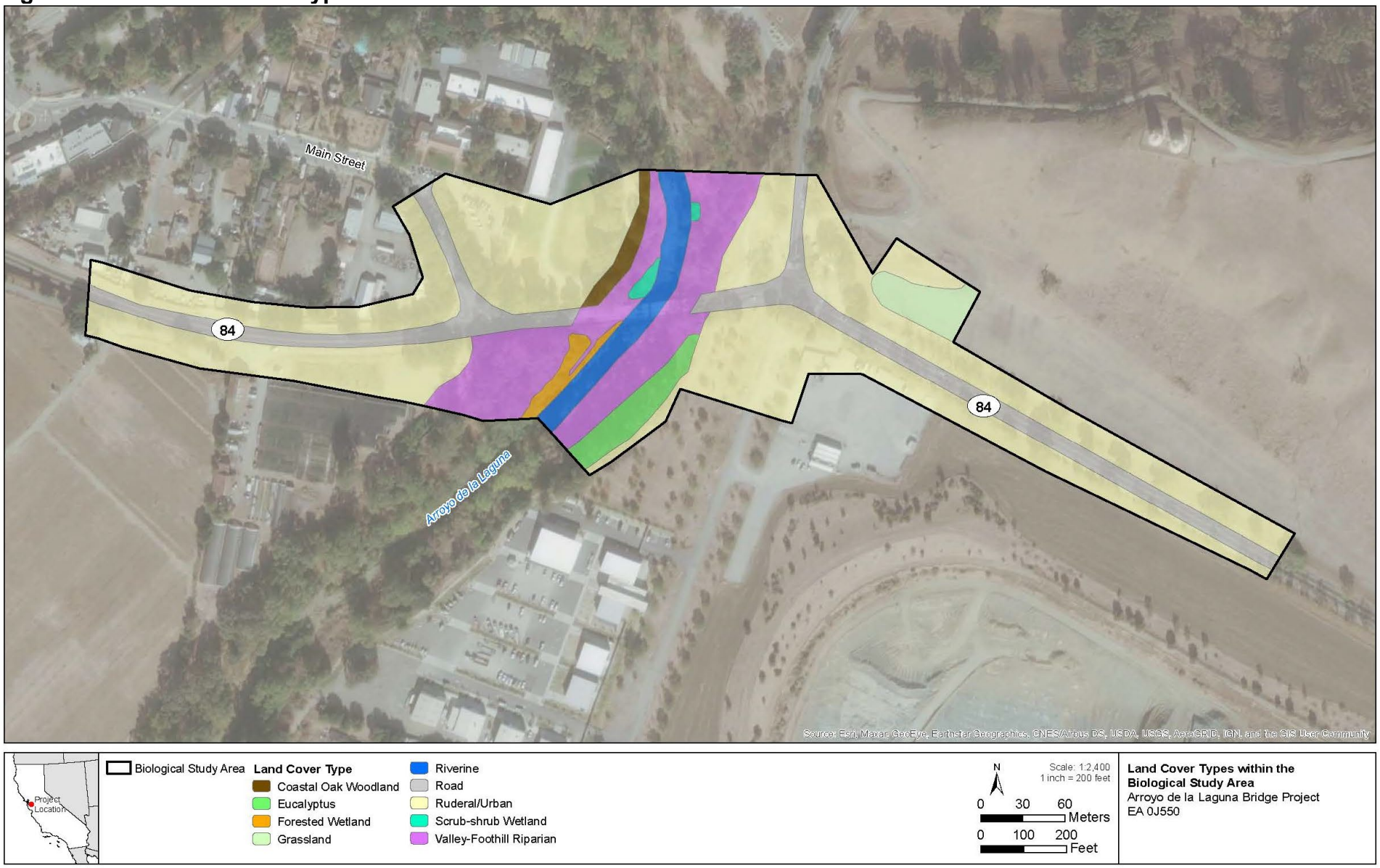
As it exists within the project limits, urban habitat is not likely to be used by wildlife species due to the lack of vegetation and the continual disturbance from traffic on SR 84.

*Road*

Paved surfaces make up 2.842 acres of the BSA. The majority of paved road surface within the project area is SR 84.

Wildlife species are not expected to use paved road surfaces due to the constant presence of traffic and lack of cover. Wildlife may be forced to cross the road during dispersal, and it is likely that traffic causes mortality during these movements.

**Figure 2.4.1-1. Land Cover Types in the BSA**



### 2.4.1.2 ENVIRONMENTAL CONSEQUENCES

This discussion divides project impacts into two categories: permanent and temporary. Permanent impacts are those in areas covered with new pavement, shoulder backing, or other hardscaping, including the retaining wall, or the permanent loss of natural creek bed or bank. Temporary impacts are those that can be returned to preexisting or improved conditions within one year of ground-breaking construction, during each stage. Any impacts from temporary structures that are left in place for more than one construction season or impacts that cannot be restored within one year are considered prolonged temporary impacts. Areas subject to ongoing operations and maintenance, even if they are restored within one year, will be considered permanent impacts.

*Build Alternative*

The Build Alternative would result in temporary, prolonged temporary, and permanent impacts to the natural communities in the project area (Figure 2.4.1-2 and Table 2.4.1-2).

Permanent impacts would result from the installation of new bridge foundations, shoulder backing, and the retaining wall. These activities would cause approximately 0.432 acres of permanent impacts to natural communities, with most impacts affecting ruderal/urban land cover (0.295 acre).

Prolonged temporary impacts would result from trimming or removal of trees to complete construction of the bridge, and the use of the staging area and creek diversion system for three construction seasons. These activities would cause approximately 3.807 acres of prolonged temporary impacts to natural communities.

Temporary impacts would result from the temporary construction access roads. These activities would cause approximately 1.315 acres of temporary impacts to natural communities, with all impacts affecting ruderal/urban land cover.

**Table 2.4.1-2. Build Alternative Impacts to Land Cover within the BSA**

| Land Cover | Temporary Impacts (Acre) | Prolonged Temporary Impacts (Acre) | Permanent Impacts (Acre) | Total Impacts (Acre) |
|---|---|---|---|---|
| Coastal Oak Woodland | 0.000 | 0.047 | 0.000 | **0.047** |
| Eucalyptus | 0.000 | 0.427 | 0.000 | **0.427** |
| Valley Foothill Riparian | 0.000 | 1.997 | 0.136 | **2.133** |
| Grassland | 0.000 | 0.392 | 0.000 | **0.392** |
| Forested Wetland | 0.000 | 0.218 | 0.000 | **0.218** |
| Scrub-shrub Wetland | 0.000 | 0.068 | 0.000 | **0.068** |
| Riverine | 0.000 | 0.658 | 0.001 | **0.659** |
| Ruderal/Urban | 1.315 | 0.000 | 0.295 | **1.610** |
| Road | - | - | - | **-** |
| **Total** | **1.315** | **3.807** | **0.432** | **5.554** |

Table 2.4.1-3 provides an estimate of the number and species of trees that are anticipated for removal in the Build Alternative. Based on the current preliminary design, the Build Alternative may impact as many as 251 trees. This estimate assumes that all the trees within the impact areas would need to be removed. The project development team would work with the contractor to reduce this number to the extent feasible. All trees removed would be replaced at appropriate replacement ratios according to species of tree, location, and permit requirements.

**Table 2.4.1-3. Tree Removal Estimates**

| Common Name | Scientific Name | Potential # of Trees Removed |
|---|---|---|
| almond species* | | 1 |
| arroyo willow | *Salix lasiolepis* | 4 |
| black cottonwood | *Populus trichocarpa* | 1 |
| black locust* | *Robinia pseudoacacia* | 1 |
| blue elderberry | *Sambucus cerulea* | 6 |
| box elder | *Acer negundo* | 2 |
| California bay laurel | *Umbellularia californica* | 5 |
| California buckeye | *Aesculus californica* | 23 |
| coast live oak | *Quercus agrifolia* | 42 |
| eucalyptus species* | | 9 |
| Fremont cottonwood | *Populus fremontii* | 26 |
| Northern California black walnut | *Juglans hindsii* | 17 |
| olive species* | | 1 |
| Oregon ash | *Fraxinus latifolia* | 1 |
| red willow | *Salix laevigata* | 63 |
| sandbar willow | *Salix exigua* | 2 |
| tree of heaven* | *Ailanthus altissima* | 5 |
| valley oak | *Quercus lobata* | 14 |
| western sycamore | *Platanus racemosa* | 27 |
| white alder | *Alnus rhombifolia* | 1 |
| **TOTAL** | - | **251** |

*denotes non-native trees

To reduce the above-mentioned potential permanent and temporary impacts for the Build Alternative, Caltrans would implement the AMMs and MMs listed in Section 2.4.1.3 during and following construction.

While the Build Alternative would result in impacts to natural communities, bridge replacement would install new piers with a smaller footprint than the existing piers (which would be removed). The reduction in permanent hard structure in riverine habitat in the creek would benefit Arroyo de la Laguna by allowing the stream to take on a more natural morphology and facilitate the development of linear in-stream wetlands along the banks. Caltrans does not anticipate the Build Alternative would increase barriers to wildlife movement or cause increased roadside mortality.

**Figure 2.4.1-2. Build Alternative Impacts to Land Cover Types**

#### 2.4.1.3 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following AMMs and MMs would be implemented for the Build Alternative to minimize and mitigate for construction impacts to natural communities.

**AMM NATURAL COMMUNITIES-1.** Revegetation Following Construction. All areas that are temporarily affected during construction will be revegetated with an assemblage of native grasses, shrubs, and trees as appropriate. Invasive, exotic plants will be controlled within the construction area to the maximum extent practicable, pursuant to EO 13112.

**MM NATURAL COMMUNITIES-1.** Upland Trees. During the design phase of the project, Caltrans District 4's Office of Biological Sciences and Permits will work with the Caltrans Design and Caltrans Landscape Architecture teams to avoid and minimize project impacts to upland trees. Efforts to preserve trees in place (by designating trees on plan sheets and marking trees with ESA fencing) will be made to avoid or minimize project impacts to trees located in temporary impact areas. For upland trees that are removed, Caltrans will provide tree replacement on-site. In the event that off-site planting is determined to be necessary, potential planting locations would be identified by working with local stakeholders, private landholders, and public agencies including, but not limited to, East Bay Regional Parks District, Alameda County, and the SFPUC.

**MM NATURAL COMMUNITIES-2.** Riparian Trees. During the design phase of the project, Caltrans Office of Biological Sciences and Permits will work with the Caltrans Design team to avoid and minimize project impacts to riparian trees. Efforts to preserve trees in place, by designating trees on plan sheets and marking trees with ESA fencing, will be made to avoid or minimize project impacts to trees located in temporary impact areas. Trees removed from the riparian zone will be replaced on-site, to the maximum extent possible given the space available. Potential planting locations within the Alameda Creek watershed will be identified by working with local stakeholders, private and public landholders, and public agencies including, but not limited to, East Bay Regional Parks District, Alameda County, and SFPUC. Details for off-site planting and riparian tree planting success criteria will be determined during the design and permitting phase of the project with CDFW (1602 Streambed Alteration Agreement) and the RWQCB (401 Certification).

### 2.4.2 Wetlands and Other Waters

#### 2.4.2.1 REGULATORY SETTING

Wetlands and other waters are protected under several laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (33 USC 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the U.S., including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the USACE with oversight by the U.S. EPA.

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 CCFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative

which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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

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

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see Section 2.3.2 Water Quality and Storm Water Runoff for more details.

#### 2.4.2.2 AFFECTED ENVIRONMENT

The following section summarizes information provided in the NES prepared for the project in November 2020.

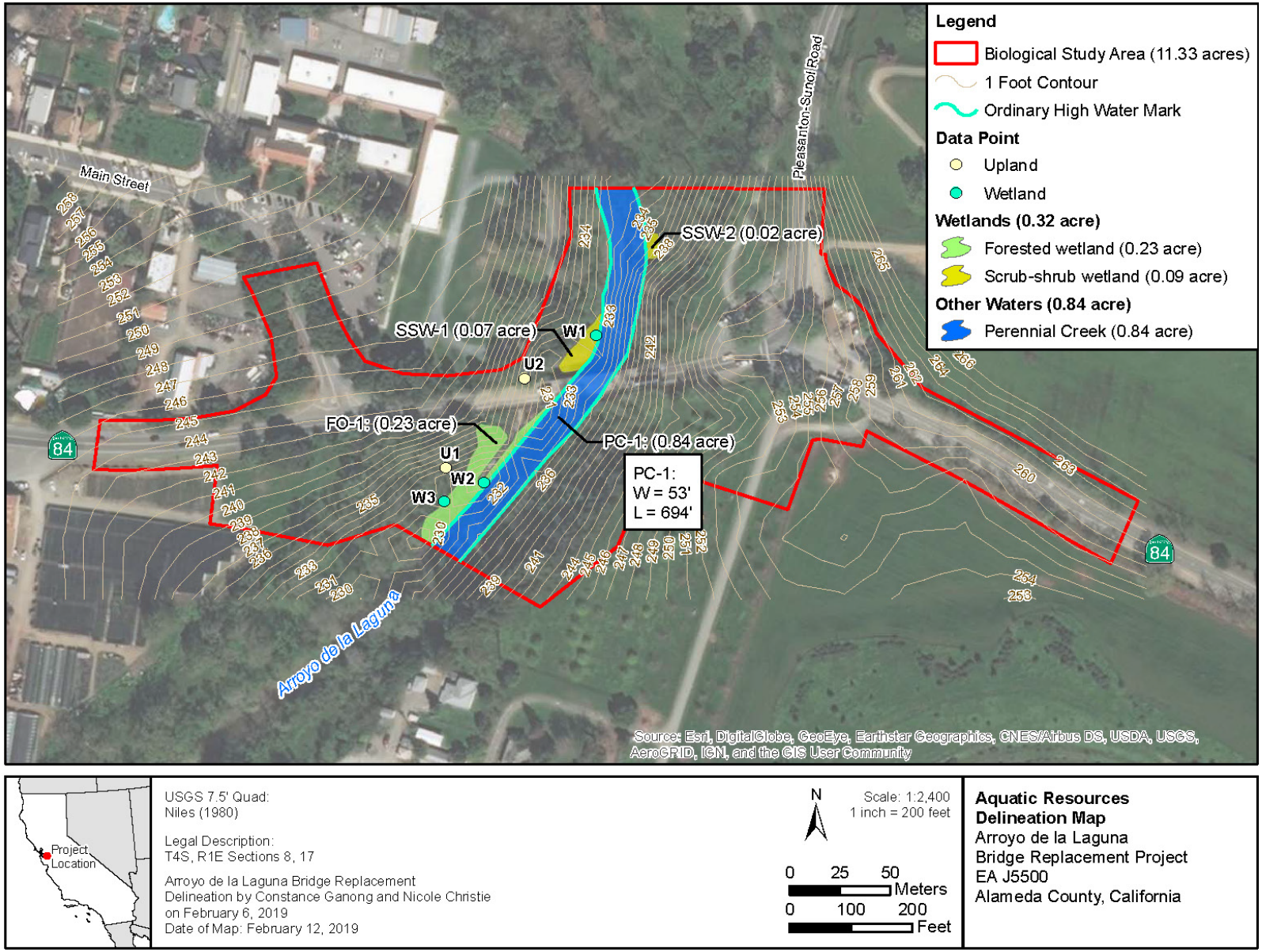
Kleinfelder/GANDA botanist Constance Ganong and biologist Nicole Christie conducted a field investigation on February 6, 2019 to delineate and assess potential waters of the U.S., including wetlands and water features within the BSA. When this survey was conducted, the BSA measured 11.33 acres, based off a now rejected design alternative. The current BSA, measuring 20.910 acres, added primarily ruderal/urban land cover type, and results of the 2019 investigation are still applicable to the project.

The 2019 investigation identified 0.32 acre of jurisdictional wetlands and 0.84 acre of other waters of the U.S. within the BSA (Figure 2.4.2-1, Table 2.4.2-1). These results were verified by the Caltrans liaison at the USACE in 2019.

**Table 2.4.2-1. Wetlands and Other Waters in the Project Area**

| Feature Type | Feature Name | Area (acres) | Area ($ft^2$) |
|---|---|---|---|
| **Wetlands** | | | |
| Forested Wetland | FO-1 | 0.23 | 285 |
| Scrub-shrub Wetland | SSW-1 | 0.07 | 98 |
| Scrub-shrub Wetland | SSW-2 | 0.02 | 38 |
| **Other Waters of the U.S.** | | | |
| Perennial creek | PC-1 | 0.84 | 694 |
| **Wetland Total** | -- | **0.32** | **421** |
| **Other Waters of the U.S. Total** | -- | **0.84** | **694** |
| **Total** | | **1.16** | **1,115** |

**Figure 2.4.2-1. Aquatic Resources Delineation Map**



### 2.4.2.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Within the BSA, there are 1.16 acres of jurisdictional wetlands and other waters of the U.S. Of this acreage, the Build Alternative would result in prolonged temporary and permanent impacts to forested and scrub-shrub wetlands (Table 2.4.2-2). Prolonged temporary impacts would occur due to removal of trees in the riparian corridor along the bridge. Permanent impacts to other waters would occur due to the demolition of the existing bridge and installation of the new bridge structures. While the Build Alternative would result in impacts to wetlands and other waters, replacement of the bridge would result in the removal of existing bridge footings from the creek channel. New piers would be smaller in size and located farther from the centerline of the low flow channel than the existing piers. The reduction of permanent hard structure in riverine habitat in the creek would beneficially affect Arroyo de la Laguna by allowing the stream to take on a more natural morphology and facilitating the development of linear in-stream wetlands along the banks.

**Table 2.4.2-2. Build Alternative Impacts to Jurisdictional Wetlands and Other Waters of the U.S.**

| Feature Type | Temporary Impacts (Acre) | Prolonged Temporary Impacts (Acre) | Permanent Impacts (Acre) | Total Impacts (Acre) |
|---|---|---|---|---|
| **Wetlands** | | | | |
| Forested Wetland | 0.000 | 0.218 | 0.000 | **0.218** |
| Scrub-Shrub Wetland | 0.000 | 0.068 | 0.000 | **0.068** |
| **Wetlands Total** | **0.000** | **0.286** | **0.000** | **0.286** |
| **Other Waters** | | | | |
| Riverine | 0.000 | 0.658 | 0.001 | **0.659** |
| **Other Waters Total** | **0.000** | **0.658** | **0.001** | **0.659** |
| **Grand Total** | **0.000** | **0.944** | **0.001** | **0.945** |

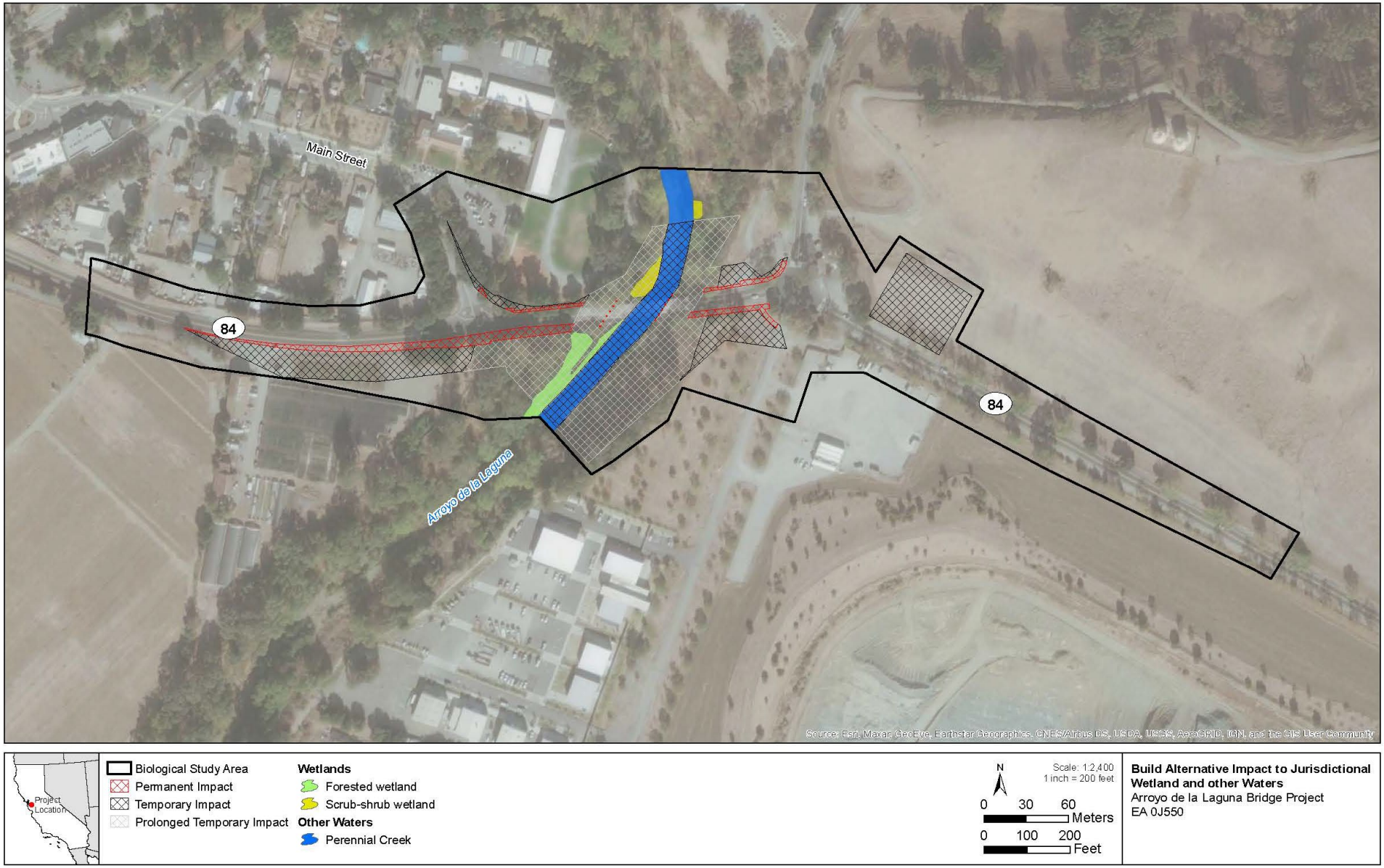
Figure 2.4.2-2 identifies impacts of the Build Alternative to wetlands and other waters in the project area.

*No Build Alternative*

The No Build Alternative would have no impacts to jurisdictional wetlands and other

waters. The No Build Alternative would not remove any existing materials in Arroyo de la Laguna to restore the creek to a more natural morphology.

**Figure 2.4.2-2. Build Alternative Impacts to Jurisdictional Wetlands and Other Waters**



#### 2.4.2.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The project would require CWA Section 401 and Section 404 permits, as well as a CDFW 1602 Lake and Streambed Alteration Agreement. Implementation of project features in Section 1.5.13.7 and relisted below, which include water quality measures (management measures and BMPs) and adherence to permit conditions would minimize impacts to wetlands and other waters. Waters and wetlands are expected to recover after the project, and no compensatory mitigation is recommended.

### 2.4.3 Plant Species

#### 2.4.3.1 REGULATORY SETTING

USFWS and CDFW have regulatory responsibility for the protection of special-status plant species. “Special-status” species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species (Section 2.4.5), in this document for detailed information about these species.

This section of the document discusses all other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 USC Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the CEQA, found at California Public Resources Code, Sections 21000-21177.

#### 2.4.3.2 AFFECTED ENVIRONMENT

The following section summarizes information provided in the NES prepared for the project in November 2020.

Based on literature and database searches, prior botanical surveys, and familiarity with the region, a total of 11 rare plant species were initially evaluated, and three species were determined to have a low potential to occur within the BSA: bristly leptosiphon (*Leptosiphon acicularis*), San Antonio Hills monardella (*Monardella antonina* ssp. *antonina*), and slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*). Rare plant species occurrences within 5 miles of the BSA include California alkali grass (*Puccinellia simplex*), chaparral harebell (*Campanula exigua*), Congdon’s tarplant (*Centromadia parryi* ssp. *congdonii*), long-styled sand-spurrey (*Spergularia macrotheca* var. *longistyla*), most beautiful jewel-flower (*Streptanthus albidus* ssp. *peramoenus*), and Santa Clara red ribbons (*Clarkia concinna* ssp. *automixa*). In 2016, initial special-

status plant surveys were conducted for the previous, smaller BSA. An additional survey occurred in October 2019 to assess the habitat within the expanded BSA and locate any special-status plant populations that were identifiable. The majority of the added BSA consisted of the ruderal/urban land cover type. The general area of the BSA was surveyed several times for special-status plant species as part of EA 2A332: Niles Canyon Safety Improvements Project. No federally or state-listed plants were observed in the 20.910 acres of the BSA or in the surrounding area. The completion of surveys indicates there is a low potential for rare plants to be in the BSA.

#### 2.4.3.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Seasonally timed special-status plant surveys would occur prior to construction of the Build Alternative. If protected species are discovered, appropriate agency coordination and protective measures would be established. There are no anticipated impacts to plant species from the Build Alternative.

*No Build Alternative*

The No Build Alternative would result in no impacts to plant species.

#### 2.4.3.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

To address plants in the project area, no AMMs would be required beyond those described in Sections 2.4.1.3 and 2.4.2.4. No impacts requiring mitigation measures are expected, and no mitigation measure are proposed.

## 2.4.4 Animal Species

### 2.4.4.1 REGULATORY SETTING

Many state and federal laws regulate impacts to wildlife. The USFWS, the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the FESA or CESA. Species with a moderate or high potential to occur that are listed or proposed for listing as threatened or endangered are discussed below in Section 2.4.5, Threatened and Endangered Species. All other special-status animal species are discussed here, including CDFW fully protected species, CDFW species of special concern, species on the CDFW Special Animals List, and USFWS or NOAA Fisheries candidate species.

CDFW species of special concern are certain vertebrate species native to California determined to be declining in population levels and potentially threatened with extinction.

Species on the CDFW Special Animals List are those that are declining in population or whose habitat is declining at a significant rate.

Federal laws and regulations relevant to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations relevant to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

### 2.4.4.2 AFFECTED ENVIRONMENT

The following section summarizes information provided in the NES prepared for the project in November 2020.

Based on literature and database searches, past wildlife studies, and familiarity with the region, a total of 37 wildlife species were initially considered to have potential to occur within the BSA. A wildlife habitat assessment was conducted within the BSA on March 17, 2017 and in February 2019, along with a roosting bat survey on May 31, 2017. After

these technical studies, 13 of these species were dropped from consideration based on a lack of suitable habitat. Three federally and/or state-listed threatened or endangered species, discussed in Section 2.4.5, and twelve state species of special concern or species listed on CDFW's Special Animals List, discussed below, were considered to have a moderate to high potential to occur within the BSA:

- Fringed myotis (*Myotis thysanodes*) – *CDFW Special Animals List*
- Great blue heron (nesting colony) (*Ardea herodias*) – *CDFW Special Animals List*
- Hoary bat (*Lasiurus cinereus*) – *CDFW Special Animals List*
- Long-eared myotis (*Myotis evotis*) – *CDFW Special Animals List*
- Pallid bat (*Antrozous pallidus*) – *species of special concern*
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) – *species of special concern*
- Small-footed myotis (*Myotis ciliolabrum*) – *CDFW Special Animals List*
- Townsend's big-eared bat (*Corynorhinus townsendii*) – *species of special concern*
- Western mastiff bat (*Eumops perotis californicus*) – *species of special concern*
- Western pond turtle (*Emys marmorata*) – *species of special concern*
- Western red bat (*Lasiurus blossevillii*) – *species of special concern*
- Yuma myotis (*Myotis yumanensis*) – *CDFW Special Animals List*

*Fringed myotis*

Fringed myotis is a species of bat that occurs in a wide variety of habitats, although pinyon-juniper, valley foothill hardwood, and hardwood-conifer habitats are preferred. For roosting, the species uses caves, mines, buildings, and crevices. Suitable foraging and roosting habitats are present within the BSA.

