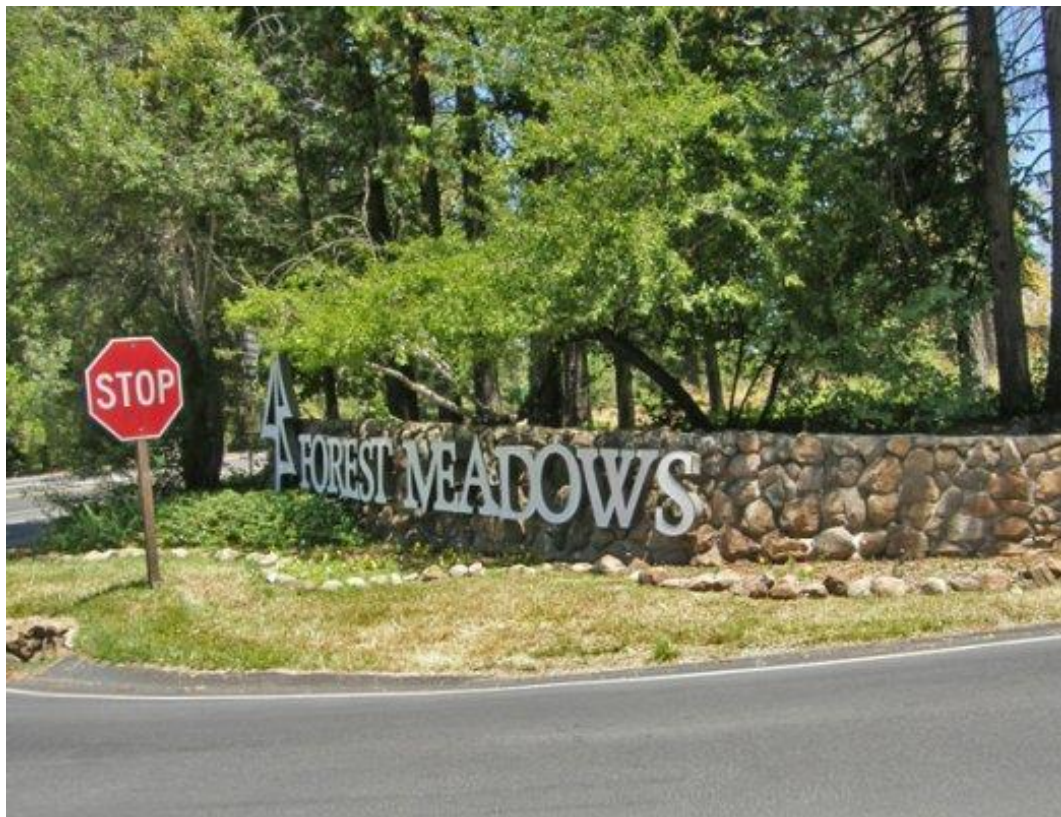


CAL 4 Culvert Replacement

On State Routes 4 and 49 in Calaveras and Tuolumne Counties
10-CAL-4/49-PM 32.40-37.30/5.78-17.19, 10-TUO-49-PM 12.67-13.08
Project ID Number 1017000181

Initial Study with Proposed Mitigated Negative Declaration

Volume 1 of 2



Prepared by the
State of California Department of Transportation

June 2022



General Information About This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project in Calaveras and Tuolumne Counties in California. The document explains why the project is being proposed, the alternatives being considered for the project, the existing environment that could be affected by the project, potential impacts of each of the alternatives, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read the document. Additional copies of the document and the related technical studies are available for review at the Caltrans District 10 Office at 1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California 95205, Monday through Friday, from 8:00 a.m. to 5:00 p.m. or online at <https://dot.ca.gov/caltrans-near-me/district-10/district-10-current-projects>. The document is also available at the San Andreas Central Library at 1299 Gold Hunter Road, San Andreas, California 95249, on Monday and Wednesday, from 1:00 p.m. to 5:00 p.m., and on Tuesday, Thursday, and Friday, from 10:00 a.m. to 5:00 p.m., the Angels Camp Branch Library at 358 North Main Street, Angels Camp, California 95222, Tuesday through Friday, from 11:00 a.m. to 5:00 p.m., and at the Tuolumne County Public Library at 480 Greenley Road, Sonora, California 95370, Monday through Friday, from 9:00 a.m. to 6:00 p.m., and on Saturday, from 10:00 a.m. to 6:00 p.m.
- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: C. Scott Guidi, District 10 Environmental Division, California Department of Transportation, 1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California 95205. Submit comments via email to: scott.guidi@dot.ca.gov.
- Submit comments by the deadline: November 19, 2022

What happens next:

After comments are received from the public and the 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 appropriated, Caltrans could design and construct all or part of the project.

Printing this document: To save paper, this document has been set up for two-sided printing (to print the front and back of a page). Blank pages occur where needed throughout the document to maintain proper layout of the chapters and appendices.

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: C. Scott Guidi, District 10 Environmental Division, 1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California 95205; 209-479-1839 (Voice), or use the California Relay Service 1-800-735-2929 (Teletype to Voice), 1-800-735-2922 (Voice to Teletype), 1-800-855-3000 (Spanish Teletype to Voice and Voice to Teletype), 1-800-854-7784 (Spanish and English Speech-to-Speech), or 711.

10-CAL-4/49-PM 32.40-37.30/5.78-17.19
10-TUO-49-PM 12.67-13.08
Project ID Number 1017000181

Culvert improvements along State Route 4 from post miles 32.40 to 37.30
and along State Route 49 from post miles 5.78 to 17.19 in Calaveras County,
and State Route 49 from post miles 12.67 to 13.08 in Tuolumne County

**INITIAL STUDY
with Proposed Mitigated Negative Declaration**

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

THE STATE OF CALIFORNIA
Department of Transportation
and
Responsible Agency: California Transportation Commission



James P. Henke
Environmental Office Chief, District 10
California Department of Transportation
CEQA Lead Agency

6/28/2022

Date

The following individual can be contacted for more information about this document:

C. Scott Guidi, 1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California
95205; 209-479-1839



DRAFT

Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number: pending

District-County-Route-Post Mile: 10-CAL-4/49-PM 32.40-37.30/5.78-17.19, 10-TUO-49-PM 12.67-13.08

EA/Project Number: EA 10-1G620 and Project ID Number 1017000181

Project Description

The California Department of Transportation (Caltrans) proposes to replace 22 culverts that have exceeded their design life expectancy along State Route 4 and State Route 49 in Calaveras and Tuolumne Counties, respectively. The proposed culvert restoration methods include replacing the deteriorated culverts with reinforced concrete pipe and installing inlet and outlet end treatments consisting of flared end sections, concrete headwalls, concrete wing walls, and rock slope protection. The work will include excavating existing culverts, jacking and boring for deeper culverts, backfilling, concrete casing, paving, installing rock slope protection at outlets, repairing or replacing headwalls, and re-striping.

Temporary construction easements and permanent right-of-way easements are expected at locations for construction and maintenance activities.

Determination

An Initial Study has been prepared by Caltrans, District 10.

On the basis of this study, it is determined that the proposed action with the incorporation of the identified mitigation measures will not have a significant effect on the environment for the following reasons.

Caltrans has determined the proposed project will have no effect on aesthetics, agriculture and forest resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire.

The project will have no significant effect on air quality, cultural resources, greenhouse gas emissions, or hazards and hazardous materials.

On the basis of this study, it is determined that the proposed action with the incorporation of the identified mitigation measure will have a less than significant effect on biological resources for the following reason:

- Compensatory Mitigation–Wetlands and Other Waters of the U.S.: The proposed project would result in permanent losses of Waters of the U.S. The permanent loss of Waters of the U.S. would be compensated by participation in the National Fish and Wildlife Foundation’s Sacramento District California In-Lieu Fee Program. With the implementation of the In-Lieu Fee Program and other avoidance and minimization measures, the impacts of the proposed project would be less than significant.

James P. Henke
Environmental Office Chief, District 10
California Department of Transportation

Date

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Chapter 1 **Proposed Project**

1.1 Introduction

The California Department of Transportation (Caltrans) proposes to perform culvert improvements along State Route 4 from post miles 32.40 to 37.30 and along State Route 49 from post miles 5.78 to 17.19 in Calaveras County and along State Route 49 from post miles 12.67 to 13.08 in Tuolumne County. See Figure 1-1 for the project vicinity map and the project location map. The existing culverts have exceeded their design life and show signs of deterioration, corrosion, shape loss, and joint separation. The proposed project will prevent future roadway collapses and flooding.

1.2 Purpose and Need

1.2.1 Purpose

The purpose of this project is to replace corroded and deteriorating culverts.

1.2.2 Need

The need of the project is to rehabilitate or replace the deteriorated culverts before the roadway collapses over the failed culverts and causes flooding and property damage.

1.3 Project Description

The California Department of Transportation (Caltrans) proposes to replace 22 culverts that have exceeded their design life expectancy along State Route 4 and State Route 49 in Calaveras and Tuolumne Counties. The proposed culvert restoration methods include replacing the deteriorated culverts with reinforced concrete pipe, installing inlet and outlet end treatments consisting of flared end sections, and installing concrete headwalls, concrete wing walls, and rock slope protection. The work will include excavating existing culverts, jacking-and-boring for deeper culverts, backfilling, concrete casing, paving, installing rock slope protection at outlets, repairing or replacing headwalls, and re-striping.

Temporary construction easements and permanent right-of-way easements are expected at locations for construction and maintenance activities.

The following discusses the 22 culvert locations and proposed construction activities for this project:

Location 1—Calaveras County, State Route 4, (Post Mile 32.40)—Replace the existing 30-inch corrugated metal pipe culvert with a 30-inch reinforced concrete pipe and install rock slope protection at the culvert outlet to reduce erosion.

Location 2—Calaveras County, State Route 4, (Post Mile 33.48)—Replace the existing 18-inch corrugated metal pipe with a 24-inch reinforced concrete pipe, install rock slope protection at the outlet to reduce erosion, and replace the headwall. A temporary construction easement will be needed at this location for construction activities.

Location 3—Calaveras County, State Route 4, (Post Mile 33.53)—Replace the existing 24-inch corrugated metal pipe with a 24-inch reinforced concrete pipe. Replace the existing 30-inch corrugated metal pipe with a 30-inch reinforced concrete pipe and replace the old concrete box manhole with a proposed Manhole Type-C. Replace the existing rock-constructed headwall with a new concrete headwall.

