

Putah Creek Bridge Rehabilitation

SOLANO, CALIFORNIA
CALTRANS DISTRICT 04
STATE ROUTE 128, POST MILE 0.72 - 0.73
EA: 04-1Q570
EFIS: 0418000297

Initial Study with Proposed Negative Declaration



Prepared by the
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 with Proposed Negative Declaration (IS/ND) to examine the potential environmental impacts of rehabilitating the existing bridge rails to preserve the service life of the Putah Creek Bridge in Solano County, California (Project). Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the Project is being proposed, how the existing environment could be affected by the Project, the potential impacts of each proposed activity, and the proposed avoidance, and minimization measures.

What you should do:

- Please read this document.
- The document, maps, and Project information are available to download at the Caltrans environmental document website (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).
- We would like to hear what you think. Send comments, including requests that Caltrans hold a public meeting to:

Caltrans, District 4
ATTN: Krishma Dutta, Environmental Planner
P.O. Box 23660 MS-8B,
Oakland, CA 94623-0660
Or Krishma.Dutta@dot.ca.gov

- Be sure to send comments by the deadline: August 8, 2022.

What happens next:

Per CEQA Section 15073, Caltrans will circulate the IS/ND for review for 30 days. During the 30-day public review period, the general public and responsible and trustee agencies can submit comments on this document to Caltrans. Caltrans will consider the comments and will respond to the comments after the 30-day public review period. After comments are received from the public and reviewing agencies, Caltrans may (1) grant environmental approval to the proposed Project, (2) conduct additional environmental studies, or (3) abandon the Project. If the Project is given environmental approval and funding is obtained, Caltrans could design and construct all or part of the Project.

Alternative Formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk by writing to the above address or email or calling **California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice), or 711.**

An ADA-compliant electronic copy of this document is available to download at: [the Caltrans environmental document website](https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs) (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).

Initial Study with Proposed Negative Declaration

04-SOL-128

Dist. – Co. – Rte.

0.72 - 0.73

PM

04-1Q570

E.A.

Project title:	Putah Creek Bridge Rehabilitation
Lead agency name and address:	California Department of Transportation 111 Grand Avenue, Oakland, CA 94612
Contact person and phone number:	Krishma Dutta, Environmental Planner (510) 847-8502
Project location:	Solano and Yolo Counties
General plan description:	Highway
Zoning:	Highway, Watershed-160, Parks and Recreation (P-R) Zone
Other public agencies whose approval is required (e.g., permits, financial approval, or participation agreements)	<ul style="list-style-type: none"> • 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife • 404 Nationwide Verification from the US Army Corps of Engineers • Section 401 of the Clean Water Act • Biological Opinion from US Fish and Wildlife

The document, maps, Project information, and supporting technical studies are available for review and download at [the Caltrans environmental document website](https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs) (<https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs>).

 Scott M. Williams
 Caltrans District 4, Acting Office Chief
 Office of Environmental Analysis

 Date

Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) proposes to rehabilitate Putah Creek Bridge (Project) on State Route (SR) 128, at Post Mile (PM) 0.72 - 0.73, in Solano County, California.

Determination

This proposed Negative Declaration (ND) is included to provide notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this Project. This ND is subject to change based on comments received by interested agencies and the public. Caltrans has prepared an Initial Study for this Project, and pending public review, has determined from this study that the proposed Project would not have a significant effect on the environment for the following reasons:

The proposed Project would have no effect on agriculture and forestry, air quality, cultural resources, mineral resources, noise, population and housing, public services, tribal cultural resources, utilities and service systems, energy, geology and soils.

The proposed Project would have a less than significant impact on aesthetics, biological resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, recreation, and transportation, and wildfire.

Melanie Brent
Deputy District Director
Environmental Planning and Engineering
Caltrans District 4

Date

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Chapter 1 Proposed Project

1.1 Introduction

The California Department of Transportation (Caltrans) is the California Environmental Quality Act (CEQA) lead agency and sponsor for the proposed Putah Creek Bridge Rehabilitation Project (Project) and has prepared this Initial Study with Proposed Negative Declaration.

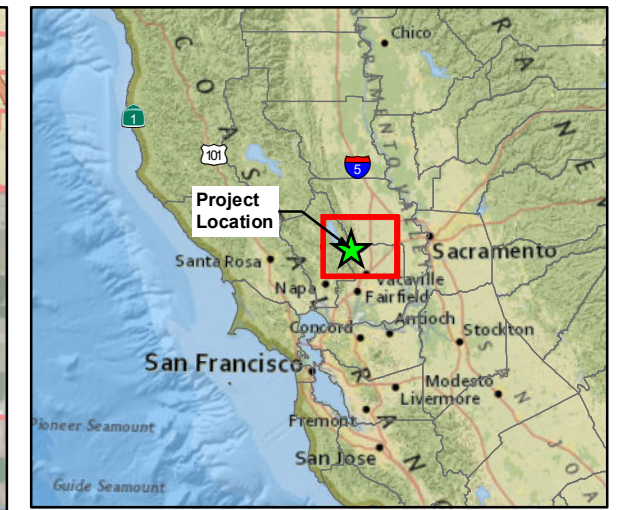
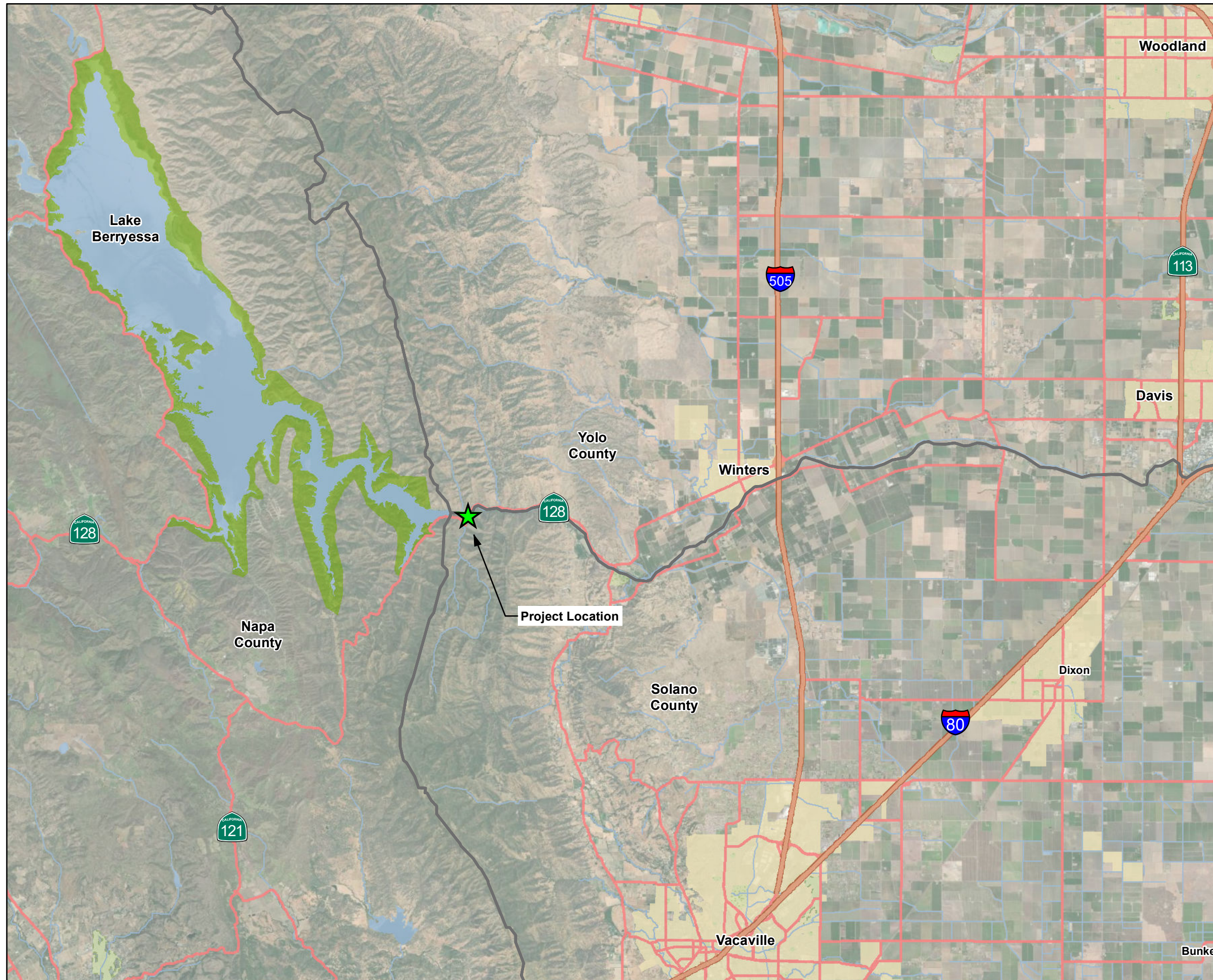
The Project is located on State Route (SR) 128, at Post Mile (PM) 0.72-0.73, on the Putah Creek Bridge, in Solano County, California. Caltrans proposes to upgrade the existing bridge rails, widen the bridge and upgrade the bridge structure to accommodate the larger rails, upgrade the approach rails, install a new drainage system, resurface the bridge deck by applying a polyester concrete overlay, and upgrade signage and roadway striping to current standards.

This Project is funded under State Highway Operation and Protection Program (SHOPP) program code 201.122. It has also been determined that this Project is eligible for Federal-aid funding. The proposed funding fiscal year is 2023/2024.



1.2 Purpose and Need

The purpose of the Project is to upgrade the structure's barrier rails to meet current State and Federal design standards, improve the overall condition of the bridge structure to prevent further deterioration, avoid costly repairs in the future, and extend the service life of the bridge.

The project is needed because the existing bridge rails are in poor condition and the bridge deck is experiencing continuous spalling and delamination resulting in a poor ride quality.



LEGEND

-  Project Location
-  County Boundary

**Figure 1-1
Regional Location**
 State Route 128
 Putah Creek Bridge Rehabilitation Project
 EA 04-1Q570, SOL-128-0.72/0.73
 Solano County, California

Chapter 2 Project Description

2.1 Introduction

The Project is located on the Putah Creek Bridge (Bridge #23-0099) where State Route 128 crosses into Yolo County. The Project area is in the rural northern end of Solano County, east of Lake Berryessa.

The proposed Project is located on State Route (SR) 128 adjacent to and within Putah Creek Wildlife Area. The Project is within the Vacaville Mountains and downstream of Monticello Dam, 10 miles west of Winters in Solano County, California. The surrounding landscape is characterized by gently sloping to steep hillsides, cottonwood riparian, blue oak woodland, and chamise chaparral natural communities. The land use within the corridor is primarily public parks and open space, but also includes limited areas of commercial and resort uses which support many outdoor recreational opportunities. SR 128 in Solano County is eligible, but not designated, as a State Scenic Highway.

There are two alternatives that Caltrans has evaluated for the Project, the build alternative, which would include the proposed improvements and repairs to the bridge and approaches, and a no build alternative. The No-Build Alternative does not meet the purpose and need for the Project. The No-Build Alternative serves as the baseline condition upon which impacts of the build alternative are evaluated.

2.2 Build Alternative – Proposed Project

This Project proposes to upgrade the existing bridge rails, upgrade the approach rails, and resurface the bridge deck by applying a polyester concrete overlay. Upgrading the existing railings with the current Manual for Assessing Safety Hardware (MASH) ST-75 guardrail standard, would involve demolishing the existing overhang along both sides of the bridge, constructing new overhangs, forming and casting the new ST-75 rails, and widening and upgrading the bridge structure to accommodate the larger bridge rail. To support the added weight of the new rails and overhang, additional modifications to the bridge superstructure would be necessary. These include adding concrete struts that extend from the outermost longitudinal girders to the outer edge of the overhang and constructing intermediate diaphragms between the middle and outermost longitudinal girders. Caltrans also proposes to replace the sliding joint plate on two of the bridge piers.

Resurfacing the bridge deck would be completed by removing deteriorating sections of deck concrete with construction equipment and hand tools and patching these

areas with a polyester concrete mix. Once patching is complete, the bridge deck would be overlaid with a polyester concrete roadway surface. Signage upgrades, including curve warning signs, would be installed on each end of the bridge and roadway striping would be completed within the Project to meet current Caltrans design standards, as appropriate.

In addition, the Project proposes some drainage improvements to comply with current water quality laws and regulations. This will be done by constructing a down-drain system with a drainage inlet.

2.2.1 Metal Beam Guardrail

The metal beam guardrail at north end of the bridge would be replaced with a standard Midwest guardrail system (MGS) with transition rail connectors to the new bridge railing. In addition, the roadway fill prisms would be regraded to accommodate the transition rail connectors. The metal beam guardrail at the south end of the bridge was replaced in 2020 as part of the emergency work due to a wildfire in the area.

2.2.2 Right-of-Way Requirements

The Project proposes two temporary construction easements (TCE) and no permanent right of way (ROW) acquisitions. One TCE is located on the north side of the bridge and is on a private property that is used as a recreational area. The other TCE is located on the southeast side of the bridge and is California Department of Fish and Wildlife (CDFW property), and is within the Putah Creek State Wildlife Area. This recreational area is popular for its fishing, birding, and wildlife viewing opportunities. Caltrans would temporarily use 0.78 acres (34,088 square feet) of land from CDFW. Close coordination with CDFW's land management division will be necessary throughout the life of the Project.

2.2.3 Utilites

The Project has no utilities located within the Project limits.

2.2.4 Drainage

Drainage improvements are proposed and can be viewed in Figure 2-1 at the end of this section. The existing bridge rails use deck-scuffers to drain stormwater off the bridge. Deck-scuffers are drainage paths through the bridge deck that outfall directly into the creek. To comply with current water quality laws and regulations, Caltrans is proposing to replace scuffers with a drainage inlet and down-drain system at the northern end of bridge approach slab. This is the lowest point on the bridge structure, so water would naturally flow to this point. The down-drain would discharge into a proposed unlined ditch protected with rock slope protection (RSP) at the toe of the roadway fill prism. Highway runoff would then flow through an

infiltration system, under the dirt road roadway before out-falling on a proposed RSP pad near Putah Creek's bank.

2.2.5 Traffic Impacts

One-way traffic control would be used during construction. Temporary traffic queues would be expected during railing and deck repair work. Temporary complete closures may be necessary but would not exceed 15 minutes. Night work is not anticipated. A detailed Traffic Management Plan would be prepared to minimize the delays to the travelling public. All emergency services within the area would be alerted to any closures and would be accommodated through the work area when necessary. A detour for bicyclists would not be feasible during construction, and they would be subject to the one-way traffic control measures.

2.3 Construction Methodology, Schedule, and Equipment

Work on the bridge is expected to occur in stages, utilizing a half-width construction method, meaning all the work would be finalized on one half of the structure prior to initiating construction on the remaining half. This would prevent a complete closure of the bridge by allowing construction personnel to manage traffic using one-way traffic control measures. Traffic control measures would be achieved by placing a temporary concrete rail on the centerline of the bridge deck and utilizing flaggers or temporary signals at the north and south ends of the bridge to control the direction of traffic. The temporary rail would also serve as a safety barrier between traffic and workers.

To allow construction personnel additional access to the worksite, scaffolding overhangs and two crane pads would be constructed. Scaffolding overhangs would be attached to the bridge using handheld power tools. The two 50-foot-by-50-foot crane pads would be constructed using bulldozers and excavators to remove any necessary vegetation and level the ground for the pad. As shown in Figures 2-1, the two crane pads would be located on the northwest and southeast sides of the bridge. Tree trimming would be required to provide room for the crane booms.

To prevent debris from entering the creek, containment netting, or fabric would be installed under the bridge. Hand tools or construction vehicles would be used to demolish bridge elements, and the debris would be collected and hauled away using excavators and dump trucks and taken to an approved disposal site. Once the demolition of the existing elements is completed, the contractor would begin installing the new features.

To construct the bridge railings and superstructure improvements, concrete would be casted into wooden falsework. The wooden falsework would be constructed and

attached to the bridge, then concrete would be poured into the falsework and cured. After the improvements have solidified, the falsework would be removed.

The next stage of the Project would involve patching the bridge deck and providing a one-inch-thick overlay of polyester concrete using cement mixers or concrete trucks.

Concurrently with the bridge deck patching, the contractor would likely start installing the new Midwest guardrail system with the transition railing. Posts for the guardrail would be installed in holes made by soil-auguring to an approximate depth of 3 feet.

To accommodate the placement of MGS, the 3-foot chokers outside the edge of pavement would be widened by 1 foot to a total of 4 feet. Chokers would be made of concrete and placed under the new MGS, these are usually located either near intersections or at mid-block locations for safety precautions. On the northeast side of the bridge, new side slopes would be constructed to support the wider chokers. The new slopes would be graded at a 2:1 ratio (2 feet horizontal for every vertical foot) to match the existing slope. The slopes would require the placement of fill and the removal of vegetation, including trees. Erosion control measures would be applied to the new slopes after their construction.

Finally, the bridge deck and approaches would be striped in line with Caltrans standards.

2.3.1 Staging and Access

Two staging areas, one on the southeast side of the bridge and one under the north side of the bridge are proposed. The southern staging area would use the existing dirt parking lot to store materials and equipment. Since the dirt lot is already established, little work would be required to accommodate the Project's staging needs. The northern staging area would be under the north side of the bridge on a mostly cleared dirt area currently used as a private campground.

Two access roads would be needed for the construction of the proposed Project. On the southeast side of the bridge, an access road would be constructed for crane pad access from the proposed staging area. On the north side of the bridge, the contractor would use the private campground's existing dirt and gravel roadway to access the crane pad and northern staging area. To construct the access road on the south side of the bridge, the contractor would need to clear and grub vegetation, including trees, to create a 15-foot-wide path toward the creek. The soil within this 15-foot-wide path would be compacted with construction equipment to create a stable surface that would safely facilitate the movement of personnel and equipment. On the north side of the bridge, some minor excavation under the bridge would be necessary to provide additional clearance for a truck mounted crane. After the

completion of construction activities, areas disturbed for the work on both sides of the bridge would be restored to preconstruction conditions.

2.3.2 Schedule

The Project is expected to last 199 working days and is anticipated to be completed within one working season.

2.3.3 Equipment

Equipment would include the following: paving machines (pavers), cold plane machines (grinders), rollers, compactors, augers, concrete trucks, utility trucks, backhoes, excavators, cranes, forklifts, dump trucks, haul trucks, jack hammers, saw cutters, vacuum cleaners, water trucks, generators, and street sweepers.

2.3.4 Impacts to Vegetation

Approximately 19 trees will be trimmed, limbed, or topped and 7 trees would be removed within the Project footprint for the crane and access to the crane pad on the embankment and the construction site. Additional information about impacts to vegetation and measures that would be taken to minimize the impacts can be found in Section 3-11 Biological Resources.

2.4 Project Features

This Project contains a number of standardized Project features (such as best management practices [BMPs]), that are employed on most, if not all, Caltrans projects in accordance with standard specifications, state and federal laws, and anticipated standard environmental permit conditions. Project features were not developed in response to any specific environmental impact resulting from the proposed Project. Such Project features have been considered prior to any significance determinations. The Project also contains avoidance and minimization measures (AMMs), which directly relate to the impacts resulting from the proposed Project. Table 2-1 lists the Project Features that would be implemented by Caltrans to reduce or avoid potential impacts to the human and natural environment.

Table 2-1. Project Feature Summary

Resource Area	Project Feature Reference	Project Feature
Air Quality	Feature AQ-1	Vehicle and Equipment: Regular vehicle and equipment maintenance would be enforced.
Air Quality	Feature AQ-2	Idling: Vehicles and equipment would have limited idling time.
Air Quality	Feature AQ-3	Recycling: If practicable, recycle nonhazardous waste and excess material. If recycling is not practicable, dispose of material.
Air Quality	Feature AQ-4	Solar powered boards: Use solar-powered signal boards, if feasible.
Noise	Feature NOI-1	Noise: Control and monitor noise resulting from work activities. Currently night work is not proposed, but if it is determined in later phases that night work is unavoidable, then do not exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.
Water Quality	Feature WQ-1	Tracking Control: This practice involves implementing a temporary entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles. This practice helps in preventing and reducing sedimentation from entering a storm drain or watercourse.
Water Quality	Feature WQ-2	Waste Management and Materials Pollution Control: Properly handle and store materials in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to nearby watercourses. Properly dispose of any vegetation/landscape waste material to minimize or eliminate the discharge of these materials to storm drain systems or to nearby watercourses. Label products, implement proper cleaning techniques, and recycle materials. All hazardous materials and waste must be labeled (e.g. Diesel, gasoline, fertilizers, solvents). Store all hazardous materials and other waste in approved secondary containers protected from wind and water.
Water Quality	Feature WQ-3	Temporary Soil Stabilization Control and Wind Erosion Control: This practice involves the placement of geosynthetics, turf reinforcement mats, plastic covers, or rolled erosion control products (RECPs), including erosion control blankets, to stabilize disturbed soil areas and protect soils from erosion by wind or water.