*Great blue heron (nesting colony)*

Great blue herons nest in a variety of habitats close to bodies of water, including fresh and saltwater marshes, wet meadows, lake edges, and shorelines. The species nests colonially in tall trees, cliffsides, and sequestered spots on marshes. Within the BSA, suitable rookery habitat is present in the form of large trees. Individuals are also likely to forage within the BSA.

*Hoary bat*

Hoary bat is a widespread species found in a variety of habitats throughout California. This solitary bat is most commonly found in association with forested habitats near water. Suitable foraging and roosting habitats are present within the BSA.

*Long-eared myotis*

Long-eared myotis is a species of bat found throughout California except in the Central Valley and southern deserts. The species may occur in all brush, woodland, and forest habitats, though coniferous woodlands and forests seem to be preferred. Roosts are made in buildings, crevices, under tree bark, and in snags. Suitable foraging and roosting habitats are present within the BSA.

*Pallid bat*

Pallid bat occurs throughout California and is most abundant in grasslands, shrublands, and woodlands. The species roosts in crevices and cavities of buildings, bridges, tunnels, rocks, cliffs, and trees. Presence of the bat was detected during bat surveys, and likely signs of active roosting in crevices were observed under the existing Arroyo de la Laguna Bridge.

*San Francisco dusky-footed woodrat*

San Francisco dusky-footed woodrat is found in forest habitats of moderate canopy and moderate to dense understory. The species may prefer chaparral and redwood habitats and constructs nests with shredded grass, leaves, and other material. Individual woodrats are likely to travel throughout the BSA. Some potential middens, or nests, were observed in the BSA. Most of the suitable nesting habitat for the species is within the floodplain of the creek.

*Small-footed myotis*

Small-footed myotis is a species of bat that occurs primarily in arid woodlands and brushy areas near water. The species roosts in caves, buildings, mines, crevices, and sometimes under bridges and under tree bark. Suitable foraging and roosting habitats are present within the BSA.

*Townsend's big-eared bat*

Townsend's big-eared bat is found throughout California in a wide variety of habitats and is most commonly associated with mesic sites. The species usually roosts in caves,

mines, bridges, trees, and structures in or near woodlands and forests, often near water. Known to occur within the region, the Arroyo de la Laguna corridor provides suitable foraging habitat for the species. In the BSA, large trees provide suitable roosting habitat, and the bridge provides marginal roosting habitat. The Townsend's big-eared bat is highly sensitive to human disturbance, which makes the BSA less suitable for the species because of its proximity to human disturbance.

*Western mastiff bat*

The western mastiff bat is found primarily within southern California, with scattered populations present within the Coast Ranges south of San Francisco and the Sierra Nevada Mountains north to Butte County. The species' roosts are made in crevasses in cliffs, boulders, caves, and buildings. The BSA contains suitable foraging and marginal roosting habitat.

*Western pond turtle*

The western pond turtle can be found in both permanent and seasonal waters, including marshes, streams, rivers, ponds, and lakes. The species may also be found in agricultural irrigation and drainage canals. These turtles favor habitats with large amounts of emergent logs or boulders, where several individuals may congregate to bask. In the BSA, suitable aquatic habitat for the species occurs in sun-exposed portions of Arroyo de la Laguna, and suitable nesting habitat is present in adjacent upland areas with short vegetation.

*Western red bat*

Western red bat, widely distributed throughout California, is known to occur in a variety of habitats, including forested canyons, riparian zones, and arid areas where they primarily roost in trees and sometimes shrubs. The species may forage throughout the BSA, and they may roost in trees within any vegetated habitat.

*Yuma myotis*

Yuma myotis is a species of bat commonly found throughout California, especially near water features. The species roosts in crevices and cavities of buildings, bridges, caves, tunnels, mines, and trees; and forages primarily over open water such as reservoirs, lakes, streams, creeks, canals, and ponds. Signs of active roosting in crevices under the existing Arroyo de la Laguna Bridge were found during surveys.

Cooper's hawk (*Accipiter cooperii*), a species on the CDFW watch list, also has a moderate potential to occur in the BSA. Cooper's hawk, a bird found in woodland, chiefly of open, interrupted, or marginal type, nests mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains. Within the BSA, there is suitable nesting and foraging habitat for the species.

#### 2.4.4.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Ground-disturbing activities and the operation of equipment near known roost sites under the existing Arroyo de la Laguna Bridge have the potential to harass individual bats. Harassment of these individuals may result in the temporary avoidance of roost sites during project activities. Removal of the existing Arroyo de la Laguna Bridge would permanently remove known night roost sites for several species of bats.

Additionally, bats may roost in trees within riparian woodland habitats in the project area. Tree removal that would occur during project construction would result in temporary and permanent effects to roosting bats.

To address removal of bat roosting sites on the existing bridge, Caltrans would implement an AMM to include roosting habitat on the new bridge (see Section 2.4.4.4). Tree removal is not anticipated to adversely impact roosting bats. Trees with suitable crevices or holes for roosting bats that could be impacted by project construction are limited compared to the available habitat in the areas surrounding the project. Caltrans does not anticipate long-term impacts to bat species.

Migratory Birds

The Build Alternative could result in temporary loss or disturbance of habitats that are used by nesting migratory birds. During construction, common migratory birds may be temporarily displaced by habitat alteration or noise from construction equipment. However, implementation of the proposed AMMs is anticipated to prevent direct mortality of migratory birds. The Build Alternative may potentially remove or disturb a small amount of unoccupied habitat that could be used by migratory birds. This impact would be temporary in nature and limited to a relatively small area in relationship to the extensive nesting and foraging habitat adjacent to the BSA. No adverse impacts are expected.

San Francisco Dusky-footed Woodrat

Riparian and oak woodland habitats within the BSA provide habitat for woodrats. Middens, or nests, may be located in permanent impact areas. These nests would be removed and/or relocated according to AMM BIO-8. If any middens are located in the temporary impact zone, they may not need to be relocated depending on the type of project activities that will occur, but construction could disturb the woodrats enough to cause midden abandonment.

Western Pond Turtle

Direct effects to western pond turtle may result from relocation efforts and earth-moving activities in potential habitat during construction. Indirect effects may result from habitat exclusion, water quality degradation from erosion or sediment loading due to construction activities, and removal of potential basking habitat. The water quality impacts are unlikely, given the proposed AMMs and Caltrans BMPs. The removal of potential basking habitat is minimal due to a substantial amount of alternative basking habitat available in the surrounding area. Construction of the Build Alternative would result in the removal of existing bridge footings from the creek channel, which would allow the stream to take on a more natural morphology and benefit the western pond turtle.

*No Build Alternative*

The No Build Alternative would have no impact to animal species.

#### 2.4.4.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The following project features and AMMs would reduce adverse impacts to animal species in the project area.

**FEATURE-10.** Biological Measures

- Night Work. To the extent practicable, nighttime construction will be minimized.
- Night Lighting. Artificial lighting of the proposed construction area during nighttime hours will be minimized to the maximum extent practicable and will be pointed away from sensitive resources.
- Trash Control. 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 a day from the work area.
- Pets. To prevent harassment, injury, or mortality of sensitive species, no pets will be permitted on the construction area.

**AMM BIO-1.** Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by an agency-approved biologist prior to working on the project.

**AMM BIO-2.** Work Window for Nesting Birds. To the extent practicable, clearing and grubbing activities will be conducted during the non-nesting season, from October 1 to January 31.

**AMM BIO-3.** Preconstruction Surveys for Nesting Birds. Preconstruction surveys for nesting birds will be conducted by a qualified biologist no more than 72 hours prior to the start of construction for activities occurring during the breeding season (February 1 to September 30).

**AMM BIO-4.** Non-Disturbance Buffer for Nesting Birds. If work is to occur within 300 feet of active raptor nests or 50 feet of active passerine nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance.

**AMM BIO-5.** Bat Night Roost Avoidance. Specific night bat roost AMMs will be developed through technical assistance with CDFW and bat specialists.

**AMM BIO-6.** Incorporation of Bat Roosting Habitat into New Bridge. Bridge elements and configurations that support bat roosting should be installed in the new Arroyo de la Laguna Bridge. Bridge replacements should consider use of a similar bridge design when the roost is large, unique, or supports a rare species. Critical issues include access, ventilation, and protection. Crevice roosts should be replaced with crevices of similar area and cavities should be replaced with cavities of similar parameters. If this is not possible due to engineering requirements, e.g., safety, replacement habitat may be considered. Supplemental habitat may also be considered when exclusion would occur for more than one season.

**AMM BIO-7.** Exclusion of Bats from Existing Bridge. Prior to deconstruction of the existing Arroyo de la Laguna Bridge, a roosting bat exclusion plan will be developed and implemented. At a minimum, this plan should address how one-way exclusion devices would be used to allow bats to safely exit the current bridge prior to its removal. The

plan would be implemented between March 1 to April 15 and August 31 to October 15 to avoid sensitive periods for bat species.

**AMM BIO-8.** Dusky-footed Woodrat Midden Relocation. Caltrans will request a Memorandum of Understanding (MOU) with CDFW to develop and implement a relocation plan for woodrat middens that will be affected by the proposed project.

### 2.4.5 Threatened and Endangered Species

#### 2.4.5.1 REGULATORY SETTING

The primary federal law protecting threatened and endangered species is the FESA: 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the FHWA (and Caltrans, as assigned), are required to consult with the USFWS and the NOAA Fisheries to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement or a Letter of Concurrence. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the CESA, California Fish and Game Code Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats. The CDFW is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an Incidental Take Permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery

management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

#### 2.4.5.2 AFFECTED ENVIRONMENT

The following section summarizes information provided in the NES prepared for the project in November 2020.

Based on literature and database searches, past wildlife studies, and familiarity with the region, three federally and/or state-listed species were considered to have moderate to high potential to occur within the BSA:

- Alameda whipsnake (*Masticophis lateralis euryxanthus*) – *federally & state threatened*
- California red-legged frog (*Rana draytonii*) – *federally threatened*
- Steelhead, Central California Coast Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*) – *federally threatened*

*Alameda whipsnake*

Alameda whipsnakes typically occur on south-, southwest-, and southeast-facing slopes. They require open coastal shrub or chaparral, with small mammal burrows. The species will also venture into adjacent habitats, including grassland, oak savanna, and occasionally oak woodland. There are 22 recorded CNDDB occurrences of Alameda whipsnake within a 5-mile search radius around the BSA. The BSA is not within critical habitat for this species, and there is no coastal scrub or chaparral within the BSA, but land cover types, including coastal oak woodland, valley foothill riparian, eucalyptus, grassland, and vegetated (scrub-shrub and forested) wetlands provide suitable dispersal and foraging habitat for the species. Arroyo de la Laguna could be used as a movement corridor.

*California red-legged frog*

California red-legged frogs have been found breeding in ponds and slow-moving or still sections of streams. Ideal ponds have a mix of deep sections for escaping from predators and shallow sections which warm quickly and help the rearing of tadpoles and juveniles. There are 21 recorded CNDDB occurrences of the frog within a 5-mile radius of the BSA, and seven of these occurrences were within 0.5 mile. The BSA is within the historic and current range of the frog but is outside of critical habitat. Within the BSA, Arroyo de la Laguna provides potentially suitable aquatic habitat within the main creek

channel. The creek, however, is generally too swift-flowing to provide suitable breeding habitat for the frog. The creek, along with coastal oak woodland, eucalyptus, grassland, vegetated wetlands, and valley foothill riparian land covers would act as dispersal habitat for the species.

*Steelhead, Central California Coast DPS*

The Central California Coast DPS of steelhead range from the Russian River south to Aptos Creek in Santa Cruz County, including tributaries to the San Francisco Bay. Adult steelhead spawn and rear in mid and high elevation coastal streams. Arroyo de la Laguna provides suitable rearing habitat for the Central California Coast DPS of steelhead. Currently, fish passage between Arroyo de la Laguna and San Francisco Bay is blocked within the City of Fremont by a concrete grade control structure operated by the Alameda County Water District (ACWD). Because these fish are prevented from leaving the watershed by the barrier, they are not currently considered to be anadromous Central California Coast DPS steelhead and do not receive protection under the FESA. Instead, they are considered landlocked rainbow trout. ACWD is scheduled to complete installation of a fish ladder that will circumvent this structure in 2021. If that occurs, fish passage between San Francisco Bay and the Alameda Creek watershed would be restored.

#### 2.4.5.3 ENVIRONMENTAL CONSEQUENCES

*Build Alternative*

Temporary, prolonged temporary, and permanent impacts to Alameda whipsnake, California red-legged frog, and Central California Coast DPS steelhead could occur from the construction of the Build Alternative. Impacts by land cover type are shown in Figure 2.4.2-2 (from Section 2.4.1).

Under Section 7 of the FESA, the Build Alternative *may affect and is likely to adversely affect* all three species. Impacts specific to each species are detailed below.

<u>Alameda Whipsnake</u>

Direct effects to individual whipsnakes may occur throughout the BSA as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures, and the placement of temporary and permanent fills within dispersal and foraging habitat. Activities during construction could result in injury or death of the snake in the construction area. All efforts to minimize direct effects would

be made with the implementation of AMMs. There is a low potential for direct mortality of individuals. Indirect effects may result from temporary habitat exclusion and degradation during periods of construction activities. Degradation of habitat from the proposed project would be offset through on-site restoration. Habitat effects to land cover types used by Alameda whipsnake are summarized in Table 2.4.5-1. The barren road shoulder areas within the BSA were not included because these areas do not provide suitable habitat for the species.

**Table 2.4.5-1. Impacts to Alameda Whipsnake Habitat**

| Land Cover | Temporary Impacts (Acres) | Prolonged Temporary Impacts (Acres) | Permanent Impacts (Acres) | Total Impacts (Acres) |
|---|---|---|---|---|
| Coastal Oak Woodland | 0.000 | 0.047 | 0.000 | 0.047 |
| Eucalyptus | 0.000 | 0.427 | 0.000 | 0.427 |
| Grassland | 0.000 | 0.392 | 0.000 | 0.392 |
| Forested Wetland | 0.000 | 0.218 | 0.000 | 0.218 |
| Scrub-shrub Wetland | 0.000 | 0.068 | 0.000 | 0.068 |
| Valley-foothill Riparian | 0.000 | 1.997 | 0.136 | 2.133 |
| **Total** | **0.000** | **3.149** | **0.136** | **3.285** |

Impacts to Alameda whipsnake critical habitat would not occur.

To further reduce impacts to Alameda whipsnake, Caltrans would provide compensation for impacts through on-site restoration of temporarily affected areas (at a 1:1 ratio) and off-site compensation for prolonged temporarily affected and permanently affected areas (at a 1.5:1 ratio and 3:1 ratio, respectively). This compensation may be used to satisfy the conditions of multiple agencies and jurisdictions, including FESA and CESA. The final compensation may be subject to change during the consultation and permitting processes.

Caltrans has determined that under Section 7 of the FESA, the Build Alternative *may affect and is likely to adversely affect* Alameda whipsnake.

California Red-legged Frog

Direct effects to individual frogs may occur as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures and the placement of temporary and permanent fills within dispersal and foraging habitat. Activities during construction could result in injury or death to the species in the construction area during these activities. All efforts to minimize direct effects would be made with the implementation of AMMs. Due to the cryptic nature of the species, detection of individuals may not always occur. While there is potential for direct mortality due to excavation and grading activities, the potential is low as this species is not expected to occur in high densities in the construction area. Indirect impacts may result from habitat exclusion, and construction activities could result in water quality degradation from erosion or sediment loading. However, water quality impacts are unlikely with the implementation of the proposed AMMs and Caltrans BMPs. Habitat effects to land cover types used by California red-legged frogs are summarized in Table 2.4.5-2. The ruderal/urban areas within the BSA were not included because these areas do not provide suitable habitat for the species. Additionally, ruderal/urban areas would remain barren, or would be re-vegetated maintaining the current dispersal characteristics for the species.

**Table 2.4.5-2. Impacts to California Red-legged Frog Habitat**

| Land Cover | Temporary Impacts (Acres) | Prolonged Temporary Impacts (Acres) | Permanent Impacts (Acres) | Total Impacts (Acres) |
|---|---|---|---|---|
| Coastal Oak Woodland | 0.000 | 0.047 | 0.000 | 0.047 |
| Eucalyptus | 0.000 | 0.427 | 0.000 | 0.427 |
| Grassland | 0.000 | 0.392 | 0.000 | 0.392 |
| Forested Wetland | 0.000 | 0.218 | 0.000 | 0.218 |
| Riverine | 0.000 | 0.658 | 0.001 | 0.659 |
| Scrub-shrub Wetland | 0.000 | 0.068 | 0.000 | 0.068 |
| Valley-foothill Riparian | 0.000 | 1.997 | 0.136 | 2.133 |
| **Total** | **0.000** | **3.807** | **0.137** | **3.944** |

Permanent effects to 0.001 acre of the riverine habitat are anticipated through the installation of new bridge piers. The new pier footprint would be smaller than the existing pier walls in the stream channel (which would be removed), and they would be located farther away from the centerline of the low flow channel. As a result, there would be a reduction of permanent hard structure in riverine habitat in the creek. Caltrans does not anticipate the project would increase barriers to wildlife movement or cause increased roadside mortality.

Caltrans does not anticipate any effects to breeding habitat; there is no suitable breeding habitat within Arroyo de la Laguna within the BSA. Construction work in the creek would be conducted during the dry season, when adult frogs are not expected to be dispersing through the BSA.

To further reduce impacts to California red-legged frog, Caltrans would provide compensation for impacts to the species through on-site restoration of temporarily affected areas (at a 1:1 ratio) and off-site compensation for prolonged temporarily affected and permanently affected areas (at a 1.5:1 ratio and 3:1 ratio, respectively). This compensation may be used to satisfy the conditions of multiple agencies and jurisdictions, including FESA and CESA. The final compensation may be subject to change during the consultation and permitting processes.

Caltrans has determined that under Section 7 of the FESA, the project *may affect and is likely to adversely affect* California red-legged frog.

Steelhead, Central California Coast DPS

By project construction, the ACWD fish ladder will be installed. The installation of the fish ladder would make Arroyo de la Laguna passable to protected steelhead. Direct effects to protected steelhead in the form of fish handling may occur during the creek dewatering process. Indirect effects may result from habitat exclusion.

Temporary effects to habitat in the construction area for protected steelhead may result from installation of water diversion and dewatering structures, placement of falsework, new bridge construction, and removal of the original bridge structure within the area that is dewatered. In addition to the main creek channel, riparian vegetation adjacent to the creek improves steelhead habitat by providing cover, structure in the form of woody debris, bank stability, and input of food sources. Riparian vegetation adjacent to the main creek channel also would be affected by the proposed project. Streamside trees

and other vegetation would be removed for access. Removal of this vegetation would occur for installation of the new bridge structure and new bridge approaches. Habitat effects to land cover types used by Central California Coast steelhead are summarized in Table 2.4.5-3.

**Table 2.4.5-3. Impacts to Central California Coast Steelhead Habitat**

| Land Cover | Temporary Impacts (Acre) | Prolonged Temporary Impacts (Acre) | Permanent Impacts (Acre) | Total Impacts (Acre) |
|---|---|---|---|---|
| Coastal Oak Woodland | 0.000 | 0.047 | 0.000 | 0.047 |
| Forested Wetland | 0.000 | 0.218 | 0.000 | 0.218 |
| Riverine | 0.000 | 0.658 | 0.001 | 0.659 |
| Scrub-shrub Wetland | 0.000 | 0.068 | 0.000 | 0.068 |
| Valley-foothill Riparian | 0.000 | 1.997 | 0.136 | 2.133 |
| **Total** | **0.000** | **2.988** | **0.137** | **3.125** |

Permanent effects to the riverine habitat are anticipated through the installation of new bridge piers. There are potential shade changes that could occur within the project area at Arroyo de la Laguna due to vegetation removal and changes to the bridge deck. The new pier footprint would be smaller than the existing pier walls in the stream channel (which would be removed), and they would be located farther from the low flow channel. As a result, there would be a reduction of permanent hard structure in riverine habitat in the creek. The bridge would also be raised slightly, and this, in addition to the new smaller pier footprint, would allow more water to pass beneath the bridge unobstructed. Overall, potential long-term effects on steelhead habitat associated with the project are expected to be beneficial.

To further reduce impacts to steelhead habitat, Caltrans proposes restoration of riparian woodland, forested wetland, and scrub-shrub wetland to offset permanent effects from the project. No compensatory mitigation is currently being proposed for the steelhead. Continued coordination and consultation with NMFS will occur to finalize the mitigation requirements for this species.

Caltrans has determined that under Section 7 of the FESA, the Build Alternative *may affect and is likely to adversely affect* Central California Coast steelhead.

No effects to any other federally listed or candidate species are anticipated.

*No Build Alternative*
The No Build Alternative would have no impact on threatened and endangered species.

#### 2.4.5.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to the AMMs listed below, the AMMs and project features identified in Sections 2.4.1 through 2.4.4 also apply as measures to reduce impacts to threatened and endangered species.

**AMM BIO-9.** Biological Monitor Approval. Caltrans will submit the names and qualifications of the biological monitor(s) for CDFW and USFWS approval prior to initiating construction activities for the proposed project.

**AMM BIO-10.** Biological Monitoring. The agency-approved biologist(s) will be on-site during initial ground-disturbing activities, the installation and removal of the creek diversion, and thereafter as needed to fulfill the role of the approved biologist as specified in project permits. The biologist(s) will keep copies of applicable permits in their possession when on-site. Through the Resident Engineer or their designee, the agency-approved biologist(s) will be given the authority to communicate either verbally, by telephone, email or hard copy with all project personnel to ensure that take of listed species is minimized and permit requirements are fully implemented. Through the Resident Engineer or their designee, the agency-approved biologist(s) will have the authority to stop project activities to minimize take of listed species or if they determine that any permit requirements are not fully implemented. If the agency-approved biologist(s) exercises this authority, the agencies must be notified by telephone and email within 48 hours.

**AMM BIO-11.** Preconstruction Surveys. Prior to any ground disturbance, preconstruction surveys will be conducted by an agency-approved biologist for listed species. These surveys will consist of walking surveys of the project limits and, if possible, accessible adjacent areas within at least 50 feet of the project limits. The biologist(s) will investigate all potential cover sites. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and

debris. Native vertebrates found in the cover sites within the project limits would be documented and relocated to an adequate cover site in the vicinity.

**AMM BIO-12.** Prevention of Wildlife Entrapment. To prevent inadvertent entrapment of listed species during construction, excavated holes or trenches more than one foot deep with walls steeper than 30 degrees will be covered at the close of each working day by plywood or similar materials. Alternatively, an additional four-foot-high vertical barrier, independent of exclusionary fences, will be used to further prevent the inadvertent entrapment of listed species. If it is not feasible to cover an excavation or provide an additional four-foot-high vertical barrier, independent of exclusionary fences, one or more escape ramps constructed of earthen fill or wooden planks would be installed. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape or CDFW or USFWS will be contacted by telephone for guidance. CDFW or USFWS will be notified of the incident by telephone and electronic mail within 48 hours.

**AMM BIO-13.** Wildlife Exclusion Fencing. The limits of construction zones within suitable habitat for listed species will be delineated with high visibility wildlife exclusion fencing at least four feet in height to prevent wildlife from accessing the construction footprint. The fencing will be removed only when all construction equipment is removed from the site. No project activities will occur outside the delineated project construction area. Wildlife exclusion fencing is not required for construction activities occurring outside of suitable habitat for listed species.

**AMM BIO-14.** Listed Species On-site. The Resident Engineer will immediately contact the agency-approved project biologist(s) if a listed species is observed within a construction zone. The Resident Engineer will suspend construction activities within a 50-foot radius of the animal until the animal leaves the site voluntarily or an agency-approved protocol for removal has been established.

**AMM BIO-15.** Work Window. All work within suitable aquatic habitat for steelhead and California red-legged frog will occur between June 1 and October 15, when there is less potential for an individual to enter the work area. All work within suitable upland habitat for California red-legged frog will occur between March 1 and November 30. During this time, California red-legged frog would have a lower potential for movements across upland habitat.

**AMM BIO-16.** Monofilament Erosion Control. Plastic mono-filament netting (erosion control matting) or similar material will not be used for the project because California red-legged frog and Alameda whipsnake may become entangled or trapped in it. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

**AMM BIO-17.** Concrete Waste and Stockpiles. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.

**MM BIO-1.** On-site restoration of temporarily impacted California red-legged frog habitat at a 1:1 ratio, and off-site compensatory mitigation for prolonged temporarily impacted and permanently impacted California red-legged frog habitat at a 1.5:1 and 3:1 ratio, respectively.

**MM BIO-2.** Off-site compensatory mitigation for prolonged temporarily impacted and permanently impacted Alameda whipsnake habitat at a 1.5:1 and 3:1 ratio, respectively.

## 2.4.6 Invasive Species

### 2.4.6.1 REGULATORY SETTING

On February 3, 1999, President William J. Clinton signed EO 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the NEPA analysis for a proposed project.

### 2.4.6.2 AFFECTED ENVIRONMENT

The following section summarizes information provided in the NES prepared for the project in November 2020.

The NES assessed potential for invasive species, as defined by the California Invasive Plant Council (Cal-IPC) to occur in the project area. Invasive species observed in the project area were minimal. During the tree survey, some more invasive species, such as the tree of heaven (*Ailanthus altissima*), were observed.

### 2.4.6.3 ENVIRONMENTAL CONSEQUENCES

Build Alternative

During construction of the Build Alternative, there is potential for new invasive species to be brought to the project area on equipment, material, and vehicles that are used for construction activities. There is also potential to spread existing invasive species into new areas of the project footprint, as the removed vegetation and excavated dirt are relocated from one area of the project footprint to another. In addition to this, invasive species tend to out-compete native species in areas of new ground disturbance. In compliance with the EO on Invasive Species, EO 13112, and guidance from FHWA, the landscaping and erosion control included in the project would not use species listed as invasive. As per AMMs described in section 2.4.6.4, all equipment and materials would be inspected for the presence of invasive species and cleaned, if necessary. In areas of particular sensitivity, extra precautions would be taken if invasive species are found in or next to the construction areas. These would include the inspection and cleaning of

construction equipment and eradication strategies to be implemented, should an invasion occur.

*No Build Alternative*
The No Build Alternative would have no impact to invasive species.

#### 2.4.6.4 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

In addition to the measures listed below, AMM NATURAL COMMUNITIES-1 identified in Section 2.4.1, would apply to reduce the impact of invasive species in the project area.

**AMM INVASIVE-1.** Construction equipment would arrive at the project clean and free of soil, seed, and plant parts to reduce the likelihood of introducing new weed species. Any imported fill material soil amendments, gravel, or other materials required for construction and/or restoration activities that will be placed within the upper 12 inches of the ground surface shall be free of vegetation and plant material.