Location 4—Calaveras County, State Route 4, (Post Mile 33.94)—Replace the existing 18-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe and install rock slope protection at the culvert outlet to reduce erosion. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 5—Calaveras County, State Route 4, (Post Mile 36.87)—Replace the existing 18-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe and replace the 18-inch concrete flared end section and rock slope protection at the culvert outlet.

Location 6—Calaveras County, State Route 4, (Post Mile 37.20)—Replace the existing 18-inch corrugated metal pipe culvert with a 24-inch reinforced concrete pipe, replace the existing headwall at the outlet, and install rock slope protection if space is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 7—Calaveras County, State Route 4, (Post Mile 37.30)—Replace the existing 36-inch corrugated metal pipe culvert with a 36-inch reinforced concrete pipe, install a 36-inch concrete flared end section at the culvert outlet, replace the existing inlet headwall, and install rock slope protection if room is available.

Location 8—Calaveras County, State Route 49, (Post Mile 5.79)—Replace the existing 12-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe, install an 18-inch concrete flared end section at the culvert inlet and outlet, and install rock slope protection if room is available.

Location 9—Calaveras County, State Route 49, (Post Mile 10.92)—

Replace the existing 48-inch corrugated metal pipe culvert with a 48-inch reinforced concrete pipe, maintain the existing headwalls at the inlet and outlet of the culvert, and install rock slope protection. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 10—Calaveras County, State Route 49, (Post Mile 13.15)—

Replace the existing 18-inch corrugated metal pipe culvert with a 24-inch reinforced concrete pipe, install 24-inch concrete flared end sections at the outlet of the culvert, maintain the existing headwalls at the culvert inlet and outlet, and install rock slope protection if room is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 11—Calaveras County, State Route 49, (Post Mile 13.61)—

Replace the existing 18-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe and maintain the existing headwalls at the culvert inlets and outlets.

Location 12—Calaveras County, State Route 49, (Post Mile 13.65)—

Replace the existing 30-inch corrugated metal pipe culvert with a 30-inch reinforced concrete pipe, install 30-inch concrete flared end sections at the culvert outlet, maintain the existing headwall, and install rock slope protection if room is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 13—Calaveras County, State Route 49, (Post Mile 13.84)—

Replace the existing 18-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe and replace the existing culvert inlet and outlet headwalls.

Location 14—Calaveras County, State Route 49, (Post Mile 13.99)—

Replace the existing 24-inch corrugated metal pipe culvert with a 24-inch reinforced concrete pipe, install a 24-inch concrete flared end section at the culvert inlet and outlet, and install rock slope protection if room is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 15—Calaveras County, State Route 49, (Post Mile 14.15)—

Replace the existing 18-inch corrugated metal pipe culvert with an 18-inch reinforced concrete pipe, install an 18-inch concrete flared end section at the culvert inlet and outlet, and install rock slope protection if room is available.

Location 16—Calaveras County, State Route 49, (Post Mile 14.48)—

Replace the existing 18-inch corrugated metal pipe culvert with a 24-inch

reinforced concrete pipe, install a 24-inch concrete flared end section on culvert inlets and outlets, and install rock slope protection if room is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 17—Calaveras County, State Route 49, (Post Mile 16.90)—

Replace the existing 24-inch corrugated metal pipe culvert with a 24-inch reinforced concrete pipe and replace the existing headwalls at the culvert inlet and outlet. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 18—Calaveras County, State Route 49, (Post Mile 16.97)—

Replace the existing 18-inch corrugated metal pipe culvert with a 24-inch reinforced concrete pipe, install a 24-inch concrete flared end section, and install rock slope protection at the culvert outlet if room is available.

Location 19—Calaveras County, State Route 49, (Post Mile 17.19)—

Replace the existing 18-inch corrugated metal pipe with a 24-inch reinforced concrete pipe, maintain the existing headwall at the culvert inlet, install a 24-inch concrete flared end section at the culvert outlet, and install rock slope protection if room is available. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Location 20—Tuolumne County, State Route 49 (Post Mile 12.69)—

Replace the two existing 36-inch corrugated metal pipe culverts with two 36-inch reinforced concrete pipes and replace the existing culvert's inlet and outlet headwalls. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

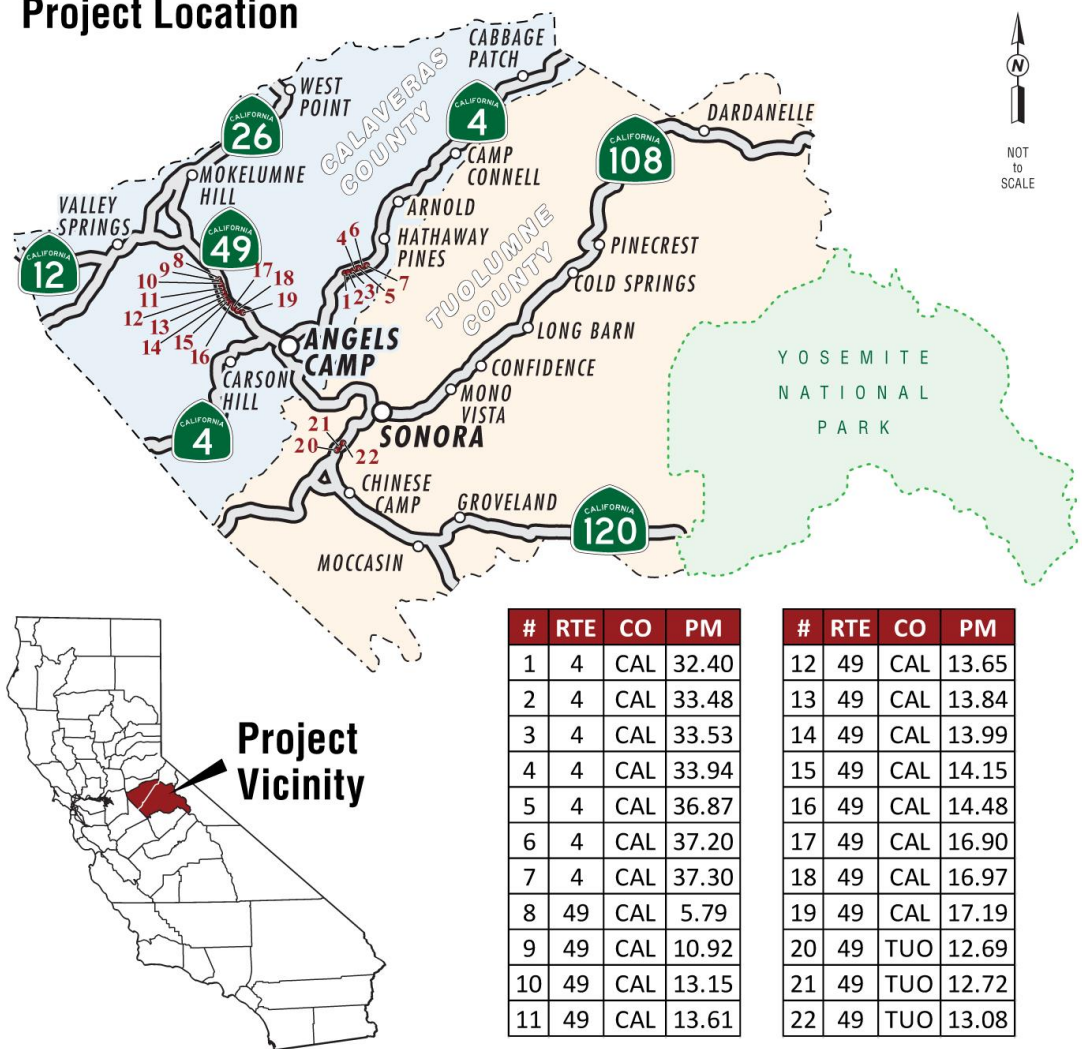
Location 21—Tuolumne County, State Route 49 (Post Mile 12.72)—

Replace the existing 30-inch corrugated metal pipe with a 30-inch reinforced concrete pipe, install 30-inch concrete flared end sections at the culvert inlet and outlet, and install rock slope protection if room is available. A temporary construction easement and a permanent easement will be needed for construction and maintenance activities.

Location 22—Tuolumne County, State Route 49 (Post Mile 13.08)—

Two options are recommended for this location. Option 1 will involve paving the invert of the existing culvert with concrete. Option 2 will involve inserting a smaller pipe into the existing culvert. Both options would install rock slope protection at the culvert outlet. A temporary construction easement and a permanent right-of-way easement will be needed for construction and maintenance activities.

Figure 1-1 Project Vicinity Map and Project Location Map
Project Location



Due to the numerous culvert locations throughout Calaveras and Tuolumne Counties, the project vicinity map and the project location map have been combined into one map.

1.4 Project Alternatives

1.4.1 Build Alternatives

The build alternative would make culvert improvements along State Route 4 from post miles 32.40 to 37.30 and along State Route 49 from post miles 5.78 to 17.19 in Calaveras County, and along State Route 49 from post miles 12.67 to 13.08 in Tuolumne County.

The proposed culvert restoration methods include replacing the deteriorated culverts with reinforced concrete pipe, installing inlet and outlet end treatments consisting of flared end sections, and installing concrete headwalls, concrete wing walls, and rock slope protection. The work will include excavating existing culverts, jacking and boring for deeper culverts, backfilling, concrete casing, paving, installing rock slope protection at outlets, repairing or replacing headwalls, and re-striping.

No new right-of-way is required for this project. However, temporary construction easements will be needed at various locations for construction-related activities and permanent easements for maintenance.

There are two main construction methods proposed for the culvert replacement work: Cut-and-Cover Installation/Replacement and Jack-and-Bore Installation.

Cut-and-Cover Installation and/or Replacement

Most of the drainage culverts proposed for replacement will use the cut-and-cover method. Typical installation begins by using an excavator to excavate a trench down to the existing culvert, exposing it so that the excavator can remove the old culvert. Following the removal of the old culvert, the trench is excavated to the prescribed width and depth for the new culvert. The new culvert is then placed into the trench. Backfill will be placed back into the trench and compacted. The paved roadway surface is then rebuilt. Before excavation, the site would need to be cleared of any trees and brush growing over or near the culvert. Culvert replacement areas may be expected to require “clear water diversion” to allow construction in a dry area. To replace culverts by cut-and-cover, a temporary disturbance area of 20 feet by 20 feet will be assumed at each culvert end (inlet and outfall), as well as along the centerline of the culvert where trenching would occur. In some cases, hand crew access to culvert inlet and outfall areas may require woody or shrubby vegetation clearing and/or vegetation trimming.