Resource Area	Project Feature Reference	Project Feature
Water Quality	Feature WQ-4	Temporary Sediment Control: Store, transport, and transfer all disturbed soil, sand, and material in conformity with the technical Caltrans Standard Specifications (2018). In addition, avoid storing excavated material where it can easily erode onto roadways, or into drainage systems and streams. Minimize transport of debris and silt off the construction site. This may include installing fiber rolls and silt fence. Soil stockpiles must be stabilized or securely covered at the end of each day.
Water Quality	Feature WQ-5	Job Site Management: This practice implements effective handling, storage, usage, and disposal practices to control material pollution and manage waste at the job site before they enter storm drain systems and receiving waters. This practice also recommends street sweeping to minimize or eliminate the discharge of waste material to the receiving waters.
Cultural	Feature CULT-1	Unidentified resource: If previously unidentified cultural resources are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the discovery.
Greenhouse Gas Emissions	Feature GHG-1	Energy Reduction. Where feasible, solar energy would be used to reduce the use of non-renewable energy during construction
Hazardous Waste	Feature HAZ-1	Caltrans Standard Specifications and Hazardous Waste Regulations. All aspects of the project associated with transport, storage, use, and disposal of hazardous materials would be done in accordance with the California Health and Safety Code and the appropriate local, state, and federal hazardous waste regulations. Handling and management of hazardous materials would comply with the current Caltrans Standard Specifications Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.
Traffic Management Plan	Feature TMP-1	Traffic Management All emergency services within the area would be alerted to any expected closures during construction. Caltrans would coordinate with local officials to ensure that SR 128 remains open to emergency traffic during closures.
Biology	Feature BIO-1	Water Quality Best Management Practices (BMP): The Project will comply with the Construction General Permit issued by the State Water Resources Control Board and with Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System permit.

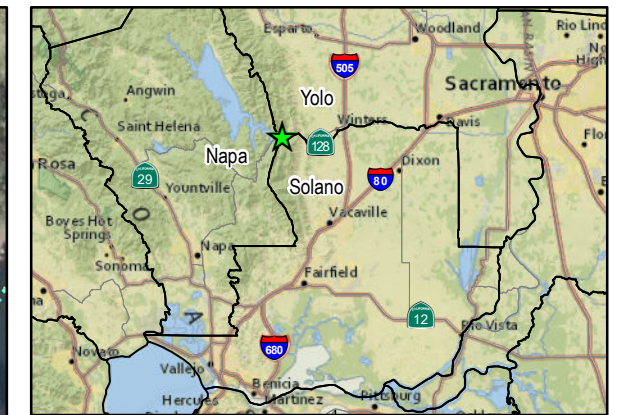
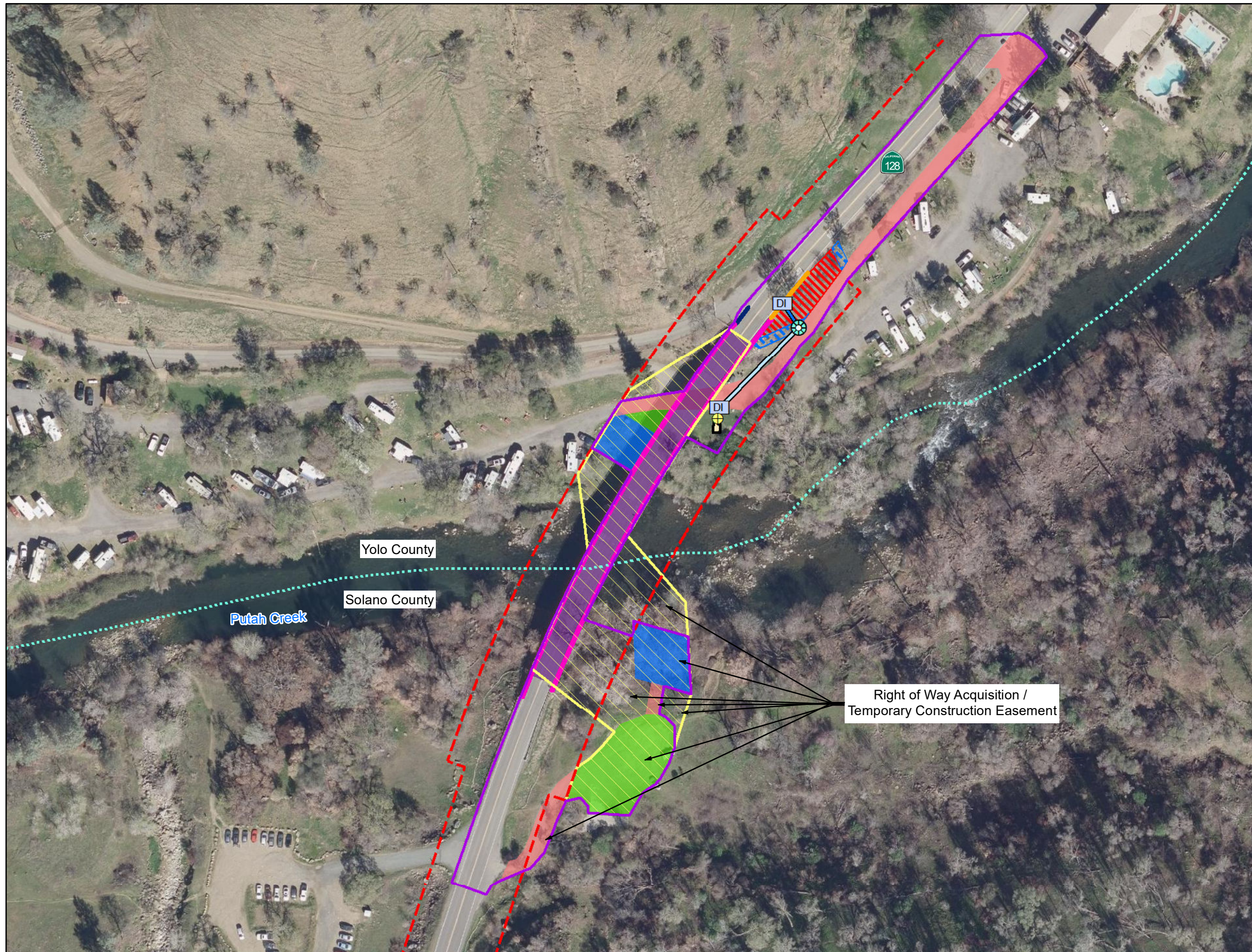
Resource Area	Project Feature Reference	Project Feature
Biology	Feature BIO-2	Bird Protection: To avoid take of migratory birds during the nesting season (February 1 to September 30): To the extent feasible, vegetation and tree removal will only occur between October 1 and January 31.
Biology	Feature BIO-3	Species Discovery: If a special-status animal species is discovered, construction personnel will immediately halt work within 100 feet of the discovery and notify the Resident engineer and Biologist.
Biology	Feature BIO-4	Restoration and Weed Control: After construction is complete, disturbed topographical contours will be restored to preconstruction conditions. If noxious weeds are disturbed or removed during construction, the contractor will contain and remove the plant material appropriately. The contractor will obtain all permits, licenses, and environmental clearances for properly disposing the plant material. The contractor will replant areas subject to noxious weed removal with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the contractor will cover temporarily disturbed areas with black plastic solarization material. The contractor will maintain the material throughout the duration of construction and removed the material at the end of construction.
Biology	Feature BIO-5	Trash Removal: The contractor will secure food and food-related trash items in sealed containers and removed the containers from the site at the end of each day.
Biology	Feature BIO-6	Pet Restriction: Pets will not be allowed on the job site.
Biology	Feature BIO-7	Monofilament Fiber Restriction: Monofilament fiber will not be used in erosion control devices or animal exclusion devices
Biology	Feature BIO-8	Firearms Restriction: Firearms will be prohibited at the job site except for those carried by authorized security personal or law enforcement

2.5 No Build Alternative

The no build alternative would not meet the purpose and need of the Project. If no action is taken, continued degradation of the bridge rails and deck would occur and affect the structural integrity of the bridge and ultimately the safety of the travelling public.

2.6 Permits and Approvals Needed

Agency	Permit	Permit Status
California Department of Fish and Wildlife	1602 Lake and Streambed Alteration Agreement	The 1602 permit would be obtained during the design phase
US Army Corps of Engineers	404 Nationwide Verification	The permit would be obtained during the design phase.
US Fish and Wildlife Services	Formal section 7 consultation for threatened and endangered species (biological opinion)	The biological opinion would be obtained during the design phase.
US Army Corps of Engineers	401 Water Quality Certification	The 401 permit would be obtained during the design phase



- Legend**
- - - - - County Boundary
 - - - - - Caltrans Right of Way
 - Project Footprint
 - Remove MBGR / Install MGS and Transition Railing
 - Remove / Replace Bridge Railing
 - Resurface Bridge Deck
 - Install Crash Cushion
 - Permanent Regrade Fill Prism
 - Temporary Regrade Fill Prism
 - Install Downdrain
 - Install Perforated Plastic Pipe
 - DI Install Drainage Inlet
 - ⊗ Install Access Vault
 - ⊕ Install Flared End Section
 - Install Rock Slope Protection
 - Boom Swing Area
 - Temporary Access Road
 - Temporary Crane Pad
 - Temporary Staging Area

Imagery Source:
ESRI, Solano County 2021

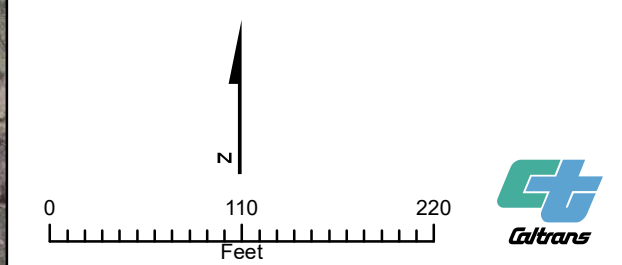
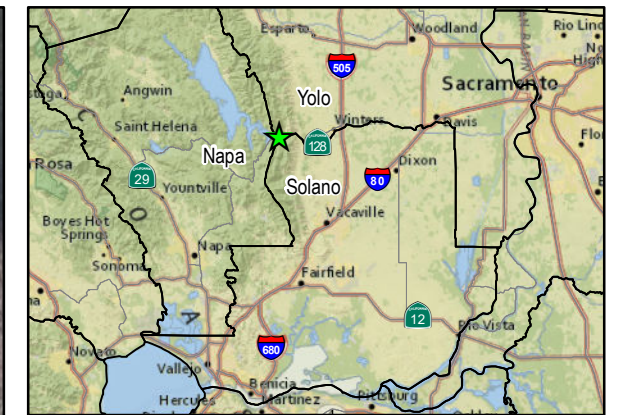
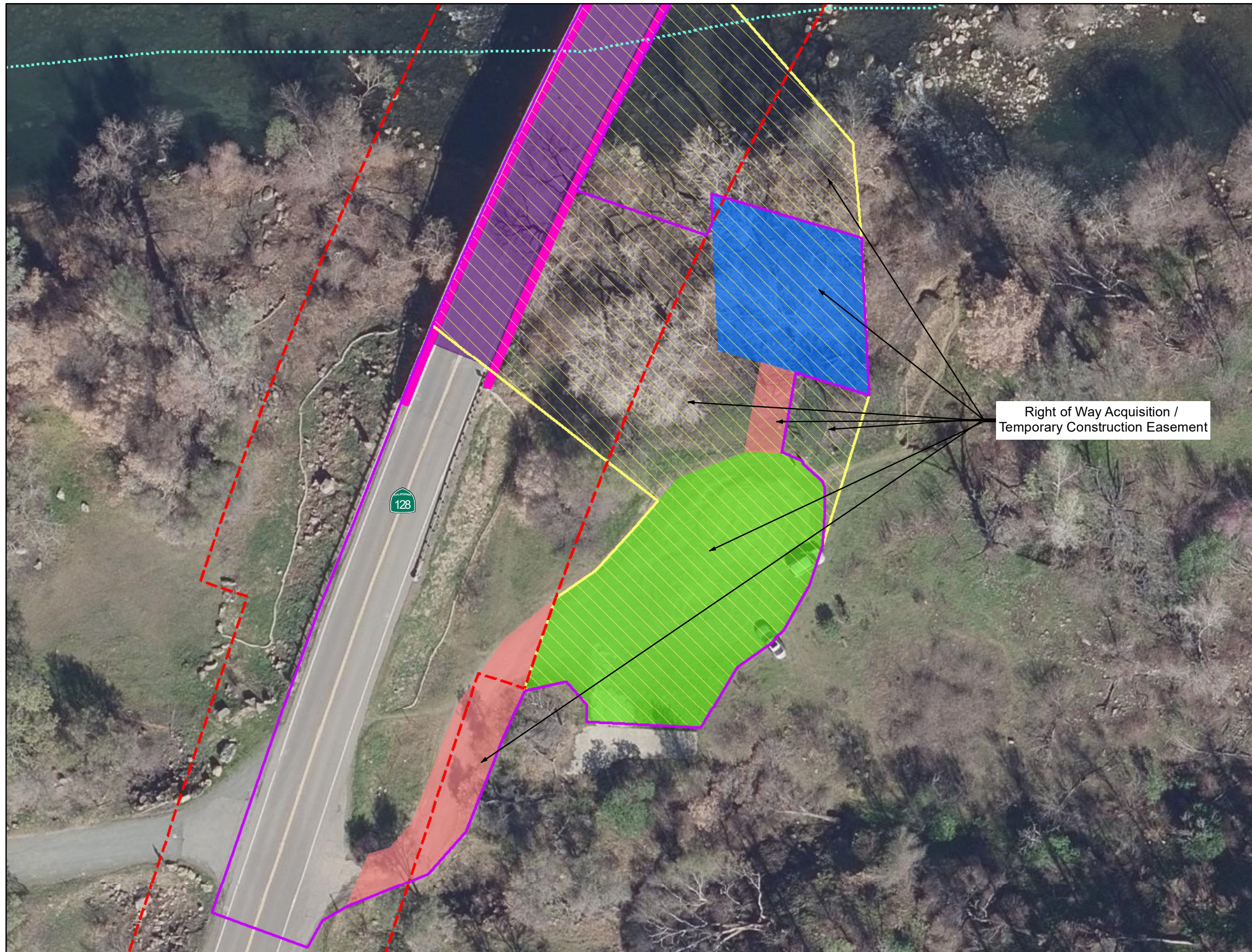


Figure 2-1
Map 1 of 3
Project Components
 State Route 128
 Putah Creek Bridge Rehabilitation Project
 EA 04-1Q570, SOL-128-0.72/0.73
 Solano County, California



- Legend**
- ⋯ County Boundary
 - - - Caltrans Right of Way
 - Project Footprint
 - Remove / Replace Bridge Railing
 - Resurface Bridge Deck
 - Boom Swing Area
 - Temporary Access Road
 - Temporary Crane Pad
 - Temporary Staging Area

Right of Way Acquisition /
Temporary Construction Easement

Imagery Source:
ESRI, Solano County 2021

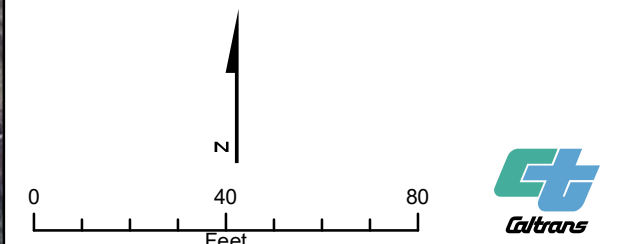
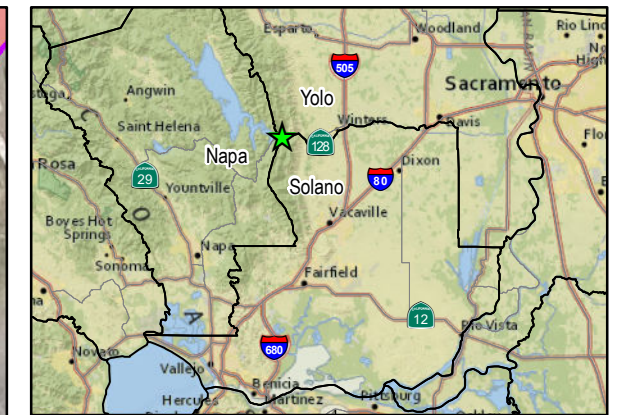
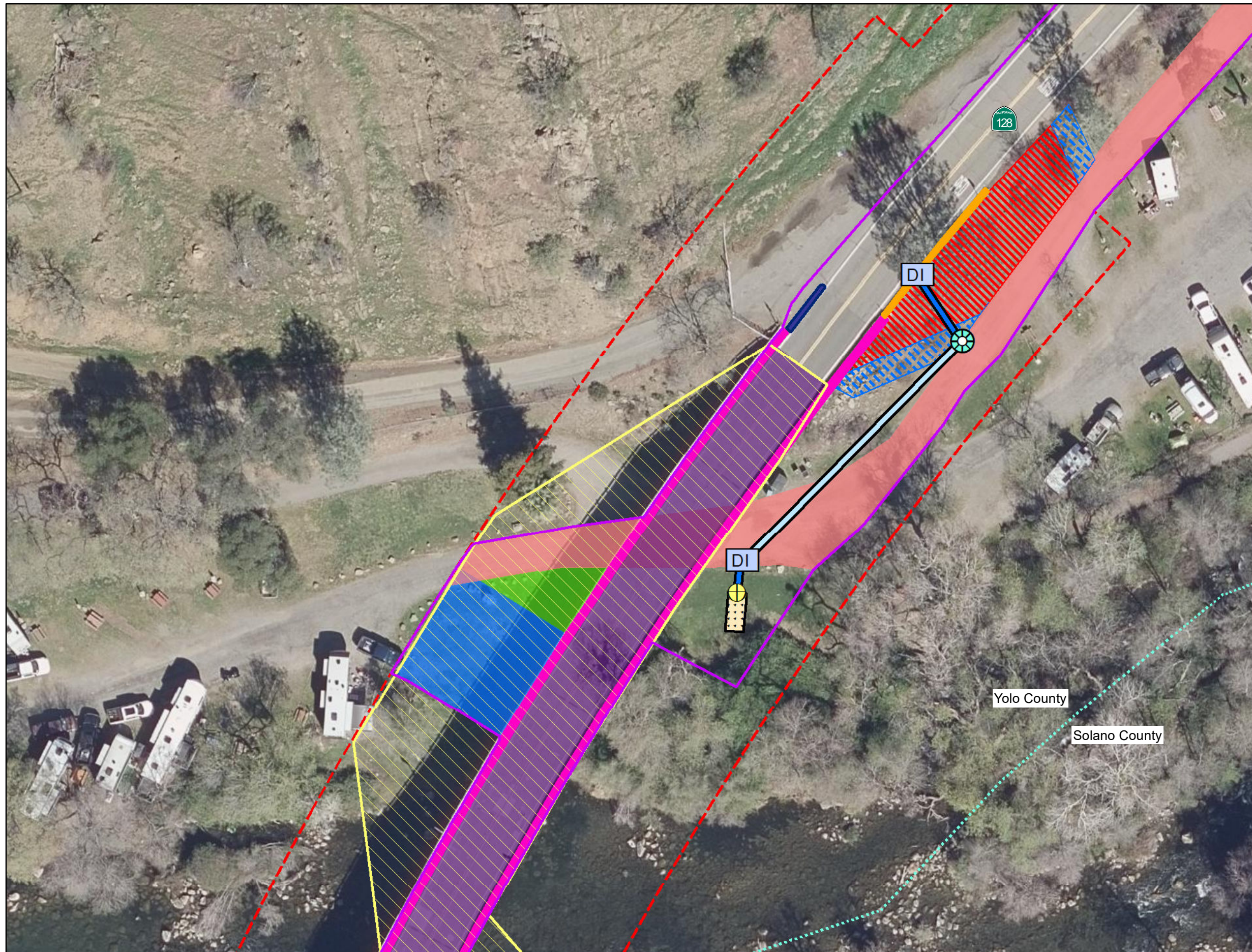


Figure 2-1
Map 2 of 3
Project Components
State Route 128
Putah Creek Bridge Rehabilitation Project
EA 04-1Q570, SOL-128-0.72/0.73
Solano County, California



- Legend**
- ⋯ County Boundary
 - - - Caltrans Right of Way
 - Project Footprint
 - Remove MBGR / Install MGS and Transition Railing
 - Remove / Replace Bridge Railing
 - Resurface Bridge Deck
 - Install Crash Cushion
 - Permanent Regrade Fill Prism
 - Temporary Regrade Fill Prism
 - Install Downdrain
 - Install Perforated Plastic Pipe
 - DI Install Drainage Inlet
 - ⊗ Install Access Vault
 - ⊕ Install Flared End Section
 - Install Rock Slope Protection
 - Boom Swing Area
 - Temporary Access Road
 - Temporary Crane Pad
 - Temporary Staging Area

Imagery Source:
ESRI, Solano County 2021

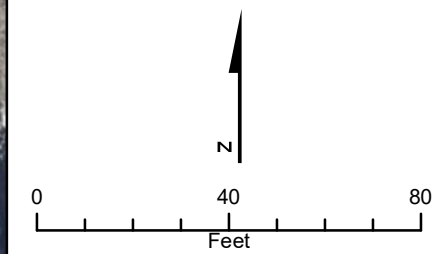


Figure 2-1
Map 3 of 3
Project Components
 State Route 128
 Putah Creek Bridge Rehabilitation Project
 EA 04-1Q570, SOL-128-0.72/0.73
 Solano County, California

Chapter 3 California Environmental Quality Act Evaluation

This chapter evaluates potential environmental impacts of the Project described in Chapter 2 as they relate to the CEQA checklist for compliance with State CEQA Guidelines (Title 14 California Code of Regulations, Division 6, Chapter 3, Section 15091).