**AMM INVASIVE-2.** To reduce the movement of invasive weeds into uninfested areas, the contractor shall stockpile topsoil removed during excavation (e.g., during grading of staging areas or excavation to accommodate installation of the temporary stair system and work platform) and shall subsequently reuse the stockpiled soil for reestablishment of disturbed project areas.

**AMM INVASIVE-3.** Borrow material would be certified to be non-toxic and weed free to the maximum extent possible.

## 2.5 Cumulative Impacts

### 2.5.1 Regulatory Setting

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

The CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under NEPA can be found in 40 CFR Section 1508.7.

### 2.5.2 Cumulative Impact Analysis

This cumulative impact analysis determines whether the project, in combination with projects that are planned, approved, or under construction, would result in a cumulative effect, and, if so, whether the project's contribution to the cumulative impact would be considerable. Projects considered in the cumulative impact analysis include land use developments, infrastructure, and other transportation improvements that would be located near the project. The projects included in the cumulative impact analysis are described in Table 2.5.2-1.

The cumulative impacts analysis follows the Caltrans 8-step process established in the Guidance for Preparers of Cumulative Impact Analysis: Approach and Guidance (Caltrans 2005).

Under the No Build Alternative, the Arroyo de la Laguna Bridge would not be replaced. Existing conditions would remain, and the impacts associated with the Build Alternative would not occur. Therefore, the No Build Alternative would not contribute to cumulative environmental effects in combination with other projects, and no cumulative impacts would occur.

**Table 2.5.2-1. Projects Considered in the Cumulative Impacts Analysis**

| Project Proponent/Name | Project Status | Location (Approximate distance from Project area) | Project Description | Resource Areas Considered for Cumulative Impact Analysis |
|---|---|---|---|---|
| Caltrans/Niles Canyon Safety Improvements Project (Medium-Term Improvements) | Currently in construction. | Niles Canyon Corridor, adjacent to Project area | The project will conduct various safety improvements including the installation of rock drapery systems, curve correction, tree removal and the addition of spot shoulder widening and guard railing. The project will also include replacing an existing culvert with a new bridge over Stonybrook Creek. | Biological Environment: Natural Communities, Alameda Whipsnake, and California Red-Legged Frog |
| Caltrans/Alameda Creek Bridge Replacement Project | Currently in construction. | Niles Canyon Corridor, approximately 3 miles west | The project proposes to replace the functionally obsolete Alameda Creek Bridge. | Biological Environment: Natural Communities, Alameda Whipsnake, and California Red-Legged Frog |
| Caltrans/I-680 Express Lanes from SR 84 to Alcosta Boulevard | Future project; construction of Phase 1 planned for Spring 2022 and has been combined with the southbound portion of the Caltrans/I-680 | I-680, approximately 0.7 mile east | The project will add a new express lane in both the southbound and northbound directions of I-680 from SR 84 to Alcosta Boulevard. Phase 1 will construct the southbound express lane and all project-related improvements in the median (both northbound and southbound). Phase 2 will | Biological Environment: Natural Communities, Alameda Whipsnake, and California Red-Legged Frog |

| Project Proponent/Name | Project Status | Location (Approximate distance from Project area) | Project Description | Resource Areas Considered for Cumulative Impact Analysis |
|---|---|---|---|---|
| | Pavement Rehabilitation Project (see below) | | construct the northbound express lane to approximately 0.8 mile north of Koopman Road. | |
| Caltrans/SR 84 Expressway Widening and SR 84/I-680 Interchange Improvements Project | Currently in construction. | SR 84 and SR 84/I-680 Interchange, approximately 1 mile northeast | The project proposes to conform SR 84 to expressway standards between south of Ruby Hill Drive and the I-680 interchange in southern Alameda County. The project will also improve SR 84/I-680 interchange ramps and extend the existing southbound I-680 high-occupancy vehicle/express lane northward by approximately 2 miles. | Biological Environment: Natural Communities, Alameda Whipsnake, and California Red-Legged Frog |
| Caltrans/I-680 Freeway Performance Initiative | Future project; Initial Study, Mitigated Negative Declaration (IS/MND) | I-680, approximately 0.7 mile east | The project proposes to install a ramp system for 16 on-ramps/connectors in the project limits along I-680. These on-ramps/connectors would be widened to provide for High Occupancy Vehicle preferential | Biological Environment: Alameda Whipsnake and California Red-Legged Frog |

| Project Proponent/Name | Project Status | Location (Approximate distance from Project area) | Project Description | Resource Areas Considered for Cumulative Impact Analysis |
|---|---|---|---|---|
| | approved November 2016 | | lanes and/or additional mixed-flow lanes. | |
| Caltrans/I-680 Pavement Rehabilitation Project | Southbound work: Spring 2022 Northbound work: Fall 2021 | I-680 from the Koopman Road Undercrossing to the Alcosta Boulevard Overcrossing, approximately 0.8 mile to the northeast | The project proposes to rehabilitate the mainline roadway and ramps pavement on I-680 from the Koopman Road Undercrossing in the town of Sunol to the Alcosta Boulevard Overcrossing in the city of Dublin. The project also proposes to repair or replace drainage systems, replace or upgrade guardrails, replace and upgrade the concrete median barrier within Segments 4-6, replace all signs, and implement ADA curb ramp requirements. The roadway will be rehabilitated within the same alignment, and all work will be done within the state ROW. There will be no increase in lane capacity, and no temporary or permanent acquisition of new ROW. | Biological Environment: Alameda Whipsnake, and California Red-Legged Frog |
| Caltrans – City of Pleasanton / I-680/Sunol Boulevard Interchange | Future project; Environmental Document ongoing and | I-680, 3.25 miles northeast | The project will modify intersection traffic control and geometry along Sunol Boulevard in the vicinity of the | Not available. |

| Project Proponent/Name | Project Status | Location (Approximate distance from Project area) | Project Description | Resource Areas Considered for Cumulative Impact Analysis |
|---|---|---|---|---|
| Improvements Project | construction anticipated in 2024. | | interchange, widen the southbound I-680 on-ramp from Sunol Boulevard, and construct pedestrian and bicycle improvements along Sunol Boulevard. The project would increase vehicle storage, modify lane striping on the ramps and adjacent streets, and improve pedestrian and bicycle facilities in the interchange area | |
| Alameda County/ Mission Valley Quarry (SMP-32) Reclamation Plan Amendment | Future project; EIR Addendum approved December 2020 | Niles Canyon Corridor, 0.1 mile southeast | The project proposes a Reclamation Plan Amendment to modify the boundary of SMP-32 to remove 5.51 acres along the eastern boundary that will be used for the freeway widening of I-680. | Biological Environment: Natural Communities and California Red-Legged Frog |
| Alameda County Water District/ Vallecitos Channel Maintenance Project | Future project; Environmental Document circulated March 2021 for public comment. | Vallecitos Channel near Vallecitos Lane, approximately 1.75 miles east | The project will address bank erosion along Vallecitos Channel by implementing the following treatments: vegetation and sediment management, bioengineering treatments, partial bank rock slope protection (RSP), full bank RSP, and in-kind grouted RSP replacement at drop | Biological Environment: Alameda Whipsnake, and California Red-Legged Frog |

| Project Proponent/Name | Project Status | Location (Approximate distance from Project area) | Project Description | Resource Areas Considered for Cumulative Impact Analysis |
|---|---|---|---|---|
| | | | structures. The Project also includes upland drainage improvements and riparian/wetland habitat enhancement in portions of the channel. | |
| Alameda County Public Works Agency/ Castlewood Tanks Replacement Project | Future project; IS/MND approved November 2017 | Castlewood Drive, approximately 2.75 miles to the north | The project proposes to replace two existing deteriorating 100,000-gallon redwood water tanks that provide water for domestic consumption and emergency fire control. The tanks are part of a gravity based water system situated at an elevation of 895 ft within the Castlewood County Service Area zone 2. The two existing tanks are approximately 6 ft apart and set back 9-10 ft from the downhill top of slope with approx. 5-ft high retaining walls. The new tanks will be located on the same footprint of the existing tanks after demolition. The tank replacement would meet American Water Works Association (WWA) Sections 13-2 seismic standards. | Biological Environment: Natural Communities and Alameda Whipsnake |

| **Project Proponent/Name** | **Project Status** | **Location (Approximate distance from Project area)** | **Project Description** | **Resource Areas Considered for Cumulative Impact Analysis** |
|---|---|---|---|---|
| San Francisco City and County – SFPUC/ Alameda Creek Recapture Project | Currently in construction. | South of the Interstate I-680/SR 84 and west of Calaveras Road, approximately 1.25 miles southeast | SFPUC proposes to implement the Alameda Creek Recapture Project to recapture water that the SFPUC will release from the Calaveras Reservoir and bypass around the Alameda Creek Diversion Dam when the SFPUC implements the instream flow schedule required as part of the regulatory permits for future operations of Calaveras Reservoir. The ACRP is one component of the SFPUCs water system improvement program, which has the overall objective of improving the reliability of the regional water system that serves drinking water to 2.6 million people in the bay area. | Biological Environment: Natural Communities, Alameda Whipsnake, and California Red-Legged Frog |

### 2.5.3 Resource Areas with No Contribution to Cumulative Effects

For resource areas that would have no adverse effects from the proposed project, no incremental effects would be cumulatively considerable. Therefore, no cumulative effects are anticipated for the following resources:

- Coastal Zone (Section 2.1.1);
- Wild and Scenic Rivers (Section 2.1.2);
- Timberlands (Section 2.1.3);
- Growth (Section 2.1.4);
- Environmental Justice (Section 2.1.5);
- Geology/Paleontology (Section 2.1.6);
- Air Quality (Section 2.1.7);
- Existing and Future Land Use (Section 2.2.1);
- Consistency with State, Regional, and Local Plans and Programs (Section 2.2.2);
- Parks and Recreational Facilities (Section 2.2.3);
- Farmlands (Section 2.2.4);
- Community Character and Cohesion (Section 2.2.5);
- (Section 2.2.6);
- Relocations and Real Property Acquisition (Section 2.2.6)
- Utilities/Emergency Services (Section 2.2.7);
- Traffic and Transportation/Pedestrian and Bicycle Facilities (Section 2.2.8);
- Visual/Aesthetics (Section 2.2.9);
- Hydrology and Floodplain (Section 2.3.1);
- Water Quality and Storm Water Runoff (Section 2.3.2);
- Hazardous Waste/Materials (Section 2.3.3);
- Noise (Section 2.3.4); and
- Energy (Section 2.3.5).

In addition, no cumulative effects are anticipated for the following biological resources:

- Wetlands and Other Waters (Section 2.4.2);
- Plant Species (Section 2.4.3);
- Steelhead – Central California Coast DPS (Section 2.4.5); and
- Invasive Species (Section 2.4.6).

### 2.5.4 Resources Considered for Contribution to Cumulative Effects

#### 2.5.4.1 Cultural Resources (Archaeology)

Although the Build Alternative would adversely affect an archaeological site, the site is important for what can be learned by data recovery and has minimal value for preservation in place. Caltrans is consulting with the SHPO and will develop a treatment and data recovery plan to ensure data is properly extracted from the site, resulting in no loss of information from the resource. As a result, the proposed project would not result in a contribution to cumulative effects on cultural resources (archaeology).

No cumulative effects to historic built-environment resources are anticipated.

#### 2.5.4.2 Biological Environment: Natural Communities (Trees) and Animals (Roosting Bats)

Trees and roosting bats are identified as resources to consider in the cumulative impact analysis because the Arroyo de la Laguna Bridge Project would result in both temporary impacts and permanent impacts to trees and roosting bat habitat. The resource study area (RSA) for Natural Communities encompasses the Niles Canyon corridor from SR 84 PM 10.8 to 18.0 and a 3-mile buffer around the BSA.

In the 1800s and early 1900s, four main large-scale disturbances altered natural communities in Niles Canyon. These disturbances included the construction of the Niles Canyon Railway and the Niles Canyon Road (SR 84), the modification of the Alameda Creek watershed by the Spring Valley Water Company, and the mining and manufacturing activities at the Mission Clay quarry site. For the majority of the past century, natural communities within Niles Canyon have not endured large scale developments or disturbances as the land surrounding Niles Canyon is primarily designated watershed lands and owned by public resource agencies. Additionally, the passage of Alameda County's Measure D to establish an Urban Growth Boundary preserves open space. These measures indirectly protect natural communities by preventing development in Niles Canyon and Sunol.

More recently, several projects have resulted in minor disturbances to natural communities in the RSA such as removal of trees and suitable habitat for roosting bats. However, many of these projects would result in beneficial impacts to natural communities, such as through compensatory mitigation to replace trees at greater than a 1:1 ratio and installation of bat roosting habitat on new bridge structures prior to the demolition of roosting habitat on existing structures. Tree removal and replacement

areas for each of these projects may differ or not be within the RSA, though. This is due to various reasons, including limited tree planting space within the canyon, safety issues with planting trees close to SR 84, and limitations due to property ownership. Nonetheless, natural communities in Niles Canyon and Sunol have remained intact and free from disturbance over the past century. The lack of large-scale disturbances and development in the RSA in the past century, as well as the indirect protection of natural communities by Measure D, demonstrates that the health of natural communities within Niles Canyon and Sunol is relatively stable. Additionally, given the trend of projects in the RSA that have either compensated for impacts to natural communities or proposed the restoration of natural communities and species habitat, there is no determined decline in the health of the resource.

Various projects, including the Niles Canyon Safety Improvements Project (Medium-Term Improvements), Alameda Creek Bridge Replacement Project, I-680 Express Lanes from SR 84 to Alcosta Boulevard, SR 84 Expressway Widening and SR 84/I-680 Interchange Improvements Project, Mission Valley Quarry (SMP-32) Reclamation Plan Amendment, Castlewood Tanks Replacement Project, and Alameda Creek Recapture Project, would occur within the RSA established for Natural Communities. The above listed projects would provide compensatory mitigation for impacts to natural communities or would avoid impacts to natural communities through the implementation of project AMMs.

The Arroyo de la Laguna Bridge Project has the potential to directly affect trees through tree removal or trimming within temporary and permanent impact areas. The project would result in removal of up to 251 trees, with 39 trees located within the permanent impact area, and 212 in the temporary impact area. During construction, Caltrans would try to reduce impacts to trees in temporary impact areas to the greatest extent possible. Efforts to reduce the effects to trees during project construction would be made with the implementation of AMMs as identified in Section 2.4.1.3. Additionally, Caltrans would provide compensation for impacts to trees through tree replacement on-site to the maximum extent possible and an off-site planting strategy would be developed in coordination with CDFW and RWQCB during the permitting process to address the balance of the tree mitigation needed. Trees removed from the riparian zone would be included in the CDFW 1602 Lake and Streambed Alteration Agreement application.

In addition, construction work within riparian woodland habitats would have temporary and permanent effects on roosting bats. Ground disturbing activities and the operation

of equipment near known roost sites under the current Arroyo de la Laguna Bridge have the potential to harass individual bats. Harassment of these individuals may result in the temporary avoidance of roost sites during project activities, and removal of the existing Arroyo de la Laguna Bridge would permanently remove known night roost sites for several species of bats. However, with the inclusion of night roosting habitat on the new bridge, Caltrans does not anticipate long-term impacts to bat species. The implementation of AMMs as identified in Section 2.4.4.4 would also reduce the potential for effects to roosting bats during project construction. Additionally, Caltrans would offset project impacts to foraging and tree roosting habitat through on-site restoration and enhancement activities. A roosting bat exclusion plan would also be implemented during the non-breeding season. With the inclusion of night roosting habitat on the new bridge, Caltrans does not anticipate long-term impacts to bat species.

The present and reasonably foreseeable projects with the potential to affect Natural Communities would be required to undergo an environmental review to identify, account for, and mitigate potential adverse effects that would protect the health of Natural Communities in the RSA. All trees removed as part of the above listed projects in the RSA would be replaced at a minimum of a 1:1 ratio and typically at a higher ratio dependent on the resource agency requirements. The specific tree removal area and tree replacement area may not be the same or within the RSA for all of the projects due to various reasons, including limited tree planting space within the canyon, safety issues with planting trees close to SR 84, and limitations due to property ownership. The trees being affected by the Arroyo de la Laguna Bridge Project would be mitigated through replanting on-site to the maximum extent possible and off-site if additional planting areas are required. Therefore, the Arroyo de la Laguna Bridge Project would meet resource agency requirements for tree mitigation.

The amount and quality of roosting bat habitat being impacted by the Arroyo de la Laguna Bridge Project would be offset through the creation of suitable day and night roosting habitat on the new bridge and restoration and enhancement of foraging habitat along the creek's riparian corridor. It is anticipated that effects from the project would not affect the persistence of local populations of bats in the Arroyo de la Laguna and Alameda Creek watersheds. During construction and transition from the existing bridge roosting habitat to the new bridge there is a potential risk that the bats will not utilize the roost sites created on the new bridge. Caltrans would make its best effort to ensure bat AMMs are successful for this project.

As described in Section 2.4.4.3, impacts to roosting bats from tree removal would also be limited. Trees with dense foliage or suitable crevices or holes for roosting bats are of limited number in the project area, and there is extensive remaining habitat for bats to roost in.

The Arroyo de la Laguna Bridge Project would not result in effects to trees or roosting bats that would be cumulatively considerable.

#### 2.5.4.3 Biological Environment: California Red-legged Frog

The California red-legged frog is identified as a resource to consider in the cumulative impact analysis because the Arroyo de la Laguna Bridge Project would result in both temporary impacts and permanent impacts to their habitat. The RSA for California red-legged frog encompasses the maximum dispersal distance of individuals (2 miles) around the BSA.

Based on research, historical data, and recent trends, the health of the species within the RSA is assumed to be stable since the listing of the species in 1996 (USFWS 2005). Critical habitat for the California red-legged frog was designated by the USFWS in April 2006 and revised in March 2010 (USFWS 2010). While much of Alameda County was rapidly developing and urbanizing during the 1950s and 1960s, land uses beyond the immediate developed areas of Sunol in the RSA remained mostly intact and undeveloped.

Additionally, the project is within the boundary of the South and East San Francisco Bay Recovery Unit, based on the core area maps provided in the Recovery Plan for the California Red-legged Frog (USFWS 2002). However, the project is located outside of critical habitat.

California red-legged frogs may use potential upland refugia habitat in the adjacent riparian woodland community away from the main creek channel. Since the BSA does not contain suitable breeding habitat, it is unlikely to support a high density of California red-legged frogs. Nonetheless, the passage of Alameda County's Measure D to establish an Urban Growth Boundary indirectly helps to protect California red-legged frog habitat within the RSA. Although historic urban development, particularly road and highway construction, has fragmented California red-legged frog habitat and made them more vulnerable to decline, habitat within the RSA has remained mostly intact and undeveloped. The land is predominantly owned by Alameda County, SFPUC, and private property owners. With land use planning designations insulating the majority of

the RSA from development, the health of the California red-legged frog was determined to be stable.

Various projects including the Niles Canyon Safety Improvements Project (Medium-Term Improvements), Alameda Creek Bridge Replacement Project, I-680 Express Lanes from SR 84 to Alcosta Boulevard, SR 84 Expressway Widening and SR 84/I-680 Interchange Improvements Project, Mission Valley Quarry (SMP-32) Reclamation Plan Amendment, I-680 Freeway Performance Initiative, I-680 Pavement Rehabilitation Project, Vallecitos Channel Maintenance Project, and Alameda Creek Recapture Project, would occur within the RSA established for California red-legged frog. The above listed projects would provide compensatory mitigation for impacts to California red-legged frog habitat and individual California red-legged frogs or would avoid impacts to California red-legged frog through the implementation of project avoidance and minimization measures.

The Arroyo de la Laguna Bridge Project has the potential to directly affect individual California red-legged frogs as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures and the placement of temporary and permanent fills within dispersal and foraging habitat. Activities during construction could result in injury or death to individuals in the construction area during these activities. Due to the cryptic nature of the species, detection of individuals may not always occur. While there is potential for direct mortality due to excavation and grading activities, the potential is low as this species is not expected to occur in high densities in the construction area. Indirect impacts may result from habitat exclusion, and construction activities could result in water quality degradation from erosion or sediment loading.

The project is anticipated to result in approximately 3.807 acres of prolonged temporary impacts and 0.137 acres of permanent impacts to California red-legged frog habitat. Direct effects would be minimized through implementation of AMMs as identified in Section 2.4.5.4. Additionally, Caltrans would provide compensation for impacts to California red-legged frog through on-site restoration of temporarily affected areas (at a 1:1 ratio), and off-site compensation for prolonged temporarily affected areas (at a 1.5:1 ratio) and permanently affected areas (at a 3:1 ratio) as identified in Section 2.4.5.4. Caltrans does not anticipate the project would increase barriers to wildlife movement or cause increased roadside mortality.

The present and reasonably foreseeable projects with the potential to affect the California red-legged frog include avoidance, minimization, and/or mitigation measures that would protect the health of California red-legged frog in the RSA. In addition, impacts from the Arroyo de la Laguna Bridge Project would not affect the persistence of local populations of California red-legged frogs in the Alameda Creek watershed. As a result, the Arroyo de la Laguna Bridge Project would not result in any cumulative effects to California red-legged frogs or in a cumulatively considerable contribution to cumulative impacts on California red-legged frogs. No additional measures are proposed besides those listed in Section 2.4.5.4.

#### 2.5.4.4 Biological Environment: Alameda Whipsnake

The Alameda whipsnake is identified as a resource to consider in the cumulative impact analysis because the Arroyo de la Laguna Bridge Project would result in both temporary impacts and permanent impacts to Alameda whipsnake habitat. A 4-mile buffer from all limits of the project was selected as the RSA because 4 miles is defined as the maximum dispersal distance of Alameda whipsnake individuals from scrub habitat.

Based on research, historical data, and recent trends, the health of the species within the RSA is assumed to be stable since the Alameda whipsnake's listing in 1997 (USFWS 2004). The passage of Alameda County's Measure D to establish an Urban Growth Boundary indirectly helps to protect Alameda whipsnake habitat within the RSA. While much of Alameda County was rapidly developing and urbanizing during the 1950s and 1960s, land uses beyond the immediate developed areas of Sunol in the RSA remained mostly intact and undeveloped.

The Niles Canyon corridor in the project vicinity intersects a large tract of relatively undisturbed habitat within Alameda County that contains suitable Alameda whipsnake habitat and is known to support the species. Because Alameda whipsnakes are a highly mobile species and use a wide variety of habitats adjacent to scrub habitat, all vegetated communities within the BSA have the potential to be used by the species.

Although historic urban development, particularly road and highway construction, has fragmented Alameda whipsnake habitat and made the species more vulnerable to decline, habitat within the RSA has remained mostly intact and undeveloped. The land is predominantly owned by Alameda County, SFPUC, and private property owners. With land use planning designations insulating the majority of the RSA from development, the health of Alameda whipsnakes was determined to be stable.

Various projects including the Niles Canyon Safety Improvements Project (Medium-Term Improvements), Alameda Creek Bridge Replacement Project, I-680 Express Lanes from SR 84 to Alcosta Boulevard, SR 84 Expressway Widening and SR 84/I-680 Interchange Improvements Project, I-680 Freeway Performance Initiative, I-680 Pavement Rehabilitation Project, Vallecitos Channel Maintenance Project, Castlewood Tanks Replacement Project, and Alameda Creek Recapture Project, would occur within the RSA established for Alameda whipsnake. The above listed projects would provide compensatory mitigation for impacts to Alameda whipsnake habitat and individual Alameda whipsnakes or would avoid impacts to Alameda whipsnakes through the implementation of project avoidance and minimization measures.

The Arroyo de la Laguna Bridge Project has the potential to directly affect individual Alameda whipsnakes as a result of construction activities, including site preparation, use of heavy equipment, placement of new permanent structures, and the placement of temporary and permanent fills within dispersal and foraging habitat. The project would result in approximately 3.149 acres of prolonged temporary impacts and 0.136 acre of permanent impacts to Alameda whipsnake habitat. Impacts to Alameda whipsnake critical habitat would not occur. Direct effects would be minimized through the implementation of AMMs as identified in Section 2.4.5.4. Additionally, Caltrans would provide compensation for impacts to Alameda whipsnakes through on-site restoration of temporarily affected areas (at a 1:1 ratio), and off-site compensation for prolonged temporarily affected areas (at a 1.5:1 ratio) and permanently affected areas (at a 3:1 ratio) as identified in Section 2.4.5.4. Caltrans anticipates a net beneficial effect to Niles Canyon riparian habitat due to the widening of the opening between the bridge piers that would occur as a result of the project. Caltrans does not anticipate the project would increase barriers to wildlife movement or cause increased roadside mortality.

The present and reasonably foreseeable projects with the potential to affect Alameda whipsnake include avoidance, minimization, and/or mitigation measures that would protect the health of Alameda whipsnake in the RSA. In addition, the Arroyo de la Laguna Bridge Project is anticipated to have a beneficial effect on the greater Arroyo de la Laguna and riparian habitat. As a result, the Arroyo de la Laguna Bridge Project would not result in a cumulatively considerable contribution to cumulative impacts on the species. No additional measures are proposed besides those listed in Section 2.4.5.4.

# Chapter 3 California Environmental Quality Act (CEQA) Evaluation

## 3.1 Determining Significance under CEQA

The proposed project is a joint project by Caltrans and the FHWA and is subject to state and federal environmental review requirements. Project documentation, therefore, has been prepared in compliance with both CEQA and NEPA. FHWA's responsibility for environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC Section 327 and the MOU dated December 23, 2016, and executed by FHWA and Caltrans. Caltrans is the lead agency under CEQA and NEPA.

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

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

## 3.2 CEQA Environmental Checklist

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

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects, such as BMPs and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapters 1 and 2 for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 2 in order to provide the reader with the rationale for significance determinations; for a more detailed discussion of the nature and extent of impacts, please see Chapter 2. This checklist incorporates by reference the information contained in Chapters 1 and 2.

### 3.1.1 Aesthetics

This section is summarized from the March 2020 Visual Impact Assessment.

| Except as provided in Public Resources Code Section 21099, would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect on a scenic vista? | - | - | - | x |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | - | - | x | - |
| c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | - | - | x | - |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | - | - | x | - |

**CEQA Significance Determinations for Aesthetics**

**a) <u>No Impact</u>**

No scenic vistas were identified within the project area. The project would not affect scenic vistas.

Scenic views for motorists and bicyclists through Niles Canyon and the Sunol Valley would not be adversely affected.

**b) Less Than Significant Impact**

SR 84 in the project area is officially designated as a State Scenic Highway.

Trees, shrubs, and other vegetation would be removed to accommodate temporary access roads, bridge demolition and new bridge construction, and longer and wider roadway approaches to conform to the wider bridge. The area of tree and vegetation removal would extend along SR 84 from the Main Street intersection in the west to beyond the eastern terminus of the bridge in the east, and approximately 200 feet to the north and 300 feet to the south of the existing Arroyo de la Laguna Bridge. The project is anticipated to require the removal or trimming of 251 trees, most of which are in the Caltrans right-of-way. Any trees removed outside of Caltrans right-of-way will be negotiated with the Town of Sunol during the design phase. The final number of trees to be removed will be determined during the design phase.