Jack-and-Bore Culvert Installation

Culverts at locations 2, 6, 17, 20, and 21 are proposed to use the jack-and-bore methodology to install replacement culverts because the roadway bases above these culverts are too deep to use the cut-and-cover methodology. Jack-and-bore or auger boring is accomplished with an auger boring machine by jacking a casing pipe through the earth while at the same time removing earth spoil from the casing using a rotating auger inside the casing. It is suitable for installing short pipe runs in stable and dry soils without large boulders. Crews dig a sending (jacking) pit and a receiving pit to install a new culvert pipe. They place a jack-and-bore machine in the sending pit and cut a hole underground horizontally from the sending pit to the receiving pit without disturbing the surface above.

At all proposed jack-and-bore locations, it is expected that sending/jacking pits will be 15 feet wide, 25 feet long, and up to 6 feet deep, and that receiving pits will be 15 feet wide, 15 feet long, and up to 6 feet deep. It is assumed that an area of about 20 feet around each pit, in addition to any proposed access routes, will be subject to temporary disturbances.

At locations where culverts are proposed to be replaced by jack-and-bore methodology, the existing culverts would be capped or filled and abandoned in place, and a new culvert would be installed next to the existing drainage system. Relocation of culvert pipe inlets and outfalls may require the modification of inflow and outfall channels to conform to the new culvert pipe.

The culvert at location 22 has the following proposed repair options:

1. Option 1—*Pave Culvert Invert*. This repair method would place reinforced concrete along the bottom one-third of the culvert. A light reinforcing mesh is attached to the culvert, and concrete is poured and shaped to the bottom of the culvert.
2. Option 2—*Insert New Pipe Into Existing Culvert*. This repair method involves inserting a pipe liner of a smaller diameter directly into a deteriorated culvert. Liners are inserted into the existing culvert by either pulling or pushing the liner into place. After insertion, the annular space between the existing culvert and liner is generally grouted with a cement material providing a watertight seal.

In-channel dewatering activities may be necessary if any flowing or standing water is found within the culvert construction areas. The water would be diverted before any in-channel work in accordance with Caltrans 2017 Best Management Practices Manual Section NS-5 (Clear Water Diversion). Any water diversions would be designed for a two-year flood event. Diversion systems would be proposed by the construction contractor following Caltrans' 2017 Best Management Practices Manual and the Caltrans 2018 Standard Specifications and/or Special Conditions in Section 13.

This project contains a number of standardized project measures that are used on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are listed later in this chapter under "Standard Measures and Best Management Practices Included in All Build Alternatives."

1.4.2 No-Build (No-Action) Alternative

If no action is taken and the project is not built, the existing damaged and deteriorated culverts would not be replaced, which may lead to roadway collapse at these locations and flooding issues.

1.5 Standard Measures and Best Management Practices Included in All Build Alternatives

- Caltrans Standard Specifications, Section 7-1.02A
- Caltrans Standard Specifications, Section 7-1.02C
- Caltrans Standard Special Provisions Section 7-1.02K(6)(j)(iii), for earthen material containing lead
- Caltrans Standard Specifications Section 10-5: Dust Control
- Caltrans Standard Specifications Section 13-1: Water Pollution
- Caltrans 2018 Standard Specifications Section 14-6.03A: Species Protection
- Caltrans Standard Specifications Section 14-7.03: Discovery of Unanticipated Paleontological Resources
- Caltrans Standard Specifications Section 14-8.02: Noise Control
- Caltrans Standard Specifications Section 14-9.02: Air Pollution Control

1.6 Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, will be prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the U.S. National Marine Fisheries Service and the U.S. Fish and Wildlife Service—that is, species protected by the Federal Endangered Species Act).

1.7 Permits and Approvals Needed

The following permits, licenses, agreements, and certifications are required for project construction:

Agency	Permit/Approval	Status
California Department of Fish and Wildlife	California Department of Fish and Wildlife, 1600 Lake or Streambed Alteration Agreement	Application for the 1600 Lake or Streambed Alteration Agreements would be obtained during the Plans, Specifications, and Estimates phase of the project.
Regional Water Quality Control Board	Regional Water Quality Control Board, 401 Certification	Application for the 401 Certification would be obtained during the Plans, Specifications, and Estimates phase of the project.
U.S. Army Corps of Engineers	U.S. Army Corps of Engineers, 404 Nationwide Permit	Application for the 404 Certification would be obtained during the Plans, Specifications, and Estimates phase of the project.
U.S. Fish and Wildlife Service	Letter of Concurrence	A Letter of Concurrence will be obtained before the final environmental document.

Chapter 2 CEQA Evaluation

2.1 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. Potential impact determinations include Significant and Unavoidable Impact, Less Than Significant Impact With Mitigation Incorporated, Less Than Significant Impact, and No Impact. In many cases, background studies performed in connection with a project will indicate that there are no impacts to a particular resource. A “No Impact” answer reflects this determination. The questions in this checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project and standardized measures that are applied to all or most Caltrans projects, such as Best Management Practices 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.

“No Impact” determinations in each section are based on the scope, description, and location of the proposed project as well as the appropriate technical report (bound separately in Volume 2), and no further discussion is included in this document.

2.1.1 Aesthetics

Considering the information in the Caltrans Designated and Eligible Scenic Highway database and the project scope, the following determinations have been made:

Except as provided in Public Resources Code Section 21099:

Question—Would the project:	CEQA Significance Determinations for Aesthetics
a) Have a substantial adverse effect on a scenic vista?	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No Impact

Question—Would the project:	CEQA Significance Determinations for Aesthetics
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?	No Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

2.1.2 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.

Considering the information in the California Agricultural Land Evaluation and Site Assessment Model from the California Department of Conservation and the Forest and Range Assessment Project from the California Department of Forestry and Fire Protection, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Agriculture and Forest Resources
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No Impact
c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use?	No Impact

2.1.3 Air Quality

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

Considering the information in the Air Quality Memorandum dated February 1, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Air Quality
a) Conflict with or obstruct implementation of the applicable air quality plan?	No Impact

Question—Would the project:	CEQA Significance Determinations for Air Quality
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?	Less Than Significant Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	No Impact

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?

Affected Environment

The CAL 4 Culvert Replacement project is in Calaveras County and a part of the Mountain Counties Air Basin. Calaveras County is under the jurisdiction of the Calaveras County Air Pollution Control District.

Environmental Consequences

Calaveras County is in nonattainment for the Federal 8-Hour Ozone standard, unclassified for the Federal Particulate Matter 10 standard, and unclassified/attainment for the Federal Particulate Matter 2.5 standard. Calaveras County is in nonattainment for the State Ozone and Particulate Matter 10 standards and unclassified for the State Particulate Matter 2.5 standard.

The Mountain Counties Air Basin is not in violation of any National Ambient Air Quality Standards and, therefore, is exempt from air quality conformity requirements.

During construction, the proposed project is expected to generate air pollutants, primarily from construction equipment, wind-blown dust, grading, hauling, and other construction-related activities. Dust and odors during construction may cause occasional annoyances to local residents along the project area.

The project is expected to generate 114 tons of carbon dioxide during the estimated 98 calendar days for construction. The project is not expected to cause any operational effects on air pollution.

Avoidance, Minimization, and/or Mitigation Measures

Caltrans Standard Specifications Section 14-9.02 “Air Pollution Control” and Section 10-5 “Dust Control” are part of every construction contract and require contractors to comply with air pollution control rules, ordinances, regulations, and statutes. With the implementation of Caltrans Standard Specifications, the impacts to air quality will be less than significant.

2.1.4 Biological Resources

Considering the information in the Natural Environment Study dated April 28, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Biological Resources
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or National Oceanic and Atmospheric Administration Fisheries?	Less Than Significant Impact
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?	Less Than Significant Impact
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?	Less Than Significant Impact With Mitigation Incorporated
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?	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact

Question—Would the project:	CEQA Significance Determinations for Biological Resources
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?	No Impact

Affected Environment

Waters of the U.S. and Waters of the State of California

The Natural Environment Study's field surveys found locations within the project area that have the potential to qualify as Waters of the U.S. and Waters of the State of California-Wetlands, and "Other Waters" of the U.S.-Streams. The Natural Environment Study identified 11 locations where culvert construction activities would occur around jurisdictional wetlands and streams. Table 2.1 identifies the culvert locations where wetlands and streams have been identified.

Table 2.1 Waters of the U.S./Water of the State, and Other Waters of the U.S.

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Intermittent Stream
6	Calaveras	4	37.20	Wetland
7	Calaveras	4	37.30	Intermittent Stream
9	Calaveras	49	10.92	Ephemeral Stream
12	Calaveras	49	13.65	Ephemeral Stream
15	Calaveras	49	14.15	Irrigation Ditch
17	Calaveras	49	16.90	Ephemeral Stream
19	Calaveras	49	17.19	Ephemeral Stream
20	Tuolumne	49	12.69	Intermittent Stream
21	Tuolumne	49	12.72	Intermittent Stream
22	Tuolumne	49	13.08	Intermittent Stream

Non-Federal Waters-Riparian Vegetation

The Natural Environment Study found potentially qualifying Non-Federal Waters-Riparian Vegetation within the project area. The Natural Environment Study identified five locations where culvert construction activities would

occur around riparian vegetation. Table 2.2 identifies the culvert locations where riparian vegetation has been identified.

Table 2.2 Non-Federal Waters-Riparian Vegetation

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Alder Riparian
6	Calaveras	4	37.20	Willow Riparian Shrub
7	Calaveras	4	37.30	Willow Riparian Shrub
21	Tuolumne	49	12.72	Black Willow Riparian
22	Tuolumne	49	13.08	Black Willow Riparian

Invasive Plant or Animal Species

The Natural Environment Study identified potential invasive or noxious plant species within the project area. Per the study, the plant species are considered to be annual grasses, flowering, and non-grassy plants. The proposed project is not expected to result in the introduction of invasive animal species.

Special-Status Animal Species

The Natural Environment Study identified the following special-status animal species that have the potential to be encountered within the proposed project area: western bumblebee, crotch's bumblebee, monarch butterfly, Central California roach, California red-legged frog, foothill yellow-legged frog, western pond turtle, tree-roosting bats, and migratory birds and raptors.