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project. Please see the full CEQA Environmental Checklist for additional information.

X	Aesthetics		Agriculture and Forestry		Air Quality
X	Biological Resources		Cultural Resources		Energy
	Geology/Soils	X	Greenhouse Gas Emissions	X	Hazards and Hazardous Materials
X	Hydrology/Water Quality	X	Land Use/Planning		Mineral Resources
	Noise		Population/Housing		Public Services
X	Recreation	X	Transportation/Traffic		Tribal Cultural Resources
	Utilities/Service Systems	X	Wildfire		Mandatory Findings of Significance

3.2 Determination

Based on this initial evaluation:

X	I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
	I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	
	I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
	I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	
	I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required	
Signature:		Date:
Printed Name: Scott M. Williams		

3.3 CEQA Environmental Checklist

The following checklist identifies pertinent physical, biological, social, and economic factors that might be affected by the Project. In many cases, technical studies performed in connection with the Project indicate that there are no impacts to a particular resource. A “no impact” answer in the last column reflects this determination. The terms “significant” and “significance” used throughout the checklist are related to CEQA and are not National Environmental Policy Act (NEPA) determinations. The checklist is intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

As noted previously, Project Features (PFs) include project specific and standardized design elements as appropriate. PFs are an integral part of the Project and are considered prior to any significance determinations. Proposed PFs and AMMs can be found in Appendix B.

3.3.1 Aesthetics

Would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect on a scenic vista?	Less Than Significant Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	Less Than Significant Impact
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?	Less Than Significant Impact
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No Impact

The Caltrans prepared the “Visual Impact Assessment: Putah Creek Bridge Rehabilitation” (VIA; Caltrans 2022) for the Project. The findings of the VIA are summarized as they apply to CEQA in this section.

The Project corridor is defined as the land that is visible from, adjacent to, and outside the highway right of way. It is determined by topography, vegetation, and viewing distance. Within the Project corridor, SR 128 is characterized as a two-lane rural highway with limited to no shoulders. SR 128 through the Project corridor is not classified as a landscaped freeway, and it is eligible, but not currently designated, as a State Scenic Highway. There are scenic views on both sides of the highway including views to the creek and the Putah Creek Wildlife Area. Notably, there are still visual signs of the Sonoma-Lake-Napa Unit (LNU) Complex Fire’s effect on the Project corridor. The LNU Complex fire burned the Project area south of Putah Creek in the summer and fall of 2020. Many trees visible from the highway appear charred and blackened and have not regrown their foliage, likely due to poor health or death after the wildfire.

a) Less Than Significant Impact

The landscape around the Project area is characterized by gently sloping to steep hillsides of cottonwood, riparian blue oak woodland, and chamise chaparral natural communities. Members of the public that experience the scenic views and would be impacted by the proposed Project, are visitors, recreationists, and motorists. Although there would not be permanent impacts to the vistas, there would be

temporary impacts due to construction activities. Construction equipment would be visible, and activities such as removal of existing vegetation and bridge demolition would generate some dust that would affect views. While travelling over the bridge, views from the structure would be obscured by construction workers and equipment. To minimize the impacts during construction, Caltrans would implement AMM LA-2, 3, 5, 8, and 9, which are listed at the end of this section. The Project would have a less than significant impact to the existing scenic vista.

b) Less Than Significant Impact

Within the Project area there are three vegetation types found: California annual grassland, oak woodland, and riparian forest. The California annual grassland grows south of Putah Creek Bridge and along SR 128. It is characterized by dense cover of non-native annual grasses and ruderal species. Oak woodlands are present on either side of the bridge and outside of the riparian forest. This type of vegetation consists of live oak (*Quercus virginiana*), black oak (*Quercus velutina*), and other oak trees (*Quercus* sp.). The riparian forest is present throughout the southern bank and smaller portions on the northern bank. It is characterized by a mixed forest with high canopy cover and common riparian trees such as cottonwood (*Populus sect. Aigeiros*), willows (*Salix*), and Oregon ash (*Fraxinus latifolia*). Caltrans has anticipated that approximately 19 trees would be trimmed, limbed, or topped and 7 trees would be removed along SR 128 and within the Putah Creek Wildlife Area. Removals are necessary to create an access road to the southeast crane pad from the staging area. The majority of these trees were affected by the LNU Complex Fire and are dead or dying; therefore, they no longer provide their previous scenic value. By removing trees with diseased features and promoting the growth of healthy trees, the removal of the dead and dying trees is expected to cause some long-term improvement to scenic resources. In addition, the Project would implement AMM LA-1, 2, 3, and 4 to limit vegetation removal to the extent feasible and replant trees and vegetation including native shrubs and grasses. The Project would have less than significant impact to scenic resources.

c) Less Than Significant Impact

The proposed Project would share similar line, color, texture, and continuity as the existing corridor. The scope of work would have minimal impact on existing visual resources, due to the taller and wider barriers that thicken the appearance of the bridge. However, the new bridge rails are expected to be see-through concrete barriers that would allow views to the creek and surrounding landscapes. The proposed MGS would be visually similar to the existing MBGR. Potential tree removal to accommodate the placement of the MGS would open views to the surrounding landscape, providing a net improvement to views. After construction, the

existing level of vividness, intactness, and unity would remain. There would be temporary impacts during construction that would impact views. Construction equipment and personnel on the bridge would obscure views to the creek and surrounding landscape. The Project would implement the AMMs listed at the end of this section to minimize any temporary impacts from construction activities. The Project does not anticipate substantial degradation of the existing visual character, and there would be a less than significant impact.

d) No Impact

The Project does not propose nighttime work, so glare or light during nighttime is not expected. The Project would implement AMM LA-7 to prevent glare from concrete, therefore it is not anticipated that the Project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. There would be no impact.

Avoidance and Mitigation Measures

AMM LA-1 Existing Trees: Preserve existing trees, vegetation, and associated root systems to the maximum extent feasible.

AMM LA-2 Protection: Protect trees outside of the clearing and grubbing limits from contractor's operations, equipment, and materials storage.

AMM LA-3 Replanting Trees: Where construction work results in the planned removal of existing trees, replant trees within the Project limits with native and climatically appropriate species to the extent feasible.

AMM LA-4 Revegetation: Revegetate disturbed soil areas, manufactured slopes, and disturbed portions of the riparian corridors with native and climatically appropriate species.

AMM LA-5 Bridge Rails: Utilize see-through bridge rails that allow views to the creek and adjacent vegetation.

AMM LA-6 Metal Aesthetic: Metal portions of the bridge will be evaluated for aesthetic treatment during future phases.

AMM LA-7 Glare: Reduce glare from the concrete portions of the bridge and concrete anchor blocks, by roughening surface texture to make the concrete appear to be aged.

AMM LA-8 Staging Areas: Screen appearance of construction equipment and staging areas.

AMM LA-9 Staging Vegetation: Utilize staging areas that do not damage existing vegetation or require vegetation or tree removal.

3.3.2 Agriculture and Forest Resources

Would the Project:

Question	CEQA Determination
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 for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No Impact
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

a), b), c), d), and e) No Impact

The Project area does not contain land zoned as farmland or forest, therefore, there would be no impact to agriculture or forest resources as a result of the Project.

3.3.3 Air Quality

Would the Project:

Question	CEQA Determination
a) Conflict with or obstruct implementation of the applicable air quality plan?	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?	No 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

Based on project information available for environmental studies, the construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET), CAL-CET2021 v1.0, developed by Caltrans. It was estimated that for construction duration of 199 days the total amount of CO₂ produced would be 89 tons.

a), b), c), and d) No Impact

The Project is exempt from conformity determination per 40 CRF 93.126 – Safety: widening narrow pavements or reconstructing bridges (no additional travel lanes). This Project would not conflict with or obstruct implementation of the applicable air quality plan, result in a cumulatively considerable net increase in any criteria pollutant, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions that adversely affect a substantial number of people. To minimize construction emissions, construction workers would maintain vehicle and equipment, limit idling, recycle waste, and use solar powered boards (PF AQ-1-4). There would be no impact to air quality as a result of the Project.

3.3.4 Biological Resources

Would the Project:

Question	CEQA Determination
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or NOAA 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, and 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 federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No Impact
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?	Less Than Significant Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Less Than Significant Impact

Caltrans prepared a Natural Environmental Study (NES; Caltrans 2022) for the Project. The following text summarizes and analyzes the information presented in the NES.

The Biological Study Area (BSA) includes the areas surveyed to identify, evaluate, and quantify the natural resources potentially affected within the Project footprint. The Project footprint is defined as the entire area of direct impacts including areas that could be potentially disturbed due to construction activities. The BSA includes a 300-foot buffer around the Project footprint and/or the edge of pavement. The BSA for this Project is 300 feet out from the edge of the footprint and is approximately 28.82 acres.

Within the BSA is a portion of Putah Creek State Wildlife Area. Wildlife areas are land preserves maintained for the primary purposes of developing a statewide program of ecological conservation, restoration, development, and management of wildlife, habitat, and hunting.

A regional list of special-status wildlife and plant species was compiled by querying databases from the U.S. Fish and Wildlife Service, California Native Plant Society, California Natural Diversity Database, and National Wetlands Inventory. Each special-status wildlife and plant species on these regional lists was evaluated to determine its potential to occur within the Project's BSA. Appendix E contains two tables that summarize the special-status species within the BSA.

Various studies were conducted in the preparation of the NES, including:

- Biological reconnaissance-level survey and wildlife habitat surveys
- Rare plant surveys

a) Less Than Significant Impact

SPECIAL-STATUS PLANT SPECIES

Special-status plants are considered by scientists and regulatory agencies to be sufficiently rare to warrant protection. The California Native Plant Society (CNPS) provides rankings to all plant species to classify their rareness. Environmental laws such as the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) provide protection to these species. One federally listed special-status plant could occur in the BSA due to the presence of suitable habitat: Keck's checkerbloom (*Sidalcea keckii*). The BSA includes suitable valley and foothill grassland with open sunny areas, and woodland riparian habitats that could support the following special-status plant species that are not listed for protection by FESA or CESA: bristly leptosiphon (*Leptosiphon acicularis*), Johnny-nip (*Castilleja ambigua*), Napa bluecurls (*Trichostema ruygtii*), sylvan microseris (*Microseris sylvatica*), Tehama navarretia (*Navarretia heterandra*), and woolly-headed gilia (*Gilia capitata* ssp. *tomentosa*). However, the non-listed, special-status species would not occur onsite because appropriate specific habitat components (e.g. soil or substrates, vernal pools) in otherwise suitable habitat is absent, or the BSA is not located within the known range of the species or at the proper elevation. This Project would have less than significant impact to special-status plant species.

Keck's checkerbloom

Keck's checkerbloom is listed as federally endangered and has a California Rare Plant Rank of 1B.1, meaning "rare, threatened, or endangered in California and elsewhere; seriously threatened in California."

The species is a native annual herb endemic to California. Keck's checkerbloom grows in relatively open areas on grassy slopes or cismontane woodlands of the Sierra foothills, often on serpentinite and clay soils.

Construction of the Project could result in impacts to Keck's checkerbloom due to proposed ground disturbance and vegetation removal. If these impacts occur, the individual plants could be destroyed or damaged during grading, excavating, or vegetation removal, or they could be crushed from foot traffic. Fugitive dust generated from construction activities may cover nearby plants and interfere with photosynthesis and gas exchange. To lessen or avoid impacts to Keck's Checkerbloom and other special and non-special-status plant species, AMM BIO-5 Rare Plant Surveys would be implemented.

SPECIAL-STATUS WILDLIFE SPECIES

Many special-status animal species could occur in the BSA due to the presence of appropriate habitat, including western ridged mussel (*Gonidea angulata*), Crotch's bumble bee (*Bombus crotchii*), obscure bumble bee (*Bombus caliginosus*), western bumble bee (*Bombus occidentalis*), valley elderberry long-horned beetle (*Desmocerus californicus dimorphus*), riffle sculpin (*Cottus gulosus*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), western pond turtle (*Actinemys [Emys] marmorata*), burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), yellow-breasted chat (*Icteria virens*), hoary bat (*Lasiurus cinereus*), fringed myotis (*Myotis thysanodes*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), Townsend's big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), and Yuma myotis (*Myotis yumanensis*).

One bald eagle (*Haliaeetus leucocephalus*) and one osprey (*Pandion haliaetus*) were observed during a site visit. Other special-status bird species may migrate over or fly through the BSA. Except for white-tailed kite and yellow-breasted chat, nesting in or within line-of-site of the BSA is not likely to occur. Noise, vehicle operation, and foot traffic from construction activities would discourage bird species from foraging within the BSA. The areas around the BSA are mostly rural and preserved lands that offer plentiful foraging habitat for special-status bird species. It is anticipated that special-status bird species would forage in the areas outside the BSA during construction;

therefore, no impacts would occur. The Project would not substantially interfere with feeding or with the reproduction of those species.

Western Ridged Mussel

The western ridged mussel is a critically imperiled special-status species that is tracked through CNDDDB and included on the CNDDDB Special Animals List. The species is at a high risk of extirpation from the state because its currently known range is exceptionally restricted and only includes a few extant populations or occurrences. In addition, the species is facing abrupt declines. A petition to list the western ridged mussel under FESA was prepared in 2020 and the USFWS initiated a status review to determine if listing is warranted.

The historic range includes coastal drainage basins in California, Oregon, and Washington, to the Salmon and upper Snake drainage basins in Idaho, with records ranging from near sea level to approximately 5,800 feet above sea level.

Habitat for the western ridged mussel includes low gradient rivers with wide floodplains, sandy and gravel substrates, and large boulders. Western ridged mussels are confined to permanently inundated fish-bearing rivers, lakes, and reservoirs, where they are found in glides, riffles, pools, or runs, in areas with emergent vegetation. Suitable substrate generally includes muddy sand, cobble, and compacted sandy areas, with low amounts of silt. The species is typically associated with boulders and bedrock which exist at the Project location.

Existing threats at the Project site include non-native fish, dam operations, and in-water foot traffic. The presence of native predators, including river otter and raccoons, may place added pressure at the site.

Ground disturbing activities, vegetation clearance, and tree removal in the riparian area could loosen soil and debris and result in sediment discharges. Sediment in the creek may bury mussels, interfere with filter feeding and respiration, interrupt the relationship between the mussel and host fish, and decrease food availability. Fuel or solvent leaks from vehicles or equipment could result in mortality of mussels or bioaccumulation of toxins. In addition, mussels could be killed or crushed if large debris from demolition falls into Putah Creek. Under the current proposed scope of the Project and with the implementation of Project Features and biology AMMs, no sediment or debris are expected to enter the creek and no impacts to mussels are anticipated. Installing the proposed drainage system with the water treatment BMP would result in a permanent positive impact to water quality compared to the existing drainage pattern that allows highway runoff to enter the creek untreated.

Valley Elderberry Long-horned Beetle

The valley elderberry long-horned beetle is federally listed as threatened. Areas along Putah Creek in Solano County are considered essential habitat for the species. The essential habitat area along Putah Creek supports large numbers of mature elderberry shrubs with extensive evidence of use by beetles.

The species is almost always found on or close to its elderberry host plant. Elderberry shrubs are commonly found in riparian forests with moist soils but can also be found in mesic areas of chaparral or woodlands. Host elderberry plants must have stems that are one inch or greater in diameter at ground level. Typically, the only exterior evidence of the shrub's use by the beetle is an exit hole created by the larva just before the pupal stage.

Adverse effects are not anticipated because the Project would not remove or trim elderberry trees or shrubs. To aid with the recovery of valley elderberry long-horned beetle, Caltrans would include blue elderberry shrubs in landscape replanting plans. To avoid impacting valley elderberry long-horned beetle, Caltrans will implement AMM BIO-1, 2, and 6. There would be no impact to valley elderberry long-horned beetles.

Crotch's Bumble Bees

There is potential for Crotch's bumble bees, obscure bumble bees, and western bumble bees to occur in the BSA. All three have experienced dramatic declines in their ranges, abundance, and persistence, and are considered imperiled. They are not federally or state listed.

All three species inhabit open grasslands and meadows and use underground cavities to nest. Bumble bees also forage in landscaped areas provided suitable food plants are available. Obscure bumble bees may nest in abandoned bird nests and western bumble bees have been documented nesting in logs.

Threats include climate change, competition with managed honeybees, pesticides, pathogens and parasites, habitat fragmentation, loss of habitat from urban development, and alteration or conversion of habitat for agriculture, grazing, and fire suppression. Bumble bees play a crucial role in the pollination of native flowering plants and commercially important crops.

Ground disturbance and vegetation removal in landscaped areas may impact low quality foraging habitat. Approximately 0.14 acre of temporary impacts to landscaped vegetation would occur from vegetation clearing and ground disturbance for the northwest crane pad, roadway grading at the northeast side of the bridge, and drainage system installation. Approximately 0.06 acre of permanent impacts to

landscaped vegetation would occur from the installation of the MGS choker, drainages, and RSP. Permanent impacts would be minor because the landscaped areas are currently periodically mowed. To avoid and lessen these impacts Caltrans will implement AMM BIO-1 and 2, and PF BIO-4. There would be a less than significant impact on these species.

Riffle Scuplin

Riffle sculpin is California species of special concern. Riffle sculpin are found in isolated watersheds in the Central Valley drainage and the central coast. They are present in Putah Creek on the west side of the Sacramento River Drainage and in most tributaries on the east side, from the American River north to the upper Sacramento and McCloud rivers.

Riffle sculpin inhabit headwaters in permanent streams with rocky or gravelly substrate. They prefer cold water where the temperature does not exceed 78°F, and where ample flow keeps the dissolved oxygen level near saturation. They occupy riffles or pools, though they tend to favor areas with rocks, logs, or overhanging banks because those features provide adequate cover.

Threats to the species include genetic isolation from damming, reduced water quality from agricultural and urban runoff, erosion from timber harvesting, and introduction of non-native or invasive species. Impacts from wildfires include sediment discharges from post-fire erosion and increases in water temperature from the loss of canopy cover. Riffle sculpins have difficulty recolonizing a stream once a population has been lost.

Potential impacts from inadvertent sediment discharges could impact individuals if discharges were to occur. Increased turbidity from inadvertent sediment discharges could potentially disrupt feeding and displace fish from established territories. Individuals displaced from established territories may not find suitable or unoccupied habitat and may become susceptible to increased predation or competition. Turbidity may also negatively affect physiology and damage gills. Impacts, if they were to occur, would be temporary. Under the current proposed scope of the Project and with the implementation of Project Features and biology AMMs, no sediment is expected to enter the creek and no impacts to Riffle Sculpin are anticipated. Installing the proposed drainage system with the water treatment BMP would result in a permanent positive impact to water quality compared to the existing drainage pattern that allows highway runoff to enter the creek untreated.

California Red-legged Frog

California red-legged frog was federally listed as threatened in 1996. Critical habitat was designated in 2006 and revised in 2010.

California red-legged frog is distributed throughout 26 counties in California but is most abundant in the San Francisco Bay Area. The known range includes drainages from the Santa Ynez Mountains to Big River in Mendocino County, with isolated populations in the Sierra Nevada foothills, Transverse Ranges, and Sierra de San Pedro Martir, Mexico. The species has been reintroduced into Riverside and San Diego Counties. Threats to this species include urban development, habitat fragmentation, overgrazing, erosion and siltation from flooding, predation by non-native species, and climate change. Existing threats in the BSA includes excessive noise, artificial lighting, mortality or harassment from foot traffic and domestic dogs, traffic strikes, potential wildfires, and larval or egg predation from signal crowdads.

This Project may impact California red-legged frog sheltering and dispersal habitat and adverse effects to California red-legged frog could occur. "Take" (as defined by FESA) of species, in the form of injury or mortality, could occur during tree removal, vegetation removal, grubbing, and ground disturbance.

Permanent impacts to approximately 0.06 acre of upland dispersal habitat composed of landscaped vegetation and temporary impacts to approximately 0.12 acre of upland dispersal habitat composed of landscaped vegetation would occur.

Temporary impacts to approximately 0.10 acre of upland dispersal habitat composed of Fremont cottonwood forest and woodland would occur.