The areas cleared for construction would be revegetated with trees, shrubs, and grasses as part of the project (Section 1.5.12), where adequate safety setbacks exist. Replacement trees would include oak, black walnut, and sycamore. The replacement trees and shrubs would fill in over time, and Caltrans would monitor revegetation for 10 years. The project area revegetation measures in Section 1.5.12 would minimize impacts to trees along the State Scenic Highway and help restore the scenic quality of the project area. Impacts would be considered less than significant. The AMMs listed in Section 2.2.9.4 would further reduce visual impacts of tree removal by providing partial rescreening of the project elements and including aesthetic treatments for new bridge elements. Section 2.4.1.3 (MM NATURAL COMMUNITIES-1 and MM NATURAL COMMUNITIES-2) includes specific revegetation provisions for upland and riparian trees.

The project would not damage rock outcroppings or historic buildings.

**c) Less Than Significant Impact**

The project area is rural, with most residential, educational, and commercial land uses screened from highway views by dense mature trees and shrubs. Tree removal and other changes in views of the project area from publicly accessible vantage points are described in detail in Section 2.2.9.3.

The areas cleared for construction would be revegetated with trees, shrubs, and grasses as part of the project (Section 1.5.12), where adequate safety setbacks exist.

Replacement trees and shrubs would fill in over time. The inclusion of these project features would avoid substantial degradation of the existing visual character or quality of public views of the site and its surroundings. Impacts would be considered less than significant. As described for Item b, above, other measures would further reduce impacts to the visual character and quality of public views.

**d) Less Than Significant Impact**

The proposed project does not include new roadway lighting and would not result in a new source of light or glare that would adversely affect day or nighttime views. During construction, lighting would be used temporarily for nighttime work activities.

Motorists traveling at night would have brief views of nighttime construction lighting and activities when passing through the project area. The views would not be adverse due to their short duration.

The nearest residence, on Main Street in the town of Sunol, is located 240 feet north of SR 84. At that distance, no adverse impacts from nighttime construction lighting would occur. Bicyclists, pedestrians, and highway neighbors at Sunol Glen Elementary School, the market, and other adjacent properties are not anticipated to be present during nighttime construction; therefore, their views would not be affected.

Impacts from temporary construction lighting would be less than significant. AMM VIS-6 in Section 2.2.9.4 would further reduce temporary impacts by limiting construction lighting to the immediate work area and using directional lighting and shielding to minimize light trespass.

### 3.1.2 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 Department 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: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | - | - | - | x |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | - | - | - | x |
| 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))? | - | - | - | x |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | - | - | - | x |

| | | | | |
|---|---|---|---|---|
| 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? | - | - | - | x |

**CEQA Significance Determinations for Agriculture and Forest Resources**

**a) No Impact**

As discussed in Section 2.2.4, the Build Alternative would require the permanent partial property acquisition of 0.11 acre of Prime Farmland and 0.52 acre of Grazing Land to accommodate the widened bridge and roadway shoulder widening. During project construction, about 0.10 acre of Prime Farmland and 2.98 acres of Grazing Land would also be needed for temporary staging of equipment and materials. The permanent and temporary property acquisitions would not affect lands currently used for purposes related to long-term agricultural production or grazing, as defined by the Prime Farmlands and Grazing Land designations. There are no changes anticipated to unique farmland, or farmland of statewide importance.

**b) No Impact**

There are no parcels under a Williamson Act contract within the project limits.

**c, d) No Impact**

There are no forest or timberlands within the project limits. No conflicts are anticipated with areas zoned as forest land or timberland.

**e) No Impact**

There are no prime farmland areas, no parcels under a Williamson Act contract, and no forest or timberlands within the project limits. No conversion of agricultural land to non-agricultural use or conversion of forest land to non-forest use is anticipated as a result of this project.

### 3.1.3 Air Quality

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | - | - | x | - |
| b) 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? | - | - | x | - |
| c) Expose sensitive receptors to substantial pollutant concentrations? | - | - | x | - |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | - | - | x | - |

**CEQA Significance Determinations for Air Quality**

**a, b, c, and d) <u>Less Than Significant Impact</u>**

The Build Alternative would not increase capacity or affect traffic volumes. The project is included in the current Regional Transportation Plan, Plan Bay Area 2040 (ABAG and MTC 2017). The Build Alternative is also included in the 2021 TIP (MTC 2021). The RTP and TIP conform to the State Implementation Plan, which is the state's plan to attain air quality standards set by the U.S. EPA. The Build Alternative is exempt from the requirement to determine project-level conformity per 40 CFR 93.126 because it is limited to "widening narrow pavements or reconstructing bridges (no additional lanes)." The project includes implementation of standard Caltrans measures, such as complying with air pollution control rules, regulations, ordinances, and statutes (Section 1.5.13.5), which would avoid or minimize construction-related air quality effects. In addition, construction of the retaining wall along the SR 84 frontage of Sunol Glen Elementary

School would be scheduled during the school's summer break and be completed within three to five weeks, to avoid impacts to sensitive receptors.

With implementation of these standard measures, the project would not conflict with or obstruct implementation of the applicable air quality plan, result in a cumulatively considerable net increase of any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in emissions or odors that would adversely affect a substantial number of people. Impacts would be less than significant.

### 3.1.4 Biological Resources

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries? | - | x | - | - |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service? | - | x | - | - |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | - | x | - | - |
| 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? | - | - | x | - |

| | | | | |
|---|---|---|---|---|
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | - | - | - | x |
| 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? | - | - | - | x |

**CEQA Significance Determinations for Biological Resources**

**a) Less Than Significant with Mitigation Incorporated**

***Special-Status Plant Species***

As detailed in Section 2.4.3.2, a total of 11 plant species were initially evaluated for potential presence in the BSA. No federal or state listed plant species have potential to occur in the BSA. Three rare plant species (with California Rare Plant Ranks [CRPR]) were determined to have a low potential to occur within the BSA: bristly leptosiphon, San Antonio Hills monardella, and slender-leaved pondweed. Plant surveys conducted in 2016 and 2019 did not detect federally or state-listed plants or plants with CRPR in the BSA.

***Special-Status Animal Species***

As detailed in Sections 2.4.4 and 2.4.5, 37 special-status wildlife species were initially reviewed for potential presence in the BSA. Wildlife habitat assessments were conducted in March 2017 and February 2019, along with a roosting bat survey in May 2017. After these assessments, 13 of these species were dropped from consideration based on a lack of suitable habitat in the BSA. Species with moderate to high potential to occur are detailed in Sections 2.4.4 and 2.4.5 and summarized below.

California Species of Special Concern & CDFW Special Animals List

Twelve state species of special concern and/or species listed on CDFW's Special Animals List were considered to have a moderate to high potential to occur in the project area.

Nine bat species have suitable foraging and/or roosting habitat in the project area. Ground-disturbing activities and the operation of equipment near known roost sites

under the existing Arroyo de la Laguna Bridge have the potential to harass individual bats. Harassment of these individuals may result in the temporary avoidance of roost sites during construction activities. Removal of the existing Arroyo de la Laguna Bridge would permanently remove known night roost sites for several species of bats. With implementation of AMM BIO-6, inclusion of night roosting habitat on the new bridge, Caltrans does not anticipate long-term impacts to bat species.

Great blue herons have foraging habitat in the project area, which also contains large trees that could potentially provide nesting colony habitat. Migratory bird protections, including nesting bird surveys and construction monitoring, would minimize the potential for project impacts to this species.

San Francisco dusky-footed woodrats are likely to travel throughout the project area and may nest within the floodplain of the creek. Middens located in construction area would have to be removed and/or relocated. If any middens are in the temporary impact zone, they may not need to be relocated depending on the type of project activities that would occur, but construction could disturb the woodrats enough to cause midden abandonment. Caltrans does not anticipate long-term impacts to woodrat.

In the project area, suitable aquatic habitat for western pond turtle occurs in sun-exposed portions of Arroyo de la Laguna, and suitable nesting habitat is present in adjacent upland areas with short vegetation. Direct effects to western pond turtle may result from relocation efforts and earth-moving activities in potential habitat during construction of the Build Alternative. The project's Build Alternative would also result in the removal of existing bridge footings from the creek channel, which would allow the stream to take on a more natural morphology and benefit western pond turtles. Caltrans does not anticipate long-term impacts to western pond turtle.

AMMs BIO-1 through BIO-11 would minimize the potential impacts to state species of special concern and species listed on CDFW's Special Animals List.

Federally and/or State Listed Species

Three species with moderate to high likelihood of presence in the project area are federally and/or state listed: Alameda whipsnake, California red-legged frog, and California Central Coast DPS steelhead. Natural history and occurrence information for each is detailed in Section 2.4.5 and summarized below.

*Alameda whipsnake*

There is a low potential for direct mortality of individual Alameda whipsnakes during the

construction phase of the Build Alternative. Implementation of AMMs BIO-12 through BIO-17, BIO-19, and BIO-20 (see Section 2.4.5.4) would reduce this risk by requiring surveys, monitoring, and exclusion fencing installation, as well as proper waste storage and erosion control measures. As further detailed in Section 2.4.5.3 prolonged temporary impacts to Alameda whipsnake habitat would total 3.149 acres, and permanent impacts (all in valley-foothill riparian habitat) would total 0.136 acre. Impacts to Alameda whipsnake critical habitat would not occur.

To further reduce impacts to Alameda whipsnake, Caltrans would restore impacted habitat on-site and provide compensation for prolonged temporary and permanent impacts to the species through off-site compensatory mitigation (MM BIO-2).

*California red-legged frog*

Direct effects to individual frogs may occur as a result of the Build Alternative's construction activities, including site preparation, use of heavy equipment, placement of new permanent structures, and the placement of temporary and permanent fills within dispersal and foraging habitat. The potential for direct impacts is low because this species is not expected to occur in high densities in the construction area. There is no suitable breeding habitat for California red-legged frog within Arroyo de la Laguna within the project area.

Indirect impacts may result from habitat exclusion, and construction activities could result in water quality degradation from erosion or sediment loading. The impacts to California red-legged frog habitat include 3.807 acres of prolonged temporary impacts to riverine and upland habitats, and 0.137 acre of permanent impacts to riparian habitat and riverine habitat. Construction activities would be conducted during the dry season, when adult frogs are not expected to be dispersing through the project area.

To reduce impacts to California red-legged frog, Caltrans would restore impacted habitat on-site and provide compensation for prolonged temporary and permanent impacts to the species through off-site compensatory mitigation (MM BIO-1).

*Central California Coast DPS Steelhead*

Direct effects to protected steelhead in the form of fish handling may occur during the dewatering process that would occur during construction of the Build Alternative. Indirect effects may result from habitat exclusion and construction activities that degrade water quality from erosion or sediment loading.

Temporary effects to protected steelhead habitat in the project area may result from installation of creek diversion and dewatering structures, placement of falsework, construction of the new bridge, and removal of the existing bridge structure within the area that is dewatered. Prolonged temporary impacts would affect 2.998 acres of steelhead habitat, and permanent impacts affect 0.137 acre. These impacts are further detailed in Section 2.4.5.3.

Permanent effects to steelhead habitat that result from the project would be offset through the restoration of areas currently occupied by the existing bridge piers and abutments, as well as by habitat restoration following construction. The new bridge would also be raised 1 to 3 feet higher than the existing bridge, which would allow more water to pass beneath the bridge unobstructed. As a result of the restoration and enhancement efforts, the riparian corridor in all temporary and prolonged-temporary impact areas along the new bridge would be restored. No compensatory mitigation is currently being proposed for the species. Continued coordination and consultation with NMFS and CDFW will occur to finalize the mitigation requirements for this species.

The use of Caltrans standard BMPs; AMMs BIO-1 through BIO-20, which include seasonal avoidance, preconstruction surveys, and biological monitors; and compensatory mitigation for impacts to species habitat would reduce impacts to bat species, migratory birds, San Francisco dusky-footed woodrat, western pond turtle, Alameda whipsnake, California red-legged frog, and California Central Coast DPS steelhead to less than significant.

**b) Less Than Significant Impact with Mitigation Incorporated**

As detailed in Section 2.4.1, tree removal and ground disturbance from construction activities are anticipated, including the removal of riparian trees and habitat.

The Build Alternative would result in 3.149 acres of prolonged temporary and 0.136 acre of permanent impacts to vegetated land (all land cover types except ruderal/urban land cover and aquatic features). This includes 0.136 acre of permanent impacts to riparian forest. These impacts would result from construction activities to remove and replace the bridge structure.

For the Build Alternative, tree removal and trimming is anticipated for worker safety and construction access to the bridge. A maximum of 251 trees would be affected. See Section 2.4.1 Natural Communities for further detail on tree impacts.

After construction, all temporarily affected areas would be revegetated with appropriate native plants for the area. Caltrans would mitigate all tree removal through tree replacement at appropriate replacement ratios according to species of tree, location, and permit requirements. For upland trees that are removed, Caltrans would provide tree replacement on-site. Trees removed from the riparian zone would be replaced on-site, to the maximum extent possible given the space available. Details for off-site planting and riparian tree planting success criteria would be determined during the design and permitting phase of the project with CDFW and RWQCB.

With the implementation of Caltrans standard BMPs, AMM NATURAL COMMUNITIES-1, and MMs NATURAL COMMUNITIES-1 and NATURAL COMMUNITIES-2, impacts to riparian and other sensitive natural communities would be less than significant.

**c) Less Than Significant with Mitigation Incorporated**

As detailed in Section 2.4.2.3, the Build Alternative would result in 0.001 acre of permanent impacts and 0.658 acre of prolonged temporary impacts to USACE and CDFW jurisdictional waters resulting from the installation of a temporary creek diversion to prevent debris and other construction byproducts from entering Arroyo de la Laguna Creek.

Within the project area, there are 0.320 acre of forested and scrub-shrub wetlands. Of this acreage, the Build Alternative would result in 0.286 acre of prolonged temporary impacts and no permanent impacts.

While the Build Alternative would result in impacts to wetlands and other waters, replacement of the bridge would result in the removal of existing bridge footings from the creek channel. This would beneficially affect Arroyo de la Laguna by allowing the stream to take on a more natural morphology and facilitating the development of linear in-stream wetlands along the banks.

Water quality standard measures (see Section 1.5.13.7) would be implemented to protect all other waters of the U.S., including wetlands, from indirect effects.

In addition, a Compensatory Mitigation Proposal would be submitted to the USACE prior to construction. Proposed compensation includes removal of current in-stream bridge columns of the existing bridge and restoration and revegetation of all temporarily

impacted wetlands. Final mitigation requirements would be established with USACE during the permitting phase of the project.

With the use of Caltrans standard BMPs and AMMs, and the proposed mitigation, the project is expected to have a less than significant impact on protected wetlands and waters.

**d) Less Than Significant Impact**

As discussed in sections 2.4.1, 2.4.4, and 2.4.5, several species of animals, including state and federally listed species, are expected to have a moderate to high chance of occurring in the project area.

Construction of the Build Alternative would include installation of a creek diversion and dewatering structures and new bridge construction that would result in temporary direct and indirect effects to California Central Coast DPS steelhead, which may use the project area as a migratory corridor.

The implementation of the AMMs listed in Sections 2.4.4 and 2.4.5, which include wildlife exclusion fencing and seasonal work restrictions, would minimize project impacts to species by allowing for their safe passage outside the proposed construction area and limiting construction to seasons when species are least likely to move through the project area. The project would have a less than significant impact to migratory wildlife corridors.

**e) No Impact.**

The Alameda County Tree Ordinance, Ordinance No. 0-2003-23, requires that trees removed on County property must be identified and permitted prior to removal. Trees within Caltrans right-of-way are under state control and are not subject to this ordinance. Caltrans will coordinate with local agencies in a good faith effort to comply with local tree ordinances. The project would not interfere with any other local policies or ordinances protecting biological resources.

**f) No Impact**

The project would be consistent with applicable regional conservation plans, which are described in Section 2.2.2. No Habitat Conservation Plans or Natural Community Conservation Plans have been adopted in the project area.

### 3.1.5 Cultural Resources

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? | - | - | - | x |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | - | x | - | - |
| c) Disturb any human remains, including those interred outside of dedicated cemeteries? | - | x | - | - |

**CEQA Significance Determinations for Cultural Resources**

**a) <u>No Impact</u>**

Construction of the Build Alternative would occur within the boundaries of the Sunol Water Temple, a historical resource. During construction activities, the project would implement AMM CULTURAL-3 to establish an ESA that would protect the Water Temple gates, which are east of the project at the Niles Canyon/Temple Road intersection. With implementation of this AMM, the project would have no impact to historical resources as defined in the CEQA guidelines, Section 15064.5.

**b) <u>Less Than Significant with Mitigation Incorporated</u>**

Construction of the Build Alternative would adversely affect an archaeological property within the APE. Caltrans will consult with the SHPO on an Adverse Effect determination and development of an MOA for the treatment of the archaeological site. Caltrans is also consulting with Native American tribes in the area regarding the treatment of the archaeological site. The project would have a significant impact to archaeological resources. However, with the implementation of MMs CULTURAL-1 and CULTURAL-2, this impact would be less than significant. Refer to Section 2.2.10 for a more detailed analysis.

**c) Less Than Significant Impact with Mitigation Incorporated**

Construction of the Build Alternative would require work within an archaeological property known to contain human remains. Caltrans will consult with the SHPO on an Adverse Effect determination and development of an MOA for the treatment of the archaeological site. Caltrans is also consulting with Native American tribes in the area regarding the treatment of the archaeological site. The project would have a significant impact to archaeological resources. However, with the implementation of AMMs CULTURAL-1 and CULTURAL-2 and MMs CULTURAL-1 and CULTURAL-2, this impact would be less than significant. Refer to Section 2.1.10 for a more detailed analysis.

### 3.1.6 Energy

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | - | - | - | x |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | - | - | - | x |

**CEQA Significance Determinations for Energy**

**a) No Impact**

The project does not propose changes in the use of the current roadway and would not increase capacity. Energy in the form of gas and diesel would be consumed during construction and ongoing maintenance activities by construction vehicles and equipment operating on-site, trucks delivering equipment and supplies, and construction workers driving to and from the project site. Energy consumption during project construction would be temporary and minimized to the maximum extent practicable. BMPs such as providing ongoing maintenance of vehicles and equipment and limiting the idling of vehicles and equipment would be incorporated during construction activities. As such, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. Since the project would not increase road capacity following construction activities, there would be no change in the amount of energy consumed. Therefore, mitigation measures are not required.

**b) No Impact**

The project does not propose changes in the use of the current roadway and would not increase capacity. The project would not have any long-term implications for energy consumption. Following construction activities, energy use would be unchanged by the project. Caltrans work would not conflict with the implementation of local and state plans related to energy and energy efficiency.

### 3.1.7 Geology and Soils

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | - | - | - | X |
| 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. | - | - | - | x |
| ii) Strong seismic ground shaking? | - | - | - | x |
| iii) Seismic-related ground failure, including liquefaction? | - | - | - | x |
| iv) Landslides? | - | - | - | x |
| b) Result in substantial soil erosion or the loss of topsoil? | - | - | - | x |
| 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? | - | - | - | x |

| | | | | |
|---|---|---|---|---|
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | - | - | - | x |
| 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? | - | - | - | x |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | - | - | - | x |

**CEQA Significance Determinations for Geology and Soils**

**a) No Impact**

The proposed project would not exacerbate the potential for shaking due to seismic activity. The intensity of the earthquake ground motion at the site would depend on the characteristics of the generating fault, distance to the earthquake epicenter, magnitude and duration of the earthquake, and specific site geologic conditions. The Calaveras fault is 0.40 mile from the project. No fault is within the immediate vicinity of the project.

Caltrans design and construction guidelines incorporate engineering standards that address seismic risks, including ground failure related to liquefaction, landslides, and lateral spreading. Elements of the Build Alternative would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the final project design and engineering phase. These standards and requirements would reduce the potential for adverse impacts related to seismic activity to less than significant.

**b) No Impact**

Construction of the Build Alternative would involve soil disturbance, earth-moving activities, excavation, and tree/shrub removal. Exposed soils could be subject to erosional forces from water and wind for the duration of these activities, particularly in areas with steeper slopes. However, implementation of standard Caltrans practices and

BMPs for erosion control (see Section 1.5.13.7) would be incorporated to prevent erosion during construction, and adverse impacts would be avoided.

**c) No Impact**

The proposed project would not exacerbate the potential for seismic shaking. The intensity of the earthquake ground motion at the project site would depend on the characteristics of the generating fault, distance to the earthquake epicenter, magnitude, and duration of the earthquake, and specific site geologic conditions. Caltrans design and construction guidelines incorporate engineering standards that address seismic risks, including ground failure related to liquefaction, landslides, and lateral spreading. All elements of the Build Alternative would be designed and constructed to meet seismic design requirements for ground shaking and ground motions, as determined for the project vicinity and site conditions. Caltrans also requires additional geotechnical subsurface and design investigations to be performed during the final project design and engineering phase. These standards and requirements would avoid the potential for adverse impacts related to seismic activity.

**d) No Impact**

The project would be located on Yolo loam and Zamora silt loam soils, both well-drained soils mostly composed of sand, silt, and clay. The project is not located on a geologic unit that is unstable, nor is it located on an expansive soil. Therefore, no impacts would occur.

**e) No Impact**

The proposed project does not include the construction of new septic tanks or other wastewater disposal systems. Therefore, there would be no impact and no mitigation would be required.

**f) No Impact**

The project would be constructed on previously disturbed soils and on alluvium of relatively recent deposits that may include insignificant fossils. Soils that are paleontologically sensitive would not be encountered. Thus, the proposed project would not impact paleontological resources.

### 3.1.8 Greenhouse Gas Emissions

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | - | - | x | - |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | - | - | x | - |

**CEQA Significance Determinations for Greenhouse Gas Emissions**

**a) Less Than Significant Impact**

Section 3.2.3 provides an analysis of construction-related and operational greenhouse gas (GHG) emissions. Construction-related GHG emissions were calculated using the Road Construction Emissions Model (RCEM), version 9.0.0, provided by the Sacramento Metropolitan Air Quality Management District. Construction duration would total three years, and the total amount of carbon dioxide ($CO_2$) produced during construction of the project would be 705.91 tons. While the project would result in GHG emissions during construction, no increase in vehicle miles traveled would occur because the project would not increase the number of travel lanes on SR 84. Therefore, the project is not anticipated to result in an increase in operational GHG emissions. With implementation of construction emissions reduction measures identified in Section 1.5.13.5, construction-related impacts would be less than significant.

**b) Less Than Significant Impact**

Alameda County's Unincorporated Community Climate Action Plan aims to reduce GHG emissions to 80% below 1990 levels by 2050. This target, consistent with state and regional climate protection goals, is supported by a policy framework that includes measures such as participation in regional land use planning efforts that support pedestrian-friendly design (Alameda County 2014). The project would be consistent with the County's Climate Action Plan because it would expand bicycle and pedestrian

infrastructure in the project area, which would encourage other modes of transportation and reduce GHG emissions. During construction of the proposed project, Caltrans would require compliance with all local climate action plans, and State and federal regulations, ordinances, and statutes that apply to GHG emissions. The project is not anticipated to result in an increase in operational GHG emissions, and construction GHG emissions would be minimized. Accordingly, the project would not conflict with plans, policies, or regulations aimed at reducing GHG emissions.

### 3.1.9 Hazards and Hazardous Materials

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | - | - | - | x |
| 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? | - | - | - | x |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | - | - | x | - |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | - | - | - | x |

| | | | | |
|---|---|---|---|---|
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | - | - | - | x |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | - | - | x | - |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | - | - | - | x |

**CEQA Significance Determinations for Hazards and Hazardous Materials**

**a, b) <u>No Impact</u>**

As discussed in Section 2.3.3, the project area may contain soils with lead deposition, and the existing bridge structure may feature asbestos-containing materials. Demolition of the existing bridge may result in release of hazardous materials, i.e., asbestos-containing materials.

During the design phase of the project, roadside soils would be tested for lead deposition as necessary, and a bridge survey would be conducted to determine presence or absence of asbestos-containing materials. If lead or asbestos is identified, Caltrans would follow procedures for proper handling and management of lead-contaminated soils and asbestos-containing materials during construction, as outlined in Caltrans Standard Specifications Section 14-11.

Additionally, vehicles and equipment used during construction would be powered with fuels such as gasoline and diesel. These fuels are hazardous and could pose a significant threat to human health or the environment if not properly managed. Caltrans would use standard measures, as outlined in Caltrans Standard Specifications section

13-4, to limit the exposure of hazardous materials to human health and the environment.

Further adherence to federal and state regulations during project construction and maintenance would reduce the risk of exposure to hazardous materials and accidental releases of hazardous materials. Compliance with existing regulations is mandatory. Therefore, construction of the proposed project is not expected to create a hazard to construction workers, the public, or the environment. Once completed, operation of the project would not involve the use of hazardous materials.

**c) Less Than Significant Impact**

The project is located immediately south of Sunol Glen Elementary School. As described in Section 2.3.3, the project area may contain soils with lead and the existing bridge structure may feature asbestos-containing materials.

During the project's design phase, roadside soils would be tested for lead deposition as necessary, and a bridge survey would be conducted to determine the presence or absence of asbestos-containing materials on the bridge structure. If lead or asbestos is identified, Caltrans would follow procedures for proper handling and management of lead-contaminated soils and asbestos-containing materials during construction, as outlined in Caltrans Standard Specifications section 14-11.

Introduction of hazardous materials to the project area would be limited to the use of fuels such as gasoline and diesel. Caltrans would use standard measures outlined in Caltrans Standard Specifications Section 13-4 (see Section 1.5.13.6), including mandatory compliance with existing regulations, to limit the exposure of hazardous wastes/substances to the school.

**d) No Impact**

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962. Therefore, there would be no impact.

**e) No Impact**

The project location is not within 2 miles of an airport or airstrip. Therefore, there would be no impact.

**f) Less Than Significant Impact**

This project does not propose changes in the use of the current roadway and would not require or cause changes in the use of adjacent properties. Two lanes of SR 84 would remain open during daytime construction. Full closures of both eastbound and westbound SR 84 would be necessary for about 21 nights per construction season. Prior to construction, Caltrans would develop a TMP to minimize delays during both day and nighttime construction (see Section 1.5.13.1). The TMP would include detours to ensure access to and from surrounding properties during full roadway closures in the night.

Impacts to emergency services would be temporary. With implementation of a TMP, the proposed project would not significantly impair or interfere with an emergency response or emergency evacuation plan.

**g) No Impact**

The project would replace an existing bridge and would not contribute to the risk of wildland fires in the project area. During construction, Caltrans would implement standard measures for minimizing fire risks. The project would not expose people or structures to any risk involving wildland fires.

### 3.1.10 Hydrology and Water Quality

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? | - | - | x | - |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | - | - | X | - |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | - | - | x | - |
| (i) result in substantial erosion or siltation on- or off-site; | - | - | x | - |
| (ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | - | - | - | x |
| (iii) 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; or | - | - | - | x |
| (iv) impede or redirect flood flows? | - | - | - | x |

| | | | | |
|---|---|---|---|---|
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | - | - | - | x |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | - | - | - | x |

**CEQA Significance Determinations for Hydrology and Water Quality**

**a) Less Than Significant**

As discussed in Section 2.3.2, project construction would result in temporary impacts to water quality from installation and removal of the creek diversion system. The project's total DSA is estimated at 7.03 acres; this acreage includes staging areas, temporary grading, cut and fill areas, new pavement, and pavement replacement areas. Road shoulder widening would result in 0.48 acre of net new impervious area. As described in Section 1.5.1, Caltrans would use a temporary creek diversion to construct the new Arroyo de la Laguna Bridge. The implementation of water quality standard measures (see Section 1.5.13.7) and AMMs in accordance with Section 401 and 404 permitting would substantially reduce impacts to hydrology and water quality during construction. Additionally, with implementation of these measures, the increase in impervious surface after project construction would not result in the deposition and transport of sediment and vehicular-related pollutants in excess of existing conditions.

