FISH CREEK FISH PASSAGE PROJECT

INITIAL STUDY

with Proposed Negative Declaration
and
Proposed Section 4(f) Evaluation

HUMBOLDT COUNTY, CALIFORNIA
DISTRICT 1 – HUM – 254 (Post Mile 4.18)
01-0E790 / 0115000021

Prepared by the
State of California Department of Transportation

February 2021

Caltrans

General Information About This Document

What is in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with proposed Negative Declaration (IS/ND) which examines the potential environmental effects of a proposed project on State Route 254 in Humboldt County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document.
- Additional copies of this document are available for review at the District 1 Office, 1656 Union Street, Eureka, CA 95501. This document may be downloaded at the following website: https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs/d3-humboldt-county
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the virtual public meeting and/or send your written comments to Caltrans by the deadline.
- Please send comments via U.S. mail to:

  California Department of Transportation
  Attention: Laurel Osborn
  North Region Environmental–District 1
  1656 Union Street
  Eureka, CA 95501

- Send comments via e-mail to: laurel.osborn@dot.ca.gov
- Be sure to send comments by the deadline: April 1, 2021

What happens after this?

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

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Laurel Osborn, North Region Environmental-District 1, 1656 Union Street, Eureka, CA 95501; (707) 492-4064, Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

FISH CREEK FISH PASSAGE PROJECT

Replace the existing culvert with a bridge at Fish Creek on State Route 254 in Humboldt County, at post mile 4.18 north of Phillipsville, CA

INITIAL STUDY

With Negative Declaration and

Proposed Section 4(f) *de minimis* Determination

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

02/02/2021
Date of Approval

Brandon Larsen
Brandon Larsen, Office Chief
North Region Environmental-District 1
California Department of Transportation
CEQA Lead Agency

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

Laurel Osborn, North Region Environmental-District 1
1656 Union Street, Eureka, CA 95501
(707) 492-4064
or use the California Relay Service TTY number, 711 or 1-800-735-292.

PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, California Public Resources Code

SCH Number: PENDING

Project Description

The California Department of Transportation (Caltrans) proposes to remove the existing undersized reinforced concrete box culvert at Fish Creek and replace it with a 32-foot-wide by 42-foot-long bridge to remediate the fish passage barrier.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this project. This does not mean that Caltrans' decision regarding the project is final. 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, expects to determine from this study that the proposed project would not have a significant impact on the environment for the following reasons:

- The project would have *No Effect* on Agriculture and Forestry, Air Quality, Energy, Geology and Soils, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, Tribal Cultural Resources, Utilities and Service Systems, Wildfire, Mandatory Findings of Significance

- The project would have *Less than Significant Impacts* to Aesthetics, Biological Resources, Cultural Resources, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality

_____ _____

Brandon Larsen, Office Chief
North Region Environmental–District 1
California Department of Transportation

Date

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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
ABMP	Additional Best Management Practices
ACM	Asbestos Containing Material
AGCP	Avenue of the Giants Community Plan
APE	Area of Potential Impact
ARPA	Archaeological Resources Protection Act
ARZ	Absorber Root Zone
ASR	Archaeological Survey Report
BMPs	Best Management Practices
BSA	Biological Study Area
ºC	Degrees Celsius
CC	California Coastal
CAA	Clean Air Act
CAFÉ	Corporate Average Fuel Economy
CALFIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CGP	Construction General Permit
CH_4	Methane
CIA	Cumulative Impact Analysis
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	Carbon dioxide
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CRZ	Critical Root Zone
CTP	California Transportation Plan
CWA	Clean Water Act
cy	Cubic yards
dB	Decibels
DBH	Diameter-at-Breast-Height