To avoid or lessen these impacts Caltrans would implement PF BIO-1, 5, 6, and 7 and AMM BIO-1, 2, 3, 4, 7, 8, and 9. The Project would have less than significant impact on California red-legged frog.

Foothill Yellow-legged Frog (Northwest/North Coast Clade)

The northwest/North Coast clade of foothill yellow-legged frog is considered a California species of special concern. In California, foothill yellow-legged frog occur throughout the Coast Ranges from the Oregon state line, south to the Transverse Range in Los Angeles County, in most of northern California west of the Cascade crest, and along the western flank of the Sierra south to Kern County. Foothill yellow-legged frog are found in a variety of habitat types including valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow. Its elevation range extends from sea level to 6,000 feet in the Sierra.

This Project would impact sheltering and dispersal habitat of the foothill yellow-legged frog. In addition, tree removal, vegetation removal, grubbing, and ground disturbance and foot traffic could kill or injure individuals. Approximately 0.10 acre of temporary impacts to sheltering and dispersal habitat composed of Fremont cottonwood forest and woodland understory would occur from vegetation clearing

and ground disturbance for the southeast crane pad and its access road. Approximately 0.13 acre of temporary impacts to upland dispersal habitat composed of landscaped vegetation (primarily lawn dominated by Bermuda grass) would occur from removing vegetation for the temporary northwest crane pad, regrading the side slope, and from installing the drainage system. Approximately 0.06 acre of permanent impacts would occur to upland dispersal habitat composed of landscaped vegetation (primarily lawn dominated by Bermuda grass) from installing the MGS choker on the northeast side slope and installing RSP and the drainage system. To minimize these impacts, Caltrans would implement PF BIO-1, 3, 5, 6, and 7 and AMM BIO-1, 2, 3, 4, 7, 8, and 9. The Project would have a less than significant impact on foothill yellow-legged frog.

Western Pond Turtle

Western pond turtle is a California species of special concern and under review for listing under FESA. Western pond turtle ranges from southern coastal California and the Central Valley, east to the Cascade Range and foothills of the Sierra Nevada. This species occurs in a variety of permanent and intermittent aquatic habitats, such as ponds, marshes, rivers, streams, and ephemeral pools. Western pond turtles require suitable basking and haul-out sites, such as emergent rocks or floating logs, which they use to regulate their temperature throughout the day. In addition to appropriate aquatic habitat, these turtles require an upland oviposition site in the vicinity of the aquatic habitat. Nests are typically created in grassy, open fields with soils that are high in clay or silt fraction. Egg laying usually takes place between March and August.

The Project would impact approximately 0.10 acre of potential overwintering habitat composed of Fremont cottonwood forest and woodland understory. These impacts would occur due to vegetation clearing and ground disturbance for crane pads. Demolition activities, tree removal, vegetation removal, ground disturbance, and foot and vehicle traffic could kill or injure individuals. To avoid or lessen these impacts Caltrans would implement PF BIO-1, 3, 5, 6, 7 and AMM BIO-1, 2, 3, 4, 7, 8, and 9. The Project would have a less than significant impact on western pond turtle.

Burrowing Owl

The burrowing owl is a California species of special concern. It is a year-long resident of open country in deserts, grasslands and in urban and suburban sites including golf courses, road cuts, levees, and airports. This owl usually nests in the old burrows of California ground squirrels or other small mammals, although they rarely dig their own burrow in soft soil. Where burrows are scarce, pipes, culverts, and even nest boxes may be utilized. Burrowing owl populations are declining due to

diminishing habitat and burrowing mammal control (including extermination of small mammals and closure of burrows).

Although annual grassland habitat is present and California ground squirrels were detected, there is low potential for individuals to occur in the BSA because of the amount of human disturbance and absence of suitable high-quality habitat, such as open areas with low growing vegetation. The vegetation in the wild oats and annual brome grassland is relatively unmaintained, except for within the Caltrans ROW, and it exceeded 10 inches during site visits in March, May, June, and August throughout most parts of the BSA.

To avoid impacting burrowing owls, Caltrans would implement AMM BIO-10. The Project would have no impact on burrowing owls.

White-tailed Kite

The white-tailed kite is a CDFW fully protected species. They inhabit herbaceous and open stages of most habitats in coastal and valley lowlands. They forage in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands, and prey on voles and other small, diurnal mammals, and occasionally on birds, insects, reptiles, and amphibians. White-tailed kites use dense tree canopies for cover and nest near the tops of oaks, willow, or other tree stands near open foraging areas. The species' California range includes most of the state west of the Sierra Nevada Mountain Range and west of the southern deserts.

No impacts to white-tailed kite nesting or foraging habitat would occur. Tree removal would occur in an area that is disturbed by highway traffic and human activity. Impacts could occur to nesting white-tailed kites if the nests are located within sight of construction activities. Potential impacts would be limited to harassment and avoiding foraging habitat near active construction. To avoid or lessen impacts to white-tailed kites Caltrans would implement PF BIO-2 and AMM BIO-11. The Project would have a less than significant impact to white-tailed kites.

Yellow-breasted Chat

The yellow-breasted chat is a California species of special concern. It is considered an uncommon summer resident and migrant in coastal California, foothills of the Sierra Nevada, and in desert riparian habitats east of the Sierra Nevada. The species is uncommon from coastal northern California to the Cascade Range and only occurs locally south of Mendocino County. In southern California, yellow-breasted chats only breed locally on the coast and sparingly inland.

The species is typically associated with willow (*Salix sp.*) thickets and other brushy vegetative cover near riparian habitat or in thick riparian woodland understory.

Impacts to nesting and foraging habitat would occur from tree and vegetation removal. In addition, removing vegetation and trees could result in mortality or injury to individuals, destruction of nests or eggs, or nest abandonment.

Approximately 0.10 acre of temporary impacts to nesting habitat composed of Fremont cottonwood forest and woodland understory would occur from vegetation clearing and ground disturbance for the southeast crane pad and its access road. To recover temporarily impacted nesting habitat, Caltrans is proposing onsite tree and shrub plantings. To lessen and avoid impacts of yellow-breasted chats, Caltrans will implement PF BIO- 2. The Project would have less than significant impacts to yellow-breasted chats.

Roosting Bats

Bats are widespread within California and may be found in almost any habitat. They are nocturnal aerial predators preying on insects and other arthropods, and often forage over open water, marshes, and other moist, open areas where flying insects tend to congregate. Different bat species have different roosting requirements, and as such roosts can be found in a variety of habitats and locations. Crevice and cavity roosts may be found in natural and engineered features such as caves, cliffs, rock outcrops, trees, mines, swallow nests, buildings, bridges, RSP, culverts, and tunnels. Snags in poor condition may provide some of the most preferred and substantial roosting habitat.

During the breeding season (April through September), crevice and cavity roosting species typically gather in groups of mothers and young (maternity colonies) that may number in the thousands or even tens of thousands. In contrast, foliage-roosting bat, such as hoary and western red bats, may be solitary or occur in small groups while breeding. Maternity roosts and day roosts tend to be well hidden and require precise temperature and humidity conditions that favor the growth of young. Bats often use separate roosts at night as temporary resting locations in between foraging bouts. Night roosts are often located in more open but protected areas such as overhangs on buildings and recessed areas on the undersides of bridges where warm air is trapped.

Unless robust exclusion devices are implemented, mortality could occur if construction occurs during the maternity season (April 15 to August 15) or during the hibernation season (October 15 to February 28). Excluding the maternity colony would result in the loss of at least one season of recruitment, assuming bats would return to breed after exclusions are removed. Temporary impacts to approximately 0.10 acre of foraging habitat in Fremont cottonwood forest and woodland understory would occur from vegetation removal for the southeast crane pad and its access road. Permanent impacts to roosting habitat would occur from removing some living

trees, parts of living trees, or snags that may support roosting bats. Tree trimming and removal may impact snags and fire-damaged trees with cavities and exfoliating bark that may shelter roosting bats. Currently it is undetermined if bats are using trees and snags in the Project footprint for roosting. Roosting bat surveys are planned during the maternity season and winter season. To avoid or lessen impacts, Caltrans would implement PF BIO-3 and 7 and AMM BIO-1, 2, 12, 13, 14, and 15. There would be a less than significant impact to roosting bats.

Other Migratory Birds

Birds covered under the Migratory Bird Treaty Act and Fish and Game Code § 3503 and § 3800 would occur in or near the BSA. These species could nest, forage, fly over, or migrate through or near the BSA.

Tree removal, tree topping, tree trimming, and vegetation clearing would remove nesting habitat from Fremont cottonwood forest and woodland. Permanent impacts would occur from removing seven trees to install the southeast crane pad and its access road and from regrading the slope adjacent to the MGS installation location at the northeast side of the bridge. Other potential impacts to nesting habitat include removing limbs or branches or topping 19 trees during other construction activity. Temporary impacts to approximately 0.10 acre of Fremont cottonwood forest and woodland understory would occur from vegetation removal. To avoid or lessen these impacts Caltrans would implement PF BIO-2 and 7 and AMM BIO- 11. There would be a less than significant impact to migratory birds.

b) Less Than Significant Impact

Within the Project footprint there are two natural vegetation communities and one semi-natural vegetation community. The first natural community found is Fremont cottonwood forest and woodland community, this is a riparian forest habitat that is present throughout the southern bank of Putah Creek and small portions of the northern bank. Within the BSA there is a total of 5.40 acres of this community. It is dominated by Fremont cottonwood (*Populus fremontii*) and comprised of a mixed forest with high canopy cover. The second natural community found is labeled as mixed-oak forest and woodland community, this is present on both sides of the bridge, the southeast extent of the BSA, and to a smaller degree on the west side of SR 128. Mixed-oak forest and woodland community occupies 8.34 acres of the BSA. This habitat consists of a mixed overstory of interior live oak (*Quercus wislizeni*), black oak (*Quercus kelloggii*), and unidentified oak trees (*Quercus* sp.). The semi-natural community is labeled as wild oats and annual brome grassland, taking up 2.34 acres of the BSA. This community is dominated by non-native plants that have

become naturalized, and this vegetation type is present south of Putah Creek Bridge and along SR 128.

Fremont cottonwood forest and woodland is a sensitive natural community because its range in the state is restricted, and it may be declining. Mixed-oak forest and woodland is considered uncommon but not rare in the state; however, this natural community may be declining. Wild oats and annual brome grassland is not ranked because it is considered a semi-natural alliance.

The majority of tree removal, tree topping, tree trimming, vegetation clearance, grubbing, and ground disturbance would impact Fremont cottonwood forest and woodland. Anticipated tree removal would include one interior live oak and two fire-damaged Fremont cottonwoods. Approximately nineteen other trees including Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), willow (*Salix* sp.), black oak (*Quercus velutina*), and unidentified trees would need to be limbed, trimmed, or topped over a 0.2-acre-area west of the crane pad to allow for the safe operation of the crane boom. Topping live trees could ultimately kill them, particularly if they are unhealthy and/or damaged by fire. Grubbing and ground disturbance could also kill trees or weaken healthy trees if substantial amounts of roots are damaged or partially removed.

Temporary impacts to approximately 0.10 acre of Fremont cottonwood forest and woodland understory would occur from vegetation clearing for the temporary southeast crane pad and access road. Impacts would be considered temporary because Caltrans would replant cleared and disturbed areas with native shrubs and hydroseed with a native plant mix. No vegetation clearing would occur in the 0.2-acre-area where the boom would need to operate. Caltrans would be implementing AMM LA-1, 2, 3, 4 and 9 to lessen impacts. The Project would have a less than significant impact on riparian and sensitive habitat.

c) No Impacts

A total of 1.72-acres of palustrine forested wetlands and 0.33 acre of scrub-shrub wetlands were delineated within the BSA. There would be no construction activities within these aquatic resources.

There are no impacts anticipated with the implementation of biology PFs and AMMs.

d) Less Than Significant Impact

The stretch of Putah Creek within the BSA includes a known coastal rainbow trout (*Oncorhynchus mykiss*) spawning site. Construction or new bridge components

would not interfere with the movement or spawning of coastal rainbow trout because these activities would not occur in the creek.

To avoid killing or injuring bats, Caltrans would need to exclude a maternity colony of Mexican free-tailed bats (*Tadarida brasiliensis*) from the bridge for at least one breeding season. Caltrans would be implementing AMM BIO-13 to lessen impacts. There would be a less than significant impact as a result of the Project.

e) No Impact

The Project would not adversely affect any biological resources that are protected by any local policies or ordinances. There would be no impact.

f) Less Than Significant Impacts

The Project limits are located with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan area and within the Putah Creek State Wildlife Area. Caltrans biologists would be coordinating with Yolo Habitat Conservancy and CDFW Wildlife Branch - Lands Program to ensure conservation measures and recovery plans are in concurrence with their habitat conservation plans. To avoid or lessen negative impacts Caltrans would implement biology PFs and AMMs. There would be less than significant impacts due to conflicts with these plans.

Avoidance and Mitigation Measures

AMM BIO-1 Worker Environmental Awareness Training (WEAT): (a) The Resident Engineer (RE) will contact the project biologist (hereafter referred to as Biologist) before the initial preconstruction meeting to request environmental training. (b) All personnel will attend a mandatory environmental education program facilitated by the Biologist before construction begins. New personnel will attend a training session before they are allowed into the job site. (c) All personnel will sign a form stating they completed training and understand all applicable agency regulations and consequences of noncompliance. (d) Caltrans will provide training in foreign languages as needed. (e) Caltrans will keep the forms on file and make them available to regulatory agencies upon request. Training will include a minimum of:

- A description of special-status species that could occur onsite
- A discussion of applicable agency regulations and consequences of noncompliance.
- A review of applicable conservation measures and how to avoid impacts by implementing them

AMM BIO-2 Environmentally Sensitive Area (ESA)- Fencing: (ESAs will be delineated using high visibility fencing or alternative delineator in the presence of the Biologist before construction begins. The fencing will be regularly maintained and remain in place until construction is completed. Construction personal or equipment will not access ESAs unless authorized by the Biologist. Wildlife exclusion fence will be installed where necessary.

AMM BIO-3 Speed Limit: Project related Vehicles or motorized equipment will not exceed 15 miles per hour while in the construction site.

AMM BIO-4 Weather Restriction: Work will not occur during or within 24 hours following a rain event exceeding 0.10-inch as measured at Vacaville Nut Tree Airport.

AMM BIO-5 Rare Plant Surveys: Biologists will conduct focused rare plant surveys within the Footprint and from up to 50 feet from the outside edge of the Footprint for two consecutive blooming seasons prior to the start of construction. Biologist will repeat surveys if there is lapse of one blooming between the last survey and start of construction. If Keck's checkerbloom or other rare plants are found, Caltrans will coordinate with USFWS and/or CDFW for technical assistance.

AMM BIO-6 Elderberry Shrub Survey: Biologist will perform a focused elderberry shrub survey prior to the start of construction. If elderberry shrubs or trees are found in the footprint, Caltrans will contact USFWS for technical assistance.

AMM BIO-7 Preconstruction Amphibian and Reptile Surveys: The Biologist will conduct preconstruction surveys no more than 10 days prior to initial ground disturbance, vegetation clearance, or tree removal, and immediately prior to those activities. Surveys will consist of walking and visually inspecting the Footprint and adjacent areas up to 50 feet out from the edge of the Footprint. The Biologist will investigate potential cover sites. This includes thoroughly investigating mammal burrows, rocky outcrops, appropriately sized soil cracks, dense vegetation, staged equipment and material, and debris. The Biologists will investigate areas of cleared vegetation and disturbed soil within 30 minutes following initial disturbance for signs of CRLF and other special status species. The Biologist will document vertebrates found within the Footprint and relocate native vertebrates to appropriate habitat outside of the Footprint.

AMM BIO-8 Biomonitoring: A USFWS approved Biologist will be onsite during all work that could result in take of CRLF. Through communication with the RE, the Biologist will have authority to stop work that may result in take of CRLF. The Biologist will notify USFWS by telephone and electronic mail within one working day

if the Biologist exercises this authority. Caltrans will implement this measure for FYLF and WPT.

AMM BIO-9 Inadvertent Entrapment: To prevent entrapment of CRLF and other animals during construction, all excavated, steep-walled holes or trenches more than six inches deep will be covered at the close of each working day with plywood or similar materials. Before holes or trenches are filled, they will be thoroughly inspected for trapped animals. To prevent entanglement, plastic monofilament netting, or similar material would not be used.

AMM BIO-10 Burrowing Owl Assessments: No less than 30 days before construction begins, a CDFW-approved Biologist with experience in burrowing owl biology and behavior will perform an occupancy assessment throughout accessible areas of the BSA using methodology in CDFW's Staff Report on Burrowing Owl Mitigation (2012). If burrowing owls or evidence of burrowing owls are observed, the Biologist will develop an avoidance plan and coordinate with CDFW for technical assistance.

AMM BIO-11 Focused Raptor Surveys: The season before construction begins, a CDFW approved Biologist with experience in raptor biology and behavior will perform raptor nesting surveys. The Biologist will conduct a follow up survey 30 days before construction begins. If an active nest or evidence of nesting is detected, the Biologist will develop an avoidance plan and coordinate with CDFW for technical assistance.

AMM BIO-12 Preconstruction Bat Surveys: Prior to the start construction, a CDFW approved bat biologist (bat Biologist) will conduct preconstruction roosting bat surveys from spring to winter to document potential roosting sites, roost types, species present, and seasonal use. Surveys will include inspections of the Putah Creek Bridge, trees within the footprint, and trees up to 100 feet out from the edge of the footprint. Trees or snags providing roosting habitat would not be removed unless it was absolutely necessary to remove them to complete the project.

AMM BIO-13 Roosting Bat Exclusion: Prior to the start of construction, Caltrans will prepare a roosting bat exclusion plan for CDFW's approval.

AMM BIO-14 Roosting Bat Window: To limit disturbance to roosting bats, when feasible, construction will occur outside the maternity season (April 15 to August 15) and outside of the winter torpor season (October 15 to February 28).

AMM BIO-15 Roosting Bat Tree Removal: A bat Biologist will be onsite during tree or snag removal for trees or snags that could provide habitat for bats. Unless cleared by the bat Biologist, tree removal will be avoided between March 15 and April 30, or

after evening temperatures rise above 45°F and no more than 0.5 inch of rainfall occurs within 24 hours. If possible, snags will not be removed or trees that may provide habitat will only be removed above cavities or crevices. For trees that require complete removal, removal will be conducted using a two-step process, over two consecutive days.

Day 1 — Small branches and small limbs without cavities, crevices or exfoliating bark will be removed only with chainsaws. Disturbance caused by chainsaw noise and vibration, coupled with physical alteration of the tree, will cause bats to abandon the tree after emergence for foraging.

Day 2 — The remaining trunk, branches, and limbs will be removed to prevent reoccupation.

3.3.5 Cultural Resources

Would the Project:

Question	CEQA Determination
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	No Impact

Caltrans prepared a memorandum on cultural compliance for the Project titled “Office of Cultural Resource Studies (OCRS) Section 106 Screening Memo For The Putah Creek Bridge Rehabilitation Project At Postmile 0.72, On State Route (Sr) 128, In Solano County.” (Cultural Study) (Caltrans 2022).

The cultural study was carried out in a manner consistent with Caltrans’ regulatory responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it pertains to the Administration of the Federal-Aid Highway Program in California* (Programmatic Agreement).

a), b), and c) No Impact

The OCRS’s review consisted of a detailed search of records, maps, plans, and digital files found in Caltrans’ Cultural Resources Database, and based on the results of the review, Caltrans has determined that the Project has no potential to affect cultural resources and is exempt from further review pursuant to the Programmatic Agreement, Stipulation VII, “Screened Undertakings.” The review also determined that there are no impacts to archaeological resources and is exempt from further review pursuant to the Programmatic Agreement, Stipulation VII, “Screened Undertakings.” Caltrans’s review shows that there is no known human remains in the area however if there had been unidentified human remains in the Project it would trigger Project Feature CULT-1, there would be no impact.

Caltrans contacted the Native American Heritage Commission (NAHC) on June 18, 2021, requesting a review of their Sacred Lands File for tribal resources that may be within or near the Project area. On July 7, 2021, the NAHC provided a list of three interested Native American organizations for further consultation - Cachil Dehe Band

of Wintun Indians of the Colusa Indian Community, Cortina Rancheria – Kletsel Dehe Band of Wintun Indians, and Yocha Dehe Wintun Nation. Emails were sent initiating consultation under AB 52, detailing the proposed Project and requesting input, to each of the listed parties on July 20, 2021, and February 25, 2022.

Laverne Bill, Director of Cultural Resources for Yocha Dehe Wintun Nation responded on August 3, 2021, stating that monitoring was not needed for the project but recommending cultural sensitivity training. Follow-up phone calls were made in February 2022 to discuss project elements and record search results. Messages were left with Cortina Rancheria for Chairperson Charlie Wright and with Cachil Dehe Band of Wintun Indians for Tribal Preservation Liaison Clifford Mota. No further responses have been received.