**b) Less Than Significant Impact**

The project area is located within the Sunol Valley Basin (Sunol Valley Unit). There are limited data with respect to number and yield wells in the Sunol Valley Basin. The groundwater levels within the project area can be assumed to be at creek level.

The project would require a temporary creek diversion for construction of the new bridge. With the diversion in place, water would not flow over a small portion of the channel, and groundwater levels may be temporarily affected. In addition, the project would install six 36-inch-diameter CIDH piles for the new bridge abutments and piers. Dewatering of groundwater may be necessary to install these piles. Groundwater from dewatering of excavations would be stored in Baker tanks during construction and discharged and/or disposed of in accordance with provisions in the project's NPDES permit.

Changes to groundwater occurrence and levels due to project construction, if groundwater levels are affected at all, would not detrimentally affect regional groundwater production or change the existing water quality.

After construction, the project would result in 0.48 acre of net new impervious area due to roadway shoulder widening. The new impervious area would not require modification of existing drainages and is not expected to impact the existing volumes of surface runoff that would interfere substantially with groundwater recharge.

The project is not expected to significantly impact groundwater supplies.

**c) Less Than Significant Impact**

*i. Less Than Significant Impact*
As described in Section 2.3.2, construction of the Build Alternative would result in soil erosion from grading and earthmoving activities. With implementation of standard Caltrans BMPs and AMMs in accordance with the Section 401 and 404 permits, potential impacts related to erosion or siltation on- or off-site during and after construction would be less than significant.

*ii., iii, iv. No Impact*
As described in section 2.3.1, based on the base flood elevation, the existing bridge would overtop in a 100-year storm event. The bridge replacement and scour remediation within the creek as part of the Build Alternative would not change the 100-year storm event elevations. Related roadway shoulder widening, which would not impact the creek, would also have no impact to the base floodplain elevation. In addition, the project proposes no changes to existing drainage systems. The project would increase impervious surface by 0.48 acre. With implementation of permanent BMPs and permitted AMMs, the project would not substantially increase the amount of runoff on- or off-site or contribute to runoff that would exceed the capacity of existing drainage systems.

The Build Alternative would remove existing bridge columns in Arroyo de la Laguna, which would help restore the natural flow patterns in the waterway. The project would not impede flood flows, and redirection of flood flows resulting from restoration of natural flow patterns in the waterway would not adversely affect the environment.

The impacts of the Build Alternative would be less than significant.

**d) No Impact**

The project is located within the FEMA Base Floodplain for Arroyo de la Laguna. The project would replace an existing bridge, and bridge replacement and related roadway shoulder widening would not impact the creek or change the base floodplain elevation. In addition, the project proposes no changes to existing drainage systems. The project would increase impervious surface by 0.48 acre. With the implementation of permanent BMPs and permitted AMMs, the project would not contribute to an increase in the release of pollutants in excess of existing conditions due to inundation.

**e) No Impact**

The proposed project would require a Section 404 permit issued by USACE and a CWA 401 Water Quality Certification from the San Francisco RWQCB. Permits would require project implementation of measures in accordance with applicable water quality control plans. The project is not expected to impact groundwater supplies.

The proposed project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan.

### 3.1.11 Land Use and Planning

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Physically divide an established community? | - | - | - | x |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | - | - | - | x |

**CEQA Significance Determinations for Land Use and Planning**

**a) <u>No Impact</u>**

The proposed project would be constructed primarily within existing Caltrans right-of-way. The temporary use of adjacent properties to accommodate construction equipment and access would be required during construction. In addition, the Build Alternative would require the permanent partial property acquisition of an agricultural parcel immediately south of SR 84 to accommodate widening of the bridge profile and bridge approaches. Temporary and permanent property acquisitions are described in more detail in Section 2.2.6. The project would not require any full property acquisitions and would not relocate any residences or businesses. The project would replace a bridge that provides access to and from the town of Sunol. The project would not physically divide an established community.

**b) <u>No Impact</u>**

As stated in Section 2.2.2, the project would be generally consistent with all applicable land use plans, policies, and regulations. The project would not result in a change in the current use of lands adjacent to the project. Furthermore, the project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted to avoid or mitigate an environmental effect.

### 3.1.12 Mineral Resources

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | - | - | - | x |
| 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? | - | - | - | x |

**CEQA Significance Determinations for Mineral Resources**

**a, b) <u>No Impact</u>**

The project area is immediately adjacent to the Mission Valley Rock Quarry, a 139-acre permitted gravel pit located south of Paloma Way and east of Temple Road. However, the project area is not mapped by the state geologist in accordance with the state mineral land classification system (California Department of Conservation, Division of Mines and Geology 1996). The project would not involve mining or require the acquisition of land where active mining operations are occurring. The project would not result in the loss of availability of a known mineral resource or mineral recovery site.

### 3.1.13 Noise

| Would the project result in: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | - | - | x | - |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | - | - | - | x |
| c) For a project located within the vicinity of a private airstrip or 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? | - | - | - | x |

**CEQA Significance Determinations for Noise**

**a) <u>Less Than Significant Impact</u>**

The Build Alternative would not increase the capacity of SR 84 or the Arroyo de la Laguna Bridge for motor vehicles and therefore would not result in a permanent increase in ambient noise levels.

Section 2.3.4.4 includes standard measures (Caltrans Standard Specifications Section 14-8.02) and AMM NOISE-1 to reduce potential temporary noise impacts from project construction. Per 2018 Caltrans Standard Specifications Section 14-8.02, construction activities are not to exceed 86 dBA $L_{max}$ (maximum sound level) at a distance of 50 feet from a sensitive receptor between 9 PM and 6 AM. In addition, California Streets and Highway Code Section 216 requires school interior noise levels not to exceed 52 dBA $L_{eq}$ (equivalent sound level). As described in Section 2.3.4.3, these construction noise

thresholds could be met or exceeded at the Sunol Glen Elementary School sports field during bridge demolition (92 dBA $L_{max}$), and at school interior areas during bridge demolition (54 dBA $L_{eq}$), excavation/grading (52 dBA $L_{eq}$), and paving (52 dBA $L_{eq}$). These activities are expected to take place primarily between 9 PM and 6 AM, when sensitive receptors are not expected to be present, and during months when school is not in session. If such work must be conducted on school days during school hours, temporary construction sound control would be necessary, as feasible, to block the line of sight between the construction equipment/construction noise and the school buildings.

Implementation of AMM NOISE-1 would reduce short-term (construction) noise impacts to less than significant.

**b) No Impact**

The project does not include features or construction activities that would result in excessive groundborne vibration or groundborne noise for nearby receptors.

**c) No Impact**

The project is not located within the vicinity of a private airstrip, an airport land use plan, or within two miles of a public airport or public use airport. Therefore, the project would not expose people residing or working in the project area to excessive aviation noise.

### 3.1.14 Population and Housing

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Induce substantial unplanned 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)? | - | - | - | x |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | - | - | - | x |

**CEQA Significance Determinations for Population and Housing**

**a) <u>No Impact</u>**

The proposed project would not induce substantial population growth, directly (e.g., through construction of new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure). The proposed improvements to SR 84 would not induce planned growth in or around the project limits because they would not remove obstacles to development or provide new access to any undeveloped land. Therefore, the project would not induce substantial population growth, either directly or indirectly.

**b) <u>No Impact</u>**

The project would not require residential or business relocations, and would not displace substantial numbers of existing people or housing that would necessitate the construction of replacement housing elsewhere.

### 3.1.15 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: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| Fire protection? | - | - | - | x |
| Police protection? | - | - | - | x |
| Schools? | - | - | - | x |
| Parks? | - | - | - | x |
| Other public facilities? | - | - | - | x |

**CEQA Significance Determinations for Public Services**

**a) <u>No Impact</u>**

The project would not involve construction of new housing or other land uses that could increase the local population and demand for governmental facilities and services, such as fire protection, police protection, schools, or parks. The project would not result in a need for new or physically altered governmental facilities in order to maintain acceptable service ratios or response times for fire protection, police protection, schools, parks, or other public facilities.

### 3.1.16 Recreation

| | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | - | - | - | x |
| 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? | - | - | - | x |

**CEQA Significance Determinations for Recreation**

**a, b) <u>No Impact</u>**

The project is adjacent to Sunol Glen Elementary School, which includes recreational fields open to the public outside school hours, and Sunol Water Temple, a historical and recreational resource. The project would not result in the increased use of or deterioration of existing neighborhood or regional parks or other recreational facilities. The project would also not require the construction or expansion of recreational facilities.

### 3.1.17 Transportation

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | - | - | - | x |
| b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | - | - | - | x |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | - | - | - | x |
| d) Result in inadequate emergency access? | - | - | x | - |

**CEQA Significance Determinations for Transportation**

**a) <u>No Impact</u>**

The project would not change the existing circulation system because it would not change the number or operation of motor vehicle lanes within the project limits. The project would include a new 14-foot-wide shared pedestrian path on the south side of the bridge, accommodate 6-foot-wide bicycle lanes on both shoulders, and add sidewalks to the eastern side of the Main Street and Pleasanton Sunol Road intersections with SR 84. Therefore, the project would be consistent with applicable programs, plans, ordinances, and policies regarding the circulation system summarized in Section 2.2.2.

**b) <u>No Impact</u>**

The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). The project would not result in an increase in vehicle miles traveled as

there would be no change to the number of travel lanes on SR 84 within the project limits.

**c) No Impact**

This project does not propose changes in the use of the current roadway and would not require or cause changes in the use of adjacent properties. The Build Alternative would better comply with Caltrans design standards intended for safety of the traveling public than the existing bridge and SR 84 alignment, as discussed in Section 1.2. The project would not increase hazards due to a geometric design feature or incompatible uses.

**d) Less Than Significant Impact**

This project does not include changes in the use of the current roadway and would not require or cause changes in the use of adjacent properties. Two lanes of SR 84 would remain open during daytime construction. Full closures of both eastbound and westbound SR 84 would be necessary for about 21 nights per construction season. Prior to construction, Caltrans would develop a TMP to minimize delays during both day and nighttime construction (Section 1.5.13.1). The TMP would include detours to ensure access to and from surrounding properties during full roadway closures in the night to maintain emergency access. The project would not result in inadequate emergency access.

### 3.1.18 Tribal Cultural Resources

| Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | - | x | - | - |
| 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. | - | x | - | - |

**CEQA Significance Determinations for Tribal Cultural Resources**

**a, b) <u>Less Than Significant with Mitigation Incorporated</u>**

Construction of the Build Alternative would adversely affect an archaeological site eligible for listing on the NRHP and the CRHR. After circulation of the draft

environmental document, Caltrans will consult with the SHPO on an Adverse Effect determination and to develop an MOA for the treatment of the archaeological site. Caltrans is also consulting with Native American tribes in the area regarding the treatment of the archaeological site. For more information on Native American consultation, please refer to Section 2.2.11. The project would have a significant impact to cultural resources without implementation of mitigation measures. However, with implementation of MMs CULTURAL-1 and CULTURAL-2, this impact would be less than significant. Section 2.2.10 provides a more detailed analysis..

### 3.1.19 Utilities and Service Systems

| Would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | - | - | - | x |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | - | - | - | x |
| c) 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? | - | - | - | x |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?? | - | - | - | x |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | - | - | - | x |

**CEQA Significance Determinations for Utilities and Service Systems**

**a) No Impact**

The project would require relocation of all utilities within the project footprint. Utility relocation would occur one year before the start of construction. Relocation of the fiber optic and gas lines is not expected to require work in the creek. Relocating utility poles and lines would not result in long-term impacts to utility services or the environment.

**b) No Impact**

The project does not include new development or uses that would require water supplies.

**c) No Impact**

The proposed project does not include uses that generate new wastewater flows**.**

**d) No Impact**

The project would generate small amounts of solid waste during construction. Alameda County's Construction & Demolition Debris Management Plan, adopted in 2009, requires projects to divert a minimum of 50% of construction debris from landfills through recycling and reuse (Alameda County Public Works Agency 2021). The project's diverted debris would be recycled at a major recycling center, such as Davis Street Transfer Station in San Leandro. Remaining waste would go to a landfill in which there is sufficient permitted capacity, such as the Pleasanton Garbage Service in Pleasanton. The project would not require the services of a landfill where the project would impact the capacity of a landfill.

**e) No Impact**

The project would comply with all federal, state, and local statutes and regulations related to solid waste.

### 3.1.20 Wildfire

| If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | - | - | x | - |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | - | - | - | x |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | - | - | - | x |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | - | - | - | x |

**CEQA Significance Determinations for Wildfire**

The project is about 0.15 mile south of a Very High fire hazard severity zone in a State Responsibility Area as defined by the California Department of Forestry and Fire Protection (Cal Fire 2021).

**a) <u>Less Than Significant Impact</u>**

This project does not propose changes in the use of the current roadway and would not require or cause changes in the use of adjacent properties. During construction, two

lanes of SR 84 would remain open during daytime hours. Full roadway closures of both eastbound and westbound SR 84 would be necessary for about 21 nights per construction season. Prior to construction, Caltrans would develop a TMP to minimize delays during both day and nighttime construction. The TMP, implemented during construction, would include detours to ensure access to and from surrounding properties during full roadway closures at night.

No potential evacuation routes would be impeded or disrupted during project construction and operation. Following construction of the project, there would be no changes in traffic patterns. The project would not impair implementation of an emergency response or emergency evacuation plan.

**b) No Impact**

This project does not propose changes in the use of the current roadway and would not require or cause changes in the use of adjacent properties. The project would not change fire risk conditions at the project site. During construction, measures for minimizing fire risks would be incorporated, such as clearing vegetation and trees from the work area or prohibiting the use of highly flammable chemicals. All project construction would follow state and federal fire regulations. Therefore, the project is not expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire.

**c) No Impact**

The proposed project would not involve the installation or maintenance of electrical equipment, roads, fuel breaks or other utilities that could exacerbate fire risks. Therefore, there would be no increased fire risk or ongoing impacts to the environment.

d) **No Impact**

No recent fires have occurred in the project vicinity that could result in post-fire slope instability or drainage changes. The implementation of standard Caltrans practices for erosion control and other measures would avoid or minimize the project's potential to result in downslope or downstream flooding or landslides. These measures are incorporated into the project design as a matter of Caltrans practice and are not mitigation.

### 3.1.21 Mandatory Findings of Significance

| | Significant and Unavoidable Impact | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | - | x | - | - |
| 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)? | - | x | - | - |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | - | - | x | - |

**CEQA Significance Determinations for Mandatory Findings of Significance**

**a) Less Than Significant Impact with Mitigation Incorporated**

The project would have significant impacts to biological and cultural resources and natural communities.

Direct effects to California red-legged frog, Alameda whipsnake, and Central California Coast steelhead are anticipated through construction of the Build Alternative. Construction activities would result in placement of temporary and permanent fills in dispersal and foraging habitat for the species. A total of approximately 3.944 acres of California red-legged frog habitat, 3.285 acres of Alameda whipsnake habitat, and 3.125 acres of Central California Coast steelhead habitat would be temporarily and permanently affected from by construction activities.

The Build Alternative would also impact as many as 251 trees. The estimate assumes that all threes within the impact areas would be removed.

Lastly, construction of the Build Alternative would adversely affect one archaeological site within the project area.

With implementation of mitigation measures for these resources, which include on- and off-site compensation for impacted species habitat, tree replacement ratios in accordance with project permitting, and development of an MOA with the SHPO for treatment of the archaeological site, project impacts would be reduced to less than significant levels.

**b) Less Than Significant Impact with Mitigation Incorporated**

As discussed in Section 2.5 Cumulative Impacts, the project would have less than significant cumulatively considerable impacts on animals, cultural resources, and natural communities because of avoidance, minimization, and mitigation measures proposed for the project.

**c) Less Than Significant Impacts**

The project would have less than significant impacts on human beings, either directly or indirectly. Proposed nighttime roadway closures would lead to short-term traffic impacts to highway users, adjacent property and business owners, and emergency response

providers. The contractor will include advance notice and coordination with emergency service providers in the Traffic Management Plan to minimize any potential temporary impacts on response times.

## 3.2 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 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 by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including $CO_2$, methane ($CH_4$), nitrous oxide ($N_2O$), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride ($SF_6$), and various hydrofluorocarbons (HFCs). $CO_2$ is the most abundant GHG; while it is a naturally occurring component of the Earth's atmosphere, fossil-fuel combustion is the main source of additional human-generated $CO_2$.

Two terms are typically used when discussing how to address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

### 3.2.1 Regulatory Setting

This section outlines federal and State efforts to comprehensively reduce GHG emissions from transportation sources.

#### 3.2.1.1 FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, and no regulations or legislation has been enacted specifically to address climate change and GHG emissions reduction at the project level.

NEPA (42 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.

FHWA recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that

assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

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 most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

The Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006) sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The United States Environmental Protection Agency (U.S. EPA) in conjunction with the National Highway Traffic Safety Administration is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

#### 3.2.1.2 STATE

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and EOs including, but not limited to the following:

***EO S-3-05 (June 1, 2005)***:

The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by

2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

**AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006:**
AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

**EO S-01-07 (January 18, 2007):**
This order sets forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the low carbon fuel standard regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

**SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection:**
This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The metropolitan planning organization for each region must then develop a "sustainable communities strategy" that integrates transportation, land-use, and housing policies to plan how each organization will achieve the emissions target for its region.

**SB 391, Chapter 585, 2009, California Transportation Plan:**
This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

**EO B-16-12 (March 2012):**
This order requires State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

**EO B-30-15 (April 2015):**
This order establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all State agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e). The "carbon dioxide equivalent" ($CO_2e$) is a metric used to express amounts of other gases relative to $CO_2$, which is the most important GHG. Since GHGs differ in how much heat they each trap in the atmosphere (known as global warming potential, or GWP), $CO_2$ is used as a base for measurement. The global warming potential of $CO_2$ is assigned a value of 1, and the GWP of other gases is assessed as multiples of $CO_2$. Finally, this order requires the Natural Resources Agency to update the State's climate adaptation strategy, Safeguarding California, every 3 years and to ensure that its provisions are fully implemented.

**SB 32, Chapter 249, 2016:**
This bill codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

**SB 1386, Chapter 545, 2016:**
This bill declared "it to be the policy of the state that the protection and management of natural and working lands… is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

**AB 134, Chapter 254, 2017:**
This bill allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

**SB 743, Chapter 386 (September 2013):**
This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled (VMT), to promote the state's goals of reducing GHG emissions and

traffic-related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

**SB 150, Chapter 150, 2017, Regional Transportation Plans:**
This bill requires CARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional GHG emission reduction targets.

**EO B-55-18 (September 2018):**
This order sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets for reducing GHG emissions.

**EO N-19-19 (September 2019):**
This order advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, on managing congestion, and on encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, to formulate ways to help Californians purchase them, and to propose strategies to increase demand for zero-emission vehicles.

**EO N-79-20 (September 2020):**
This order establishes goals for 100 percent of in-state sales of new passenger cars and trucks to be zero-emissions vehicles by 2035, that the state transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible, and that 100 percent of medium- and heavy-duty vehicles in the state be zero-emissions by 2045 where feasible.

### 3.2.2 Environmental Setting

The proposed project is in a developed rural area. As discussed in Section 2.2.1.1, land use types include Water Management, Downtown Sunol, Rural Density Residential, Parklands, and Resource Management. SR 84 is the main transportation route to and through the area for both passenger and commercial vehicles. It is also a designated Scenic Highway that is popular with cyclists. The nearest alternate routes are I-680 and I-880. In recent years, SR 84 has been used by commuters to avoid heavy traffic on I-680 and I-880, and is subject to high daytime traffic volumes.

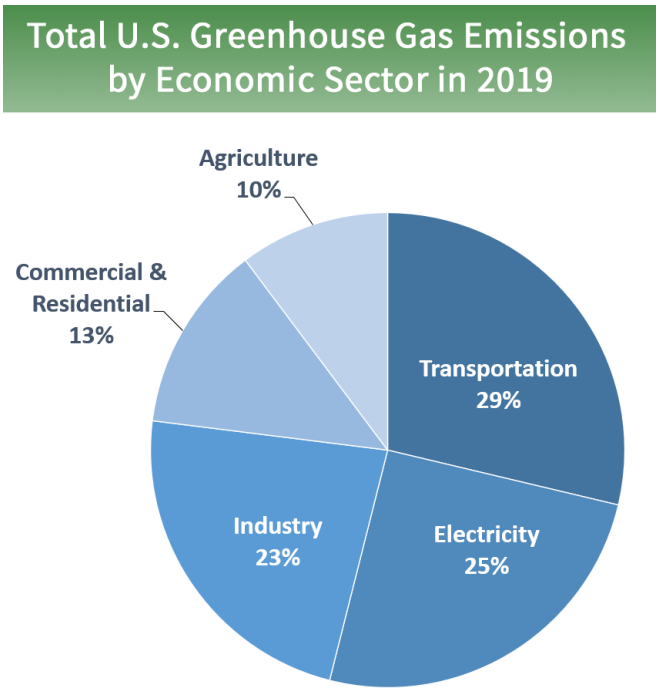
*Plan Bay Area 2040*, the regional planning document of the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) (MTC and ABAG 2017), guides transportation development in Alameda County. To inform *Plan Bay Area 2050*, MTC and ABAG collaborated in 2018 on Horizon, a new initiative to explore issues and challenges the region may face by 2050. The BAAQMD's 2017 clean air plan, *Spare the Air, Cool the Climate,* addresses GHGs in the project region.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and CARB does so for the State, as required by California Health and Safety Code Section 39607.4.

#### 3.2.2.1 NATIONAL GHG INVENTORY

U.S. EPA has prepared *the Inventory of the US Greenhouse Gas Emissions and Sinks* every year since the 1990s and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of $CO_2$, $CH_4$, $N_2O$, HFCs, perfluorocarbons, $SF_6$, and nitrogen trifluoride. It also accounts for emissions of $CO_2$ that are removed from the atmosphere by "sinks," such as forests, vegetation, and soils that uptake and store $CO_2$ (carbon sequestration). The 1990–2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80 percent were CO2, 10 percent were CH4, and 7 percent were N2O; the balance consisted of fluorinated gases. CO2 emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 3.2.2-1, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021a, 2021b).

**Figure 3.2.2-1. U.S. 2019 Greenhouse Gas Emissions**
(Source: U.S. EPA 2021c)




U.S. Environmental Protection Agency (2021). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019

### 3.2.2.2 STATE GHG INVENTORY

CARB collects GHG emissions data for the transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2020 edition of the GHG emissions inventory reported emissions trends from 2000 to 2018. It found total California emissions were 425.3 $MMTCO_2e$ in 2018, 0.8 $MMTCO_2e$ higher than 2017 but 6 $MMTCO_2e$ lower than the statewide 2020 limit of 431 $MMTCO_2e$. The transportation sector was responsible for 41 percent of total GHGs. Transportation emissions decreased in 2018 compared to the previous year, which is the first year-over-year decrease since 2013. Overall statewide GHG emissions declined from 2000 to 2018 despite growth in population and state economic output (CARB 2020a).

**Figure 3.2.2-2. California 2018 Greenhouse Gas Emissions**

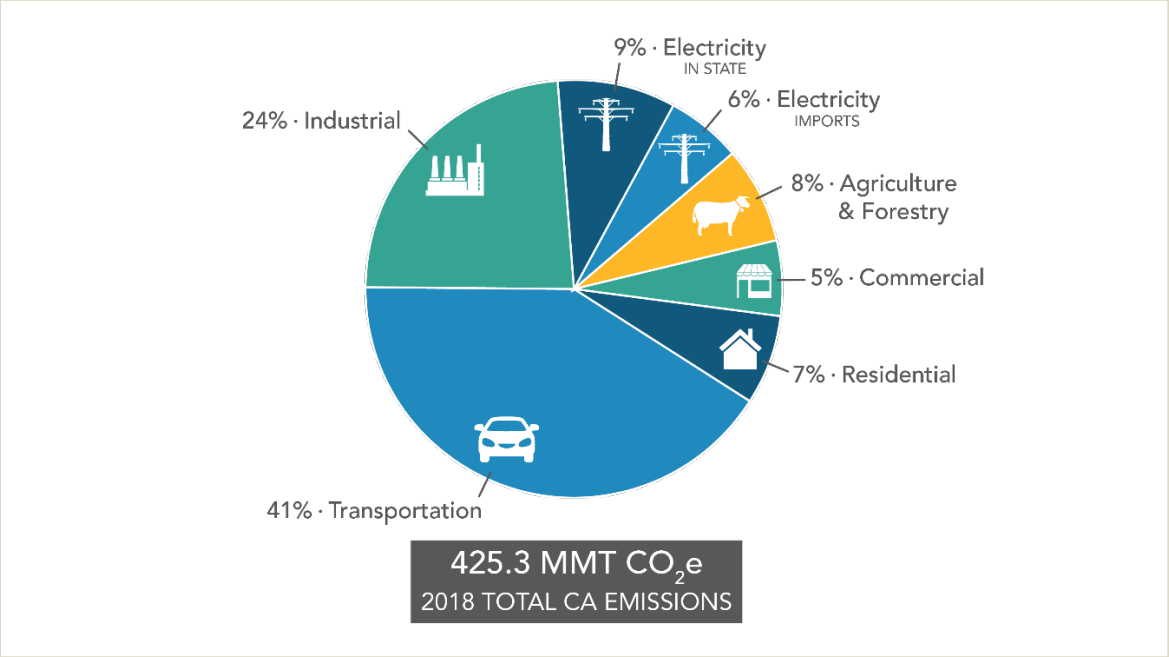
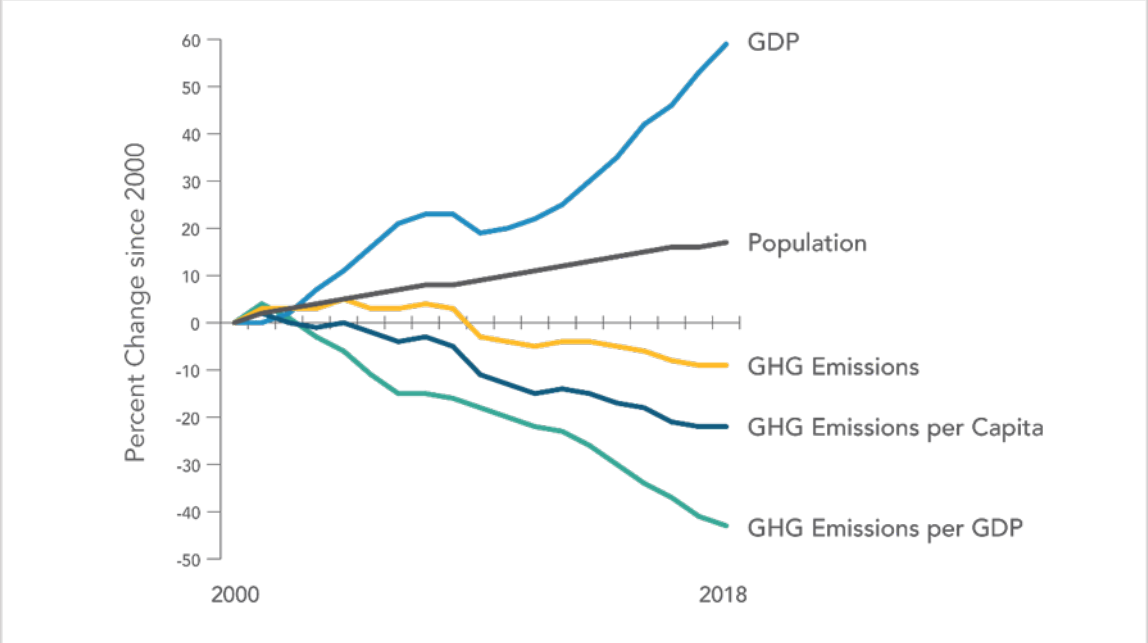



**Figure 3.2.2-3. Change in California GDP, Population, and GHG Emissions since 2000**
(Source: CARB 2020b)




AB 32 required CARB to develop a scoping plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update the goal every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on

December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

#### 3.2.2.3 REGIONAL PLANS

CARB sets regional targets for California's 18 metropolitan planning organizations to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. MTC is the MPO and regional transportation planning agency for the project region, with a GHG reduction target of 19 percent by 2035 (MTC and ABAB 2017).