Abbreviation	Description
Department	Caltrans
DOT	Department of Transportation
DPP	Design Pollution Prevention
DPS	Distinct Population Segment
DWQ	Division of Water Quality
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESA(s)	Environmentally Sensitive Area(s)
ESL	Environmental Study Limits
ESR	Environmental Study Request
ESU	Evolutionarily Significant Unit
ºF	Degrees Fahrenheit
FED	Final Environmental Document
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
FYLF	Foothill Yellow-legged Frog
G	Global (ranking for Natural Communities of Special Concern)
GHG	Greenhouse Gas
H&SC	Health & Safety Code
HCAOG	Humboldt County Association of Governments
HFCs	Hydrofluorocarbons
HPSR	Historic Property Survey Report
HRC	Humboldt Redwood Company
HRER	Historic Resources Evaluation Report
HRSP	Humboldt Redwoods State Park
HVF	High Visibility Fencing
IPaC	Information for Planning and Consulation
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
ISA	Initial Site Assessment
IS/MND	Initial Study/Mitigated Negative Declaration
IS/ND	Initial Study/Negative Declaration
IUCN	International Union for Conservation of Nature
KV	Key View
LCFS	Low Carbon Fuel Standard
LCP	Lead Compliance Plan
LCP	Lead Containing Paint

Abbreviation	Description
Lmax	Highest time-weighted sound level measured over a given period of time
LSAA	Lake and Streambed Alteration Agreement
LWD	Large Woody Debris
MAMU	Marbled murrelet
MBTA	Migratory Bird Treaty Act
Mg/kg	Milligram per Kilogram
mg/L	Milligrams per Liter
MLD	Most Likely Descendent
MMTC02e	Million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MPH	Miles per hour
MPO	Metropolitan Planning Organization
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MS4s	Municipal Separate Storm Sewer Systems
N_2O	Nitrous oxide
NAGPRA	Native American Graves Repatriation Act of 1990
NAHC	Native American Heritage Commission
NC	North Coast
NCRWQCB	North Coast Regional Water Quality Control Board
NCSC	Natural Communities of Special Concern
ND	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environmental Study
NESHAP	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIS	New Impervious Surface
NMFS	National Marine Fisheries Service
NNI	Net New Impervious (surface)
NO_2	Nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRLF	Northern red-legged frog
NSO	Northern spotted owl
O_3	Ozone
OHWM	Ordinary high water mark
PA	Programmatic Agreement
Pb	Lead
PCEs	Primary Constituent Elements
PDT	Project Development Team

Abbreviation	Description
PEZ	Potential Effects Zone
PFMC	Pacific Fishery Management Council
PIR	Project Initiation Report
PM(s)	Post Mile(s)
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PPDG	Project Planning and Design Guide (Stormwater Quality Handbook)
PRC	Public Resources Code
PSI	Preliminary Site Investigation
RCB	Reinforced Concrete Box
RECP	Rolled Erosion Control Products
RIS	Replaced Impervious Surface
RSP	Rock Slope Protection
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
S	State (ranking for Natural Communities of Special Concern)
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF_6	Sulfur Hexafluoride
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	Sea Level Rise
SNC(s)	Sensitive Natural Community(ies)
SO_2	Sulfur Dioxide
SONCC	Southern Oregon/Northern California Coast
SPGR	Structures Preliminary Geotechnical Report
SR	State Route
SRA	State Responsibility Area
SRZ	Structural Root Zone
SSC	Species of Special Concern
SWDR	Stormwater Data Report
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	Temporary Construction Easement
THVF	Temporary High Visibility Fencing
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
TOJ	Transfer of Jurisdiction
TPZ	Timber Production Zones
UCL	Upper confidence limit
U.S. or US	United States

Abbreviation	Description
U.S. 101	U.S. (United States) Highway 101
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United State Department of Agriculture
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
USGS	United States Geological Survey
VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WIFL	Willow flycatcher
WPCP	Water Pollution Control Program
WPT	Western pond turtle
WQAR	Water Quality Assessment Report
WQOs	Water Quality Objectives
WSP`	Western snowy plover
WSRA	Wild and Scenic Rivers Act
YBCU	Yellow-billed cuckoo
YOY	Young-of-year

Chapter 1. Proposed Project

1.1. Project History

A California Department of Fish and Wildlife (CDFW) field survey dated April 30, 1969, made the following observation after completing an electrofishing operation on Fish Creek: *"No fish were found above this culvert. Silver salmon and steelhead young of the year were found below this culvert. At this date, this culvert remains a complete barrier to anadromous fish."*