3.3.6 Energy

Would the Project:

Question	CEQA Determination
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

a) and b) **No Impact**

The Project would not conflict with a state or local plan for renewable energy or energy efficiency. During construction, Project Features AQ-4, AQ-5, and GHG-1 would be implemented for energy efficiency of construction equipment. There would be no impact.

3.3.7 Geology and Soils

Would the Project:

Question	CEQA Determination
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 on- or off-site 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 direct or indirect risks to life or property?	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No Impact

a(i) No Impact

According to mapping provided by the California Department of Conservation, the Project area is not within an Earthquake Fault Zone. There would be no impact.

a(ii) No Impact

The Project would have no direct or indirect impact on the potential for ground shaking or on the public’s risk for loss, injury, or death from seismic events. Any modifications to the bridge superstructure would be made in compliance with Caltrans seismic standards. There would be no impact.

a(iii) No Impact

The Project is not located in an area that is susceptible to liquefaction. This Project would not increase the risk of loss, injury, or death due to liquefaction, so there would be no impact.

a(iv) No Impact

The Project is not located in an area that is susceptible to landslides. This Project would not increase the risk of loss, injury, or death due to landslides, so there would be no impact.

b) No Impact

The Project will not have a loss of topsoil or erosion. There would be no impact with the implementation of temporary soil stabilization control, sediment control, and wind erosion control (PF WQ-3 and 4).

c) No Impact

The Project is not located in a geologic unit or soil that is unstable or that would become unstable because of the Project. Additionally, this Project would not increase the risk of on- or off-site landslides, lateral spreading, subsidence, liquification, or collapse. There would be no impact.

d), e), and f) No Impact

The Project is not located on expansive soil (as defined in Table 18-1-B of the Uniform Building Code [1994]), and there are no septic tanks, alternative wastewater disposal systems, or any other solid waste disposal facilities planned as part of the Project. Additionally, the Project is not located in an area that contains a geologic unit that is paleontologically sensitive, and Caltrans does not anticipate the discovery or destruction of any unique paleontological resources during construction. There would be no impact.

3.3.8 Greenhouse Gas Emissions

Would the Project:

Question	CEQA Determination
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

Construction-generated GHG includes emissions resulting from material processing by onsite construction equipment, workers commuting to and from the project site, and traffic delays due to construction. The emissions will be produced at different rates throughout the project depending on the activities involved at various phases of construction. The analysis was focused on vehicle-emitted GHG. Carbon dioxide (CO₂) is the single most important GHG pollutant due to its abundance when compared with other vehicle-emitted GHG, including methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbon (HFCs) and black carbon (BC).

The construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET), CAL-CET2021 v1.0, developed by Caltrans. It was estimated that for construction duration of 199 days the total amount of CO₂ produced due to construction would be 89 tons.

a) **Less Than Significant Impact**

The Project’s temporary construction activities would result in greenhouse gas (GHG) emissions, which would not result in long-term adverse effects. Implementation of Project Features AQ1-4, GHG-1, will help keep GHG emissions at a minimum. There would be a less than significant impact as a result of the construction generated GHG emissions.

b) **No Impact**

The Project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. There will be no impacts.

3.3.9 Hazards and Hazardous Materials

Would the Project:

Question	CEQA Determination
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?	Less Than Significant Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact
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?	Less Than Significant Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less Than Significant Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Less Than Significant Impact

a) and b) Less Than Significant Impact

Caltrans Standard Specifications and Project Features would be implemented to prevent spills or leaks from construction equipment and from storage of fuels, lubricants, and solvents. All aspects of the Project associated with removal, storage, transportation, and disposal of hazardous material would be conducted in accordance with the appropriate California Health and Safety Codes. Handling of hazardous materials would comply with PF HAZ-1 which outlines handling, storing, and disposing of hazardous waste.

A bridge survey for asbestos containing materials would be conducted during the next phase of the Project to determine what special provisions would be required to

limit the impact on workers and the public. Due to the low risk of finding asbestos in bridge materials, there would be a less than significant impact

c) No Impact

There are no existing or proposed schools within a quarter mile of the Project area. There would be no impact.

d) Less Than Significant Impact

A bridge survey would be conducted to test for asbestos contained within the bridge structure during the next Project phase. If results concludes that there is asbestos contained within the bridge, then consultation will take place with the District Hazardous Waste Technical Specialist who will coordinate with the Emergency Response Contractor on the scope of the investigation, characterization, and appropriate response measures. Due to the low risk of finding asbestos in bridge materials, there would be a less than significant impact.

e) No Impact

There are no airports or airstrips in the Project vicinity. There would be no impact.

f) Less Than Significant Impact

During construction, Caltrans would implement one-way traffic control. As a result of this traffic control method, temporary queues of vehicles would be expected, when work is conducted on the railings and deck. Temporary complete closures would be necessary to move construction equipment or materials, but these would not exceed 15 minutes. Night work is not anticipated. All emergency services within the area would be alerted to any closures and would be accommodated through the work area when necessary. Caltrans would coordinate with local officials to ensure that SR 128 remains open to emergency traffic. If an emergency evacuation should occur Caltrans would allow traffic to safety go through Project limits. The Project would have a less than significant impact.

g) Less Than Significant Impact

The Project is classified as a location with very high fire severity (CAL FIRE 2008). In 2015 the Wragg wildfire occurred less than 0.5 mile from the Project site at UC Davis Stebbins Cold Canyon Natural Reserve. More recently, the LNU Complex wildfire burned the southern portion of the Project area in 2020. The LNU Complex fire is the sixth-largest wildfire in the recorded history of California. Caltrans proposes to construct bridge railings and guardrail made of concrete and metal and would

therefore have a limited susceptibility to fires. Due to biological work windows and the typical summer and fall construction seasons, wildfires may occur during construction, but construction activities and the proposed Project would not exacerbate the negative effects of wildfires. If a wildfire were to occur, all emergency services or evacuations would be accommodated through the work area as necessary. Caltrans would coordinate with local officials to ensure that SR 128 remains open to emergency traffic (PF TMP-1 and AMM WF-1) Therefore, there would be a less than significant impact.

3.3.10 Hydrology and Water Quality

Would the Project:

Question	CEQA Determination
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	Less Than Significant Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such 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 on- or off-site;	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- 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

The Project lies within the jurisdiction of the Central Valley Regional Water Quality Control Board (Region 5); the RWQCB is responsible for enforcement of State and Federal Water Quality Regulations for the Project site. The Project, directly and indirectly, discharges to Lower Putah Creek watershed and the McCune Creek-Putah Creek sub-watershed.

a) Less Than Significant Impact

Construction of this Project would be located on the Putah Creek Bridge above Putah Creek. Although Project Features would be enforced, there may be unanticipated waste or vehicle discharges that may occur. In that case, the workers

would follow measures put into place (PF WQ-1-5). This Project would have less than significant impacts.

b) No Impact

The Project would not involve dewatering. There would be no impact to groundwater or the groundwater recharge rate.

c) (i), (ii), (iii), and (iv) No Impact

Putah Creek Bridge deck drains straight into the creek through a series of scuppers built under the bridge sidewalk. The new bridge railing would not have scuppers, instead, bridge deck runoff would flow north and be intercepted thru a new inlet and down-drain placed at the northern end of bridge approach slab. The new down-drain would outfall into an unlined ditch supplemented with an infiltration type BMP for water quality treatment. Excess flows from infiltration BMP would flow into Putah Creek. This Project is not adding impervious area and not substantially altering existing drainage pattern. However, there would be off pavement constructions including, establishing access roads, establishing crane pads, regrading the slopes after widening the choker. This is not anticipated to have an impact on existing drainage patterns. To avoid these impacts Caltrans would require tracking control, waste management control, soil stabilization control and wind erosion control, and sediment control (PF WQ 1-4).

d) No Impact

This Project is not in a tsunami inundation area.

e) No Impact

This Project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. There would be no impact.

3.3.11 Land Use and Planning

Would the Project:

Question	CEQA Determination
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

a) No Impact

The Project location does not have any potential to physically divide an established community. The highway would remain open throughout construction with either two-way traffic or one-way reversing traffic control. There would be no impact.

b) No Impact

The Project area is categorized under open space and parks and recreation land use. The Project would comply with Solano County land use, transportation, and circulation goals as stated in the Solano General Plan (Solano County General Plan 2008). The Project would not cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environment effect. Therefore, there would be no impacts.

3.3.12 Mineral Resources

Would the Project:

Question	CEQA Determination
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

a) and b) No Impact

The Project does not occur in a known mineral resource zone. Therefore, no impacts on mineral resources would result from the proposed Project.

3.3.13 Noise

Would the Project Result In:

Question	CEQA Determination
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 two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	No Impact

a),b) and c) No Impact

This Project does not qualify as either a Type I or Type II Project under 23 CFR 772. It is anticipated that construction noise would be temporary and would be within acceptable levels for construction activity. There would be no generation of excessive ground borne vibration or ground borne noise levels. This Project is not located within the vicinity of a private airstrip or an airport land use plan. There would be no impact.

3.3.14 Population and Housing

Would the Project:

Question	CEQA Determination
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

a) and b) No Impact

This Project would not induce population because it would not increase the capacity of SR 128, remove barriers to future growth, or increase population or housing growth (or demand for new housing, utilities, or public services). Therefore, there would be no impact to population and housing.

3.3.15 Public Services

Would the Project:

Question	CEQA Determination
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

a) **No Impact**

The Project would not result in the substantial alteration of government facilities in the Project area, such as fire and police protection, schools, parks or other public facilities, nor trigger the need for new government facilities or alter the demand for public services. There would be no impact.

3.3.16 Recreation

Would the Project:

Question	CEQA Determination
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?	Less Than Significant Impact

Putah Creek Wildlife Area is a state wildlife area in Solano County, California. The 670-acre reserve lies to the east of Lake Berryessa, east of Monticello Dam and the confluence of Putah Creek and Cold Creek. The wildlife area is used for recreation and is popular for its fishing, birding, and wildlife viewing. Located north of the bridge, is a vehicle recreation campground called Canyon Creek Resort. This campground is operated by Vista Resorts a privately owned company. Putah Creek is adjacent to the campsite and offers fishing, hiking, and wildlife viewing.

a) No Impact

This Project would not directly or indirectly increase the use of existing recreational facilities such that substantial deterioration of the facilities would occur as a result of the Project. There would be no impact.

b) Less Than Significant Impact

A temporary construction easement (TCE) would be required on Canyon Creek Resort’s property to enter the resort from the northern limits of the Project through the private gate at the resort’s entrance. The TCE would provide an access road through the campground, under the bridge, to a crane pad that is proposed on the creek embankment northeast of the bridge. Grading and leveling of soil would be required to move the crane under the bridge and construct the crane pad. Any disturbed areas would be restored to pre-construction conditions in accordance with right of way agreements that would be prepared and presented to the property owner after approval of the Project (AMM LA-4). During construction, recreational vehicles, cars, and pedestrians may be temporarily prohibited to cross underneath the bridge due to the operation of heavy machinery. This may temporarily prohibit access to campgrounds on the west side of the bridge since the path under the bridge is the main access point for the western sites. After Project approval, Caltrans staff would

coordinate with the property owner to limit any impacts to Canyon Creek Resort's business operations to the maximum extent feasible.

For the Putah Creek Wildlife area, there is an overflow parking area that would be used as a staging area for equipment and materials and used for construction activity, the parking lot would have restricted access. This would impact the visitors that may want to park their vehicles to hike or access the creek. On the southeast corner of the bridge there is a small, unmarked pathway that leads down to the embankment that is used for recreational fishing. Since the parking lot would be closed, the public would not have access to the fishing spot and may have to move to other potential fishing spots temporarily.

The parking lot is lined with oak woodland trees on the southeast side starting from the edge of the entry way up to the unmarked pathway. The pathway down to the embankment is covered with riparian trees. Approximately 19 trees will be trimmed, limbed, or topped and 7 trees would be removed for the crane and the workers to access the crane pad on the embankment. Most of the trees listed for removal are either dead or dying from a fire that occurred in 2020. However, the tree removals would still impact the area because these trees could be used as a habitat by bats, birds, and small to medium sized mammals. The easement would be a maximum of approximately 0.78 acres (34,088 square feet) and would not impact any recreational amenities of the wildlife area such as formal trails, or visitor centers.

Overall, there would be less than significant impacts and most of the impacts would be minimized with PFs and AMMs.

3.3.17 Transportation

Would the Project:

Question	CEQA Determination
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	No Impact
b) Would the Project 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?	Less Than Significant Impact

a) No Impact

This Project would not conflict with policies, goals, or objectives regarding the circulation system, public transit, bicycle, or pedestrian facilities.

b) No Impact

This Project is consistent with CEQA Guidelines section 15064.3, subdivision (b) which relates to induced demand and vehicle miles traveled.

c) No Impact

This Project would not substantially increase hazards due to a geometric design feature or incompatible uses as a result of the Project.

d) Less Than Significant Impact

Medical and emergency vehicles would be able to continue to use routes in the local area to serve fire, medical, and law enforcement purposes. During one-way reversing traffic control, flaggers would give priority to emergency vehicles (PF TMP-1). The impact would be less than significant.

3.3.18 Tribal Cultural Resources

Would the Project:

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

a) and b) No Impact

No tribal cultural resources were reported in record searches or attempts to consult with Native groups and individuals. There would be no impact to tribal cultural resources.

3.3.19 Utilities and Service Systems

Would the Project:

Question	CEQA Determination
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	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

a), b), c), d), and e) No Impact

There are no utilities within the Project area. No new water supplies would be required as part of the Project. Solid waste would not be generated in excess of State or local standards or capacity of local infrastructure. If solid waste is generated, Caltrans would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste disposal. There would be no impact.

3.3.20 Wildfire

Would the Project:

Question	CEQA Determination
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	Less Than Significant 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?	Less Than Significant 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

a) and b) Less Than Significant Impact

The Project is located within a state responsibility area, is classified as a very high fire severity, and is located in a high slope area (CAL FIRE 2008). The construction is not anticipated to impair an adopted emergency response plan, however traffic control and temporary closures less than 15 minutes would be required. All emergency services within the area would be alerted to any closures and would be accommodated through the work area when necessary (PF TMP-1). Due to the steep slope around the work area, there is a possibility that winds and other factors that exacerbate fire danger could be present. If construction started during wildfire season, there is a low chance of workers to be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The Project would have a less than significant impact.

c), and d) No Impact

The Project would be using concrete and metal beams to prevent additional installation of associated infrastructure that would increase the risk of fire hazard and would impact the environment. This Project does propose drainage changes to allow stormwater runoff to reach a drain inlet and down drain system at the north end of the bridge. This would not expose the public to flooding risks associated with wildfire erosion, mainly because wildfire erosion would not occur on the bridge structure.

However, there is not any direct work in the creek that may expose people to significant risks from flooding. Flooding throughout the Project area is typically controlled by the Monticello Dam which is approximately 0.5 mile upstream from the Project. Caltrans would use erosion and soil stability control measures to keep the area stable (PF WQ-3 and WQ-4). This Project would have no impact.

3.3.21 Mandatory Findings of Significance

Question	CEQA Determination
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?	No Impact
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

a) and b) No Impact

This Project does not 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. There would be impacts to biological resources as a result of the Project, but the implementation of PFs and AMMs would keep the biological impacts to a minimum.

SR 128 is a frequently used highway that could be upgraded or modified in the future for safety reasons. There has been previous work has been done outside the Project footprint area along the state highway including culvert cleaning, erosion control, fence replacement and ditch clearing. The most recent work that has been done within Project footprint area is located on the southside of the bridge. After the LNU complex fires, the old guardrails were replaced with new ones as part of an emergency project. The impacts from this Project are expected to be limited and would not be considerable when viewed in connection with past or future projects. There would be no impact.

c) No Impact

This Project would not result in environmental effects that would substantially or adversely affect human beings. There would be no impact.

Chapter 4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the Earth's climate system. The Intergovernmental Panel on Climate Change, established by the United Nations and World Meteorological Organization in 1988, is devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy. Climate change in the past has generally occurred gradually over millennia, or more suddenly in response to cataclysmic natural disruptions. The research of the Intergovernmental Panel on Climate Change and other scientists over recent decades, however, has unequivocally attributed an accelerated rate of climatological changes over the past 150 years to GHG emissions generated from the production and use of fossil fuels.

Human activities generate GHGs consisting primarily of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), and various hydrofluorocarbons (HFCs). CO₂ is the most abundant GHG; while it is a naturally occurring and necessary component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO₂ that is the main driver of climate change. In the U.S. and in California, transportation is the largest source of GHG emissions, mostly CO₂.

The impacts of climate change are already being observed in the form of sea level rise, drought, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy to address climate change is to reduce GHG emissions. Additional strategies are necessary to mitigate and adapt to these impacts. In the context of climate change, "mitigation" involves actions to reduce GHG emissions to lessen adverse impacts that are likely to occur. "Adaptation" is planning for and responding to impacts to reduce vulnerability to harm, such as by adjusting transportation design standards to withstand more intense storms, heat, and higher sea levels. This analysis will include a discussion of both in the context of this transportation Project.

4.1 Regulatory Setting

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

4.1.1 Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted

specifically to address climate change and GHG emissions reduction at the Project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or Project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, Project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— “the triple bottom line of sustainability” (FHWA n.d.). Program and Project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

The federal government has taken steps to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) as amended by the Energy Independence and Security Act (EISA) of 2007; and Corporate Average Fuel Economy (CAFE) Standards. This act established fuel economy standards for on-road motor vehicles sold in the United States. The U.S. Department of Transportation’s National Highway Traffic and Safety Administration (NHTSA) sets and enforces the CAFE standards based on each manufacturer’s average fuel economy for the portion of its vehicles produced for sale in the United States. The Environmental Protection Agency (U.S. EPA) calculates average fuel economy levels for manufacturers, and also sets related GHG emissions standards under the Clean Air Act. Raising CAFE standards leads automakers to create a more fuel-efficient fleet, which improves our nation’s energy security, saves consumers money at the pump, and reduces GHG emissions (U.S. DOT 2014).

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. This rulemaking revised lower emissions standards that had been previously established for model years 2021 through 2026 in the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part Two in June 2020. The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050 (U.S. EPA 2021a).

4.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (ARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires ARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the governor's 2030 and 2050 GHG reduction goals.

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities

Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e). [GHGs differ in how much heat each traps in the atmosphere, called global warming potential, or GWP. CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂, using a metric called “carbon dioxide equivalent,” or CO₂e. The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.] Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared “it to be the policy of the state that the protection and management of natural and working lands ... is an important strategy in meeting the state’s greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands.”

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled, to promote the state’s goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

4.2 Environmental Setting

The proposed Project is located on State Route (SR) 128 adjacent to and within Putah Creek Wildlife Area. The Project is within the Vacaville Mountains and downstream of Monticello Dam, 10 miles west of Winters in Solano County, California. The landscape is characterized by gently sloping to steep hillsides of cottonwood riparian, blue oak woodland, and chamise chaparral natural communities. The land use within the corridor is primarily public parks and open space, but also includes limited areas of commercial and resort uses which support the recreational use and appreciation of the natural environment. Metropolitan Transportation Commission's (MTC) Plan Bay Area 2050 guides transportation development in the project area. The Transportation and Circulation element of the Solano County General Plan guides transportation development and addresses GHGs in the Project area, such as reduce emissions further by encouraging residents and employees to increase their use of alternative travel modes such as public transit, carpooling, bicycling and walking and by promoting eco-driving and other fuel saving practices. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG.

4.2.1 GHG Inventories

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4. Cities and other local jurisdictions may also conduct local GHG inventories to inform their GHG reduction or climate action plans.

NATIONAL GHG INVENTORY

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. The 1990-2019 inventory found that overall GHG emissions were 6,558 million metric tons (MMT) in 2019, down 1.7 percent from 2018 but up 1.8% from 1990 levels. Of these, 80 percent were CO₂, 10 percent were CH₄, and 7 percent were N₂O; the balance consisted of fluorinated gases. CO₂ emissions in 2019 were 2.2 percent less than in 2018, but 2.8 percent more than in 1990. As shown on Figure 4-1, the transportation sector accounted for 29 percent of U.S. GHG emissions in 2019 (U.S. EPA 2021b, 2021c).