The 2017 clean air plan, *Spare the Air, Cool the Climate* (BAAQMD 2017), defines strategies for climate protection in the Bay Area that support goals laid out in *Plan Bay Area 2040* (MTC and ABAG 2017). Those goals include transforming the transportation sector to reduce motor vehicle travel, promote zero-emissions vehicles and renewable fuels, adopt fixed- and flexible-route transit services, and support infrastructure and planning that enable a large share of trips by bicycling, walking, and transit.

### 3.2.3 Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System and those produced during construction. The primary GHGs produced by the transportation sector are $CO_2$, $CH_4$, $N_2O$, and HFCs. $CO_2$ emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of $CH_4$ and $N_2O$ are emitted during fuel combustion.

The CEQA Guidelines generally address GHG emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, section 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself" (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512). In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must

necessarily be found to contribute to a significant cumulative impact on the environment.

#### 3.2.3.1 OPERATIONAL EMISSIONS

The proposed project would repair bridge scour and correct the structural and geometric deficiencies of the bridge to provide a facility that meets driver expectations of SR 84's operating speed, all of which improve the efficiency and safety of the bridge for all transportation modes. The Build Alternative would replace the existing 38-foot-wide and 310-foot-long Arroyo de la Laguna Bridge with a new 310-foot-long and 64-foot-wide bridge consisting of two through lanes. This project meets the Caltrans definition of a rehabilitation project that would not add additional motor vehicle capacity and therefore would not result in an increase in VMT. Projects that do not increase VMT do not increase operational GHG emissions. The proposed project would not increase the number of travel lanes on SR 84, and no long-term or post-construction increase in VMT would occur as a result of the project's implementation.

#### 3.2.3.2 CONSTRUCTION EMISSIONS

Construction GHG emissions would result from material processing, on-site construction equipment, workers commuting to and from the project site, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phases; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as improved traffic management plans and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Based on project information available for environmental studies, the construction related GHG emissions were calculated using the RCEM, version 9.0.0, provided by the Sacramento Metropolitan Air Quality Management District. The analysis was focused on vehicle-emitted GHGs. $CO_2$ is the single most important GHG due to its abundance compared to other vehicle-emitted GHGs, including $CH_4$, $N_2O$, HFCs, and black carbon (BC). It was estimated that for construction duration of 3 seasons (3 years) the total amount of $CO_2$ produced due to construction would be 705.91 tons. Table 3.2.3-1 below summarizes the construction-related emissions, including the total carbon dioxide equivalent ($CO_2e$) emission. Gases are converted to $CO_2e$ by multiplying by their global warming potential (GWP). Specifically, GWP is a measure of how much energy the

emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of $CO_2$.

**Table 3.2.3-1 Construction $CO_2e$ Emissions**

| Build Alternative | $CO_2$ (Tons) | $CH_4$ (Tons) | $N_2O$ (Tons) | $CO_2e$ (Metric Tons) |
|---|---|---|---|---|
| Construction Emissions (Annual) | 235.30 | 0.04 | 0.01 | 216.88 |
| Total | 705.91 | 0.13 | 0.03 | 650.63 |

Note: GHG emissions were adjusted to account for the EPA's Final Safer Affordable Fuel Efficient (SAFE) Vehicles Rule.
$CH_4$ = methane
$CO_2$ = carbon dioxide
$CO_2e$ = carbon dioxide equivalent
$N_2O$ = nitrous oxide

Implementation of Caltrans Standard Specifications and BMPs discussed in Section 1.5.13.5 would result in a reduction of GHG emissions from construction activities.

#### 3.2.3.3 CEQA CONCLUSION

While the proposed project will result in GHG emissions during construction, it is not expected to result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. With implementation of construction GHG-reduction measures, the impact would be less than significant.

Caltrans is committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

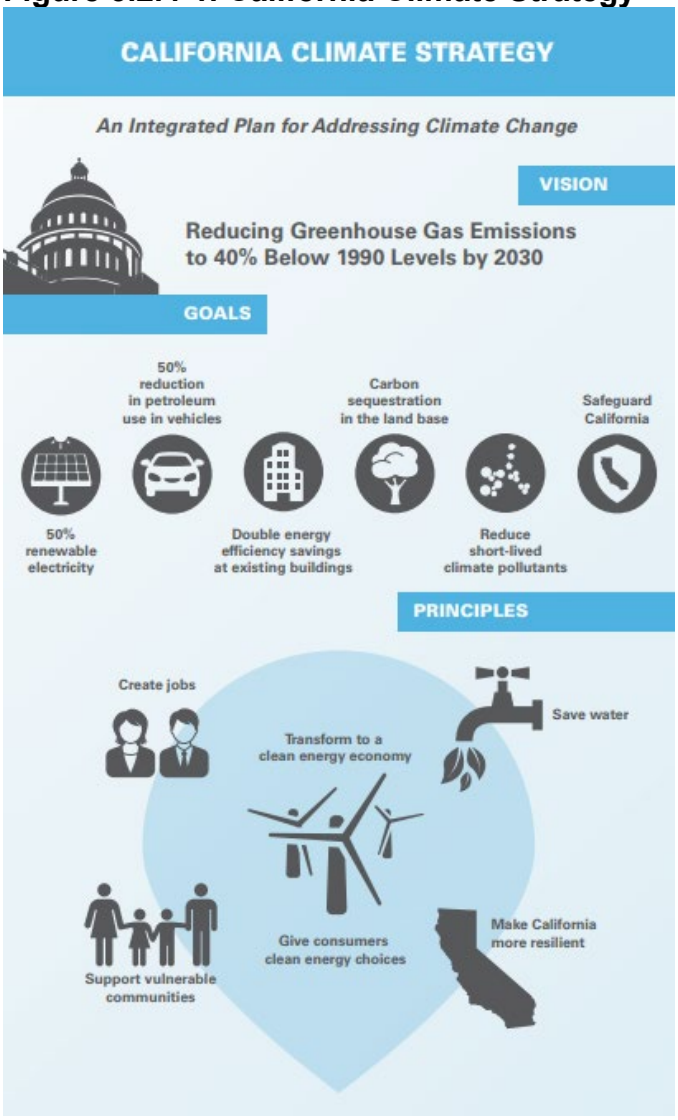
### 3.2.4 Greenhouse Gas Reduction Strategies

#### 3.2.4.1 STATEWIDE EFFORTS

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing the electricity derived from renewable sources from one-third to one-half (30 percent to 50 percent); (3) doubling the energy efficiency savings achieved at existing buildings and making

heating fuels cleaner; (4) reducing the release of CH4, BC, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so that they can store carbon; and (6) periodically updating the State's climate adaptation strategy, Safeguarding California. Figure 3.2.4-1 shows California's climate strategy.

**Figure 3.2.4-1. California Climate Strategy**




The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the State build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of VMT. A key State goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 40 percent by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove $CO_2$ from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged and vulnerable communities. Each agency is to develop a Natural and Working Lands Climate Smart Strategy that serves as a framework to advance the State's carbon neutrality goal and build climate resilience.

#### 3.2.4.2 CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as CARB works to implement EOs S-3-05 and S-01-07. Caltrans also continues to help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016) set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

***California Transportation Plan***

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP identifies the statewide transportation system needed to

achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While metropolitan planning organizations have primary responsibility for identifying land use patterns to help reduce GHG emissions, the CTP identifies additional strategies.

### *Caltrans Strategic Plan*

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

### *Funding and Technical Assistance Programs*

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., Safeguarding California).

### *Caltrans Policy Directives and Other Initiatives*

Caltrans' Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Caltrans decisions and activities.

*Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

### *Project-Level GHG Reduction Strategies*

The proposed project would also implement the following measures to reduce GHG emissions and potential climate change impacts from the project:

1. Caltrans Standard Specifications such as Section 14-9.02, Air Pollution Control, require contractors to comply with all federal, State, and local air pollution control rules, regulations, and ordinances. Requirements such as idling restrictions and keeping engines properly tuned reduce emissions, including GHG emissions.

2. A TMP will be prepared during the design phase of the project to minimize traffic disruptions from project construction. Minimizing traffic delays during construction will help reduce GHG emissions from idling vehicles.

- Construction BMPs will include:
    - Regular vehicle and equipment maintenance.
    - BMPs to maintain engines and minimize idling of construction equipment to minimize tailpipe emissions.

3. The project will add bicycle lanes and improve pedestrian facilities to support these modes of alternative transportation.
4. Steel portions of demolished piers will be reclaimed and recycled. Concrete debris will be recycled. Recycling or reusing construction debris reduces emissions from transporting materials to disposal sites and saves energy required to produce and transport new materials.
5. Removed trees and vegetation will be replaced with appropriate native species at a minimum 1:1 replacement ratio on-site where adequate safety setbacks exist and potentially off-site within the Alameda Creek watershed (MM Natural Communities-1 and MM Natural Communities-2). Some native and habitat trees will be replaced at a ratio of 3:1 or more. Trees and vegetation sequester $CO_2$.

### 3.2.5 Adaptation

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and variability in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; and storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage by inducing landslides when rain falls on denuded slopes after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

#### 3.2.5.1 FEDERAL EFFORTS

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 USC Chapter 56A Section 2921 et seq.). The Fourth National Climate Assessment (USGCRP 2018), presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The USDOT Policy Statement on Climate Adaptation in June 2011 committed the USDOT to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of the 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" (U.S. DOT 2011).

FHWA order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

#### 3.2.5.2 STATE EFFORTS

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. California's Fourth Climate Change Assessment (State of California 2018a) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance: 2018 Update* (State of California 2018b).

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California.* The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

#### 3.2.5.3 CALTRANS ADAPTATION EFFORTS

*Caltrans Vulnerability Assessments*

Caltrans conducted climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.

- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

#### 3.2.5.4 PROJECT ADAPTATION ANALYSIS

***Sea Level Rise***

The proposed project is not in the coastal zone. The National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise viewer (https://coast.noaa.gov/digitalcoast/tools/slr.html) was used to determine that the proposed project is not in an area subject to sea-level rise at the modeled highest potential sea level increase. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

***Floodplains***

According to the FEMA Flood Insurance Rate Map number 06001C0460G, dated August 3, 2009, the project is located within the FEMA Base Floodplain for Arroyo de la Laguna, with a Base Flood Elevation of 245 feet immediately upstream of the Arroyo de la Laguna Bridge. The existing bridge roadway is at an elevation of 244.8 feet, making it subject to overtopping from the 100-year flood.

The Caltrans District 4 Climate Change Vulnerability Assessment projected changes in the 100-year storm precipitation depth under climate change. Mapping shows a potential for a less than 5% increase in 100-year storm precipitation depth at the project location through 2085. The closest weather station to the project area is in Livermore, California, approximately 11 miles away. The Western Regional Climate Center data show average annual precipitation from 1903 to 2016 at that station to be about 14 inches, with each of the rainiest months from November to March receiving on average

less than 3 inches. The maximum precipitation recorded for a single day from 1903 through 2019 was 3.97 inches (Western Regional Climate Center 2021).

Many factors affect how a stream will flood from a given amount of rainfall. However, the project would be designed to avoid any increase in the Base Flood Elevation near the bridge. The new bridge would be raised approximately 1 to 3 feet above the existing bridge profile, and new bridge construction would reduce hard structures in the creek, which would lead to a more natural morphology of the creek. Given the relatively small anticipated increase in 100-year storm precipitation, the new bridge would withstand future storm events under climate change.

***Wildfire***

The project area is south of a Very High Fire Hazard Severity Zone in a State Responsibility Area as designated by the State of California's Department of Forestry and Fire Protection (CalFire 2020). The project would not change fire risk conditions at the project site. During construction, measures for minimizing fire risks would be incorporated, such as clearing vegetation and trees from the work area and prohibiting the use of highly flammable chemicals. All project construction would follow state and federal fire regulations and must comply with Caltrans' 2018 revised Standard Specification 7-1.02M(2) mandating fire prevention procedures, including a fire prevention plan, to avoid accidental fire starts during construction. The project is not anticipated to exacerbate the effects of climate change in terms of wildfire.

# Chapter 4 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. Consultation and public participation for the proposed project will continue to be accomplished through a variety of formal and informal methods. This chapter summarizes the results of Caltrans' preliminary efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

## 4.1 Scoping Process

### 4.1.1 Notice of Preparation

On August 17, 2018, a Notice of Preparation (NOP) of a Draft EIR was distributed to the State Clearinghouse; elected officials; local, regional, and state agencies, and public stakeholders (see Appendix E). The NOP was published by the State Clearinghouse on August 20, 2018 in compliance with CEQA (the California State Clearinghouse number is 2018082045), initiating the 30-day agency and public scoping period.

Caltrans included members of the public in the scoping process to identify potential interested parties and engage the community in project planning.

### 4.1.2 Scoping Process

#### 4.1.2.1 SCOPING MEETING

A public scoping meeting for the proposed project was held from 6:00 pm to 8:00 pm on August 2, 2018, at the Sunol Glen Elementary School Cafeteria, 11601 Main Street, Sunol, CA. Caltrans announced the scoping meeting by publishing a public notice in *The Independent* on July 19, 2018. The meeting was held to provide information regarding the project and allow members of the public to ask questions and provide comments on the proposed project.

Caltrans project personnel attended the meeting to address questions and concerns. Project personnel in attendance included the design engineer, project manager, environmental analysis staff and specialists in biology and archaeology. Meeting attendees were encouraged to approach the specialists with questions and for

clarification of concerns. Comments in writing were encouraged for submittal because no court reporter was present at the meeting.

A sign-in sheet was used at the meeting to record public attendance; 15 people attended the meeting. The meeting was conducted in an open house format with poster boards highlighting the different alternatives, existing conditions, and concerns triggering the project. A presentation was held for the half hour prior to the open house to inform the public of the proposed project elements. Three proposed project alternatives were presented; of the three alternatives, one was a bridge retrofit and two were bridge replacements.

#### 4.1.2.2 COMMENT PERIOD

Caltrans invited the public to offer comments on the project through comment cards at the scoping meeting or through email and postal mail after the scoping meeting.

Caltrans received a letter from the Sunol Citizens Advisory Council (SCAC) dated September 24, 2018. The letter requested expanding the scope of the project to include additional bridge replacement alternatives as follows:

- An alternative that would include safe pedestrian and bicycle access across the new bridge.
- An alternative that angles the eastern end of the bridge slightly north to Pleasanton Sunol Boulevard so that cars do not approach the intersection close to the Sunol Water Temple gates. The present bridge alignment combined with the increased speed of cars passing through a green light has the strong possibility of significantly impacting the Water Temple gates.
- An alternative that would accommodate roundabouts at the intersections of both Main Street/SR 84 and Pleasanton Sunol Road/SR 84.

At the recommendation of the project development team, these three additional alternatives were added to the project scoping process. A combination of the first two requested alternatives was developed as the Build Alternative described in this document.

## 4.2 Consultation and Coordination with Public Agencies

### 4.2.1 California Department of Fish and Wildlife

On October 15, 2019, a technical assistance meeting was held at the Caltrans District 4 Office with CDFW representative Robert Stanley to describe the proposed project.

Discussion on the potential occurrence of Alameda whipsnake, California tiger salamander, and foothill yellow-legged frog occurred. Robert Stanley concluded that California tiger salamander and foothill yellow-legged frog are not likely to be present in the proposed construction area and that an Incidental Take Permit would not be required for these species unless they are found during preconstruction surveys.

Coordination with CDFW for the 1602 Lake and Streambed Alteration Agreement will begin after environmental document certification.

### 4.2.2 Native American Heritage Commission

The NAHC was contacted in 2017 with a request to search their Sacred Lands File for Native American cultural resources within the project area and for a list of culturally affiliated Native American parties. The NAHC responded with a list of Native American parties and results from the Sacred Lands File search. Letters initiating Section 106 and CEQA AB 52 consultation were sent to all listed in the NAHC letter. Due to project changes, updated Native American consultation letters were sent to tribes traditionally associated with the project area in winter 2020.

Ms. Perez, Chairperson to the North Valley Yokuts Tribe, responded on January 2, 2021 requesting further consultation on the project. No additional responses have been received to-date; however, consultation is ongoing.

A list of tribes contacted is detailed in Section 2.2.10.

### 4.2.3 National Marine Fisheries Service

In September 2020, Caltrans Biology started informal consultation with the submission of a creek channel survey plan to NMFS representatives. Follow-up technical assistance meetings were then held on March 10 and May 5, 2021. During the technical assistance meetings, NMFS representatives stated that critical habitat for aquatic species would likely not be designated in the project area for many years. Caltrans submitted a Biological Assessment to NMFS on June 18, 2021.

### 4.2.4 San Francisco Bay Regional Water Quality Control Board

Caltrans Water Quality started informal consultation with the San Francisco Bay RWQCB in fall 2020. Consultation is ongoing, and a permit application will be submitted to the RWQCB during the detailed design phase.

### 4.2.5 State Historic Preservation Officer

Caltrans OCRS initiated consultation with the SHPO in November 2019 on the NRHP-eligible Sunol Water Temple and associated structures. Caltrans OCRS will continue to consult with the SHPO after circulation of the environmental document to receive concurrence on effect findings for the eligible architectural and archaeological resources in the project area. Consultation is ongoing.

### 4.2.6 U.S. Army Corps of Engineers

The proposed project will affect waters of the United States as defined in Section 404 of the CWA. A permit application will be submitted to USACE during the detailed design phase.

### 4.2.7 U.S. Department of Agriculture, Natural Resources Conservation Service

The Caltrans environmental project senior Brian Gassner and NRCS California representative Philip Smith met on July 1, 2021, to discuss this project. In this meeting, Philip Smith concluded that Caltrans right-of-way, paved surfaces, and disturbed land with built structures or gravel roads would not be considered Prime Farmland or Grazing Land. After this meeting, maps detailing Prime Farmland and Grazing Land and acreage calculations were revised to exclude Caltrans right-of-way, paved surfaces, and disturbed land.

### 4.2.8 U.S. Fish and Wildlife Service

On October 22, 2019, a technical assistance meeting was held at the project site with USFWS liaison Meghan Bishop to discuss the potential occurrence of Alameda whipsnake, California tiger salamander, and California red-legged frog. The meeting introduced the liaison to the project; no conclusions were made on species' potential to occur. Caltrans will submit a Biological Assessment to USFWS after environmental document circulation.

## 4.3 Circulation, Review, and Comment on the Draft Environmental Document

Public input on the project will be solicited during the review period for this EIR/Environmental Assessment (EA; EIR/EA), which will last a minimum of 45 days. The public will be notified of the availability of the EIR/EA by several methods, including postings on the Caltrans website and notifications to interested agencies and individuals. A Notice of Completion will be filed with the State Clearinghouse. During the review period, Caltrans will hold a public meeting to share information about the project

and collect comments on the EIR/EA from interested parties. The review period and instructions for submitting comments are included on the first page of this document. All formal comments will be addressed and responses published in the Final EIR/EA.

# Chapter 5 List of Preparers

The following Department staff and consultants contributed to the preparation of this EIR/EA.

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Molly Dodge, Biologist

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# Chapter 6 Distribution List

**Federal Agencies**

Environmental Protection Agency,
Region 9 (Pacific Southwest)
Public Affairs Office
75 Hawthorne Street
San Francisco, CA 94105

National Marine Fisheries Service
North Central Coast Office
777 Sonoma Avenue,
Room 325
Santa Rosa, CA 95404

U.S. Army Corps of Engineers
San Francisco District
450 Golden Gate Ave, 4th Floor
San Francisco, CA 94102

U.S. Fish and Wildlife Service
2800 Cottage Way, Room W-2605
Sacramento, CA 95825

**State Agencies**

California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

California Department of Conservation
801 K Street, MS 24-01
Sacramento, CA 95814

California Department of Fish & Wildlife,
Region 3
1416 9th Street, 12th Floor
Sacramento, CA 95814

California Department of Parks and
Recreation
Natural Resources Division
P.O. Box 942896
Sacramento, CA 94296

California Department of Water
Resources
P.O. Box 942836
Sacramento, CA 94236-0001

California Highway Patrol
Attn: Special Projects Section
4999 Gleason Drive
Dublin, CA 94568

California Office of Emergency Services
Public Safety Communications Office
601 & 630 Sequoia Pacific Boulevard
Sacramento, CA 95811

**State Agencies – continued**

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

California Transportation Commission
1120 N Street, Room 2221, MS-52
Sacramento, CA 95814

Department of Toxic Substances Control
P.O. Box 806
Sacramento, CA 95812

Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

State Historic Preservation Officer
California Office of Historic Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816

**Regional Agencies**

Association of Bay Area Government
P.O. Box 2050
Oakland, CA 94604

Bay Area Air Quality Management District
375 Beale Street
Suite 600
San Francisco, CA 94105

East Bay Regional Park District
2950 Peralta Oaks Court
P.O. Box 5381
Oakland, CA 94605

Metropolitan Transportation Commission
375 Beale Street, Suite 700
San Francisco, CA 94105

Pacific Locomotive Association
P.O. Box 515
Sunol, CA 94586

San Francisco Public Utilities Commission
525 Golden Gate Avenue
San Francisco, CA 94102

San Francisco Regional Water Quality Control Board, Region 2
1515 Clay St, Suite 1400
Oakland, CA 94612

**Local Agencies**

Alameda County Planning Commission
224 W. Winton Avenue,
Room 111
Hayward CA 94542

Alameda County
Department of Public Works
951 Turner Court
Hayward, CA 94545

Alameda County Transportation Commission
1111 Broadway Avenue, Suite 800
Oakland, CA 94607

Alameda Creek Alliance
P.O. Box 2626
Niles, CA 94536

Niles Canyon Railway
P.O. Box 515
Sunol, CA 94586

Sunol Citizens' Advisory Council
County of Alameda Administration Building
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Oakland, CA 94612

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The Honorable Eric Swalwell
United States House of Representatives (CA-15)
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Castro Valley, CA 94546

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The Honorable Bill Quirk
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# Appendix A Section 4(f) *De Minimis* Determination

Section 4(f) De Minimis Determination

## 1 Section 4(f) De Minimis Determination

### 1.1 Introduction

This section of the document discusses *de minimis* impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of a Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Department pursuant to 23 USC 326 and 327, including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

### 2.1 Project Description

The proposed action would take place on State Route (SR) 84 at Post Mile (PM) 17.2 in the town of Sunol. One potential Build Alternative has been designed for the project, involving complete replacement of the existing Arroyo de la Laguna Bridge with a new, wider bridge.

The Build Alternative would replace the existing 38-foot-wide and 310-foot-long Arroyo de la Laguna Bridge with a new 320-foot-long and 64-foot-wide bridge consisting of two through lanes. The new bridge would either be flat (as the existing structure) and box-shaped, or it would contain an arch. The bridge profile would be raised 1 to 3 feet to improve the existing non-standard stopping sight distance. At completion, the finished structure would provide 12-foot-wide lanes, a 14-foot-wide shared east-west pedestrian path on the south side of the bridge, standard 42-inch-high barriers, 9-foot-wide shoulders to accommodate 6-foot-wide bicycle lanes, and a 2 foot-wide painted median rumble strip. The shared sidewalk would be protected from the roadway by concrete railing. The Build Alternative would also add sidewalks to the eastern side of the SR 84 and Main Street intersection and at the SR 84 and Pleasanton Sunol Road intersection. Construction would take three seasons.

### 3.1 Description of the Section 4(f) Properties

An Area of Potential Effects (APE) was established as part of the Section 106 compliance process for the proposed project. The archaeological and architectural APE both include the entire project footprint to encompass temporary construction easements (TCEs) and partial acquisitions for staging, access, and road-widening activities. The Sunol Water Temple and Associated Structures, which is eligible for listing on the National Register of Historic Properties (NRHP), and one prehistoric archaeological site have been identified within the APE, as determined by Caltrans under the January 1, 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, as it Pertains to the Administration of the Federal-Aid Highway Program in California (Section 106 PA).*

The NRHP-eligible Sunol Water Temple and Associated Structures qualifies for protection under Section 4(f) and is described in Section 1.3.1. However, Section 4(f) does not apply to the archaeological site as described in Section 2.2.

Arroyo de la Laguna Bridge was listed as ineligible for the NRHP in the Caltrans Historic Highway Bridge Inventory.

### 1.2.1 Sunol Water Temple and Associated Structures

The Sunol Water Temple and Associated Structures at 505 Paloma Way in Sunol was built in 1910 by the Spring Valley Water Company. It was designed by architect Willis Polk and was modeled after the Temple of Vesta in Tivoli, Italy. The associated structures included in the historic property are the Water Temple; the carrefour (crossroads) and gates at the entrance of the site; and a small fountain located approximately 100 feet south of the Water Temple. The Sunol Water Temple and Associated Structures appears to meet the criteria for listing in the NRHP under Criterion C for its architecture and as a work of master architect Willis Polk.[1] The character defining features of the resource are the Water Temple, with its 12 Corinthian columns; red tile roof; copper roof finial; ceiling murals; publicly accessible open-air interior gallery (Figure A1); the half-circle wrought-iron entrance gates with their reinforced concrete pillars and inlaid reliefs (Figure A2); the fountain; and the bucolic setting of a roadway lined by grass and a row of trees on either side.

The entrance gates are at the intersection of Paloma Way and SR 84/Niles Canyon Road within Caltrans right-of-way. The gates mark the entrance to the long straight paved drive that leads to the Water Temple. They are constructed of reinforced concrete curved pylons with metal gates. The pylons are concave with a tripartite design and sit on a simple pedestal, topped with simple capitals. The pylons are also adorned with polychrome relief. The State Historic Preservation Officer (SHPO) is the official with jurisdiction over this historic property.

[1] NRHP Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.