Western Bumblebee and Crotch's Bumblebee

Per the Natural Environment Study, the crotch's bumblebee and western bumblebee have no formal listing or protection status but appear in the California Natural Diversity Database due to their conservation status ranking. The project areas lie within the historic and current range of the western bumblebee and crotch's bumblebee. Plant species used by these bumblebees as forage occur within the project area.

Monarch Butterfly

The project lies within the historic and current range of the monarch butterfly. Per the Natural Environment Study, migratory and nonmigratory monarch butterflies could potentially be found within the project area. State Route 4

and State Route 49 corridors in Calaveras and Tuolumne Counties support nectar and milkweed resources for monarch butterflies on a seasonal basis.

Central California Roach

The project lies within the historic and current range of the Central California roach. Per the Natural Environment Study, some tributaries identified within the project area along State Route 49 and State Route 4 in Calaveras and Tuolumne Counties are known to support the habitat of the Central California roach. Table 2.3 lists the potential habitat for the Central California roach identified within the project area's culvert locations.

Table 2.3 Potential Habitat of Central California Roach

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Intermittent Stream
15	Calaveras	49	14.15	Irrigation Ditch
20	Tuolumne	49	12.69	Intermittent Stream
21	Tuolumne	49	12.72	Intermittent Stream

California Red-Legged Frog

Per the Natural Environment Study, the project lies within the current range of the California red-legged frog. Satellite imagery shows all locations are within less than a 1-mile radius of a permanent or semipermanent water source that could serve as breeding habitat for the frog. Surveys found a suitable breeding habitat at various locations within the project area. Table 2.4 lists the potential aquatic habitat for California red-legged frogs identified within the project area's culvert locations.

Table 2.4 Potential Aquatic Habitat for California Red-Legged Frog

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Intermittent Stream
7	Calaveras	4	37.30	Intermittent Stream
15	Calaveras	49	14.15	Irrigation Ditch
20	Tuolumne	49	12.69	Intermittent Stream
21	Tuolumne	49	12.72	Intermittent Stream
22	Tuolumne	49	13.08	Intermittent Stream/Pond

Foothill Yellow-Legged Frog

Per the Natural Environment Study, the project lies within the current range of the foothill yellow-legged frog. Perennial and/or intermittent streams found within the project area were considered potential aquatic habitats for the frog. Table 2.5 lists the potential aquatic habitat for the foothill yellow-legged frog identified within the project area's culvert locations.

Table 2.5 Potential Aquatic Habitat for the Foothill Yellow-Legged Frog

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Intermittent Stream
6	Calaveras	4	37.20	Intermittent Stream
7	Calaveras	4	37.30	Intermittent Stream
15	Calaveras	49	14.15	Irrigation Ditch
20	Tuolumne	49	12.69	Intermittent Stream
21	Tuolumne	49	12.72	Intermittent Stream

Western Pond Turtle

Per the Natural Environment Study, the project is within the current range of the western pond turtle. Based on satellite imagery, all project locations are less than 1 mile from a semipermanent or permanent water source and could potentially serve as habitat for the western pond turtle. Table 2.6 lists the potential aquatic habitat for the western pond turtle identified within the project area's culvert locations.

Table 2.6 Potential Aquatic Habitat for Western Pond Turtle

Culvert Location	County	State Route	Post Mile	Classification
1	Calaveras	4	32.40	Intermittent Stream
6	Calaveras	4	37.20	Intermittent Stream
7	Calaveras	4	37.30	Intermittent Stream
15	Calaveras	49	14.15	Irrigation Ditch
20	Tuolumne	49	12.69	Intermittent Stream
21	Tuolumne	49	12.72	Intermittent Stream
22	Tuolumne	49	13.08	Intermittent Stream/Pond

Tree-Roosting Bats

The Natural Environment Study found suitable habitats for special-status and non-special-status bat species. These bat species are often found roosting in structures or trees. The bat species can be found roosting during the day or night. For a detailed discussion on the special-status and non-special-status bat species, see Section 4.4.7 in Chapter 4 of the Natural Environment Study.

At Location 22, there is a 9-foot diameter metal culvert. Bats are known to live in large metal culverts in areas where crevices can be provided, such as at joints between culvert sections. This culvert was inspected for signs of bat roosting. No signs of bat roosting were found. Additional habitats were noted within the project area, which includes interior live oak, foothill pine woodlands, and valley-foothill riparian habitat. No day-roosting bats or bat signs were seen in mature trees during site visits conducted on May 28, June 10, and June 11 of 2021. Mature trees throughout the project area have a high potential to provide bat day roost habitat.

Migratory Birds and Raptors

The Natural Environment Study identified suitable habitats for migratory birds and raptors within the project area. These birds usually attempt to nest in these areas between February 1 and September 30. There is a moderate chance these birds will be in the project area during this period.

Common Wildlife and Terrestrial Habitat Connectivity

Habitat for common wildlife species occurs within and next to the project area. Physical features potentially representing barriers to terrestrial wildlife within and next to the project area were noted during field studies and background research. The highway system, local roads, and nearby land use, including recreational, agricultural, and urban development, represent potential barriers to regional terrestrial wildlife movement for some species.

Environmental Consequences

Waters of the U.S. and Waters of the State of California

The Natural Environment Study analyzed the proposed drainage work affecting the potential Waters of the U.S. and/or Waters of the State of California, including the replacement or installation of highway drainage culverts using both cut-and-cover and jack-and-bore construction methods, and installing culvert end treatments, flared end sections, and rock slope protection. For a detailed analysis of the construction methodologies, please refer to Section 4 of the Natural Environment Study.

The Natural Environment Study determined the proposed project drainage work would have temporary and permanent impacts to Waters of the U.S. and Waters of the State of California-Wetlands and “Other Waters” of the U.S.-Streams. Additionally, the study determined there would be temporary and permanent impacts to Non-Federal Waters-Riparian Vegetation.

Table 2.7 lists the permanent and temporary impacts identified in the Natural Environment Study to wetlands and streams at the various project culvert locations. For a detailed explanation of the construction methodologies for each location, please refer to Table 7-Impacts to Potential Jurisdictional Waters of the U.S. and Waters of the State of California Within Project Environmental Study Limits, in Section 4 of the Natural Environment Study.

Table 2.7 Permanent/Temporary Impacts to Wetlands and Streams in Square Feet

Culvert Location	Classification	Permanent Impacts (Square Feet)	Temporary Impacts (Square Feet)
6	Wetland	61.78	938.05
1	Stream	103.97	342.43
7	Stream	33.70	137.77
9	Stream	114.44	171.82
12	Stream	36.01	249.36
15	Stream	33.07	150.28
17	Stream	0	192.02
19	Stream	28.23	91.19
20	Stream	0	613.72
21	Stream	116.17	537.35
22	Stream	0	715.62

The total permanent impacts to potential wetlands and streams have been determined to be 527.37 square feet or 0.01 acre. The temporary construction impacts to wetlands and streams have been determined to be 4,139.61 square feet or about 0.1 acre. Table 2.8 shows the preliminary impacts to riparian vegetation identified in the Natural Environment Study within the project area.

Table 2.8 Preliminary Impacts to Riparian Vegetation Impacts in Square Feet

Culvert Location	Classification	Impacts in Square Feet
1	Alder Riparian	769.67
6	Willow Riparian Scrub	0.000
7	Willow Riparian Scrub	622.01
21	Black Willow Riparian	2,027.24
22 inlet	Black Willow Riparian	1,273.95
22 outlet	Black Willow Riparian	2,805.72

The total permanent impacts on riparian vegetation have been determined to be 7,498.59 square feet or 0.17 acre.

With the implementation of BIO-1 through BIO-7 and avoidance, minimization, and/or mitigation measures, the impacts to Waters of the U.S. and Waters of the State of California-Wetlands, and “Other Waters” of the U.S.-Streams would be less than significant impact with mitigation incorporated. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Invasive Plant or Animal Species

Per the Natural Environment Study, adverse impacts from invasive plant species within the project area are possible but are not likely since project construction activities will take place in open, disturbed areas, such as roadway embankments and urban landscapes that currently promote the growth of non-native species and are currently dominated by potentially invasive weeds.

The Natural Environment Study identified suitable breeding habitats for invasive bullfrogs and determined the project would not increase aquatic or terrestrial habitats available for potential colonization by the invasive bullfrog. Any adverse impacts to aquatic habitat and native aquatic plant and animal species within the project area due to an introduction or spread of invasive plant or animal species from the project would be avoided or minimized by the implementation of BIO-8 through BIO-10 and avoidance or minimization measures. With the implementation of these measures, the impacts from invasive plant and animal species (bullfrog) would be less than significant. For

a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Special-Status Animal Species

Western Bumblebee and Crotch's Bumblebee

Per the Natural Environment Study, the project may have adverse effects to the plant species that the bumblebees use as forage. However, with the implementation of avoidance measures BIO-6 through BIO-12, any adverse impacts will be less than significant and will not result in any “take” of the species. “Take” is defined as: “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Monarch Butterfly

Per the Natural Environment Study, project activities have the potential to temporarily adversely affect host plants that may be used by monarch butterflies and, therefore, may result in adverse effects to the habitat used by monarch butterflies. However, with the implementation of avoidance measures BIO-6, BIO-8 through BIO-10, and BIO-13, any adverse impacts will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Central California Roach

Per the Natural Environment Study, the project may result in adverse effects to aquatic habitats that may support the Central California roach. Activities that may ultimately result in the “take” perusal, capture, or intentional or accidental killing of the Central California roach may occur as a result of the project if water is present at project sites during the time of construction. However, the proposed construction activities within the project area have a low potential to result in “take” of the Central California roach. “Take” is defined as: “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” With the implementation of avoidance and minimization measures BIO-2 through BIO-6, any adverse impacts will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

California Red-Legged Frog

Per the Natural Environment Study, the project may result in adverse impacts to California red-legged frog aquatic habitat from construction-related activities. The estimated permanent and temporary impacts to California red-legged frog aquatic habitat are listed in Table 2.9.

Table 2.9 Potential Permanent and Temporary Impacts to California Red-Legged Frog Aquatic Habitat in Square Feet

Culvert Location	Permanent Impacts (Square Feet)	Temporary Impacts (Square Feet)
1	103.97	342.23
7	33.70	137.77
15	33.07	150.28
20	0	613.72
21	116.17	537.35
22 inlet	0	231.50
22 outlet	0	484.12

The Natural Environment Study identified the potential permanent impacts to the California red-legged frog habitat as 286.91 square feet or 0.007 acre from the installation of rock slope protection. The total temporary impacts from construction activities would be 2,496.97 square feet or 0.06 acre.