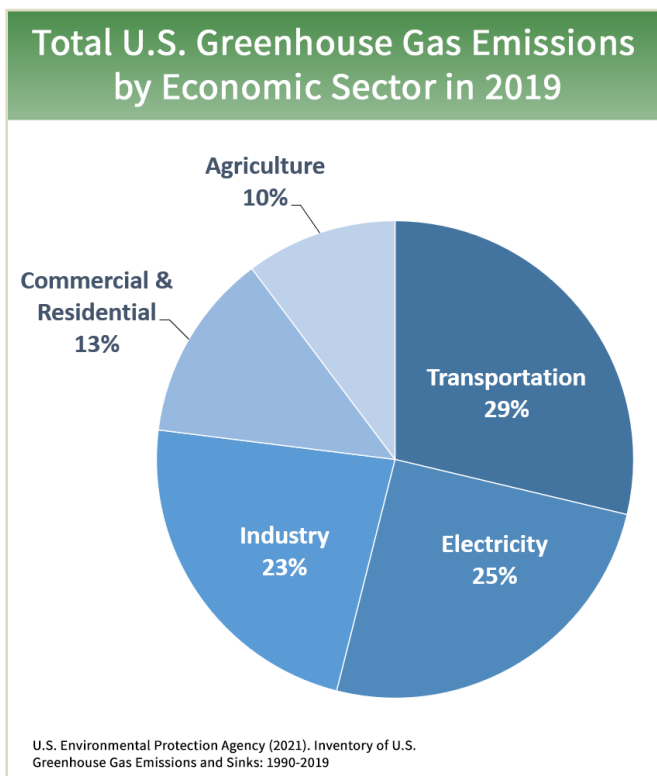


Figure 4-1. U.S. 2019 Greenhouse Gas Emissions (Source: U.S. EPA 2021d)

STATE GHG INVENTORY

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2021 edition of the GHG emissions inventory reported emissions trends from 2000 to 2019. It found total California emissions were 418.2 MMTCO₂e in 2019, a reduction of 7.2 MMTCO₂e since 2018 and almost 13 MMTCO₂e below the statewide 2020

limit of 431 MMTCO₂e. The transportation sector (including intrastate aviation and off road sources) was responsible for about 40 percent of direct GHG emissions, a 3.5 MMTCO₂e decrease from 2018 (Figure 4-2). Overall statewide GHG emissions declined from 2000 to 2019 despite growth in population and state economic output (Figure 4-3) (ARB 2021a).

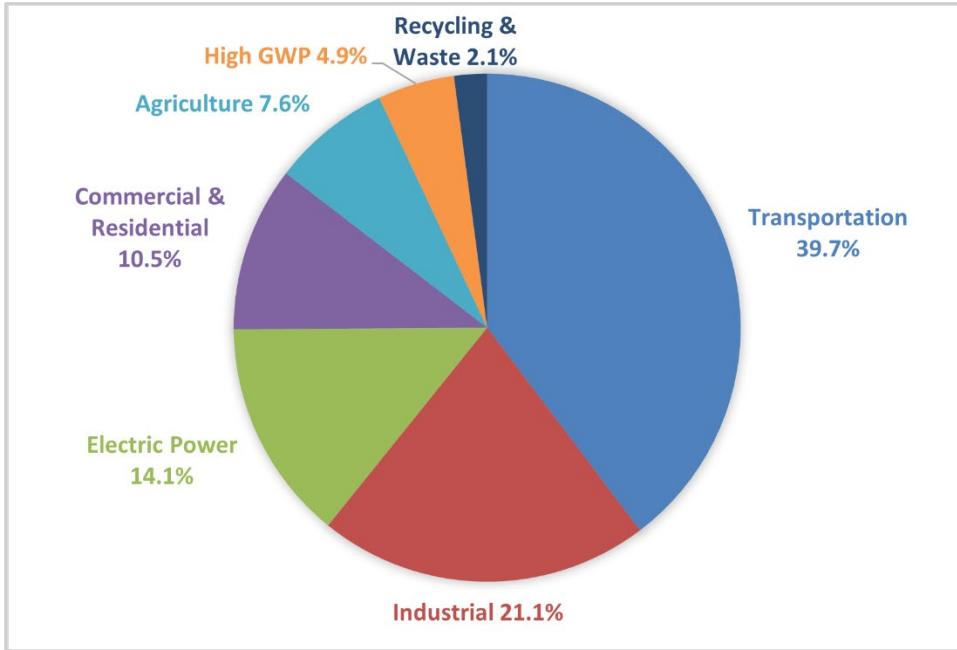


Figure 4-2. California 2019 Greenhouse Gas Emissions by Economic Sector (Source: ARB 2021a)

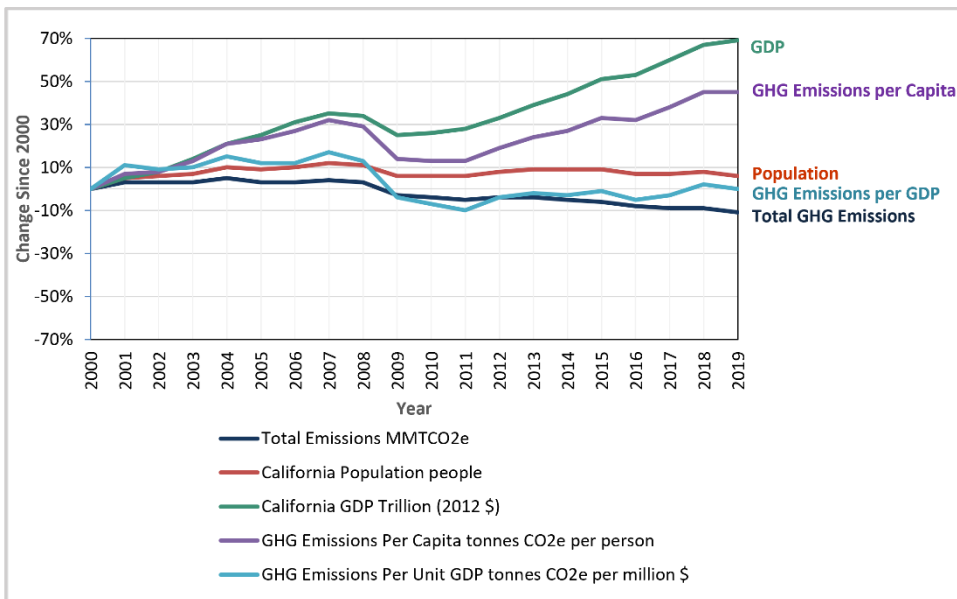


Figure 4-3. Change in California GDP, Population, and GHG Emissions since 2000 (Source: ARB 2021a)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

4.2.2 Regional Plans

ARB sets regional GHG reduction targets for California's 18 metropolitan planning organizations (MPOs) to achieve through planning future projects that will cumulatively achieve those goals, and reporting how they will be met in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed Project is included in the RTP/SCS for Metropolitan Transportation Commission (MTC), Plan Bay Area 2050. The regional reduction target for MTC is -19 percent by 2035 (ARB 2021b).

The 2017 clean air plan, *Spare the Air, Cool the Climate* (BAAQMD 2017), defines strategies for climate protection in the Bay Area that support goals laid out in *Plan Bay Area 2050* (MTC and ABAG 2021). Those goals include transforming the transportation sector to reduce motor vehicle travel, promote zero-emissions vehicles and renewable fuels, adopt fixed- and flexible-route transit services, and support infrastructure and planning that enables a large share of trips by bicycling, walking, and transit.

4.2.3 Project Analysis

GHG emissions from transportation Projects can be divided into those produced during operation of the State Highway System (SHS) (operational emissions) and those produced during construction. The primary GHGs produced by the transportation sector are CO₂, CH₄, N₂O, and HFCs. CO₂ emissions are a product of burning gasoline or diesel fuel in internal combustion engines, along with relatively small amounts of CH₄ and N₂O. A small amount of HFC emissions related to refrigeration is also included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one Project's contribution is unlikely to be significant by itself." (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 3 Cal.5th 497, 512). In assessing cumulative impacts, it must be determined if

a Project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the Project must be compared with the effects of past, current, and probable future Projects. Although climate change is ultimately a cumulative impact, not every individual Project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

4.2.4 Operational Emissions

The purpose of the proposed Project is to upgrade the existing bridge rails and the approach rails and resurface the bridge deck to keep the bridge up to code and would not increase the vehicle capacity of the roadway. This type of Project generally causes minimal or no increase in operational GHG emissions. Because the Project would not increase the number of travel lanes on SR 128, no increase in vehicle miles traveled (VMT) would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

4.2.5 Construction Emissions

Construction GHG emissions would result from material processing and transportation, on-site construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

Use of long-life pavement, improved traffic management plans, and changes in materials, can also help offset emissions produced during construction by allowing longer intervals between maintenance and rehabilitation activities.

Based on project information available for environmental studies, the construction-related GHG emissions were calculated using the Caltrans Construction Emissions Tool (CAL-CET), CAL-CET2021 v1.0, developed by Caltrans. It was estimated that for projected construction duration of 199 days, the total amount of CO₂ produced due to construction would be 82 metric tons (Table 4-1).

Table 4-1. Total Project Emissions

Project Location: Napa County NAP-128-0.72/0.73	Parameters			Project Total
	CO ₂ (tons)	CH ₄ (tons)	N ₂ O (tons)	CO ₂ e ¹ (metric tons)
Total Emissions	89	0.002	0.004	82

¹ Gases are converted to CO₂e by multiplying by their global warming potential (GWP). Specifically, GWP is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO₂).

All construction contracts include Caltrans Standard Specifications related to air quality. Section 7-1.02A and 7 1.02C, Emissions Reduction, requires contractors to comply with all laws applicable to the Project and to certify they are aware of and will comply with all ARB emission reduction regulations. Section 14-9.02, Air Pollution Control, requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

4.3 CEQA Conclusion

While the proposed Project will result in GHG emissions during construction, it is anticipated that the Project will not result in any increase in operational GHG emissions. The proposed Project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG reduction measures, the impact would be less than significant.

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

4.3.1 Greenhouse Gas Reduction Strategies

STATEWIDE EFFORTS

In response to AB 32, California is implementing measures to achieve emission reductions of GHGs that cause climate change. Climate change programs in California are effectively reducing GHG emissions from all sectors of the economy. These programs include regulations, market programs, and incentives that will transform transportation, industry, fuels, and other sectors, to take California into a sustainable, low-carbon and cleaner future, while maintaining a robust economy (ARB 2022).

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The Governor's Office of Planning and Research identified five sustainability pillars in a 2015 report: (1) Increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) Reducing petroleum use by up to 50 percent by 2030; (3) Increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) Reducing emissions of short-lived climate pollutants; and (5) Stewarding natural resources, including forests, working lands, and wetlands, to ensure that they store carbon, are resilient, and enhance other environmental benefits (OPR 2015).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency released Natural and Working Lands Climate Smart Strategy Draft for public comment in October 2021.

CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim

target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

4.3.2 Climate Action Plan for Transportation Investments

The California Action Plan for Transportation Infrastructure (CAPTI) builds on executive orders signed by Governor Newsom in 2019 and 2020 targeted at reducing GHG emissions in transportation, which account for more than 40 percent of all polluting emissions, to reach the state's climate goals. Under CAPTI, where feasible and within existing funding program structures, the state will invest discretionary transportation funds in sustainable infrastructure Projects that align with its climate, health, and social equity goals (California State Transportation Agency 2021).

CALIFORNIA TRANSPORTATION PLAN

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. It serves as an umbrella document for all the other statewide transportation planning documents. The CTP 2050 presents a vision of a safe, resilient, and universally accessible transportation system that supports vibrant communities, advances racial and economic justice, and improves public and environmental health. The plan's climate goal is to achieve statewide GHG emissions reduction targets and increase resilience to climate change. It demonstrates how GHG emissions from the transportation sector can be reduced through advancements in clean fuel technologies; continued shifts toward active travel, transit, and shared mobility; more efficient land use and development practices; and continued shifts to telework (Caltrans 2021a).

CALTRANS STRATEGIC PLAN

The Caltrans 2020–2024 Strategic Plan includes goals of stewardship, climate action, and equity. Climate action strategies include developing and implementing a Caltrans Climate Action Plan; a robust program of climate action education, training, and outreach; partnership and collaboration; a VMT monitoring and reduction program; and engaging with the most vulnerable communities in developing and implementing Caltrans climate action activities (Caltrans 2021b).

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. Caltrans Greenhouse Gas Emissions and Mitigation Report (Caltrans 2020) provides a comprehensive overview of Caltrans'

emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Departmental and State goals.

4.3.3 Project-Level GHG Reduction Strategies

The following measures will also be implemented in the Project to reduce GHG emissions and potential climate change impacts from the Project.

- **AQ-1 Regular vehicle and equipment maintenance:** Equipment and work trucks and/or equipment that regularly leave the site shall be cleaned offsite
- **AQ-2 Limit idling of vehicles and equipment onsite:** Vehicles and equipment should not be idle for longer than one hour.
- **AQ-3 Hazardous Waste:** If practicable, recycle nonhazardous waste and excess material. If recycling is not practicable, dispose of material.
- **AQ-4 Solar Control Devices:** Use solar-powered signal boards, if feasible.

ADAPTATION

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

FEDERAL EFFORTS

Under NEPA Assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular

attention paid to observed and Projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.”

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (U.S. DOT 2011).

FHWA order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events*, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

STATE EFFORTS

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. A number of state policies and tools have been developed to guide adaptation efforts.

California's Fourth Climate Change Assessment (Fourth Assessment) (2018) is the state's effort to “translate the state of climate science into useful information for action.” It provides information that will help decision makers across sectors and at state, regional, and local scales protect and build the resilience of the state's people, infrastructure, natural systems, working lands, and waters. The State's approach recognizes that the consequences of climate change occur at the intersections of people, nature, and infrastructure. The Fourth Assessment reports that if no measures are taken to reduce GHG emissions by 2021 or sooner, the state is Projected to experience a 2.7 to 8.8 degrees Fahrenheit increase in average annual maximum daily temperatures, with impacts on agriculture, energy demand, natural systems, and public health; a two-thirds decline in water supply from snowpack and water shortages that will impact agricultural production; a 77% increase in average area burned by wildfire, with consequences for forest health and communities; and large-scale erosion of up to 67% of Southern California beaches and inundation of billions of dollars' worth of residential and commercial buildings due to sea level rise (State of California 2018).

Sea level rise is a particular concern for transportation infrastructure in the coastal zone. Major urban airports will be at risk of flooding from sea level rise combined with storm surge as early as 2040; San Francisco airport is already at risk. Miles of coastal highways vulnerable to flooding in a 100-year storm event will triple to 370 by 2100, and 3,750 miles will be exposed to temporary flooding. The Fourth Assessment's findings highlight the need for proactive action to address these current and future impacts of climate change.

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 Projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the State of California Sea-Level Rise Guidance Update in 2018. This EO also gave rise to the California Climate Adaptation Strategy (2009), updated in 2014 as Safeguarding California: Reducing Climate Risk (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the California Climate Adaptation Strategy, incorporating key elements of the latest sector-specific plans such as the Natural and Working Lands Climate Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio, and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2021).

EO B 30 15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change in addition to sea level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published Planning and Investing for a Resilient California: A Guidebook for State Agencies in 2017, to encourage a uniform and systematic approach.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group to help actors throughout the state address the findings of California's Fourth Climate Change Assessment. It released its report, Paying it Forward: The Path Toward Climate-Safe Infrastructure in California, in 2018. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on

climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts (Climate Change Infrastructure Working Group 2018).

4.3.4 Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

Caltrans completed climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects of precipitation, temperature, wildfire, storm surge, and sea level rise.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments guide analysis of at-risk assets and development of Adaptation Priority Reports as a method to make capital programming decisions to address identified risks.

4.3.5 Project Adaptation Analysis

SEA LEVEL RISE

The proposed Project is outside the coastal zone and not in an area subject to sea level rise. Accordingly, direct impacts to transportation facilities due to projected sea level rise are not expected.

PRECIPITATION AND FLOODING

The Project is within Federal Emergency Management Agency Flood Insurance Rate Map number 06113C0550G, effective date 6/18/2010, and it is located within a base floodplain.

On SR-128 at post mile 0.72 to 0.73, the floodplain is identified as zone A, an area subject to inundation by the 1-percent annual chance flood event generally determined using approximate methodologies.

The proposed work does not increase impervious areas nor place additional fill in the identified floodplain. The proposed work, therefore, is not expected to result in any negative impacts to this floodplain.

WILDFIRE

The Project is located within state responsibility area, is classified as a very high fire severity, and located in a high slope location (CAL FIRE 2008). Due to the steep slope around the work area, there is a possibility that winds, and other factors can be present in the area. If construction started during wildfire season there is a low

chance of occupants to be exposed to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. The Project would use concrete barriers, metal beams, and metal pipes for drainage work which would reduce the risk of environment impacts resulting from a wildfire. If an emergency or evacuation does occur, Caltrans would implement measures that will allow traffic to safely pass through the Project area (PF TMP-1 and PF WF-1). Please see Chapter 3: Wildfire for further discussion.

Chapter 5 List of Preparers

The primary persons responsible for contributing to, preparing, and reviewing this report are listed in Table 5-1.

Table 5-1. List of Preparers and Reviewers

Organization	Name	Role
Caltrans	Scott M. Williams	Acting Office Chief, Office of Environmental Analysis
Caltrans	Helen Blackmore	Senior Environmental Planner, Architectural History Branch
Caltrans	Matthew Rechs	Branch Chief, Biology
Caltrans	Asuta Patel	Project Manager
Caltrans	Mojgan Osooli	Office of Water Quality
Caltrans	Pawan Gupta	Project Engineer
Caltrans	Britt Schlosshardt	Associate Environmental Planner, Archaeology
Caltrans	Shilpa Mareddy	Branch Chief, Air Quality and Noise
Caltrans	Joaquin Pedrin	Branch Chief, Landscape Architecture
Caltrans	Maxwell Lammert	Branch Chief, Office of Environmental Analysis
Caltrans	Krishma Dutta	Environmental Scientist
Caltrans	Diana Pink	Landscape Associate
Caltrans	Robin Amatya	Office of Hydraulic Engineering
Caltrans	Christopher Riden	Senior Engineering Geologist, Office of Geotechnical Design West
Caltrans	Kathryn Rose	Senior Environmental Planner – Archaeology Branch
Caltrans	Roni Boukhalil	Senior Design Engineer
Caltrans	Christopher Wilson	District Branch Chief, Hazardous Waste

Chapter 6 Distribution List

The Initial Study with Proposed Negative Declaration will be circulated by August 8, 2022, to the following agencies and government officials:

Agencies

U.S. Fish and Wildlife Service

U.S. Army Corps of Engineers

San Francisco Bay Regional Water Quality Control Board

California Department of Fish and Wildlife

Elected Officials

County Supervisor Don Saylor

US Senator Dianne Feinstein

US Representative Alex Padilla

US Senator John Garamendi

US Senator Bill Dodd

California State Representative Cecilia Aguiar-Curry

Public Library

Winter's Branch Public Library

Appendix A Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION

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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 handwritten signature in blue ink, appearing to read 'Toks Omishakin'.

Toks Omishakin
Director

Appendix B Summary of Project Features and Avoidance and Minimization Measures

Project Features

Project Feature AQ-1 Vehicle and Equipment: Regular vehicle and equipment maintenance would be enforced.

Project Feature AQ-2 Idling: Vehicles and equipment would have limited idling time.

Project Feature AQ-3 Recycling: If practicable, recycle nonhazardous waste and excess material. If recycling is not practicable, dispose of material.

Project Feature AQ-4 Solar powered boards: Use solar-powered signal boards, if feasible.

Project Feature-GHG-1: Energy Reduction. Solar energy would be used to reduce the use of non-renewable energy during construction.

Project Feature NOI-1 Noise: Control and monitor noise resulting from work activities. Do not exceed 86 dBA Lmax at 50 feet from the job site from 9:00 p.m. to 6:00 a.m.

Project Feature WQ-1 Tracking Control: This practice involves implementing a temporary entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles. This practice helps in preventing and reducing vehicle tracking from entering a storm drain or watercourse.

Project Feature WQ-2 Waste Management and Materials Pollution Control: Properly handle and store materials in a manner that minimizes or eliminates the discharge of these materials to the storm drain system or to nearby watercourses. Properly dispose of any vegetation/landscape waste material that minimize or eliminates the discharge of these materials to the storm drain system or to nearby watercourses. Label products implement proper cleaning techniques and recycle materials. All hazardous materials and waste must be labeled (e.g. Diesel, gasoline, fertilizers, solvents). Store all hazardous materials and wastes in approved secondary containers protected from wind and water.

Project Feature WQ-3 Temporary Soil Stabilization Control and Wind Erosion Control: This practice involves the placement of geosynthetics, turf reinforcement

mats, plastic covers, or rolled erosion control products (RECPs), including erosion control blankets, to stabilize disturbed soil areas and protect soils from erosion by wind or water. This is one of the temporary soil stabilization alternatives to consider.

Project Feature WQ-4 Temporary Sediment Control: Store, transport, and transfer all disturbed soil (if created), sand, and material in conformity with the technical Caltrans Standard Specification (2018). In addition, avoid storing excavated material where it can easily erode or be transported to streams, roadways, and drain systems. Minimize transport of debris and silt off the construction site. This may include inserting fiber rolls and silt fence. Soil stockpiles must be stabilized/or securely covered at the end of each day.

Project Feature WQ-5 Job Site Management: This practice implements effective handling, storage, usage, and disposal practices to control material pollution and manage waste at the job site before they enter storm drain systems and receiving waters. This practice also recommends street sweeping to minimize or eliminate the discharge of waste material to the receiving waters.