Figure A1: Sunol Water Temple facing south
(Douglas Bright, Caltrans, November 2019)

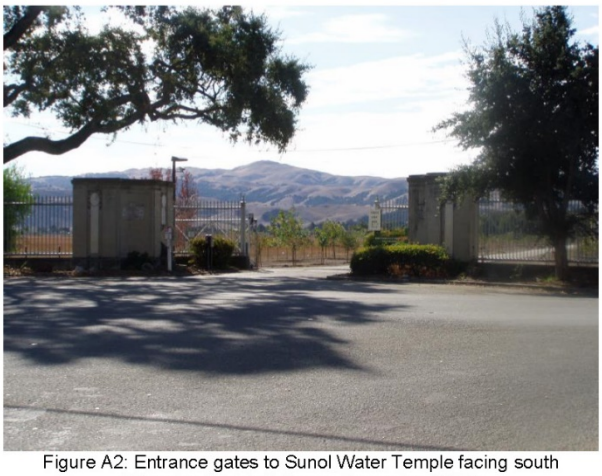

Figure A2: Entrance gates to Sunol Water Temple facing south
(Douglas Bright, Caltrans, November 2019)

### 4.1 Potential Use of the Section 4(f) Resource

Construction activities would occur within the historic boundary of the Sunol Water Temple and Associated Structures in proximity to the entry gates. Activates potentially occurring within the historic boundary include:

- upgrade of existing roadway shoulders
- utility relocation

- demolition of the existing bridge and staged construction of the new bridge
- construction of new sidewalks and bicycle lanes
- limited shoulder widening
- replacement of existing guardrails
- drainage system improvements

However, the Build Alternative would not result in the physical alteration or destruction of any of the character-defining features of the resource.

### 5.1 Avoidance, Minimization, and Mitigation Measures

An Environmentally Sensitive Area (ESA) will be designated on the project construction plans and in construction specifications to protect the Sunol Water Temple and Associated Structures (including the entry gates) where there is the potential for indirect construction impacts. ESA fencing (which will consist of Temporary High Visibility Fencing made of metal posts and high visibility plastic material or other markings) will be placed, where needed, around the Sunol Water Temple and Associated Structures, protecting the resource from inadvertent project-related effects. No project-related activities (e.g., grubbing, staging, equipment parking, etc.) shall occur within the ESA. The ESA would be maintained throughout construction. Specifics on the ESA could change in later phases of the project.

### 6.1 Determination

For the purposes of Section 4(f), a *de minimis* impact is a minimal impact to a Section 4(f) resource that is not considered to be adverse. For historic sites, a *de minimis* impact means that no historic property is affected or that there is a "no adverse effect" finding under 36 CFR Part 800.

The preliminary finding under Section 106 is that construction and operation of the Build Alternative would result in no adverse effects on the activities, features, and attributes of the Sunol Water Temple and Associated Structures within Caltrans right-of-way that are subject to protection under Section 4(f). Based on the information presented above (including the avoidance, minimization, and mitigation measures), the effects of the proposed project on the Sunol Water Temple and Associated Structures subject to the provisions of Section 4(f) of the U.S. Department of Transportation Act constitute a *de minimis* impact, and the requirements of 23 USC 138 and 149 USC 303 have been satisfied.

These findings are considered valid unless new information is obtained or the potential effects change to the extent that a new analysis is needed.

### 7.1 Consultation and Coordination

Prior to making a final *de minimis* impact determination, under CFR 774.5(b) coordination with the SHPO will continue. Caltrans is continuing to consult with the SHPO and other stakeholders regarding the Finding of Effect and to develop avoidance, minimization, and mitigation measures for impacted historic properties, pursuant to Stipulation XI of the 2014 Section 106 PA and 36 CFR Part 800.6. Due to the project's potential adverse effect to archaeology site CA-

ALA-677/H, a Memorandum of Agreement (MOA) will be executed in consultation with the SHPO and other stakeholders.

## 2 Resources Evaluated Relative to the Requirements of Section 4(f): No-Use Determination

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 United States Code (USC) 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

This section of the document discusses parks, recreational facilities, wildlife refuges, and historic properties found within or next to the project area that do not trigger Section 4(f) protection because: 1) they are not publicly owned, 2) they are not open to the public, 3) they are not eligible historic properties, or 4) the project does not permanently use the property and does not hinder the preservation of the property.

### 8.1 Sunol Glen School

Per the FHWA Section 4(f) Policy Paper, when a public school playground is open to the public and serves either organized or substantial walk-on recreational purposes that are determined to be significant, such playgrounds are subject to the requirements of Section 4(f). As further described below, Sunol Glen School provides recreational opportunities to the general public outside of regular school hours, and thus, qualifies for protection under Section 4(f).

Sunol Glen School is a public school at 11601 Main Street in Sunol. It is the only school in the Sunol Glen Unified School District and serves students from kindergarten through the eighth grade. Sunol Glen School includes an approximately 3-acre sports field that also serves as a local community park. General public recreation is allowed after school hours on weekdays, and all day on Saturdays, Sundays, and holidays. Recreational facilities at the sports field include a running track and soccer field. The Sunol Glen Unified School District is the official with jurisdiction over these facilities.

The permanent or temporary acquisition of property from the Sunol Glen School would not be required during construction or operation of the Build Alternative. Therefore, direct use of the recreational facilities at the school would not occur.

Construction of the Build Alternative would require the construction of a retaining wall at the northwest corner of the bridge within Caltrans right-of-way in the immediate vicinity of the school. The retaining wall would prevent fill impacts to the school property. The wall would be about 120 feet in length, 10 feet in height at the abutment, and would taper down to 3 feet in height at the end of the wall near Main Street. The wall is expected to have an aesthetic treatment.

The retaining wall would be constructed on the SR 84 roadway side, 8 feet away from the elementary school's right-of-way line. A chain-link fence and 8-foot privacy screen would be placed on the SR 84 roadway at the elementary school's right-of-way line for the entire duration of construction. Construction of the retaining wall would be scheduled to occur only during the school's summer break. Construction and completion of the wall would take three to five weeks. A special provision enforcing this timeline restriction would be added to the project contract.

Construction of the Build Alternative would result in temporary increases in noise. The recreational facilities at the school are approximately 50 feet from the existing bridge. During construction, allowable work hours would be adhered to and construction noise would be kept within applicable state and county ordinances to minimize disruptions. To further minimize general noise impacts during the construction phases, a noise control and monitoring plan may be implemented. This would allow Caltrans to enforce noise limits and construction time restrictions. Specific measures that could be employed to limit construction noise include:

- locating stationary equipment away from receiving properties
- erecting temporary portable noise barriers
- limiting construction hours to the appropriate county ordinance
- turning off idling construction equipment
- requiring contractors to rigorously maintain all equipment
- training construction crews to avoid unnecessarily loud actions near noise-sensitive areas

In addition, a noise control and monitoring plan would be implemented specifically for the school. All construction noise impacts would be temporary and would cease after construction is complete.

The Build Alternative would not add new traffic lanes to SR 84 or substantially alter the existing alignment of the roadway. Therefore, operational noise would not increase with implementation of the Build Alternative. In addition, the recreational activities at the sports field are not noise sensitive. Based on the above, construction and operational noise associated with the Build Alternative would not affect the recreational activities that qualify the Sunol Glen School for protection under Section 4(f).

Construction of the Build Alternative would result in a moderate visual change for viewers at the sports field due to the removal of mature trees adjacent to the school site within Caltrans right-of-way. However, implementation of avoidance and minimization measures (including the replacement of trees to be removed) would help reduce this visual change over time. In addition, the recreational activities at the school would not be affected by the change in visual quality as these activities are not dependent on views from or to the facilities. Removal of trees behind the Sunol Glen School right-of-way line would not occur.

To preclude unauthorized entry, vandalism, and potential safety risks, contractors, as part of their routine construction procedures, would install temporary chain-link fences around all construction sites and laydown/mobilization areas. The chain-link fences would have gawk screening. The contractor would also provide traffic controls during school hours, with the specifics to be worked out with the local jurisdiction.

Caltrans would coordinate with the town of Sunol in the formulation of construction plans to minimize construction-related impacts on the school and sports field. Specific measures to mitigate construction impacts include a public information program to alert residents and meeting with the Sunol Glen Unified School District to address concerns. Caltrans would

implement a Construction Management Plan (CMP) for the duration of construction of the Build Alternative. The CMP is intended to anticipate and reduce the potential impacts from construction activities and minimize impacts of construction activities to both Sunol Glen School and neighbors. Impacts that would be addressed in the CMP relate to construction, erosion control, air quality, noise, and traffic. Caltrans would meet with the school district early in the construction planning process to identify specific procedures for minimizing disruption of student activities.

A key component of the CMP is the implementation of regular communications with the community and the school district regarding concerns, process, and schedule. Caltrans would designate an individual to fill the position of "Construction Contact" to the local community to address comments regarding ongoing operations and schedule. Additionally, Caltrans would designate an individual to fill the position of "Community Liaison" to the local community.

Based on the above, the activities, features, and attributes of the recreational facilities at Sunol Glen School that qualify it for protection under Section 4(f) would not be impacted by the Build Alternative and no use or constructive use result.

### 9.1 Archaeological Site CA-ALA-677/H

There is one archaeological property within the Archaeological APE that may be affected by the Build Alternative. The archaeological site was determined eligible for the NRHP under Criterion D for its potential to yield information important for the understanding of the past. Caltrans will consult with the SHPO on an Adverse Effect determination and develop an MOA for the treatment of the archaeological site. Caltrans is also consulting with Native American tribes in the area regarding the treatment of the archaeological site. However, Section 4(f) does not apply to the archaeological site because the site is important for what can be learned by data recovery and has minimal value for preservation in place (per 23 CFR 774.13(b)(2)).

# Appendix B Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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August 2020

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To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

*Original signed by*
Toks Omishakin
Director

*"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"*

# Appendix C Avoidance, Minimization and/or Mitigation Summary

## Biological Environment

**AMM BIO-1.** Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by an agency-approved biologist prior to working on the project.

**AMM BIO-2.** Work Window for Nesting Birds. To the extent practicable, clearing and grubbing activities will be conducted during the non-nesting season, from October 1 to January 31.

**AMM BIO-3.** Preconstruction Surveys for Nesting Birds. Preconstruction surveys for nesting birds will be conducted by a qualified biologist no more than 72 hours prior to the start of construction for activities occurring during the breeding season (February 1 to September 30).

**AMM BIO-4.** Non-Disturbance Buffer for Nesting Birds. If work is to occur within 300 feet of active raptor nests or 50 feet of active passerine nests, a non-disturbance buffer will be established at a distance sufficient to minimize disturbance based on the nest location, topography, cover, the species' sensitivity to disturbance, and the intensity/type of potential disturbance.

**AMM BIO-5.** Bat Night Roost Avoidance. Specific night bat roost AMMs will be developed through technical assistance with CDFW and bat specialists.

**AMM BIO-6.** Incorporation of Bat Roosting Habitat into New Bridge. Bridge elements and configurations that support bat roosting should be installed in the new Arroyo de la Laguna Bridge. Bridge replacements should consider use of a similar bridge design when the roost is large, unique, or supports a rare species. Critical issues include access, ventilation, and protection. Crevice roosts should be replaced with crevices of similar area and cavities should be replaced with cavities of similar parameters. If this is not possible due to engineering requirements, e.g., safety, replacement habitat may be considered. Supplemental habitat may also be considered when exclusion would occur for more than one season.

**AMM BIO-7.** Exclusion of Bats from Existing Bridge. Prior to deconstruction of the existing Arroyo de la Laguna Bridge, a roosting bat exclusion plan will be developed and implemented. At a minimum, this plan should address how one-way exclusion devices would be used to allow bats to safely exit the current bridge prior to its removal. The plan would be implemented between March 1 to April 15 and August 31 to October 15 to avoid sensitive periods for bat species.

**AMM BIO-8.** Dusky-footed Woodrat Midden Relocation. Caltrans will request a Memorandum of Understanding (MOU) with CDFW to develop and implement a relocation plan for woodrat middens that will be affected by the proposed project.

**AMM BIO-9.** Biological Monitor Approval. Caltrans will submit the names and qualifications of the biological monitor(s) for CDFW and USFWS approval prior to initiating construction activities for the proposed project.

**AMM BIO-10.** Biological Monitoring. The agency-approved biologist(s) will be on-site during initial ground-disturbing activities, the installation and removal of the creek diversion, and thereafter as needed to fulfill the role of the approved biologist as specified in project permits. The biologist(s) will keep copies of applicable permits in their possession when on-site. Through the Resident Engineer or their designee, the agency-approved biologist(s) will be given the authority to communicate either verbally, by telephone, email or hard copy with all project personnel to ensure that take of listed species is minimized and permit requirements are fully implemented. Through the Resident Engineer or their designee, the agency-approved biologist(s) will have the authority to stop project activities to minimize take of listed species or if they determine that any permit requirements are not fully implemented. If the agency-approved biologist(s) exercises this authority, the agencies must be notified by telephone and email within 48 hours.

**AMM BIO-11.** Preconstruction Surveys. Prior to any ground disturbance, preconstruction surveys will be conducted by an agency-approved biologist for listed species. These surveys will consist of walking surveys of the project limits and, if possible, accessible adjacent areas within at least 50 feet of the project limits. The biologist(s) will investigate all potential cover sites. This includes thorough investigation of mammal burrows, rocky outcrops, appropriately sized soil cracks, tree cavities, and debris. Native vertebrates found in the cover sites within the project limits would be documented and relocated to an adequate cover site in the vicinity.

**AMM BIO-12.** Prevention of Wildlife Entrapment. To prevent inadvertent entrapment of listed species during construction, excavated holes or trenches more than one foot deep with walls steeper than 30 degrees will be covered at the close of each working day by plywood or similar materials. Alternatively, an additional four-foot-high vertical barrier, independent of exclusionary fences, will be used to further prevent the inadvertent entrapment of listed species. If it is not feasible to cover an excavation or provide an additional four-foot-high vertical barrier, independent of exclusionary fences, one or more escape ramps constructed of earth fill or wooden planks would be installed. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped listed animal is discovered, the on-site biologist will immediately place escape ramps or other appropriate structures to allow the animal to escape or CDFW or USFWS will be contacted by telephone for guidance. CDFW or USFWS will be notified of the incident by telephone and electronic mail within 48 hours.

**AMM BIO-13.** Wildlife Exclusion Fencing. The limits of construction zones within suitable habitat for listed species will be delineated with high visibility wildlife exclusion fencing at least four feet in height to prevent wildlife from accessing the construction footprint. The fencing will be removed only when all construction equipment is removed from the site. No project activities will occur outside the delineated project construction area. Wildlife exclusion fencing is not required for construction activities occurring outside of suitable habitat for listed species.

**AMM BIO-14.** Listed Species On-site. The Resident Engineer will immediately contact the agency-approved project biologist(s) if a listed species is observed within a construction zone. The Resident Engineer will suspend construction activities within a 50-foot radius of the animal until the animal leaves the site voluntarily or an agency-approved protocol for removal has been established.

**AMM BIO-15.** Work Window. All work within suitable aquatic habitat for steelhead and California red-legged frog will occur between June 1 and October 15, when there is less potential for an individual to enter the work area. All work within suitable upland habitat for California red-legged frog will occur between March 1 and November 30. During this time, California red-legged frog would have a lower potential for movements across upland habitat.

**AMM BIO-16.** Monofilament Erosion Control. Plastic mono-filament netting (erosion control matting) or similar material will not be used for the project because California red-legged frog and Alameda whipsnake may become entangled or trapped in it.

Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

**AMM BIO-17.** Concrete Waste and Stockpiles. All grindings and asphaltic-concrete waste will be stored within previously disturbed areas absent of habitat and at a minimum of 150 feet from any aquatic habitat, culvert, or drainage feature.

**MM BIO-1.** On-site restoration of temporarily impacted California red-legged frog habitat at a 1:1 ratio, and off-site compensatory mitigation for prolonged temporarily impacted and permanently impacted California red-legged frog habitat at a 1.5:1 and 3:1 ratio, respectively.

**MM BIO-2.** Off-site compensatory mitigation for prolonged temporarily impacted and permanently impacted Alameda whipsnake habitat at a 1.5:1 and 3:1 ratio, respectively.

## Cultural Resources

**AMM CULTURAL-1.** Report any unintended discoveries of human remains or artifacts within SFPUC jurisdiction to SFPUC.

**AMM CULTURAL-2.** Worker Environmental Awareness Training. All construction personnel will attend a mandatory environmental education program delivered by an agency-approved archaeologist prior to working on the project.

**AMM CULTURAL-3.** Establishment of an Environmentally Sensitive Area around the Sunol Water Temple and associated features.

**MM CULTURAL-1.** If archaeological resources cannot be avoided, a preconstruction Phase III Data Recovery Plan will be implemented by a qualified archaeologist for the significant archaeological site that is directly affected. Data Recovery will only occur in the portion of the site being directly affected.

**MM CULTURAL-2.** Caltrans is preparing an Archaeological Monitoring Plan to be implemented during construction. This would include establishing an Archaeological Monitoring Area (AMA) and having an archaeologist and Tribal representative monitor job site activities within the archaeological monitoring area to reduce the project's impacts to the resource within the project limits. No construction activities can be conducted within the AMA unless the archeological and tribal monitor is present. Reference Caltrans Standard Specification 14-2.03.

## Invasive Species

**AMM INVASIVE-1.** Construction equipment would arrive at the project clean and free of soil, seed, and plant parts to reduce the likelihood of introducing new weed species. Any imported fill material soil amendments, gravel, or other materials required for construction and/or restoration activities that will be placed within the upper 12 inches of the ground surface shall be free of vegetation and plant material.

**AMM INVASIVE-2.** To reduce the movement of invasive weeds into uninfested areas, the contractor shall stockpile topsoil removed during excavation (e.g., during grading of staging areas or excavation to accommodate installation of the temporary stair system and work platform) and shall subsequently reuse the stockpiled soil for reestablishment of disturbed project areas.

**AMM INVASIVE-3.** Borrow material would be certified to be non-toxic and weed free to the maximum extent possible.

## Natural Communities

**AMM NATURAL COMMUNITIES-1.** Revegetation Following Construction. All areas that are temporarily affected during construction will be revegetated with an assemblage of native grasses, shrubs, and trees as appropriate. Invasive, exotic plants will be controlled within the construction area to the maximum extent practicable, pursuant to EO 13112.

**MM NATURAL COMMUNITIES-1.** Upland Trees. During the design phase of the project, Caltrans District 4's Office of Biological Sciences and Permits will work with the Caltrans Design and Caltrans Landscape Architecture teams to avoid and minimize project impacts to upland trees. Efforts to preserve trees in place (by designating trees on plan sheets and marking trees with ESA fencing) will be made to avoid or minimize project impacts to trees located in temporary impact areas. For upland trees that are removed, Caltrans will provide tree replacement on-site. In the event that off-site planting is determined to be necessary, potential planting locations would be identified by working with local stakeholders, private landholders, and public agencies including, but not limited to, East Bay Regional Parks District, Alameda County, and the SFPUC.

**MM NATURAL COMMUNITIES-2.** Riparian Trees. During the design phase of the project, Caltrans Office of Biological Sciences and Permits will work with the Caltrans Design team to avoid and minimize project impacts to riparian trees. Efforts to preserve

trees in place, by designating trees on plan sheets and marking trees with ESA fencing, will be made to avoid or minimize project impacts to trees located in temporary impact areas. Trees removed from the riparian zone will be replaced on-site, to the maximum extent possible given the space available. Potential planting locations within the Alameda Creek watershed will be identified by working with local stakeholders, private and public landholders, and public agencies including, but not limited to, East Bay Regional Parks District, Alameda County, and SFPUC. Details for off-site planting and riparian tree planting success criteria will be determined during the design and permitting phase of the project with CDFW (1602 Streambed Alteration Agreement) and the RWQCB (401 Certification).

## Noise

**AMM NOISE-1:** Temporary noise control, including but not limited to the following are needed:

1. The Contract Specifications should include a Special Provision requiring a noise control and monitoring plan. Measures may include a temporary noise barrier and other methods, i.e., scheduling and the measures below.
2. Provide public outreach or communication plan for residents and the school to get accurate project information.
3. Locate staging and storage areas away from the school and residential areas.
4. Consider reducing impact of detours.
5. Use quieter alternative methods of equipment.
6. Prevent idling of equipment near sensitive receptors.
7. Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the project site without the appropriate muffler.
8. If feasible, use solar or electricity as power source instead of diesel generators.

## Visual Resources

**AMM VIS-1.** Vegetation Removal Measures

- Avoid or minimize vegetation removal (groundcover, shrubs, and mature trees) due to construction and staging operations:
    - Minimize the removal of groundcover, shrubs, and mature trees to the greatest extent possible, utilizing open areas first.
    - Protect existing vegetation outside the clearing and grubbing limits from the contractor's operations, equipment, and materials storage.

- Place high visibility temporary fencing around vegetation to be protected before roadway work begins.
- Provide replacement screen tree plantings between the Sunol Glen Elementary School and SR 84/Arroyo de la Laguna Bridge. Shrubs will be planted in lieu of trees where insufficient setback requirements exist. An Arborist will analyze possible impacts to trees within the Sunol Glen Elementary School right-of-way where branches and root zones fall within state right-of-way, resulting in possible harm to these trees. Negotiations between the school and state should be conducted to plant trees outside state right-of-way where school trees are harmed.

**AMM VIS-2.** Concrete Safety Barrier/Railing Aesthetics

- New concrete safety barriers and/or railing should closely match the aesthetics of the existing structures. See-through barriers and/or railings should be considered where feasible at locations where outward views exist to reduce screening of views.
- Midwest Guardrail Systems and/or metallic safety crash cushions before and after the bridge barriers should receive an aesthetic treatment of Natina coating (or similar rustic coating) to reduce possible glare and blend in with the natural environment.

**AMM VIS-3.** Aesthetic Treatments

- The design, color, and aesthetic treatment for the new bridge, support columns, and support walls shall be similar in design to the existing structure so to be visually compatible and consistent with the historic conditions along the corridor.
- The proposed retaining wall shall be aesthetically treated with color, texture, and/or patterning to blend in with the natural environment and reduce the incidence of glare or graffiti.

**AMM VIS-4.** Construction Impact Measures

- Place unsightly materials, equipment storage, and staging so that they are not visible within the foreground of the highway corridor to the maximum extent feasible. Where such siting is unavoidable, material and equipment shall be visually screened to minimize visibility from the roadway and nearby sensitive off-road receptors.
- Revegetate all areas disturbed by construction, staging, and storage per highway replacement and revegetation standard measures.

- Limit all construction lighting to within the area of work and avoid light trespass using directional lighting and shielding as needed.

# Appendix D List of Acronyms and Abbreviations

| | |
|---|---|
| AB | Assembly Bill |
| ABAG | Association of Bay Area Governments |
| ACE | Altamont Commuter Express |
| ACHP | Advisory Council on Historic Preservation |
| ACPWA | Alameda County Public Works Agency |
| ACS | American Community Survey |
| ACTC | Alameda County Transportation Commission |
| ACWD | Alameda County Water District |
| ADA | Americans with Disabilities Act |
| ADL | aerially deposited lead |
| AMA | archaeological monitoring area |
| AMM | avoidance and minimization measure |
| APE | Area of Potential Effects |
| BAAQMD | Bay Area Air Quality Management District |
| BC | black carbon |
| BMP | Best Management Practice |
| BPMP | Bicycle and Pedestrian Master Plan |
| BSA | Biological Study Area |
| Cal Fire | California Department of Forestry and Fire Protection |
| Cal-IPC | California Invasive Plant Council |

| | |
|---|---|
| Cal/OSHA | California Occupational Safety and Health Administration |
| Caltrans | California Department of Transportation |
| CARB | California Air Resources Board |
| CDFW | California Department of Fish and Wildlife |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFR | Code of Federal Regulations |
| CHP | California Highway Patrol |
| CIDH | cast-in-drilled-hole |
| CMP | construction mitigation plan |
| CNDDB | California Natural Diversity Database |
| $CO_2$ | carbon dioxide |
| CRHR | California Register of Historic Resources |
| CTP | Countywide Transportation Plan |
| CWA | Clean Water Act |
| dBA | decibels |
| DPS | Distinct Population Segment |
| DSA | Disturbed Soil Area |
| EBRPD | East Bay Regional Park District |
| EIS | Environmental Impact Statement |
| EO | Executive Order |
| ESA | environmentally sensitive area |

| | |
|---|---|
| FEMA | Federal Emergency Management Agency |
| FESA | Federal Endangered Species Act |
| FHWA | Federal Highway Administration |
| FIRM | Flood Insurance Rate Map |
| FMMP | Farmland Monitoring and Mapping Program |
| FPPA | Farmland Protection Policy Act |
| FONSI | Finding of No Significant Impact |
| GHG | greenhouse gas |
| HCP | Habitat Conservation Plan |
| HFC | hydrofluorocarbons |
| KVP | key viewpoint |
| LEDPA | least environmentally damaging practicable alternative |
| $L_{eg}$ | Equivalent Noise Level |
| MGS | Midwest guardrail system |
| MM | mitigation measure |
| $MMTCO_2e$ | million metric tons of carbon dioxide equivalent |
| mph | miles per hour |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| MS4 | Municipal Separate Storm Sewer System |
| MTC | Metropolitan Transportation Commission |
| $N_2O$ | nitrous oxide |

| | |
|---|---|
| NAC | Noise Abatement Criteria |
| NAHC | Native American Heritage Commission |
| NCCP | Natural Community Conservation Plans |
| NES | Natural Environment Study |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPDES | National Pollutant Discharge Elimination System |
| NRCS | Natural Resources Conservation Service |
| OCRS | Office of Cultural Resources Studies (Caltrans) |
| OHWM | ordinary high water mark |
| PA | Programmatic Agreement |
| PG&E | Pacific Gas and Electric |
| PM | post mile |
| PQS | Professionally Qualified Staff |
| PRC | Public Resources Code |
| RAP | Relocation Assistance Program |
| RCNM | Roadway Construction Noise Model |
| RSA | resource study area |
| RWQCB | Regional Water Quality Control Board |
| SB | Senate Bill |

| | |
|---|---|
| SFPUC | San Francisco Public Utilities Commission |
| SLR | sea level rise |
| SR | State Route |
| SWMP | Statewide Storm Water Management Plan |
| SWPPP | Storm Water Pollution Prevention Plan |
| SWRCB | state water resources control board |
| TCE | temporary construction easement |
| TMDL | Total Maximum Daily Load |
| TMP | Traffic Management Plan |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USC | United States Code |
| USDOT | United States Department of Transportation |
| USFWS | United States Fish and Wildlife Service |
| VAU | visual assessment unit |
| VIA | Visual Impact Assessment |
| WDR | Waste Discharge Requirement |
| WPCP | Water Pollution Control Program |

# Appendix E Notice of Preparation

EDMUND G. BROWN JR.
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

KEN ALEX
DIRECTOR

**Notice of Preparation**

August 20, 2018

To: Reviewing Agencies

Re: Arroyo de la Laguna Bridge Project
SCH# 2018082045

Attached for your review and comment is the Notice of Preparation (NOP) for the Arroyo de la Laguna Bridge Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

**Brian Gassner**
**California Department of Transportation, District 4**
**111 Grand Avenue, MS 8B**
**Oakland, CA 94612**

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
1-916-322-2318 FAX 1-916-558-3184 www.opr.ca.gov

**Document Details Report**
**State Clearinghouse Data Base**

***SCH#*** **2018082045**
***Project Title*** Arroyo de la Laguna Bridge Project
***Lead Agency*** Caltrans #4

***Type*** **NOP** Notice of Preparation

***Description*** Caltrans proposes to replace the existing bridge over Arroyo de la Laguna with a new bridge structure. Recent structure maintenance inspections (completed in Oct of 2013) identified that drift at Piers 4 and 5 of the Arroyo de la Laguna Bridge is causing scour, which will potentially undermine the footing at Pier 5 of this bridge site. Furthermore, the existing 1939 railing of the Arroyo de la Laguna Bridge does not meet current safety standards and needs to be updated to meet current standards. Modern bridge railing is better able to redirect errant vehicles back into the existing roadway. The purpose of the project is to mitigate bridge scour, protect the bridge's structural integrity and improve safety by directing potentially errant vehicles back into the roadway.