The potential temporary impacts to the California red-legged frog come from construction activities, such as vegetation or tree removal, water diversion activities, sedimentation from construction activities, contaminants/toxic chemicals, noise, artificial light, vibration, and other physical disturbances. For a detailed discussion on the temporary construction impacts and methodologies, see Chapter 4, Section 4.4.4.2 of the Natural Environment Study.

Caltrans has determined the project may affect, but is not likely to adversely affect the California red-legged frog. With the implementation of avoidance and minimization measures BIO-1 through BIO-6 and BIO-14 through BIO-16, any impacts to the California red-legged frog will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Foothill Yellow-Legged Frog

Per the Natural Environment Study, the project may result in adverse impacts to foothill yellow-legged frog aquatic habitat from construction-related activities. The estimated permanent and temporary impacts to foothill yellow-legged frog aquatic habitat are listed in Table 2.10.

Table 2.10 Potential Permanent and Temporary Impacts to Foothill Yellow-Legged Frog Aquatic Habitat in Square Feet

Culvert Location	Permanent Impacts (Square Feet)	Temporary Impacts (Square Feet)
1	103.97	342.23
7	33.70	137.77
15	33.07	150.28
20	0	613.72
21	116.17	537.35

The Natural Environment Study identified the potential permanent impacts to foothill yellow-legged frog habitat as 286.91 square feet or 0.007 acre from the installation of rock slope protection. The total temporary impacts from construction activities would be 1,781.35 square feet or 0.04 acre.

The potential temporary impacts to the foothill yellow-legged frog come from construction activities, such as vegetation or tree removal, water diversion activities, sedimentation from construction activities, contaminates/toxic chemicals, noise, artificial light, vibration, and other physical disturbances. For a detailed discussion on the temporary construction impacts and methodologies, see Chapter 4, Section 4.4.5.2 of the Natural Environment Study.

Caltrans has determined the project may affect, but is not likely to adversely affect the foothill yellow-legged frog. With the implementation of avoidance and minimization measures BIO-1 through BIO-6 and BIO-14 through BIO-16, any impacts to the foothill yellow-legged frog will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Western Pond Turtle

Per the Natural Environment Study, the project may result in adverse impacts to the western pond turtle aquatic habitat from construction-related activities. The estimated permanent and temporary impacts to the western pond turtle aquatic habitat are listed in Table 2.11.

Table 2.11 Potential Permanent and Temporary Impacts to Western Pond Turtle Aquatic Habitat in Square Feet

Culvert Location	Permanent Impacts (Square Feet)	Temporary Impacts (Square Feet)
1	103.97	342.23
7	33.70	137.77
15	33.07	150.28
20	0	613.72
21	116.17	537.35
22	0	715.62

The Natural Environment Study identified the potential permanent impacts to the western pond turtle habitat as 286.91 square feet or 0.007 acre from the installation of rock slope protection, concrete, and placement of fill material. The total temporary impacts from construction activities would be 2,496.97 square feet or 0.06 acre.

The potential temporary impacts to the western pond turtle from project construction activities would include impacts to potential aquatic habitats, impacts to potential upland breeding sites, exposure to heightened levels of suspended sediments in the water, exposure to the introduction or resuspension of contaminants to potential breeding habitats, and/or noise, vibrations, artificial light, and other physical disturbances. The placement of fill within aquatic habitat would result in permanent and temporary displacement of western pond turtle habitat. For a detailed discussion on the temporary construction impacts and methodologies, see Chapter 4, Section 4.4.6.2 of the Natural Environment Study.

With the implementation of avoidance and minimization measures BIO-1 through BIO-6 and BIO-14 through BIO-16, any impacts to the western pond turtle will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Tree Roosting Bats

Per the Natural Environment Study, the project contains suitable roosting bat habitats within or next to the project area. Proposed construction activities would result in the loss of some mature trees that would be suitable for the various bat species.

With the implementation of avoidance and minimization measures BIO-17 through BIO-19, any impacts to tree roosting bats will be less than significant.

For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Migratory Birds and Raptors

Suitable nesting habitat was identified in the project area for nesting birds and raptors. Proposed construction activities would potentially conflict with the nesting activities of these birds and raptors. With the implementation of avoidance measures BIO-20 through BIO-23, the impacts will be less than significant. For a detailed discussion on these measures, see Appendix B or Chapter 4 in the Natural Environment Study.

Common Wildlife and Terrestrial Habitat Connectivity

The scope of work for the proposed Cal 4 Culvert Replacement project would replace culverts using the cut-and-cover or jack-and-bore construction methods. The project would disturb the paved roadway, nearby shoulder and embankment areas, nearby roadway areas at culvert inlets and outfalls, and stream zones, including streambanks, streambeds, and riparian vegetation within the project area. Project construction activities would avoid disturbing natural vegetation communities and habitats supporting common wildlife species to the greatest extent feasible. However, proposed construction activities have the potential to result in the “take” (as defined by Section 86 of the California Fish and Game Code) of common wildlife species. “Take” is defined as: “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

Because the existing culverts are open to a varying range of terrestrial wildlife and because the new culverts will also be open to a varying range of terrestrial wildlife, the proposed culvert replacement activities are not expected to result in any additional adverse effects on the ability of terrestrial wildlife to pass through the project area. Several culverts are proposed to be upsized, which may provide opportunities for a wider range of wildlife to potentially use as crossings.

Federal Endangered Species

Due to the project area being outside the range of the species, the lack of suitable habitat or habitat components in the project area, and/or because the project would not harm individuals or alter the species’ habitat, Caltrans determined that the project would have “no effect” on the following species listed or proposed for listing under the Federal Endangered Species Act or their critical habitat administered by the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service:

Chinese Camp brodiaea, Red Hills vervain, lone manzanita, vernal pool fairy shrimp, delta smelt, California Central Valley Steelhead Distinct Population Segment, California tiger salamander, and Sierra Nevada yellow-legged frog.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures will be used to minimize the impacts to streams, wetlands, riparian vegetation, invasive plant/animal species, and special-status animal species. For further details, see Appendix B or Chapter 4 of the Natural Environment Study.

- BIO-1 Environmentally Sensitive Area
- BIO-2 Designated Biologist
- BIO-3 Containment Measures/Construction Site Best Management Practices
- BIO-4 Limited Operation Period-Stream Zone Construction Activities
- BIO-5 Worker Environmental Awareness Training for Construction Personnel
- BIO-6 Restore and Revegetate Temporarily Disturbed Areas Onsite
- BIO-7 Compensatory Mitigation-Wetland and Other Waters of the U.S.
- BIO-8 Weed-Free Construction Equipment and Vehicles
- BIO-9 Weed Control During Construction
- BIO-10 Weed-Free Erosion Control and Revegetation Treatments
- BIO-11 Bumblebee Hive Avoidance, Preconstruction Surveys
- BIO-12 Bumblebee Hive Avoidance, Avoid Active Hives
- BIO-13 Monarch Butterfly, Preconstruction Surveys
- BIO-14 Sensitive Aquatic Species Avoidance—Preconstruction Surveys
- BIO-15 Sensitive Aquatic Species Avoidance—Construction Monitoring
- BIO-16 Sensitive Aquatic Species Avoidance—Avoid Sensitive Aquatic Species
- BIO-17 Roosting Bats Avoidance—Preconstruction Surveys
- BIO-18 Roosting Bats Avoidance—Protective Buffers
- BIO-19 Roosting Bats Avoidance—Construction Monitoring
- BIO-20 Nesting Bird Avoidance, Limited Operation Period

- BIO-21 Nesting Bird Avoidance, Preconstruction Surveys During Nesting Season
- BIO-22 Nesting Bird Avoidance, Exclusionary Devices for Structures
- BIO-23 Nesting Bird Avoidance, Avoid Active Nests

2.1.5 Cultural Resources

Considering the information in the Historic Property Survey Report dated June 16, 2022, and the Architectural History Section 106 Compliance Memorandum dated February 11, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Cultural Resources
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	Less Than Significant Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

Affected Environment

Caltrans personnel reviewed the project and conducted field surveys, record searches, consultation with Native American tribes, and an extended phase survey to determine the presence or absence of any archaeological deposits or cultural resources within the project area. The Historic Property Survey Report dated June 16, 2022, and Architectural History Section 106 Compliance Memorandum dated February 11, 2022, summarized the potential impacts on cultural resources from the project.

These studies determine the area of potential effect of the project. The area of potential effect means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties if any such properties exist. The area of potential effect is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

The area of potential effect was based on the maximum extent of project-related construction activities that could potentially have temporary or permanent impacts on cultural resources within or next to the existing Caltrans right-of-way and proposed temporary construction easements

surrounding the 22 culvert locations. The maximum vertical area of potential effect for the project is about 36 feet to account for the maximum depth of potential ground disturbance related to culvert replacement at Location 22, which has a maximum depth of 35 feet and the excavation of up to 1 foot below the flow line. Other deep culverts include Location 21, which has a maximum depth of 25 feet and will require jack-and-boring equipment. At all proposed jack-and-bore locations, it is expected that sending jacking pits will be 15 feet wide, 25 feet long, and up to 6 feet deep, and that receiving pits will be 15 feet wide, 15 feet long, and up to 6 feet deep. It is assumed that an area of about 20 feet around each pit, in addition to any proposed access routes, will be subject to temporary disturbances.

The cultural technical studies identified three built cultural resources and two archaeological resources within or next to the area of potential effect.

Environmental Consequences

Per the Architectural History Section 106 Compliance Memorandum, there are three built cultural resources within the area of potential effect. The identified resources have not been evaluated for the National Register of Historic Places; however, Caltrans has determined that none of these built environment resources will be affected by any project-related activities. No other built environment resources were discovered during record searches or field surveys.

The Historic Property Survey Report identified one previously identified archaeological resource within the area of potential effect that is considered eligible for inclusion in the National Register of Historic Places. This resource has not been evaluated for inclusion in the National Register of Historic Places, but for this project, it will be considered eligible. There is one archaeological resource next to the area of potential effect.