The Fish Creek reinforced concrete box (RCB) culvert was originally constructed in 1919. In 1929 the culvert inlet and outlet were extended and in 1981 twelve concrete ramp-style baffles were constructed to improve fish passage. This fish passage improvement effort was largely unsuccessful. After the final retrofit, the culvert provided only partial migration to adult steelhead during ideal creek flows. In 2005, the culvert was ranked as the highest priority location for fish passage barrier mitigation in the *California Department of Transportation (Caltrans) District 1 Pilot Fish Passage Assessment Study* (Caltrans 2005). A stream inventory conducted by CDFW during the summer of 1999 identified approximately 3.0 miles of blue line stream upstream of the confluence with the South Fork Eel River, and the culvert was noted as the only barrier.

From 2006 to present, several projects were initiated to improve fish passage at Fish Creek. Securing project funding has been an impediment and reconciling multiple resource agency goals and missions have prevented project teams from reaching consensus on design solutions. Most notably was a 2011-2016 multi-agency effort including Trout Unlimited, CDFW, California State Coastal Conservancy, Caltrans, and State Parks to replace the undersized RCB culvert with a larger 20-foot-wide by 10-foot-tall pre-cast concrete arch culvert constructed over a cast-in-place concrete fishway. Concerns over impacts to large Coast redwood trees due to foundation excavation and potential stream bank erosion hindered project development. The team also became concerned that upstream aggraded sediment would transport and fill the constructed fishway pools, reducing fish passage effectiveness and increasing the potential for large woody debris which could plug the arch culvert. Ultimately, the arch culvert fish passage project was abandoned due to lack of agency support. A final recommendation by Mark Smelser, CDFW, was to revisit previous bridge design alternatives that were previously not selected because they were deemed too costly but would avoid removal of large redwoods.

Caltrans completed a Project Initiation Report (PIR) in June 2017 to initiate a project to remediate the fish passage barrier at Fish Creek on State Route (SR) 254.

The Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA).

1.2. Project Description

The project proposes to remove the existing undersized reinforced concrete box (RCB) culvert and replace it with a 32-foot-wide by 42-foot-long bridge to remediate the fish passage barrier. The project would include retaining wall installation, construction of a 42-foot-long bridge that fully spans Fish Creek, and stream channel restoration. The project location is the Fish Creek stream crossing on State Route (SR) 254 (Avenue of the Giants) at post mile 4.18, located near Miranda in Humboldt County, California (Figure 1).

1.3. Project Objective

Need

The project is needed to restore fish passage to the highest priority fish passage site in District 1 and decrease sediment loads to the South Fork Eel River (Sediment TMDL Priority Reach 2). The existing reinforced box culvert structure at Fish Creek was identified as not meeting fish passage criteria because it contains a steep slope which generates high flow velocities that prevent fish from swimming upstream and produces excess sediment loads.

Purpose

The purpose of this project is to eliminate a barrier to fish passage created by an existing reinforced box culvert and reduce sediment loads to the South Fork Eel River to comply with Total Maximum Daily Load (TMDL) requirements outlined in the Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 2012-011-Division of Water Quality [DWQ] effective July 01, 2013). The permit requires Caltrans implement control measures to achieve 1650 compliance units annually. This project will yield 173 compliance units.