Project Feature CULT-1 Unidentified Resource: If previously unidentified cultural resources are unearthed during construction, work shall be halted in that area until a qualified archaeologist can assess the significance of the discovery.

Project Feature HAZ-1: Caltrans Standard Specifications and Hazardous Waste Regulations: All aspects of the project associated with transport, storage, use, and disposal of hazardous materials would be done in accordance with the California Health and Safety Code and the appropriate local, state, and federal hazardous waste regulations. Handling and management of hazardous materials would comply with the current Caltrans Standard Specification Section 14-11, Hazardous Waste and Contamination, which outlines handling, storing, and disposing of hazardous waste.

Project Feature TMP-1: Traffic Management: All emergency services within the area would be alerted to any closures and would be accommodated through the work area when necessary. Caltrans would coordinate with local officials to ensure that SR 128 remains open to emergency traffic.

Project Feature BIO-1 Water Quality Best Management Practices (BMP): The Project will comply with the Construction General Permit issued by the State Water Resources Control Board and with Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System permit. The contractor will prepare and submit a Storm Water Pollution Prevention Plan, and Spill Prevention Plan for approval prior to the start of construction. Personnel will adhere to the instructions,

protocols, and specifications, outlined in the most current Caltrans Construction Site Best Management Practices Manual and Caltrans Standard Specifications. At a minimum, protective measures will include:

- Preventing pollutants generated by vehicle and equipment maintenance or cleaning from entering storm drains or aquatic resources
- Servicing or storing vehicles and equipment no less than 50 feet from storm drains or aquatic resources unless the features are protected by impermeable barriers
- Maintaining vehicles and equipment to prevent fluid leaks
- Storing hazardous materials such as fuels, oils, solvents, etc., in sealed containers at a designated location no less than 50 feet from storm drains or aquatic resources
- Collecting and disposing of concrete waste and contaminated water from curing in appropriate washouts located no less than 50 feet from storm drains and aquatic resources
- Using water trucks to control dust
- Capturing or controlling sediment with erosion control devices such as silt fence, fiber rolls, and appropriate erosion control netting, and covering temporary stockpiles

Project Feature BIO-2 Bird Protection: To avoid take of migratory birds during the nesting season (February 1 to September 30): To the extent feasible, vegetation and tree removal will only occur between October 1 and January 31. Vegetation and tree removal will not occur outside of the Footprint. Biologists will conduct preconstruction nesting bird surveys no more than 72 hours prior to the start of construction. If an active nest is discovered, the Biologist will establish an appropriate exclusion buffer around the nest no less than 50 feet for passerines or no less than 300 feet for raptors. The buffer will depend on species, an individual's response to disturbance, or the line-of-site from the construction area to the nest. Equipment and personnel will not enter the buffer until the nest is inactive or juvenile birds are no longer dependent on adults. If a nesting special-status bird species is discovered, the Biologist will coordinate with regulatory agencies for technical assistance. To prevent occupation or reoccupation, the Biologist will remove partially constructed or inactive nests.

Project Feature BIO-3 Species Discovery: If a special-status animal species is discovered, construction personnel will immediately halt work within 100 feet of the discovery and notify the Resident engineer and Biologist. The Biologist will coordinate with USFWS and/or CDFW for technical assistance as necessary. Work will not continue until authorized.

Project Feature BIO-4 Restoration and Weed Control: After construction is complete, disturbed topographical contours will be restored to preconstruction conditions. If noxious weeds are disturbed or removed during construction, the contractor will contain and remove the plant material appropriately. The contractor will obtain all permits, licenses, and environmental clearances for properly disposing the plant material. The contractor will replant areas subject to noxious weed removal with fast-growing native grasses or a native erosion control seed mixture. Where seeding is not practical, the contractor will cover temporarily disturbed areas with black plastic solarization material. The contractor will maintain the material throughout the duration of construction and removed the material at the end of construction.

Project Feature BIO-5 Trash Removal: The contractor will secure food and food-related trash items in sealed containers and removed the containers from the site at the end of each day.

Project Feature BIO-6 Pet Restriction: Personnel will not bring pets into the job site.

Project Feature BIO-7 Monofilament Fiber Restriction: Monofilament fiber will not be use in erosion control devices or animal exclusion devices.

Project Feature BIO-8 Firearms Restriction: Firearms will be prohibited from the job site except for those carried by authorized security personal or law enforcement.

Avoidance and Minimization Measures

Avoidance and Minimization Measure LA-1 Existing Trees: Preserve existing trees, vegetation, and associated root systems to the maximum extent feasible.

Avoidance and Minimization Measure LA-2 Protection: Protect trees outside of the clearing and grubbing limits from contractor's operations, equipment, and materials storage.

Avoidance and Minimization Measure LA-3 Replanting Trees: Where construction work results in the planned removal of existing trees, replant trees within the Project limits with native and climatically appropriate species to the extent feasible.

Avoidance and Minimization Measure LA-4 Revegetation: Revegetate disturbed soil areas, manufactured slopes, and disturbed portions of the riparian corridors with native and climatically appropriate species.

Avoidance and Minimization Measure LA-5 Bridge Rails: Utilize see-through bridge rails that allow views to the creek and adjacent vegetation.

Avoidance and Minimization Measure LA-6 Metal Aesthetic: Metal portions of the bridge will be evaluated for aesthetic treatment during future phases.

Avoidance and Minimization Measure LA-7 Glare: Reduce glare from the concrete portions of the bridge and concrete anchor blocks, by roughening surface texture to make the concrete appear to be aged.

Avoidance and Minimization Measure LA-8 Staging Areas: Screen appearance of construction equipment and staging areas.

Avoidance and Minimization Measure LA-9 Staging Vegetation: Utilize staging areas that do not damage existing vegetation or require vegetation or tree removal.

Avoidance and Minimization Measures BIO-1 Worker Environmental Awareness Training (WEAT): (a) The Resident Engineer (RE) will contact the project biologist (hereafter referred to as Biologist before the initial preconstruction meeting to request environmental training. (b) All personnel will attend a mandatory environmental education program facilitated by the Biologist before construction begins. New personnel will attend a training session before they are allowed into the job site. (c) All personnel will sign a form stating they completed training and understand all applicable agency regulations and consequences of noncompliance. (d) Caltrans will provide training in foreign languages as needed. (e) Caltrans will keep the forms on file and make them available to regulatory agencies upon request. Training will include a minimum of:

- A description of special-status species that could occur onsite
- A discussion of applicable agency regulations and consequences of noncompliance
- A review of applicable conservation measures and how to avoid impacts by implementing them

Avoidance and Minimization Measures BIO-2 Environmentally Sensitive Area (ESA)-Fencing: (ESAs will be delineated using high visibility fencing or alternative delineator in the presence of the Biologist before construction begins. The fencing

will be regularly maintained and remain in place until construction is completed. Construction personal or equipment will not access ESAs unless authorized by the Biologist. Wildlife exclusion fence will be installed where necessary.

Avoidance and Minimization Measures BIO-3 Speed Limit: Project related Vehicles or motorized equipment will not exceed 15 miles per hour while in the construction site.

Avoidance and Minimization Measures BIO-4 Weather Restriction: Work will not occur during or within 24 hours following a rain event exceeding 0.10-inch as measured at Vacaville Nut Tree Airport.

Avoidance and Minimization Measures BIO-5 Rare Plant Surveys: Biologists will conduct focused rare plant surveys within the Footprint and from up to 50 feet from the outside edge of the Footprint for two consecutive blooming seasons prior to the start of construction. Biologist will repeat surveys if there is lapse of one blooming between the last survey and start of construction. If Keck's checkerbloom or other rare plants are found, Caltrans will coordinate with USFWS and/or CDFW for technical assistance.

Avoidance and Minimization Measures BIO-6 Elderberry Shrub Survey: Biologist will perform a focused elderberry shrub survey prior to the start of construction. If elderberry shrubs or trees are found in the footprint, Caltrans will contact USFWS for technical assistance.

Avoidance and Minimization Measures BIO-7 Preconstruction Amphibian and Reptile Surveys: The Biologist will conduct preconstruction surveys no more than 10 days prior to initial ground disturbance, vegetation clearance, or tree removal, and immediately prior to those activities. Surveys will consist of walking and visually inspecting the Footprint and adjacent areas up to 50 feet out from the edge of the Footprint. The Biologist will investigate potential cover sites. This includes thoroughly investigating mammal burrows, rocky outcrops, appropriately sized soil cracks, dense vegetation, staged equipment and material, and debris. The Biologists will investigate areas of cleared vegetation and disturbed soil within 30 minutes following initial disturbance for signs of CRLF and other special status species. The Biologist will document vertebrates found within the Footprint and relocate native vertebrates to appropriate habitat outside of the Footprint.

Avoidance and Minimization Measures BIO-8 Biomonitoring: A USFWS approved Biologist will be onsite during all work that could result in take of CRLF. Through communication with the RE, the Biologist will have authority to stop work that may result in take of CRLF. The Biologist will notify USFWS by telephone and electronic

mail within one working day if the Biologist exercises this authority. Caltrans will implement this measure for FYLF and WPT.

Avoidance and Minimization Measures BIO-9 Inadvertent Entrapment: To prevent entrapment of CRLF and other animals during construction, all excavated, steep-walled holes or trenches more than six inches deep will be covered at the close of each working day with plywood or similar materials. Before holes or trenches are filled, they will be thoroughly inspected for trapped animals. To prevent entanglement, plastic monofilament netting, or similar material would not be used.

Avoidance and Minimization Measures BIO-10 Burrowing Owl Assessments: No less than 30 days before construction begins, a CDFW-approved Biologist with experience in burrowing owl biology and behavior will perform an occupancy assessment throughout accessible areas of the BSA using methodology in CDFW's *Staff Report on Burrowing Owl Mitigation* (2012). If burrowing owls or evidence of burrowing owls are observed, the Biologist will develop an avoidance plan and coordinate with CDFW for technical assistance.

Avoidance and Minimization Measures BIO-11 Focused Raptor Surveys: The season before construction begins, a CDFW approved Biologist with experience in raptor biology and behavior will perform raptor nesting surveys. The Biologist will conduct a follow up survey 30 days before construction begins. If an active nest or evidence of nesting is detected, the Biologist will develop an avoidance plan and coordinate with CDFW for technical assistance.

Avoidance and Minimization Measures BIO-12 Preconstruction Bat Surveys: Prior to the start construction, a CDFW approved bat biologist (bat Biologist) will conduct preconstruction roosting bat surveys from spring to winter to document potential roosting sites, roost types, species present, and seasonal use. Surveys will include inspections of the Putah Creek Bridge, trees within the footprint, and trees up to 100 feet out from the edge of the footprint. Trees or snags providing roosting habitat would not be removed unless it was absolutely necessary to remove them to complete the project.

Avoidance and Minimization Measures BIO-13 Roosting Bat Exclusion: Prior to the start of construction, Caltrans will prepare a roosting bat exclusion plan for CDFW's approval.

Avoidance and Minimization Measures BIO-14 Roosting Bat Window: To limit disturbance to roosting bats, when feasible, construction will occur outside the maternity season (April 15 to August 15) and outside of the winter torpor season (October 15 to February 28).

Avoidance and Minimization Measures BIO-15 Roosting Bat Tree Removal: A bat Biologist will be on site during tree or snag removal for trees or snags that could provide habitat for bats. Unless cleared by the bat Biologist, tree removal will be avoided between March 15 and April 30, or after evening temperatures rise above 45°F and no more than 0.5-inch of rainfall occurs within 24 hours. If possible, snags will not be removed or trees that may provide habitat will only be removed above cavities or crevices. For trees that require complete removal, removal will be conducted using a two-step process, over two consecutive days.

Day 1 — Small branches and small limbs without cavities, crevices or exfoliating bark will be removed only with chainsaws. Disturbance caused by chainsaw noise and vibration, coupled with physical alteration of the tree, will cause bats to abandon the tree after emergence for foraging.

Day 2 — The remaining trunk, branches, and limbs will be removed to prevent reoccupation.

Avoidance and Minimization Measures WF-1: Implement Fire Prevention Practices During Construction: Caltrans would implement the following fire prevention practices into the Project construction specifications: Internal combustion engines, stationary and mobile, would be equipped with spark arrestors. Spark arrestors would be in good working order. Contractor would keep all construction sites and staging areas free of grass, brush, and other flammable materials. Personnel would be trained in the practices of the fire safety plan relevant to their duties. Construction and maintenance personnel would be trained and equipped to extinguish small fires. Work crews would have fire-extinguishing equipment on hand, as well as emergency numbers and cell phone or other means of contacting the fire department. Smoking would be prohibited while operating equipment and would be limited to paved or graveled areas or areas cleared of all vegetation. Smoking would be prohibited within 30 feet of any combustible material storage area (including fuels, gases, and solvents). Smoking would be prohibited in any location during a Red Flag Warning issued by the National Weather Service for the Project area.

Appendix C List of Abbreviations

Abbreviation	Description
ADA	Americans with Disabilities Act
AMM	Avoidance and Minimization Measure
BMP	Best Management Practice
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO ₂	Carbon Dioxide
CTS	California tiger salamander
ESA	Environmentally Sensitive Area
FHWA	Federal Highway Administration
GHG	greenhouse gas
IS	Initial Study
MBGR	Metal Beam Guardrail
MGS	Midwest guardrail system
ND	Negative Declaration
NES	Natural Environment Study

Abbreviation	Description
NHPA	National Historic Preservation Act
PM	Post Mile
PRC	Public Resources Code
Programmatic Agreement	<i>First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans regarding compliance with Section 106 of the NHPA, as it pertains to the Administration of the Federal Aid Highway Program in California</i>
Project	Putah Creek Bridge Rails Project
ROW	Right of Way
RWQCB	Regional Water Quality Control Board
SR	State Route
SSC	California species of special concern
ST	state listed as threatened
TMP	Traffic Management Plan
USFWS	United States Fish and Wildlife Service

Appendix D List of Technical Studies and References

CAL FIRE. 2008 Solano County Very High Fire Hazard Severity Zones in LRA. Link to Fire Hazard Severity Map.

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Caltrans 2022a. Water Quality Study. Technical Memorandum. File 04-SM-1. EA 04-1Q570. Office of Water Quality. Stormwater Coordination Branch. Oakland, CA. 2022.

Caltrans 2022c. Office of Cultural Resource Studies (OCRS) Section 106 Review of Putah Creek Bridge Rails Project at Postmiles in Solano County, California. File 04-SM-1 EA 04.1Q570. Office of Cultural Resource Studies, District 4. 2022.

Caltrans 2022a. Visual Impact Assessment Bridge Rail Replacement. File 04-SM-1 EA 04.1Q570. Office of Landscape Architecture. 24, April 2022.

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California Native Plant Society (CNPS), Rare Plant Program. 2019. Inventory of Rare and Endangered Plants (Online Edition, v8-03 0.39). [Link to Inventory of Rare and Endangered Plants](#). Accessed May 8, 2022.

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USFWS 2022a. Information for Planning and Consultation (IPaC) System. [Link to the IPaC System](#). Accessed May 8, 2022.

USFWS 2022b. National Wetlands Inventory Map. [Link to National Wetlands Inventory Map](#).

Appendix E Potential for Special-Status Species to Occur Within BSA

Table E-1. Special-status Plants Documented Within the 9 USGS Quads

Common Name	Scientific Name	Federal Status	State Status	CRPR	Elevation (feet)	Blooming Period	General Habitat	Potential To Occur	Determination
Baker's Navarretia	<i>Navarretia leucocephala</i> ssp. <i>bakeri</i>	--	--	1B.1	10 to 2,230	April to July	Cismontane woodland, lower montane coniferous forest, meadow and seep, valley and foothill grassland. Vernal pools and swales; adobe or alkaline soils.	No potential to occur — the BSA does not include cismontane woodland, lower montane coniferous forest, or meadow and seep habitats, or valley and foothill grassland with vernal pools and swales.	No impact.
Bearded Popcornflower	<i>Plagiobothrys hystriculus</i>	--	--	1B.1	3 to 900	April to May	Valley and foothill grasslands, vernal pools, and wetlands.	No potential to occur — The BSA includes forested wetland habitat, but not wetlands or vernal pools in the valley and foothill grassland habitat.	No impact.
Brewer's Calandrinia	<i>Calandrinia breweri</i>	--	--	4.2	30 to 3,940	March to June	Chaparral and coastal scrub in sandy loam soils or disturbed sites	No potential to occur – the BSA does not include coastal scrub or sandy loam soils.	No impact.
Brewer's Western Flax	<i>Hesperolinon breweri</i>	--	--	1B.2	640 to 3,000	May to July	Chaparral, cismontane woodland, and valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland.	No potential to occur — The BSA does not include chaparral, or cismontane woodland, or rocky serpentine soil.	No impact.
Bristly Leptosiphon	<i>Leptosiphon acicularis</i>	--	--	4.2	180 to 4,920	April to July	Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Grassy areas, woodland, chaparral.	Potential to occur — the BSA and footprint include suitable valley and foothill grassland and woodland habitat.	Potential impact.
California Alkali Grass	<i>Puccinellia simplex</i>	--	--	1B.2	3 to 3,000	March to May	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic. Sinks, flats, and lake margins.	No potential to occur — The BSA does not include vernal pools or alkaline environments.	No impact.
Coast Range Triplet Lily	<i>Triteleia lugens</i>	--	--	4.3	300 to 1,000	April to June	Broadleaved upland forest and lower montane coniferous forest.	No potential to occur – the BSA does not include broadleaved upland or lower montane coniferous forest.	No impact.
Colusa Layia	<i>Layia septentrionalis</i>	--	--	1B.2	50 to 3,610	April to May	Chaparral, cismontane woodland, and valley and foothill grassland. Scattered colonies in fields and grassy slopes in sandy or serpentine soil.	No potential to occur — the BSA does not include serpentine soils.	No impact.
Contra Costa Goldfields	<i>Lasthenia conjugens</i>	FE	--	1B.1	0 to 1,540	March to June	Cismontane woodland, playas (alkaline), valley and foothill grassland, and vernal pools.	No potential to occur — the BSA does not include vernal pools.	No effect.
Contra Costa Manzanita	<i>Arctostaphylos manzanita</i> ssp. <i>laevigata</i>	--	--	1B.2	490 to 2,000	March to April	Chaparral. Rocky slopes.	No potential to occur — The BSA does not contain chaparral with rocky slopes.	No impact.
Dwarf Downingia	<i>Downingia pusilla</i>	--	--	2B.2	3 to 1610	March to May	Valley and foothill grassland (mesic sites) and vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools.	No potential to occur — the BSA does not include vernal pools.	No impact.
Few-flowered Navarretia	<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	FE	ST	1B.1	1,400 to 2,800	May to June	Volcanic ash flow and volcanic substrate vernal pools and wetlands.	No potential to occur — the BSA does not include vernal pools or volcanic substrates.	No effect.
Greene's Narrow-leaved Daisy	<i>Erigeron greenei</i>	--	--	1B.2	260 to 3,295	May to September	Chaparral (serpentinite or volcanic).	No potential to occur – the BSA does not include chaparral habitat or serpentine or volcanic substrates.	No impact.