The two archaeological resources identified within and next to the area of potential effect will be avoided and protected by using Environmentally Sensitive Area Fencing and archaeological monitoring during construction activities. An Environmentally Sensitive Action Plan has been developed to ensure the identified resources will be protected. Thus, Caltrans has determined the project would have no adverse effect with standard conditions finding for the identified cultural resources. With the implementation of avoidance and minimization measures CULT-1 and CULT-2, any impacts to cultural resources will be less than significant. For a detailed discussion on these measures, see Appendix B.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or

nearby area suspected to overlie remains, and the county coroner should be contacted. If the coroner thinks the remains are Native American, the coroner will notify the Native American Heritage Commission, who, pursuant to Public Resources Code Section 5097.98, will then notify the Most Likely Descendant. At this time, the person who discovers the remains will contact C. Scott Guidi, District 10 Environmental Division, so that they may work with the Most Likely Descendant on the respectful treatment and disposition of the remains. Further provisions of Public Resources Code Section 5097.98 are to be followed as applicable.

Section 4(f) of the Department of Transportation Act of 1966 protects historic properties. There are no historic properties present within the area of potential effect; therefore, there are no Section 4(f) historic sites that would be affected by the project.

Avoidance, Minimization, and/or Mitigation Measures

With the implementation of the following avoidance and minimization measures, CULT-1 and CULT-2, the impacts would be less than significant to cultural resources. For a detailed discussion on these measures, see Appendix B.

- CULT-1 Caltrans Standard Special Provision, Environmentally Sensitive Area
- CULT-2 Caltrans Standard Special Provision, Archeological Monitoring Area

2.1.6 Energy

Considering the information in the Energy Analysis Memorandum dated April 6, 2022, the California Energy Action Plan adopted May 8, 2003, Calaveras County General Plan dated April 2019, Tuolumne County General Plan dated December 2018, and the 2017 Caltrans Best Management Practices Manual, the following significance determinations have been made.

Question—Would the project:	CEQA Significance Determinations for Energy
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	No Impact

2.1.7 Geology and Soils

Considering the information in the Paleontological Memorandum dated May 3, 2022, and the California Department of Conservation's California

Earthquake Hazard Zone Application, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Geology and Soils
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No Impact
ii) Strong seismic ground shaking?	No Impact
iii) Seismic-related ground failure, including liquefaction?	No Impact
iv) Landslides?	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	No Impact
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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

2.1.8 Greenhouse Gas Emissions

Considering the information in the Air Quality Memorandum dated February 1, 2022, and the Climate Change Greenhouse Gas Analysis Memorandum dated April 18, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Greenhouse Gas Emissions
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact

Affected Environment

The project is in a rural area of Calaveras and Tuolumne Counties, with a primarily natural resources-based agricultural and tourism economy. The project area runs through the rural mining City of Angels Camp at the intersection of State Route 49 and State Route 4. State Route 49 is the main north/south transportation route to and through the area for both passenger and commercial vehicles, while State Route 4 is another east/west transportation route through the area for both passenger and commercial vehicles. The nearest alternate route is State Route 108, 11 miles to the south, and State Route 88, 35 miles to the north. Traffic counts are low, and State Route 49 and State Route 4 are rarely congested. The Calaveras Council of Governments guides transportation development for Calaveras County, and the Tuolumne County Transportation Council guides transportation development for Tuolumne County. The Calaveras County and Tuolumne County General Plan Circulation, Safety, and Traffic elements address greenhouse gases in the project area.

Environmental Consequences

Greenhouse gas emissions are expected from temporary construction activities during the 98-day work period. Using the Caltrans Construction Emissions Tool v1.1, Caltrans has estimated that 114 tons of total construction-related carbon dioxide emissions would be produced throughout the project construction period. The project would also generate air pollutants during construction. The exhaust from construction equipment contains hydrocarbons, oxides of nitrogen, carbon monoxide, suspended particulate matter, and odors.

Avoidance, Minimization, and/or Mitigation Measures

Greenhouse gas impacts would be minimized through the implementation of numerous Best Management Practices and Caltrans Standard Specifications. The following measures will also be implemented in the project to reduce greenhouse gas emissions and potential climate change impacts from the project:

- For improved fuel efficiency from construction equipment:
 - Maintain equipment in proper tune and working condition

- Use the right-sized equipment for the job
- Use equipment with new technologies
- Earthwork Balance: Reduce the need for transport of earthen materials by balancing cut and fill quantities.
- Caltrans Standard Specifications Section 14-9.02
- Caltrans Standard Specifications Section 7-1.02A
- Caltrans Standard Specifications Section 7-1.02C

The project would not conflict with any applicable greenhouse gas reduction plan, policy, or regulation. In compliance with Caltrans policy and Executive Order B-30-15, the project would use the measures noted above to reduce greenhouse gas emissions from the project to meet statewide and agency goals. Implementation of Caltrans Standard Measures and Best Management Practices would ensure construction-related impacts are less than significant.

2.1.9 Hazards and Hazardous Materials

Considering the information in the Hazardous Waste Site Assessment dated March 28, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Less Than Significant Impact
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?	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No Impact

Question—Would the project:	CEQA Significance Determinations for Hazards and Hazardous Materials
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	No Impact

Affected Environment

The project will involve work on the existing culverts along State Route 49 and State Route 4 in Calaveras and Tuolumne Counties. The project may involve contact with hazardous materials within or next to culvert construction activities.

Environmental Consequences

There is a potential to encounter nonhazardous concentrations of aerially deposited lead while working in the unpaved areas within the project limits. There is a potential to encounter naturally occurring asbestos at culvert Locations 20, 21, and 22 on State Route 49 in Tuolumne County. Testing for naturally occurring asbestos at these three locations will be performed during the project's plans, specifications, and estimates phase. Any sampling at these locations that find naturally occurring asbestos above regulatory limits will be disposed of according to state and/or federal requirements.

Avoidance, Minimization, and/or Mitigation Measures

To minimize potential impacts from hazardous materials, a lead compliance plan would be implemented, and all soil would remain onsite. Caltrans Standard Special Provisions Section 7-1.02K(6)(j)(iii), for earthen material containing lead, would be added to the construction contract. Also, a project-specific survey for naturally occurring asbestos would be conducted before any construction activities. With the implementation of the above minimization measure and Best Management Practices, the project's impacts from the routine transport and handling of hazardous materials will be less than significant.

2.1.10 Hydrology and Water Quality

Considering the information in the Water Compliance Memorandum dated November 17, 2021, and the Location Hydraulic Study dated February 1, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Hydrology and Water Quality
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality?	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation onsite or offsite;	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	No Impact
(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	No Impact
(iv) impede or redirect flood flows?	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	No Impact

2.1.11 Land Use and Planning

Considering the information in the Community Impact Assessment dated March 17, 2022, Calaveras County General Plan dated April 2019, and the Tuolumne County General Plan dated December 2018, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Land Use and Planning
a) Physically divide an established community?	No Impact
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?	No Impact

2.1.12 Mineral Resources

Considering the information in the Calaveras County General Plan dated April 2019, Tuolumne County General Plan dated December 2018, and the project scope, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Mineral Resources
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No Impact
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	No Impact

2.1.13 Noise

Considering the information in the Noise Compliance Study dated February 1, 2022, the following significance determinations have been made:

Question—Would the project result in:	CEQA Significance Determinations for Noise
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?	No Impact
b) Generation of excessive groundborne vibration or groundborne noise levels?	No Impact
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 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No Impact

2.1.14 Population and Housing

Considering the information in the Community Impact Assessment dated March 17, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Population and Housing
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)?	No Impact
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	No Impact

2.1.15 Public Services

Considering the information in the Community Impact Assessment dated March 17, 2022, the following significance determinations have been made:

Question:	CEQA Significance Determinations for Public Services
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?	No Impact
Police protection?	No Impact
Schools?	No Impact
Parks?	No Impact
Other public facilities?	No Impact

2.1.16 Recreation

Considering the information in the Community Impact Assessment dated March 17, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Recreation
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No Impact

2.1.17 Transportation

Considering the information in the Community Impact Assessment dated March 17, 2022, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Transportation
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No Impact
d) Result in inadequate emergency access?	No Impact

2.1.18 Tribal Cultural Resources

Considering the information in the Historic Property Survey Report dated June 16, 2022, the following significance determinations have been made:

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:

Question:	CEQA Significance Determinations for Tribal Cultural Resources
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	No Impact
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 Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	No Impact

2.1.19 Utilities and Service Systems

Considering the information in the Community Impact Assessment dated March 17, 2022, and communications with Caltrans project engineers, the following significance determinations have been made:

Question—Would the project:	CEQA Significance Determinations for Utilities and Service Systems
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	No Impact
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?	No Impact
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?	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	No Impact

2.1.20 Wildfire

Considering the information in the Wildfire Severity Zone Memorandum dated January 5, 2022, the 2007 Fire Hazard Severity Zones Map from the California Department of Forestry and Fire Protection, and the project scope, the following significance determinations have been made:

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

Question—Would the project:	CEQA Significance Determinations for Wildfire
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	No Impact
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?	No Impact
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?	No Impact
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?	No Impact

2.1.21 Mandatory Findings of Significance

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
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?	Less Than Significant Impact With Mitigation Incorporated

Question:	CEQA Significance Determinations for Mandatory Findings of Significance
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)?	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No Impact

Affected Environment

The California Department of Transportation (Caltrans) proposes to replace 22 culverts that have exceeded their design life expectancy along State Route 4 and State Route 49 in Calaveras and Tuolumne Counties. The project is in areas where Waters of the U.S., Waters of the State of California, Other Waters of the U.S., non-federal waters, special-status animal species, and cultural resources occur.

Environmental Consequences

The project would have potential impacts to streams, wetlands, riparian vegetation, special-status animal species, and other protected and managed biological resources; however, with the implementation of avoidance, minimization, and/or mitigation measures discussed in Section 2.1.4 in this document, the impacts to the biological resources would be less than significant with mitigation incorporated.

The project would have potential impacts on cultural resources that occur within or next to the project area. With the implementation of avoidance and minimization measures discussed in Section 2.1.6 in this document, the impact on cultural resources would be less than significant.

Avoidance, Minimization, and/or Mitigation Measures

With the implementation of avoidance, minimization, and/or mitigation measures discussed in this document, the project would have a less than significant impact on the environment. All other impacts would be minimized through the implementation of Caltrans Best Management Practices, Standard Specifications, and Standard Special Provisions. Therefore, the project would not have a significant cumulatively considerable impact on human beings or the environment.

Appendix A Title VI Policy Statement

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY

Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION

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Making Conservation
a California Way of Life.

September 2021

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a nondiscriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page:
<https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at 1823 14th Street, MS-79, Sacramento, CA 95811; PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A blue ink signature of Toks Omishakin, consisting of stylized cursive letters.

Toks Omishakin
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment."