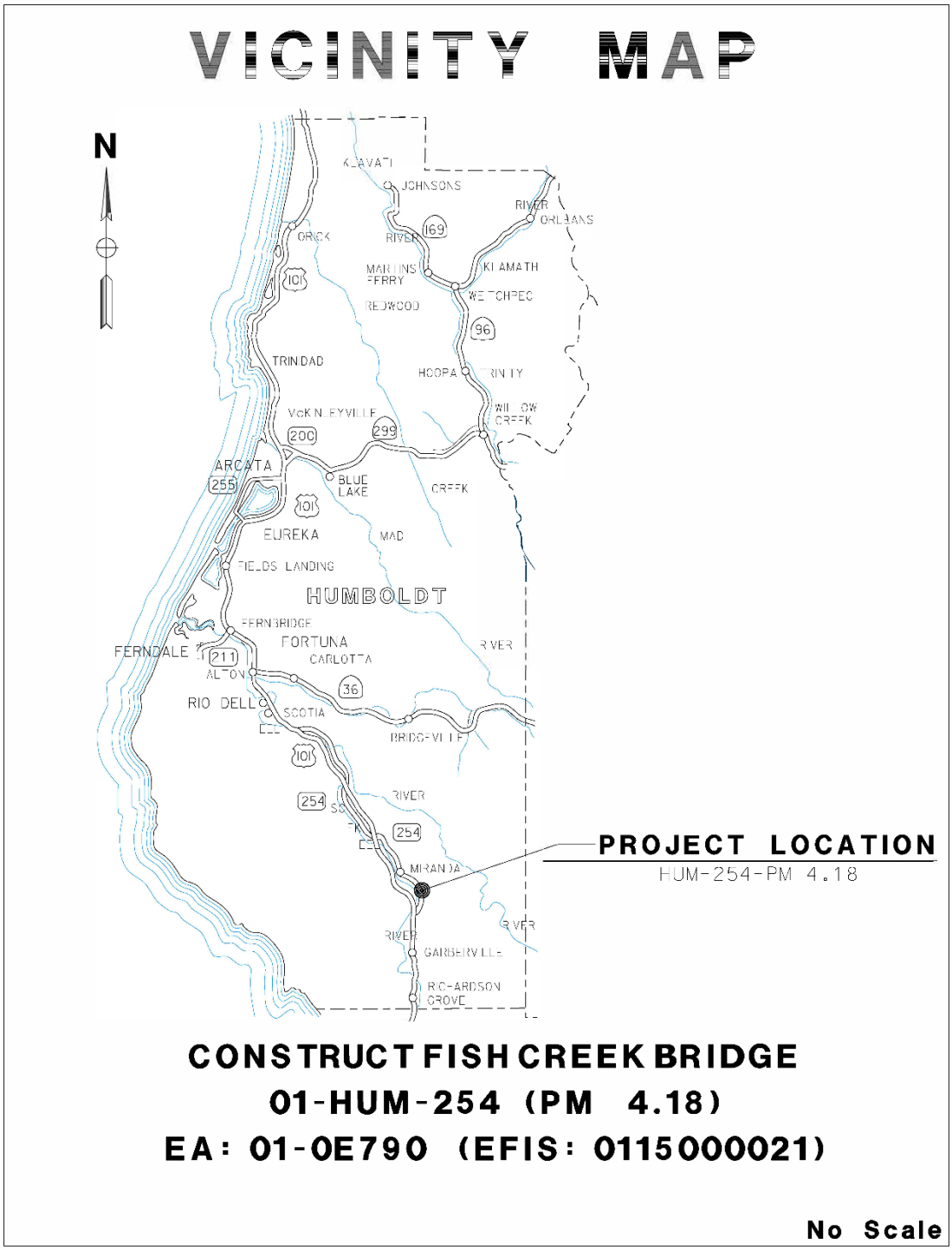

Figure 1. Project Vicinity

1.4. Proposed Project

Fish Creek bridge construction preparation would begin with construction excavations beginning in the early summer and extending through the summer and fall season. Approximately 0.29 mile of SR 254 at Fish Creek would be temporarily closed during construction. Motorists and bicyclists would be detoured using U.S. Highway 101 (US 101) between the Miranda and Phillipsville exits. Access to the parking areas in the project vicinity would be closed to the public during construction. However, access to the Avenue of the Giants would be accessible to the public on either side of the closure. No access roads are proposed as the work can occur from the roadway and creek channel. Staging would occur on the roadway, existing turnouts and parking areas in the project area. Large materials that cannot be staged may include pre-cast forms, slabs, and backfill material that would be trucked to the work area as needed.

Due to their proximity to the excavation of the existing RCB, three trees would need to be removed prior to construction. Three trees larger than 2 feet diameter-at-breast-height (dbh) would be directly impacted by the excavation of the channel downstream; therefore, would need to be removed. These include two Coast redwoods (*Sequoia sempervirens*) (2.1-foot and 2.8-foot dbh) and one bigleaf maple (*Acer macrophyllum*) (2.8-foot dbh) (Table 3). A crash cushion would be constructed adjacent to one other Coast redwood (4.1-foot dbh); however, removal of that tree would not be necessary.