Common Name	Scientific Name	Federal Status	State Status	CRPR	Elevation (feet)	Blooming Period	General Habitat	Potential To Occur	Determination
Heller's Bush-mallow	<i>Malacothamnus helleri</i>	--	--	3.3	1,000 to 2,085	May to June	Chaparral, riparian woodland. Sandstone gravel.	No potential to occur — Although the BSA includes riparian woodland, no sandstone gravel is present.	No impact.
Hogwallow Starfish	<i>Hesperevax caulescens</i>	--	--	4.2	0 to 1,665	March to June	Valley and foothill grassland, vernal pools. Clay soils; mesic sites.	No potential to occur — the BSA does not contain mesic sites with clay soils.	No impact.
Holly-leaved Ceanothus	<i>Ceanothus purpureus</i>	--	--	1B.2	390 to 2,100	March to May	Chaparral and cismontane woodland in volcanic and rocky substrates.	No potential to occur — the BSA does not include chaparral or cismontane habitats or volcanic substrates.	No impact.
Jepson's Leptosiphon	<i>Leptosiphon jepsonii</i>	--	--	1B.2	325 to 1,640	March to May	Chaparral, cismontane woodland, valley and foothill grassland. Usually in volcanic substrate.	No potential to occur — the BSA does not include chaparral or cismontane habitats or volcanic substrates.	No impact.
Johnny-nip	<i>Castilleja ambigua</i> var. <i>ambigua</i>	--	--	4.2	0 to 1,425	March to August	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, and vernal pools margins. Wetland and riparian communities.	Potential to occur — the BSA contains valley and foothill grassland, forested wetlands, and riparian habitat.	Potential impact.
Keck's Checkerbloom	<i>Sidalcea keckii</i>	FE	--	1B.1	280 to 1,660	April to May	Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes.	Potential to occur — the BSA contains grassy slopes in blue oak woodland and clay soil.	May affect, likely to adversely affect.
Lobb's Aquatic Buttercup	<i>Ranunculus lobbii</i>	--	--	4.2	45 to 1,540	February to May	Cismontane woodland, North Coast coniferous forest, valley and foothill grassland, and vernal pools.	No potential to occur — the BSA does not include vernal pools.	No impact.
Mead's Owl-clover	<i>Castilleja ambigua</i> var. <i>meadii</i>	--	--	1B.1	1,475 to 1560	April to May	Vernal pools and meadows and seeps. Soils of volcanic origin that tend to have high clay content and be gravelly.	No potential to occur — the BSA does not include vernal pools or meadow and seep habitat with volcanic soils.	No impact.
Modest Rockcress	<i>Arabis modesta</i>	--	--	4.3	395 to 2,625	March to July	Chaparral, lower montane coniferous forest.	No potential to occur — the BSA does not contain chaparral or lower montane coniferous forest.	No impact.
Napa Bluecurls	<i>Trichostema ruygtii</i>	--	--	1B.2	100 to 2,230	June to October	Cismontane woodland, chaparral, valley and foothill grassland. Often in open, sunny areas. Also has been found in vernal pools.	Potential to occur — the BSA includes suitable valley and foothill grassland habitat with sunny areas.	Potential impact.
Napa Lomatium	<i>Lomatium repostum</i>	--	--	1B.2	295 to 2,720	March to June	Chaparral, cismontane woodland. Rocky areas in volcanic and serpentine soils with mixed chaparral and black oak woodland communities.	No potential to occur — the BSA does not include rocky areas in volcanic and serpentine soils with mixed chaparral and black oak woodland habitats.	No impact.
Narrow-anthered Brodiaea	<i>Brodiaea leptandra</i>	--	--	1B.2	100 to 1,940	May to July	Broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Volcanic substrates.	No potential to occur — the BSA does not contain volcanic substrates.	No impact.
Nodding Harmonia	<i>Harmonia nutans</i>	--	--	4.3	245 to 3,200	March to May	Chaparral, cismontane woodland. Rocky, volcanic substrates.	No potential to occur — the BSA does not contain chaparral or cismontane woodland, or volcanic substrates.	No impact.
Parry's Rough Tarplant	<i>Centromadia parryi</i> ssp. <i>rudis</i>	--	--	4.2	0 to 330	May to October	Valley and foothill grasslands, vernal pools. Alkaline, vernal mesic seeps; sometimes roadsides.	No potential to occur — the BSA does not contain alkaline vernal pools or mesic seeps.	No impact.
Recurved Larkspur	<i>Delphinium recurvatum</i>	--	--	1B.2	10 to 2,590	March to June	Chenopod scrub, valley and foothill grassland, and cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub	No potential to occur — the BSA does not include alkaline soils.	No impact.

Common Name	Scientific Name	Federal Status	State Status	CRPR	Elevation (feet)	Blooming Period	General Habitat	Potential To Occur	Determination
Serpentine Collomia	<i>Collomia diversifolia</i>	--	--	4.3	985 to 1970	May to June	Chaparral and cismontane woodland.	No potential to occur — the BSA does not contain chaparral or cismontane woodland, or ultramafic soils, or rocky or gravelly sites	No impact.
Sharsmith's Western Flax	<i>Hesperolinon sharsmithiae</i>	--	--	1B.2	590 to 2,200	May to July	Chaparral. Serpentine substrates. On ultramafic soils, rocky or gravelly sites.	No potential to occur — the BSA does not contain serpentine substrates.	No impact.
Sylvan Microseris	<i>Microseris sylvatica</i>	--	--	4.2	145 to 4,920	March to June	Chaparral, cismontane woodland, Great Basin scrub, pinyon and juniper woodland, valley and foothill grassland.	Potential to occur — the BSA includes suitable valley and foothill grassland.	Potential impact.
Tehama Navarretia	<i>Navarretia heterandra</i>	--	--	4.3	100 to 3,315	April to June	Vernal pools, valley and foothill grassland. Mesic sites in grassland or vernal pools, riparian wetland.	Potential to occur — the BSA includes forested riparian wetland habitat.	Potential impact.
Tracy's Clarkia	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	--	--	4.2	210 to 2,130	April to July	Chaparral. Openings, usually on serpentine.	No potential to occur — the BSA does not contain chaparral or serpentine substrates.	No impact.
Twig-like Snapdragon	<i>Antirrhinum virga</i>	--	--	4.3	330 to 6,620	June to July	Chaparral, lower montane coniferous forest. Rocky openings; often on serpentine.	No potential to occur — the BSA does not contain chaparral or lower montane coniferous forest with rocky openings.	No impact.
Victor's Gooseberry	<i>Ribes victoris</i>	--	--	4.3	300 to 2,460	March to April	Wooded slopes in shaded canyons and broadleaved upland forest chaparral.	No potential to occur — the BSA does not contain wooded or shaded canyons or broadleaved upland forest chaparral.	No impact.
Woolly-headed Gilia	<i>Gilia capitata</i> ssp. <i>tomentosa</i>	--	--	1B.1	20 to 950	May to July	Coastal bluff scrub, valley and foothill grassland, and riparian woodland.	Potential to occur — the BSA and footprint includes valley and foothill grassland, and riparian woodland habitat.	Potential impact.

Notes:

FE = Federally Endangered: any species in danger of extinction throughout all or a significant portion of its range ST = State Threatened: see federal definition

CRPR designations are as follows:

1B.1 = Rare throughout their entire range with the majority also being endemic to California. Seriously threatened in California — over 80% of occurrences threatened and/or high degree and immediacy of threat.

1B.2 = Rare throughout their entire range with the majority also being endemic to California. Moderately threatened in California — 20-80% of occurrences threatened and/or moderate degree and immediacy of threat.

2B.2 = Plants rare, threatened, or endangered in California but common elsewhere. Except for being common beyond the boundaries of California, 2B plants would have been ranked 1B. Moderately threatened in California — 20-80% of occurrences threatened and/or moderate degree and immediacy of threat.

3.3 = Plants about which more information is needed. These plants united by one common theme — more information to assign them to one of the other ranks or to reject them is necessary. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic, yet if taxonomically valid would demonstrably qualify for rank 1B or 2B. Not very threatened in California — Less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known.

4.2 = Plants of limited distribution. These plants are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. Moderately threatened in California — 20-80% of occurrences threatened and/or moderate degree and immediacy of threat.

4.3 = Plants of limited distribution. These plants are of limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly. Not very threatened in California — Less than 20% of occurrences threatened and/or low degree and immediacy of threat or no current threats known.

Sources: CNDDDB 2022x. CNPS 2022, and Calflora 2022.

Table E-2. Special-status Animals Documented Within the 9 USGS Quads

Common Name	Scientific Name	Federal Status	State Status	State Rank	Habitat	Potential to Occur Within the BSA	Determination
Blennosperma Vernal Pool Andrenid Bee	<i>Andrena blennospermatis</i>	--	--	S2	This bee is oligolectic on vernal pool <i>Blennosperma</i> spp. Bees nest in the uplands around vernal pools.	No potential to occur — the BSA does not include vernal pools and <i>Blennosperma</i> sp. were not observed in the BSA.	No impact.
California Linderiella	<i>Linderiella occidentalis</i>	--	--	S2S3	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. Water in the pools has very low alkalinity, conductivity, and total dissolved solids.	No potential to occur — the BSA does not include vernal pool depressions.	No impact.
Crotch's Bumblebee	<i>Bombus crotchii</i>	--	--	S1S2	Occurs from coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Potential to occur. Portions of the BSA include open grassland, suitable food plants were observed in the BSA. In addition, burrowing mammals were detected in the BSA.	Potential impact.
Monarch – California Overwintering Population	<i>Danaus plexippus</i> Population 1	FC	--	S2S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, cypress, Monterey pine), with nectar and water sources nearby.	Potential to occur – individuals may potentially fly or migrate though BSA but are not expected to roost in the BSA due to the absence of suitable habitat. Host plants were observed in areas of the BSA that will be closed off with ESA fence.	No effect.
Obscure Bumblebee	<i>Bombus caliginosus</i>	--	--	S1S2	Occurs in coastal areas from Santa Barbara County to Washington state. Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> , <i>Lupinus</i> , <i>Lotus</i> , <i>Grindelia</i> and <i>Phacelia</i> .	Potential to occur. Portions of the BSA include open grassland, suitable food plants were observed in the BSA. In addition, burrowing mammals were detected in the BSA.	Potential impact.
Valley Elderberry Longhorn Beetle	<i>Desmocerus californicus dimorphus</i>	FT	--	S3	Occurs only in the Central Valley of California, in association with blue elderberry.	Moderate to high potential to occur — several blue elderberry shrubs are located within the BSA. However, no blue elderberry trees or shrubs were identified in the footprint.	May affect, not likely to adversely affect.
Vernal Pool Fairy Shrimp	<i>Brachinecta lynchi</i>	FT	--	S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No potential to occur — the BSA does not include vernal pools or evidence of vernal pools.	No effect.
Vernal Pool Tadpole Shrimp	<i>Lepidurus packardi</i>	FE	--	S3S4	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid. Valley and foothill grassland, vernal pools, wetlands	No potential to occur. The BSA does not include vernal pools, evidence of vernal pools, or grass-bottomed swales capable of holding water for an extended period.	No effect.
Western Bumblebee	<i>Bombus occidentalis</i>	--	--	S1	Nests in mammal burrows or underground cavities on open west-southwest slopes bordered by trees. Will sometimes nest in above-ground locations such as in logs.	Potential to occur. Portions of the BSA include open grassland, suitable food plants were observed in the BSA. In addition, burrowing mammals were detected in the BSA.	Potential impact.

Common Name	Scientific Name	Federal Status	State Status	State Rank	Habitat	Potential to Occur Within the BSA	Determination
Western Ridged Mussel	<i>Gonidea angulata</i>	UR	--	S1S2	Primarily creeks and rivers and less often lakes. Originally in most of state, now extirpated from Central and Southern California.	High potential to occur. One relatively fresh half shell was discovered outside, but in the vicinity of the BSA during a site visit. In addition, the stretch of the creek in the BSA includes suitable habitat and potential host fish (coastal rainbow trout).	No impact.
Delta Smelt	<i>Hypomesus transpacificus</i>	FT	SE	S1	Occur in the Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2 ppt.	No potential to occur — the BSA does not include suitable habitat and is located outside of the species' known range.	No effect.
California Red-legged Frog	<i>Rana draytonii</i>	FT	SSC	S2S3	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low Moderate potential to occur. The BSA includes suitable non-breeding aquatic habitat and upland/dispersal habitat.	May affect, likely to adversely affect.
California Tiger Salamander – (Central California DPS)	<i>Ambystoma californiense</i>	FT	ST, WL	S3	Needs underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	No potential to occur — the BSA does not include vernal pools and is located outside of the species' known range.	No effect.
Foothill Yellow-legged Frog – (Northwest/North Coastal Clade)	<i>Rana boylei</i>	--	SSC	S3	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs some cobble-sized substrate for egg-laying. Needs at least 15 weeks of water to attain metamorphosis.	Low to moderate potential to occur. The BSA includes partly shaded, shallow stretches of stream and riffles with rocky substrate.	Potential impact.
Giant Gartersnake	<i>Thamnophis gigas</i>	FT	ST	S2	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	No potential to occur — the BSA is located outside of the species' known range.	No effect.
Western Pond Turtle	<i>Actinemys [Emys] marmorata</i>	UR	SSC	S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.3 mile from water for egg laying.	Moderate potential to occur. The BSA includes suitable aquatic habitat, basking sites, and nearby sandy banks and open grassland.	Potential impact.
American Peregrine Falcon (Nesting)	<i>Falco peregrinus anatum</i>	DL	DL, FP	S3S4	Nest consists of a scrape or a depression or ledge in an open site. Frequents wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Potential to occur. Nesting in the BSA or within line-of-site is not anticipated. The BSA contains suitable foraging habitat. Active construction may discourage falcons from foraging in the immediate vicinity of the BSA. However, more suitable foraging habitat is located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.

Common Name	Scientific Name	Federal Status	State Status	State Rank	Habitat	Potential to Occur Within the BSA	Determination
Bald Eagle (Nesting and Wintering)	<i>Haliaeetus leucocephalus</i>	DL/ BGEPA	SE/FP	S3	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nest within 1-mile of water. Nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pines (<i>Pinus ponderosa</i>). Roosts communally in winter. This species is also protected under the Bald and Golden Eagle Protection Act.	High potential to occur. One subadult was observed migrating over the BSA in November 2021 and there is suitable foraging habitat in the BSA. Nesting in the BSA or within line-of-site is not anticipated. Active construction may discourage eagles from foraging in the immediate vicinity of the BSA. However, suitable foraging habitat is also located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.
Bank Swallow (Nesting)	<i>Riparia riparia</i>	--	ST	S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks or cliffs with fine-textured/sandy soils near streams, rivers, lakes, or the ocean to dig nesting cavities.	Low potential to occur. Occurrences would be limited to overhead migrants. The BSA does not include vertical banks or cliffs with fine-textured/sandy soils required for nesting. Therefore, take would not occur.	No impact.
Black-crowned Night Heron (nesting colonies)	<i>Nycticorax nycticorax</i>	--	--	S4	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	Low potential to occur. No rookeries were observed during site visits. This species mostly nests near lake margins, bays, and marshes. Therefore, impacts to rookeries or nesting black-crowned night herons would not occur.	No impact.
Burrowing owl (Burrow Sites)	<i>Athene cunicularia</i>	--	SSC	S3	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low potential to occur — the species is not anticipated to occur due to the surrounding hilly topography and presence of relatively high growing shrubs and grasses. However, a rare occurrence cannot be ruled out. One individual was observed near the BSA in 2016 and another individual was observed approximately 0.4- mile east of the BSA in 1977 (eBird 2021). To avoid take, preconstruction habitat assessments would be performed. Caltrans will contact CDFW for technical assistance if appropriate habitat is found.	No impact.
Golden Eagle (Nesting and Wintering)		BGEPA	FP	S3	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas. Broadleaved upland forest, cismontane woodland, coastal prairie, and great Basin grassland.	Potential to occur. Nesting in the BSA or within line-of-site is not anticipated, but individuals could forage bear the BSA or flyover the BSA. Active construction may discourage eagles from foraging in the immediate vicinity of the BSA. However, more suitable foraging habitat is located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.

Common Name	Scientific Name	Federal Status	State Status	State Rank	Habitat	Potential to Occur Within the BSA	Determination
Mountain Plover (Wintering)			SSC	S2S3	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	No potential to occur. The BSA will not have freshly plowed fields, newly sprouting grain fields, or grazed areas. The BSA is not located in a sod farm.	No impact.
Northern Spotted Owl	<i>Strix occidentalis caurina</i>	FT	ST	S2	Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	No potential to occur. The BSA does not contain appropriate habitat and is located outside of the species' known range.	No effect.
Osprey (Nesting)	<i>Pandion haliaetus</i>	--	WL	S4	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	High potential to occur. One osprey was observed perch hunting from a snag adjacent to the bridge on two separate occasions. Nesting in the BSA or within line-of-site is not anticipated. Active construction may discourage ospreys from foraging in the immediate vicinity of the BSA. However, suitable foraging habitat is also located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.
Prairie Falcon (Nesting)	<i>Falco mexicanus</i>	--	WL	S4	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores. Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub and valley & foothill grassland.	Nesting in the BSA or within line-of-site is not anticipated. The BSA contains suitable foraging habitat. Active construction may discourage falcons from foraging in the immediate vicinity of the BSA. However, more suitable foraging habitat is located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.
Swainson's Hawk (Nesting)	<i>Buteo swainsonii</i>		ST	S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland.	Nesting in the BSA or within line-of-site is not anticipated. The BSA contains suitable foraging habitat. Active construction may discourage hawks from foraging in the immediate vicinity of the BSA. However, more suitable foraging habitat is located outside of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.
Tricolored Blackbird (Nesting Colonies)	<i>Agelaius tricolor</i>	--	ST, SSC	S1S2	Highly colonial species. Requires open water, protected nesting substrate, and foraging area with insect prey within a few miles of the colony. Freshwater marsh, marsh and swamp, and swamp wetland.	Low potential to occur. Nesting would not occur because the BSA does not include swamp or marsh habitat. However, seasonal or daily migrants may occur in or fly over the BSA.	No impact.

Common Name	Scientific Name	Federal Status	State Status	State Rank	Habitat	Potential to Occur Within the BSA	Determination
White-tailed Kite (Nesting)	<i>Elanus leucurus</i>	--	FP	S3S4	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Moderate to high. Nesting in the BSA or within line-of-site could occur. The BSA is surrounded by rolling foothills with scattered oaks and it is located in a river bottomland next to deciduous woodland. The BSA also includes open grassland for foraging close to dense-topped trees for nesting and perching. In addition, two adult white-tailed kites were observed hunting together approximately 0.10-mile east of the BSA. With the implementation of raptor surveys, exclusion buffers (if necessary), and agency coordination, take would not occur.	No impact.
Yellow-breasted Chat (nesting)	<i>Icteria virens</i>	--	SSC	S3	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground. Riparian forest, riparian scrub, and riparian woodland.	Potential to occur. The BSA includes suitable riparian woodland habitat for nesting. With the implementation of nesting bird surveys and protective exclusion buffers, take would not occur.	Potential temporary impact to nesting habitat.
Hoary Bat	<i>Lasiurus cinereus</i>	--	--	S4	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	High potential to occur. The BSA includes suitable woodland habitat for roosting, and foraging. With the implementation of conservation measures outlined in Chapter 4, take would not occur.	Potential temporary and permanent impacts to roosting and foraging habitat.
Pallid Bat	<i>Antrozous pallidus</i>	--	SSC	S3	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	High potential to occur. The BSA includes suitable grassland and open oak woodland habitat for foraging. In addition, snags, tree cavities, RSP, and the bridge itself may provide roosting habitat. With the implementation of conservation measures outlined in Chapter 4, take would not occur.	Potential temporary and permanent impacts to roosting and foraging habitat.
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	--	SSC	S2	Most common in mesic sites. Forages in edge habitats along streams and in a variety of wooded habitats; will travel long distances while foraging. Roosts in the open, hanging from walls and ceilings of caves, mines, buildings, tunnels, or other human-made structures, but may use hollow trees as roost sites. Roosting sites are limiting.	High potential to occur. The BSA includes suitable grassland and woodland habitat for foraging. In addition, snags, tree cavities, and the bridge itself may provide roosting habitat. With the implementation of conservation measures outlined in Chapter 4, take would not occur.	Potential temporary and permanent impacts to roosting and foraging habitat.
Western Red Bat	<i>Lasiurus blossevillii</i>	--	SSC	S3	Roosts primarily in trees, 2 to 40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	High potential to occur. The BSA includes suitable woodland habitat for roosting, and foraging. With the implementation of conservation measures outlined in Chapter 4, take would not occur.	Potential temporary and permanent impacts to roosting and foraging habitat.
Yuma Myotis	<i>Myotis yumanensis</i>	--	--	S4	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices. Lower montane coniferous forest, riparian forest, riparian woodland, upper montane coniferous forest	High potential to occur. Yuma myotis were detected with acoustic bat detectors during an emergence survey at Putah Creek Bridge. With the implementation of conservation measures outlined in Chapter 4, take would not occur.	Potential temporary and permanent impacts to roosting and foraging habitat.

Notes:

Federal status:

BGEPA = Bald and Golden Eagle Protection Act

DL = Delisted: removed from the endangered species list

FC = Candidate for FESA listing

FE = Endangered: any species in danger of extinction throughout all or a significant portion of its range

FT = Federally Threatened: any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range

UR = Under Review: species that have been petitioned for listing and for which a 90-day finding has not been published, or a 12-month finding has not yet been published in the Federal Register

State status:

DL = Delisted: Removed from the endangered species list

FP = Fully Protected: animals listed in FCG sections 3511, 4700, 5050, or 5515

SE = State Endangered any species in danger of extinction throughout all or a significant portion of its range

SSC = a species, subspecies, or distinct population of an animal native California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: (a) is extirpated from the State or, in the case of birds, is extirpated in its primary season or breeding role; (b) is listed as Federally, but not State listed; (c), meets the State definition of threatened or endangered but has not formally been listed; (d) is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened; (e) or endangered status has naturally small populations exhibiting high susceptibility to risk from any factors, that if realized, could lead to declines that would qualify it for State threatened or endangered status

ST = State Threatened: any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range

WL = Watch List: taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet that status, but for which there is concern and a need for additional information to clarify status

State Rank: (Expressing the ranks as a range of values, e.g., S2S3, indicates the rank is somewhere between S2 and S3)

S1 = Critically Imperiled — At very high risk of extirpation in the state due to very restricted range, very few populations or occurrences, very steep declines, severe threats, or other factors. S2 = Imperiled — At high risk of extirpation in the state due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.

S3 = Vulnerable — At moderate risk of extirpation in the state due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.

S4 = Apparently Secure — At a fairly low risk of extirpation in the state due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.

Sources: CNDDDB 2022, USFWS 2022.