Appendix B Avoidance, Minimization, and/or Mitigation Measures

The following avoidance, minimization, and/or mitigation measures will be used to minimize any potential impacts on environmental resources found within the project.

BIO-1: Environmentally Sensitive Area: Additional direct and indirect impacts to sensitive biological resources throughout the project area would be avoided or minimized by designating “Environmentally Sensitive Areas.” All areas outside of the proposed construction footprint shall be considered as Environmentally Sensitive Areas, as well as any areas determined by a qualified biologist during project planning or during preconstruction surveys to qualify for Environmentally Sensitive Area designation.

Environmentally Sensitive Area information will be shown on contract plans and discussed in Section 14-1.02 of the Caltrans 2018 Standard Specifications or any Standard Special Provisions in Section 14-1.02. Environmentally Sensitive Area provisions may include but will not be necessarily limited to the use of temporary orange fencing or other high-visibility marking to identify the proposed limit of work in areas next to sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into Environmentally Sensitive Areas will be prohibited, and immediate work stoppage and notification to a Caltrans Resident Engineer will be required if an Environmentally Sensitive Area is breached. Environmentally Sensitive Area provisions will be implemented as the first order of work and remain in place until all construction activities are complete.

BIO-2: Designated Biologist: A designated biologist shall be onsite during any activities that have the potential to affect sensitive biological resources. The designated biologist will monitor regulated species and habitats, ensure that construction activities do not result in the unintended take of regulated species or disturbances to regulated habitats, ensure that construction activities comply with any permits, licenses, agreements, or contracts, immediately notify a Caltrans Resident Engineer of any take of regulated species, disturbances to regulated habitats, or breaches of Environmentally Sensitive Areas, and will prepare, submit, and sign notifications and reports. A designated biologist who performs specialized activities must have demonstrated field experience working with the regulated species or performing the specialized task, and regulatory agency approval will be required before Caltrans’ acceptance of the designated biologist.

Designated biologists for the project may be “Department-supplied” biologists (Caltrans biologists or consultant biologists under task order contracts to

Caltrans) or “contractor-supplied biologists.” If contractor-supplied biologists are used as designated biologists, contractor-supplied biologist provisions would be discussed in Section 14-6.03D(1-3) of the Caltrans 2018 Standard Specifications or any Standard Special Provisions in Section 14-6.03D(1-3) that will specify contractor-supplied biologists’ qualifications, responsibilities, and submittals. Regulatory agency approval will be required before Caltrans’ acceptance of any contractor-supplied biologists. Before project construction, contractor-supplied biologists would prepare a “Natural Resources Protection Program” within seven days of contract approval as per Standard Special Provisions under Section 14-6.03D(2) of the Caltrans 2018 Standard Specifications. The Natural Resources Protection Program will describe the measures and schedules for protecting biological resources and regulatory compliance and must be approved by Caltrans before the start of construction activities.

BIO-3: Containment Measures/Construction Site Best Management

Practices: To contain construction-related material and prevent debris and pollutants from entering receiving waters and reduce the potential for discharge to receiving waters, the contractor shall follow all applicable guidelines and requirements in Section 13 of the Caltrans 2018 Standard Specifications or any Standard Special Provisions in Section 13 regarding water pollution control and general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water.

The project design team may specify “Best Management Practices” to be used during construction in addition to, or in place of, other temporary measures selected by the contractor. Project-specific Best Management Practices will address (among other things):

- Spill Prevention and Control (Caltrans 2017 Best Management Practices Manual WM-4)-Material Management (Material Delivery, Use, Storage, and Stockpiles; Caltrans 2017 Best Management Practices Manual WM-1 through WM-4)
- Waste Management (Solid, Hazardous, Concrete, Sanitary/Septic Wastes, Contaminated Soils; Caltrans 2017 Best Management Practices Manual WM-5 through WM-10)
- Vehicle and Equipment Cleaning, Fueling, and Maintenance (Caltrans 2017 Best Management Practices Manual NS-8 through NS-10)
- Material and Equipment Use Over Water (Caltrans 2017 Best Management Practices Manual NS-13)
- Structure Removal Over or Adjacent to Water (Caltrans 2017 Best Management Practices Manual NS-15)
- Paving, Sealing, Sawing, Grooving, and Grinding Activities (Caltrans 2017 Best Management Practices Manual NS-3)

- Concrete Curing and Finishing (Caltrans 2017 Best Management Practices Manual NS-12)
- Temporary Soil Stabilization (Caltrans 2017 Best Management Practices Manual SS-1 through SS-10)
- Temporary Sediment Control (Caltrans 2017 Best Management Practices Manual SC-1 through SC-10)
- Temporary Tracking Control (Caltrans 2017 Best Management Practices Manual TC-1 through TC-3)
- Temporary Concrete Washouts (Caltrans 2017 Best Management Practices Manual WM-8)
- Illicit Connection/Illegal Discharge Detection and Reporting (Caltrans 2017 Best Management Practices Manual NS-6)

Further water pollution control information and guidance for contractors are provided in the following Caltrans manuals:

- Stormwater Pollution Prevention Plan and Water Pollution Control Program Preparation Manual (Caltrans, 2011)
- Construction Site Best Management Practices Manual (Caltrans, 2017)
- Construction Site Monitoring Program Manual (Caltrans, 2013)

Before construction, the contractor would be required to submit either a Water Pollution Control Plan or a Stormwater Pollution Prevention Plan, as appropriate. Caltrans would review and approve the Water Pollution Control Plan or Stormwater Pollution Prevention Plan within seven to 15 days of contract approval. A Spill Prevention and Control Plan would be developed by the contractor as a component of the Water Pollution Control Plan or Stormwater Pollution Prevention Plan.

Specific Best Management Practices options will be considered, evaluated, and dependent on factors, such as field conditions, changes to construction strategies, and regulatory requirements to protect the beneficial uses of receiving waters. Best Management Practices options will be based on the best conventional and best available technology. Caltrans staff and the contractor are required to perform routine inspections of the construction area to verify that field Best Management Practices are properly implemented, maintained, and operating effectively and as designed.

BIO-4: Limited Operation Period—Stream Zone Construction Activities: It is proposed that construction activities occurring in aquatic habitat within the project construction footprint and Environmental Study Limits shall occur between May 1

and October 15 of any construction season unless earlier or later dates for in-channel construction activities are approved by regulatory agencies. By requiring contractors to adhere to these dates for stream zone construction, the project proponent will minimize project effects to receiving waters.

BIO-5: Worker Environmental Awareness Training for Construction

Personnel: Before any work occurs in the project area, a qualified designated biologist (designated biologist familiar with the resources to be protected) will conduct a mandatory “Worker Environmental Awareness Training” for construction personnel. The awareness training will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid and minimize effects to sensitive biological resources (e.g., jurisdictional wetlands and other waters, threatened and endangered species, other special-status species, roosting bats, nesting birds, etc.) within and next to construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The designated biologist will inform all construction personnel about the life history and habitat requirements of special-status habitats and species known to occur or with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of regulatory requirements.

The Worker Environmental Awareness Training will cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. The training will also include identifying the Best Management Practices written into construction specifications for avoiding and minimizing the discharge of construction materials or other contaminants into jurisdictional waters.

Worker Environmental Awareness Training shall be required for any construction personnel intending to enter the construction zone for more than 15 minutes. Any designated biologists conducting Worker Environmental Awareness Training must meet the qualifications of regulatory agencies, and copies of training sign-in sheets for construction personnel will be provided to regulatory agencies upon their request.

If a contractor-supplied biologist is used, then the contractor-supplied biologist will prepare and submit copies of the Worker Environmental Awareness Training and any associated training materials for Caltrans’ review and approval before the start of project construction activities as per Standard Special Provisions of the Caltrans 2018 Standard Specifications under Section 14-6.03(D) “Biological Resource Information Program.” A Biological Resources Information Program submittal will only be accepted by Caltrans if it complies with all regulatory provisions.

BIO-6: Restore and Revegetate Temporarily Disturbed Areas Onsite:

Disturbed areas within the construction limits will be graded to minimize surface erosion and siltation into receiving waters. Disturbed areas will be

recontoured as close to the pre-project condition as possible and will be stabilized as soon as feasible (and no later than October 15 of each construction season) to avoid erosion during subsequent storms and runoff. Permanent erosion control seeding will be performed at all disturbed sites by hydroseeding throughout construction as each site is completed, with all sites seeded by the completion of construction activities.

BIO-7: Compensatory Mitigation–Wetlands and Other Waters of the U.S.:

Permanent losses of Waters of the U.S. are proposed to be compensated by participation in the National Fish and Wildlife Foundation's Sacramento District California In-Lieu Fee Program.

BIO-8: Weed-Free Construction Equipment and Vehicles: To minimize the potential for the transport of weed propagules to the action area from sources outside of the project area, construction equipment and vehicles are recommended to be cleaned and washed at the contractor's facilities before arrival to the construction site. Any vehicle or equipment cleaning that occurs onsite during construction activities shall conform with Caltrans' 2018 Standard Specifications or any Special Conditions under Section 13-4.03E(3) and Section NS-08 (Vehicle and Equipment Cleaning) of the Caltrans 2017 Construction Site Best Management Practices Manual, which require the contractor to contain and dispose of any waste resulting from vehicle or equipment cleaning.

BIO-9: Weed Control During Construction: To minimize the potential for spreading weed propagules originating from within the project's Environmental Study Limits throughout construction activities, including initial vegetation clearing and at onsite revegetation areas, weed control would be accomplished in accordance with Caltrans' 2018 Standard Specifications or Standard Special Provisions under Section 20-1.03C(3). The use of herbicides for weed control activities would be discouraged but may be considered on a case-by-case basis depending upon the weed species, the extent of the infestation, or any regulatory restrictions.

BIO-10: Weed Free Erosion Control and Revegetation Treatments: To minimize the risk of introducing weed propagules to the action area from sources outside of the project area, only locally adapted plant species appropriate for the project area will be used in any erosion control or revegetation seed mix or stock. A Caltrans Biologist will consult with a Caltrans Landscape Architect to develop appropriate seed and planting palettes for use in revegetation and/or erosion control applications. Any compost, mulch, tackifier, fiber, straw, duff, topsoil, erosion control products, or seed must meet Caltrans' 2018 Standard Specifications or any Standard Special Provisions under Section 21-2.02 for these materials. Any hydroseed used for revegetation activities must also be certified weed-free as per Caltrans' 2018 Standard Specifications Section 21-2.02F.