## Lead Agency Contact

***Name*** Brian Gassner
***Agency*** California Department of Transportation, District 4
***Phone*** (510) 286-6025 ***Fax***
***email***
***Address*** 111 Grand Avenue, MS 8B
***City*** Oakland ***State*** CA ***Zip*** 94612

## Project Location

***County*** Alameda
***City***
***Region***
***Cross Streets*** Niles Canyon Rd
***Lat / Long***
***Parcel No.***
***Township*** ***Range*** ***Section*** ***Base***

## Proximity to:

***Highways*** SR 84
***Airports***
***Railways*** Niles Canyon RR
***Waterways*** Arroyo de la Laguna
***Schools*** Sunol Glen ES
***Land Use***

***Project Issues*** Aesthetic/Visual; Archaeologic-Historic; Biological Resources; Flood Plain/Flooding; Geologic/Seismic; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Landuse; Cumulative Effects

***Reviewing Agencies*** Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 3; Native American Heritage Commission; Public Utilities Commission; State Lands Commission; California Highway Patrol; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 2; Department of Toxic Substances Control

***Date Received*** 08/17/2018 ***Start of Review*** 08/20/2018 ***End of Review*** 09/18/2018

Note: Blanks in data fields result from insufficient information provided by lead agency.

Print Form

*Appendix C*

## Notice of Completion & Environmental Document Transmittal

*Mail to:* State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
*For Hand Delivery/Street Address:* 1400 Tenth Street, Sacramento, CA 95814

SCH # 2018082045

**Project Title:** Arroyo de la Laguna Bridge Project

Lead Agency: California Department of Transportation, District 4 — Contact Person: Brian Gassner
Mailing Address: 111 Grand Avenue MS 8B — Phone: 510-286-6025
City: Oakland — Zip: 94612 — County: Alameda

**Project Location:** County: Alameda — City/Nearest Community: Sunol
Cross Streets: Niles Canyon Road — Zip Code: 94586
Longitude/Latitude (degrees, minutes and seconds): ____° ____′ ____″ N / ____° ____′ ____″ W Total Acres: ____
Assessor's Parcel No.: ____ Section: ____ Twp.: ____ Range: ____ Base: ____
Within 2 Miles: State Hwy #: State Route 84 — Waterways: Arroyo de la Laguna
Airports: N/A — Railways: Niles Canyon Railway — Schools: Sunol Glen Elementary

**Document Type:**

CEQA: ☒ NOP ☐ Draft EIR ☐ Early Cons ☐ Supplement/Subsequent EIR ☐ Neg Dec (Prior SCH No.) ____ ☐ Mit Neg Dec Other: ____
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other: ____

**Local Action Type:**

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other: ____

Governor's Office of Planning & Research
AUG 17 2018
STATE CLEARINGHOUSE

**Development Type:**

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☐ Commercial: Sq.ft. ____ Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☒ Transportation: Type Bridge Replacement
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

**Project Issues Discussed in Document:**

☒ Aesthetic/Visual
☐ Agricultural Land
☐ Air Quality
☒ Archeological/Historical
☒ Biological Resources
☐ Coastal Zone
☐ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☒ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☐ Noise
☐ Population/Housing Balance
☒ Public Services/Facilities
☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☐ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☐ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☒ Vegetation
☒ Water Quality
☐ Water Supply/Groundwater
☒ Wetland/Riparian
☐ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☐ Other: ____

**Present Land Use/Zoning/General Plan Designation:**

**Project Description:** *(please use a separate page if necessary)*

The California Department of Transportation (Caltrans) proposes to replace the existing bridge over Arroyo de la Laguna with a new bridge structure. Recent structure maintenance inspections (completed in October of 2013) identified that drift at Piers 4 and 5 of the Arroyo de La Laguna Bridge is causing scour, which will potentially undermine the footing at Pier 5 of this bridge site. Furthermore, the existing 1939 railing of the Arroyo de la Laguna Bridge does not meet current safety standards and needs to be updated to meet current standards. Modern bridge railing is better able to redirect errant vehicles back into the existing roadway. The purpose of the project is to mitigate bridge scour, protect the bridge's structural integrity and improve safety by directing potentially errant vehicles back into the roadway.

*Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.*

Revised 2010

## NOP Distribution List

County: Alameda SZ

SCH# 2018082045

Resources Agency

- Resources Agency — Nadell Gayou
- Dept. of Boating & Waterways — Denise Peterson
- California Coastal Commission — Allyson Hitt
- Colorado River Board — Elsa Contreras
- Dept. of Conservation — Crina Chan
- Cal Fire — Dan Foster
- Central Valley Flood Protection Board — James Herota
- Office of Historic Preservation — Ron Parsons
- Dept of Parks & Recreation — Environmental Stewardship Section
- S.F. Bay Conservation & Dev't. Comm. — Steve Goldbeck
- Dept. of Water Resources — Resources Agency, Nadell Gayou

Fish and Game

- Depart. of Fish & Wildlife — Scott Flint, Environmental Services Division
- Fish & Wildlife Region 1 — Curt Babcock
- Fish & Wildlife Region 1E — Laurie Harnsberger
- Fish & Wildlife Region 2 — Jeff Drongesen
- Fish & Wildlife Region 3 — Craig Weightman
- Fish & Wildlife Region 4 — Julie Vance
- Fish & Wildlife Region 5 — Leslie Newton-Reed, Habitat Conservation Program
- Fish & Wildlife Region 6 — Tiffany Ellis, Habitat Conservation Program
- Fish & Wildlife Region 6 I/M — Heidi Calvert, Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Wildlife M — William Paznokas, Marine Region

Other Departments

- California Department of Education — Lesley Taylor
- OES (Office of Emergency Services) — Monique Wilber
- Food & Agriculture — Sandra Schubert, Dept. of Food and Agriculture
- Dept. of General Services — Cathy Buck, Environmental Services Section
- Housing & Comm. Dev. — CEQA Coordinator, Housing Policy Division

Independent Commissions,Boards

- Delta Protection Commission — Erik Vink
- Delta Stewardship Council — Anthony Navasero
- California Energy Commission — Eric Knight
- Native American Heritage Comm. — Debbie Treadway
- Public Utilities Commission — Supervisor
- Santa Monica Bay Restoration — Guangyu Wang
- State Lands Commission — Jennifer Deleong
- Tahoe Regional Planning Agency (TRPA) — Cherry Jacques

Cal State Transportation Agency CalSTA

- Caltrans - Division of Aeronautics — Philip Crimmins
- Caltrans – Planning HQ LD-IGR — Christian Bushong
- California Highway Patrol — Suzann Ikeuchi, Office of Special Projects

Dept. of Transportation

- Caltrans, District 1 — Rex Jackman
- Caltrans, District 2 — Marcelino Gonzalez
- Caltrans, District 3 — Susan Zanchi - North
- Caltrans, District 4 — Patricia Maurice
- Caltrans, District 5 — Larry Newland
- Caltrans, District 6 — Michael Navarro
- Caltrans, District 7 — Dianna Watson
- Caltrans, District 8 — Mark Roberts
- Caltrans, District 9 — Gayle Rosander
- Caltrans, District 10 — Tom Dumas
- Caltrans, District 11 — Jacob Armstrong
- Caltrans, District 12 — Maureen El Harake

Cal EPA

Air Resources Board

- Airport & Freight — Jack Wursten
- Transportation Projects — Nesamani Kalandiyur
- Industrial/Energy Projects — Mike Tollstrup
- California Department of Resources, Recycling & Recovery — Kevin Taylor/Jeff Esquivel
- State Water Resources Control Board — Regional Programs Unit, Division of Financial Assistance
- State Water Resources Control Board — Cindy Forbes – Asst Deputy, Division of Drinking Water
- State Water Resources Control Board — Div. Drinking Water #_____
- State Water Resources Control Board — Student Intern, 401 Water Quality Certification Unit, Division of Water Quality
- State Water Resouces Control Board — Phil Crader, Division of Water Rights
- Dept. of Toxic Substances Control Reg. #_____ — CEQA Tracking Center
- Department of Pesticide Regulation — CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- RWQCB 1 — Cathleen Hudson, North Coast Region (1)
- RWQCB 2 — Environmental Document Coordinator, San Francisco Bay Region (2)
- RWQCB 3 — Central Coast Region (3)
- RWQCB 4 — Teresa Rodgers, Los Angeles Region (4)
- RWQCB 5S — Central Valley Region (5)
- RWQCB 5F — Central Valley Region (5), Fresno Branch Office
- RWQCB 5R — Central Valley Region (5), Redding Branch Office
- RWQCB 6 — Lahontan Region (6)
- RWQCB 6V — Lahontan Region (6), Victorville Branch Office
- RWQCB 7 — Colorado River Basin Region (7)
- RWQCB 8 — Santa Ana Region (8)
- RWQCB 9 — San Diego Region (9)

- Other _____
- _____
- _____
- _____
- _____ Conservancy

Last Updated 5/22/18

# Appendix F U.S. Fish and Wildlife Service and National Marine Fisheries Service Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2021-SLI-2133
Event Code: 08ESMF00-2021-E-06189
Project Name: 0J550_Arroyo de la Laguna Bridge Project

June 22, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location 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.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(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

# Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

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

## Project Summary

Consultation Code: 08ESMF00-2021-SLI-2133
Event Code: 08ESMF00-2021-E-06189
Project Name: 0J550_Arroyo de la Laguna Bridge Project
Project Type: TRANSPORTATION
Project Description: Caltrans plans to replace the Arroyo de la Laguna Bridge in Sunol, Alameda County

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.5927292,-121.88336728143395,14z


Counties: Alameda County, California

## Endangered Species Act Species

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Mammals

| NAME | STATUS |
|---|---|
| Salt Marsh Harvest Mouse *Reithrodontomys raviventris*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/613 | Endangered |
| San Joaquin Kit Fox *Vulpes macrotis mutica*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/2873 | Endangered |

### Birds

| NAME | STATUS |
|---|---|
| California Least Tern *Sterna antillarum browni*<br>No critical habitat has been designated for this species.<br>Species profile: https://ecos.fws.gov/ecp/species/8104 | Endangered |

### Reptiles

| NAME | STATUS |
|---|---|
| Alameda Whipsnake (=striped Racer) *Masticophis lateralis euryxanthus*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/5524 | Threatened |

## Amphibians

| NAME | STATUS |
|---|---|
| California Red-legged Frog *Rana draytonii*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2891 | Threatened |
| California Tiger Salamander *Ambystoma californiense*<br>Population: U.S.A. (Central CA DPS)<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2076 | Threatened |

## Fishes

| NAME | STATUS |
|---|---|
| Delta Smelt *Hypomesus transpacificus*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/321 | Threatened |

## Crustaceans

| NAME | STATUS |
|---|---|
| Conservancy Fairy Shrimp *Branchinecta conservatio*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/8246 | Endangered |
| Vernal Pool Fairy Shrimp *Branchinecta lynchi*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/498 | Threatened |
| Vernal Pool Tadpole Shrimp *Lepidurus packardi*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/2246 | Endangered |

## Flowering Plants

| NAME | STATUS |
|---|---|
| Contra Costa Goldfields *Lasthenia conjugens*<br>There is **final** critical habitat for this species. The location of the critical habitat is not available.<br>Species profile: https://ecos.fws.gov/ecp/species/7058 | Endangered |

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

**Project Name: Arroyo de la Laguna Bridge Project**

**Project EA: 04-0J550**

**Agency: California Department of Transportation111 Grand Avenue Oakland, California 94612**

**Contact: Nicole Christie 805-704-4272**

**Email: Nicole.Christie@dot.ca.gov**

**Date: 4/13/2021**

Quad Name **Niles**
Quad Number **37121-E8**

## ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

## ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) -
Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH -

Coastal Pelagics EFH -
Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**
**See list at left and consult the NMFS Long Beach office**
**562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

# Appendix G List of Technical Studies

Air Quality Conformity Memorandum. District 4, Office of Environmental Engineering, Oakland, CA. May 11, 2021.

Natural Environment Study: Arroyo de la Laguna Bridge Project. District 4, Office of Biological Sciences and Permits. Oakland, CA. November 2020.

Caltrans Technical Noise Supplement to the Traffic Noise Analysis Protocol. URL: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf. September 2013.

Comments from Air/Noise/Energy Branch. District 4, Office of Environmental Engineering. Oakland, CA. June 18, 2019

Comments from Hazardous Waste Branch. District 4, Office of Environmental Engineering. Oakland, CA. June 18, 2019.

Community Impact Assessment. Arroyo de la Laguna Bridge Project. District 4, Office of Environmental Analysis. Oakland, CA. May 2021.

Construction Related GHG Emissions Analysis. District 4, Office of Environmental Engineering. Oakland, CA. May 11, 2021.

Construction Noise Analysis, Addendum #2. EA 0J550, ALA-84-17.2, Remove and Replace Bridge. District 4, Office of Environmental Engineering. Oakland, CA. May 7, 2021.

Energy Analysis Memo. District 4, Air Quality and Noise Branch. Oakland, CA. May 11, 2021.

Location Hydraulics Study. District 4, Office of Hydraulics Engineering. Oakland CA. June 30, 2017.

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# Appendix I Transportation Improvement Program (TIP) and Regional Transportation Plan (RTP) Project Listings

**GL: Bridge Rehabilitation and Reconstruction – SHOPP Program**

**(TIP ID – VAR170010)**

**Last updated with TIP Revision 2019-32**

**FTIP BACK-UP LIST FOR SHOPP - BRIDGE PRESERVATION PROJECTS (VAR170010)**
FOR 2017/2022 PROGRAM YEARS
*All amounts in $1,000*

| Dist | Co | Rte | PM | Location/Description | PPNO | EA | Prog Code | Con FY | Prior | 18/19 | 19/20 | 20/21 | 21/22 | PAED | PSE | RW SUP | CON SUP | RW | CON | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **SHOPP - Bridge Preservation** | | | | | | | | | | | | | | | | | | |
| 04 | SF | 80 | 3.8/5.0 | In the City and County of San Francisco, on Route 80, at the Bayshore Viaduct No. 34-0086 from Route 101 to 4th Street. Paint superstructure steel members.□ (G13 Contingency) | 1483S | 2J802 | 201.110 | 19/20 | $2,500 | $9,500 | $76 | $0 | $0 | $2,500 | $9,200 | $300 | $0 | $76 | $0 | $12,076 |
| 04 | SF | 101 | 4.1/5.1 | In the City and County of San Francisco, at the Central Viaduct No. 34-0077 from south of 17th Street to S. Van Ness Avenue. Paint superstructure steel members.□ (G13 Contingency) | 1483T | 2J801 | 201.110 | 19/20 | $0 | $0 | $153 | $0 | $0 | $0 | $0 | $0 | $0 | $153 | $0 | $153 |
| 04 | SOL | 84 | 12.0/12.4 | Near Rio Vista, at Miner Slough Bridge No. 23-0035. Replace bridge. | 0886 | 0G660 | 201.110 | 19/20 | $6,500 | $1,098 | $30,884 | $0 | $0 | $3,000 | $3,500 | $1,098 | $3,500 | $2,884 | $24,500 | $38,482 |
| 04 | SOL | 80 | | Near Fairfield, at Suisun Creek Bridge No. 23-0007. Scour mitigation. | 0487R | 4G872 | 201.111 | 19/20 | $1,200 | $620 | $1,365 | $0 | $0 | $1,200 | $600 | $20 | $600 | $5 | $760 | $3,185 |
| 04 | SOL | 80 | 1.1/34.5 | In and near Vallejo, Dixon and Vacaville, at Route 80/29 Separation Bridge No. 23-0087, McCune Creek Bridge No. 23-0084L/R and Horse Creek Bridge No. 23-0077L. Bridge preventative maintenance. | 0480N | 0J600 | 201.119 | 19/20 | $990 | $946 | $2,682 | $0 | $0 | $990 | $880 | $66 | $880 | $423 | $1,379 | $4,618 |
| 04 | SOL | 80 | | In Vallejo, at Route 80/29 Separation Bridge No. 23-0087. Replace bridge.□ ACCELERATED BRIDGE | 1452F | 2K840 | 201.322 | 19/20 | $2,057 | $0 | $17,561 | $0 | $0 | $2,057 | $2,624 | $22 | $2,600 | $15 | $12,300 | $19,618 |
| 04 | SON | 12 | 25.8/33.3 | In and near Sonoma, at Sonoma Creek Bridge No. 20-0027 and Hooker Creek Bridge No. 20-0030. Scour mitigation. | 0269M | 4H050 | 201.111 | 19/20 | $4,669 | $0 | $20,620 | $0 | $0 | $1,519 | $2,650 | $500 | $3,000 | $4,420 | $13,200 | $25,289 |
| 04 | MRN | 1 | | Near Point Reyes Station, at Lagunitas Creek Bridge No. 27-0023. Replace bridge. | 0756K | 0G642 | 201.113 | 20/21 | $4,187 | $3,600 | $0 | $20,552 | $0 | $4,187 | $2,850 | $750 | $2,500 | $6,500 | $11,552 | $28,339 |
| 04 | NAP | 128 | | Near Rutherford, at Conn Creek Bridge No. 21-0021. Plant establishment mitigation for bridge replacement project EA 1G430. | 0587K | 1G43A | 201.111 | 20/21 | $0 | $0 | $50 | $450 | $0 | $0 | $30 | $20 | $200 | $30 | $220 | $500 |
| 04 | SF | 101 | 2.0/2.9 | In the City and County of San Francisco, at Alemany Circle Undercrossing (UC) No. 34-0064K, Alemany Circle UC No. 34-0065S and Bayshore Boulevard UC No. 34-0047S; also in San Mateo County in Pacifica, at Paloma Avenue Overcrossing No. 35-0187 (PM R44.21). Upgrade bridge rails. | 1450E | 2K190 | 201.112 | 20/21 | $0 | $657 | $1,915 | $7,276 | $0 | $657 | $1,751 | $164 | $1,805 | $10 | $5,461 | $9,848 |
| 04 | ALA | 84 | 17.0/17.4 | Near Sunol, at Arroyo De La Laguna Bridge No. 33-0043. Replace/rehabilitate bridge for scour mitigation, bridge rail upgrade, and seismic retrofit. | 0481M | 0J550 | 201.111 | 21/22 | $1,863 | $0 | $3,850 | $0 | $17,100 | $1,863 | $3,600 | $250 | $3,600 | $500 | $13,000 | $22,813 |
| 04 | ALA | 880 | 15.6/26.5 | In Hayward, San Leandro, and Oakland, at Tennyson Road Overcrossing (OC) No. 33-0236 (PM 15.65), Washington Avenue OC No. 33-0166 (PM 20.82), and Damon Slough Southboud onramp No. 33-0142K (PM 26.53); also on Route 77 in Oakland, at San Leandro OC No. 33-0284 (PM 0.29). Upgrade bridge rails, replace joint seals. | 1450C | 2K170 | 201.112 | 21/22 | $0 | $800 | $1,750 | $0 | $12,525 | $800 | $1,500 | $250 | $2,200 | $25 | $10,300 | $15,075 |
| 04 | ALA | 880 | | In Oakland, at East Creek Slough Bridge No. 33-0143. Mitigate eroded channel side-slope tidal scour and replace bridge approach slabs. | 1483D | 2J760 | 201.119 | 21/22 | $1,000 | $0 | $0 | $1,010 | $3,577 | $1,000 | $850 | $160 | $1,170 | $100 | $2,307 | $5,587 |
| 04 | CC | 24 | | In Orinda, at St. Stephens Drive Overcrossing No. 28-0111. Seismic retrofit. | 1493A | 4J840 | 201.113 | 21/22 | $0 | $925 | $1,350 | $0 | $2,480 | $925 | $1,175 | $175 | $375 | $38 | $2,067 | $4,755 |
| 04 | MRN | 101 | | In San Rafael, at Irwin Creek Bridge No. 27-0097. Rehabilitate corrugated metal arch culvert bridge and adjoining deteriorated culvert structures. | 1493K | 0K510 | 201.119 | 21/22 | $1,100 | $0 | $0 | $1,095 | $3,457 | $1,100 | $880 | $215 | $610 | $944 | $1,903 | $5,652 |
| 04 | NAP | 128 | | Near Rutherford, at Hopper Slough Bridge No. 20-0019. Replace bridge. | 1451C | 4J830 | 201.110 | 21/22 | $0 | $2,074 | $206 | $1,988 | $11,392 | $2,074 | $1,988 | $206 | $2,014 | $1,514 | $7,864 | $15,660 |
| 04 | NAP | 128 | 20.1/20.4 | Near Napa, at Capell Creek Bridge No. 21-0078. Environmental mitigation and plant establishment for rehabilitate bridge project EA 4G840. | 0830C | 4G84A | 201.110 | 21/22 | $0 | $0 | $0 | $0 | $1,536 | $0 | $0 | $10 | $250 | $776 | $500 | $1,536 |
| 04 | NAP | 29 | 14.1/19.0 | In and near the cities of Napa and Yountville, at Craig Creek Bridge No. 21-0048 (PM 14.11), Dry Creek Bridge No. 21-0014 (PM 16.48), Perfume Creek Bridge No. 21-0051 (PM 17.81), and California Drive Undercrossing No. 21-0047 (PM 19.04). Upgrade bridge rails and widen shoulders to make standard. | 1494E | 0K630 | 201.112 | 21/22 | $0 | $2,600 | $0 | $1,550 | $8,906 | $2,600 | $1,200 | $350 | $1,500 | $295 | $7,111 | $13,056 |
| 04 | SM | 1 | | Near Pescadero, at Pescadero Creek Bridge No. 35-0028. Upgrade bridge rails and repair approach slabs. | 1494G | 4J870 | 201.110 | 21/22 | $0 | $1,200 | $0 | $1,008 | $5,894 | $1,200 | $1,000 | $8 | $1,200 | $260 | $4,434 | $8,102 |
| 04 | SM | 101 | | In Redwood City, at Cordilleras Creek Bridge No. 35-0019. Replace bridge to restore structural integrity. | 1483C | 2J730 | 201.110 | 21/22 | $0 | $4,500 | $0 | $5,625 | $38,355 | $4,500 | $4,500 | $1,125 | $7,500 | $4,285 | $26,570 | $48,480 |
| 04 | SM | 101 | 0.1/23.4 | In East Palo Alto, Redwood City, Belmont, Burlingame, Millbrae, South San Francisco, and Brisbane, from University Avenue Overcrossing to Sierra Point offramp separation. Upgrade bridge rails at eight structures. | 1485K | 2J740 | 201.112 | 21/22 | $0 | $1,326 | $1,716 | $0 | $9,268 | $1,326 | $1,586 | $130 | $1,456 | $64 | $7,748 | $12,310 |

Attachment A - *Plan Bay Area 2040* Final Project List

| County/ Operator | RTPID | Title | Total Project Cost (in $ millions) | Project Completed by 2020 |
|---|---|---|---|---|
| Marin | 17-03-0001 | Bicycle and Pedestrian Program | $30 | No |
| Marin | 17-03-0002 | Climate Program: TDM and Emission Reduction Technology | $1 | No |
| Marin | 17-03-0003 | County Safety, Security and Other | $4 | No |
| Marin | 17-03-0004 | Roadway Operations | $20 | No |
| Marin | 17-03-0005 | Minor Transit Improvements | $42 | No |
| Marin | 17-03-0006 | Implement Marin Sonoma Narrows HOV Lane and corridor improvements Phase 2 (Marin County) | $136 | No |
| Marin | 17-03-0007 | US 101/580 Interchange Direct Connector - PAED | $15 | No |
| Marin | 17-03-0008 | Tiburon East Blithedale Interchange - PAED | $12 | No |
| Marin | 17-03-0009 | Access Improvements to Richmond San Rafael Bridge | $7 | Yes |
| Marin | 17-03-0010 | Highway Improvement Studies | $5 | No |
| Marin | 17-03-0011 | Widen Novato Boulevard between Diablo Avenue and Grant Avenue | $17 | Yes |
| Marin | 17-03-0012 | Sir Francis Drake Boulevard/Red Hill Avenue/Center Boulevard (known as "The Hub") - project development | $6 | No |
| Marin | 17-03-0013 | San Rafael Transit Center (SRTC) Relocation Project | $36 | No |
| Marin | 17-03-0014 | Larkspur Ferry Terminal Parking Garage - Planning Study | $1 | No |
| Marin | 17-03-0015 | SMART Downtown San Rafael to Larkspur Rail Extension | $42 | Yes |
| Marin | 17-03-0016 | Multimodal Streetscape | $49 | No |
| Multi-County | 17-10-0011 | Lifeline, Community Based Transportation Program, and Mobility Management | $890 | No |
| Multi-County | 17-10-0012 | Means-Based Fare Study Implementation | $150 | No |
| Multi-County | 17-10-0013 | Transportation Management Systems | $500 | No |
| Multi-County | 17-10-0014 | Bay Trail - non toll bridge segments | $220 | No |
| Multi-County | 17-10-0015 | Climate Program: TDM and Emission Reduction Technology | $535 | No |
| Multi-County | 17-10-0016 | Cost Contingency and Financing | $1,000 | No |
| Multi-County | 17-10-0017 | Capital Projects Debt Service | $4,350 | No |
| Multi-County | 17-10-0018 | Goods Movement Clean Fuels and Impact Reduction Program | $350 | No |
| Multi-County | 17-10-0019 | Goods Movement Technology Program | $300 | No |
| Multi-County | 17-10-0020 | New/Small Starts Reserve | $640 | No |
| Multi-County | 17-10-0021 | Priority Development Area (PDA) Planning Grants | $200 | No |
| Multi-County | 17-10-0022 | Local and Streets and Roads - Existing Conditions | $20,698 | No |
| Multi-County | 17-10-0023 | Local Streets and Roads - Operations | $12,850 | No |
| Multi-County | 17-10-0024 | Regional and Local Bridges - Exisiting Conditions | $14,550 | No |
| Multi-County | 17-10-0025 | Regional State Highways - Existing Conditions | $13,014 | No |
| Multi-County | 17-10-0026 | Regional Transit Capital - Existing Conditions | $30,564 | No |
| Multi-County | 17-10-0027 | Regional Transit Operations | $119,830 | No |
| Multi-County | 17-10-0028 | Clipper | $1,735 | No |
| Multi-County | 17-10-0029 | 511 Traveler Information Program | $280 | No |
| Multi-County | 17-10-0030 | SAFE Freeway Patrol | $150 | No |
| Multi-County | 17-10-0031 | Regional Transportation Emergency Management Program | $25 | No |
| Multi-County | 17-10-0032 | Regional Rail Station Modernization and Access Improvements | $360 | No |
| Multi-County | 17-10-0033 | Bay Area Forward - Active Traffic Management, Arterial Operations , Connected Vehicles, Shared Mobility, Transbay Operations, Managed Lanes Implementation Plan Operations, Transit and Commuter Parking | $995 | No |

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