BIO-11: Bumblebee Hive Avoidance—Preconstruction Surveys: The qualifications of any proposed biological monitor(s) will be presented to the California Department of Fish and Wildlife for review and written approval at least two weeks before conducting project activities at the project site. A California Department of Fish and Wildlife-approved biologist will be present during all construction-related activities that may affect bumblebee hives. Before any ground-breaking activities, a focused survey for bumblebee hives shall be conducted by a qualified biologist within seven days before the beginning of project-related activities. Preconstruction surveys for bumblebee hives shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection).

BIO-12: Bumblebee Hive Avoidance—Avoid Active Hives: If active bumblebee hives are found, a protective no-work buffer of 20 feet will be established, and Caltrans shall consult with the California Department of Fish and Wildlife to comply with provisions of the California Fish and Game Code. Protective buffers for bumblebee hives shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection). No work will start within the buffer until authorization is received from a Caltrans Resident Engineer. If construction or other project-related activities cause hive destruction or hive abandonment, a qualified biologist will be required to monitor the hive site to ensure that protective radii are maintained.

BIO-13: Monarch Butterfly—Preconstruction Surveys: The qualifications of any proposed biological monitor(s) will be presented to the U.S. Fish and Wildlife Service for review and written approval at least two weeks before conducting project activities at the project site. A U.S. Fish and Wildlife Service-approved biologist will be present during all construction-related activities that may affect bumblebee hives. Before any construction activities, a qualified biologist shall conduct a focused survey for all life stages of the monarch butterfly within seven days before the beginning of project-related activities. Preconstruction surveys for monarch butterflies shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection). Any observation of any life stage of the monarch butterfly, including breeding, will be reported to the western monarch butterfly mapper or via iNaturalist (http://xerces.org/milkweed_survey/).

BIO-14: Sensitive Aquatic Species Avoidance—Preconstruction Surveys: A qualified biologist shall conduct a focused survey for California red-legged frogs, foothill yellow-legged frogs, and western pond turtles within one day before the beginning of project-related activities. If a lapse in project-related work of one day or longer occurs, another survey and, if required, consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife will be required before work can start again. A preconstruction survey for sensitive aquatic species shall be specified under

Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection).

BIO-15: Sensitive Aquatic Species Avoidance—Construction

Monitoring: A qualified designated biologist will be present during all construction-related activities that may affect California red-legged frogs, foothill yellow-legged frogs, and western pond turtles or their habitats. The biologist can stop work through coordination with a Caltrans Resident Engineer or onsite project manager if a California red-legged frog, foothill yellow-legged frog, or western pond turtle is seen on the project footprint. A Caltrans Resident Engineer or onsite project manager will ensure construction activities remain suspended in any area where the biologist has determined that take of California red-legged frogs, foothill yellow-legged frogs, and western pond turtles could potentially occur. Work will resume once the animal leaves the site of its own volition or once it is determined that the species is not being harassed by or in danger due to construction activities.

To prevent inadvertent entrapment of native amphibians or reptiles during construction, all excavated, steep-walled holes or trenches more than 6 inches deep will be covered at the end of each working day with plywood or similar material. At the beginning of each working day and before such holes or trenches are filled, they will be thoroughly inspected for trapped animals. If at any time a trapped native amphibian or reptile is discovered in these situations, the qualified designated biologist will have the authority to stop activities in these locations through coordination with a Caltrans Resident Engineer or onsite project manager and will immediately place escape ramps or other appropriate structures to allow the animal to escape. Work will resume once the animal leaves the site of its own volition or once it is determined that the species will not be subject to “take” (as defined by Federal Endangered Species Act Section 3 for California red-legged frogs and as defined by California Fish and Game Code Section 86 for other native herpetofauna, including foothill yellow-legged frogs and western pond turtles) due to construction activities.

BIO-16: Sensitive Aquatic Species Avoidance—Avoid Sensitive Aquatic Species:

If California red-legged frogs, foothill yellow-legged frogs, or western pond turtles are found, a protective no-work buffer of 100 feet will be established, and Caltrans shall consult with the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife. No work will start within the buffer until authorization is received from a Caltrans Resident Engineer.

BIO-17: Roosting Bats Avoidance—Preconstruction Surveys: If woody vegetation removal, structures construction, or other project-related activities in bat day-roosting sites are scheduled between February 1 to September 30, a designated biologist shall conduct a focused survey for day-roosting bats within 15 days before the start of project-related activities. If active day roosts

are found, a protective no-work buffer of 50 feet will be established, and Caltrans shall consult with the California Department of Fish and Wildlife to comply with provisions of the California Fish and Game Code. If a lapse in project-related work of 15 days or longer occurs, another survey and, if required, consultation with the California Department of Fish and Wildlife will be required before work can start again. Preconstruction surveys for roosting bats shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection).

BIO-18: Roosting Bats Avoidance—Protective Buffers: If the designated biologist detects day-roosting bats during the preconstruction survey, a 50-foot no-work buffer will be established around the roost. No work will start within the buffer until authorization is received from a Caltrans Resident Engineer.

BIO-19: Roosting Bats Avoidance—Construction Monitoring: If construction or other project-related activities that may result in adverse effects to bats or bat day-roost sites are necessary, a designated biologist will be required to monitor the day-roost site to ensure that protective radii and any exclusionary devices are maintained and functioning properly.

BIO-20: Nesting Bird Avoidance—Limited Operation Period: Performing ground disturbance, vegetation removal, or other construction activities within nesting bird habitat during the non-nesting season (between October 1 and January 31) would not require preconstruction surveys or nesting bird avoidance measures.

BIO-21: Nesting Bird Avoidance—Preconstruction Surveys During Nesting Season: If ground disturbance, vegetation removal, or other construction activities are scheduled during the nesting season of protected raptors and migratory birds (February 1 to September 30), a qualified biologist shall conduct a focused survey for active nests of such species within 15 days before the start of project-related activities. If a lapse in project-related work of 15 days or longer occurs, another survey and, if required, consultation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife will be required before work can start again. Preconstruction surveys for nesting migratory birds and raptors shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection) and/or Section 14-6.03(B) (Bird Protection).

BIO-22: Nesting Bird Avoidance—Exclusionary Devices for Structures: If work on structures that could potentially interfere with bird nesting sites is proposed or is likely to occur between February 1 and September 30, then exclusionary devices may be used to block access to bird nesting sites where work will be performed. Exclusionary devices for birds must be installed after September 30 but before February 1 of any construction season and will be maintained and left in place between February 1 and September 30 of any construction season. No bird exclusionary devices shall be used that could

entrap birds. Exclusionary devices for birds may be removed when a designated biologist determines that work will not interfere with bird-nesting sites or until all construction activities in bird-nesting areas are completed. Exclusionary devices for birds shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection) or may require the use of Nonstandard Special Provisions under this section.

BIO-23: Nesting Bird Avoidance—Avoid Active Nests: If active nests are found, a protective no-work buffer will be established (Table 18), and Caltrans shall consult with the U.S. Fish and Wildlife Service regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and with California Department of Fish and Wildlife to comply with provisions of the California Fish and Game Code.

If the designated biologist detects nesting migratory birds or nesting raptors during the preconstruction survey, an appropriate no-work buffer will need to be established around the nest. No work will start within the buffer until authorization is received from a Caltrans Resident Engineer. Appropriate no-work buffer distances for specific bird species are listed below:

Stop all work within a radius of any active migratory bird's nest:

- A 300-foot protective radius for raptors.
- A 100-foot protective radius for migratory birds.

Protective buffer radii for nesting migratory birds and raptors shall be specified under Caltrans' 2018 Standard Specifications and/or Standard Special Provisions Section 14-6.03A (Species Protection) and/or Section 14-6.03(B) (Bird Protection).

If construction or other project-related activities that may cause nest destruction, nest abandonment, or forced fledging of migratory birds are necessary, a qualified biologist will be required to monitor the nest site to ensure that protective radii are maintained.

CULT-1: Caltrans Standard Special Provisions Section 14-1.02A, Environmentally Sensitive Area: If an Environmentally Sensitive Area is shown, the boundaries shown are approximate. The Department (Caltrans) marks the exact boundaries on the ground. Do not enter an Environmentally Sensitive Area unless authorized. If an Environmentally Sensitive Area is breached, immediately:

1. Stop all work within 60 feet of the Environmentally Sensitive Area boundary.
2. Secure the area

3. Notify the engineer

If an Environmentally Sensitive Area is damaged, the Department (Caltrans) will determine the necessary remediation, and the responsible party will perform the work.

CULT-2: Caltrans Standard Special Provisions Section 14-2.03, Archaeological Monitoring Area: If an archaeological monitoring area is shown within, near, or straddling the job site, the boundaries shown are approximate. The Department (Caltrans) will assign an archaeological monitor to observe work activities within the archaeological monitoring area. Do not work within the area unless the archaeological monitor is present. The engineer and archaeological monitor will conduct a field review with you at least five business days before the start of job activities. The Department (Caltrans) will mark the exact boundaries of the archaeological monitoring area on the ground.

If a high-visibility fence is shown, install it or other authorized enclosures to protect the area and define its boundaries before starting other job site activities. Submit a schedule showing the days and hours that work will be performed in an archaeological monitoring area at least five business days before starting work in the monitoring area. Submit an updated schedule at least five business days before any changed workday.

List of Technical Studies Bound Separately (Volume 2)

Air Quality Memorandum

Climate Change Greenhouse Gas Analysis Memorandum

Community Impact Assessment Memorandum

Energy Analysis Memorandum

Natural Environment Study

Noise Compliance Study

Location Hydraulic Study

Cultural Reports

- Historic Property Survey Report
- Architectural History Section 106 Compliance Memo

Hazardous Waste Reports

- Initial Site Assessment

Paleontology Memorandum

Water Compliance Memorandum

Wildfire Severity Zone Memorandum

To obtain a copy of one or more of these technical studies/reports or the Initial Study, please send your request to:

C. Scott Guidi
District 10 Environmental Division
California Department of Transportation
1976 East Doctor Martin Luther King Junior Boulevard, Stockton, California 95205

Or send your request via email to: scott.guidi@dot.ca.gov
Or call: 209-479-1839

Please provide the following information in your request:

Project title: CAL 4 Culvert Replacement

General location information: State Routes 4 and 49 in Calaveras and Tuolumne Counties

District number-county code-route-post mile: 10-CAL-4/49-PM 32.40-37.30/5.78-17.19, 10-TUO-49-PM 12.67-13.08

Project ID number: 107000181