Secant pile retaining walls would be constructed along each bank of the creek to minimize excavation and impacts to the nearby trees. A secant pile retaining wall is a continuous row of vertical piles placed in drilled holes and does not require as much excavation as a traditional retaining wall and no backfill is needed. Two ground-anchored secant walls are proposed to support the Fish Creek Bridge abutments, confine the creek channel, and protect adjacent large redwood trees. The overlapping secant piles for this project would be approximately 48 inches in diameter and spaced 5 feet apart on center. Every other pile would be reinforced with a structural steel section. Upstream from the bridge, the secant pile retaining walls would extend approximately 50-feet (northwest bank) to 100-feet (southeast bank) along the creek channel. Based on the elevation of the highway and the potential scour depth of Fish Creek, the heights of the secant pile retaining walls at the bridge could have exposed heights up to 25 feet. For this project, a portion of the walls upstream would be braced to eliminate the need for ground anchors immediately adjacent to redwood trees. Braces, or struts, would include seven concrete beams that span the creek, from wall to wall. The struts would include architectural treatment, such as a wood grain texture and brown

staining, to be more context appropriate. Architectural treatment would also be placed along the inside face of the walls. With fewer expected roots downstream of the bridge, horizontal ground anchors may be required to support the unbraced wall sections taller than 18 feet. The ground anchors would mostly extend into the fill prism of the existing roadway. If ground anchors are required, efforts would be made to position and orient them to avoid impacting the large redwood tree root systems near the bridge.

The proposed bridge would be a single span structure approximately 32-feet-wide and 42-feet-long and would be placed on the proposed secant wall. The superstructure would be a 15-inch-deep, precast, pre-stressed voided slab with a 6-inch-thick cast-in-place concrete composite deck. The proposed bridge would have two 11-foot lanes, a 4-foot southbound shoulder, and 2-foot northbound shoulder. The railing would be a California ST-85 bridge railing. The ST-85 bridge rail is a 42-inch tall railing (36-inches for vehicular railing and 6-inches for bicycle railing), which consists of concrete posts spaced at 10-foot centers and a single horizontal 12-inch deep concrete beam. The bridge rail would include architectural treatment on the face (front, top, and back) of the rail that mimics wood and/or rock. Reusable crash cushions would be installed at the ends of the bridge.

The secant pile bridge abutments and bridge would be constructed prior to work in the channel. The stream diversion, culvert demolition, and channel work would be reserved for late summer as creek flows diminish and commonly go subsurface by that time. The stream armoring and channel restoration would occur once the clear water diversion (if necessary) is in place. The fill prism and box culvert of Fish Creek would be removed and the channel regraded. Approximately 3,600 cubic yards (CY) of excavation would be necessary to achieve this. The excavated fill prism material (approximately 3,000 CY) would be disposed of by the contractor at an appropriate offsite location. The excavated creek channel material, approximately 600 CY, would be stored on-site and used in channel regrading and restoration, if possible. The new creek channel would be established from approximately 150 feet upstream to 150 feet downstream of the existing culvert to create a channel slope that would improve fish passage. The new channel would be graded at roughly 3-to-4% slope, as opposed to the existing 10.9% slope of the RCB culvert. The channel width would be approximately 40 feet wide to provide for adequate velocities and flow depths for 50 to 100-year flood events. At lower flow rates, the creek would flow within a defined rock-lined channel, and at higher flow rates, the creek would widen to span most of the full channel width. The channel would be regraded to conform to the existing creek channel upstream and downstream. Native rocky material would be spread along the new channel. Some material may be removed and select size rock slope protection (RSP) may be added to armor

zones of bank erosion where redwood tree roots are exposed. Bioengineering methodologies to reduce the amount of additional RSP would be incorporated to the extent feasible and will be explored in future project phases. Rocks removed from the channel excavation area would be reused for channel stabilization as feasible.

Utility relocation would be required. An AT&T telephone pole and both overhead and underground AT&T communication facilities are in conflict. Both lines would be temporarily relocated during construction.

The project is located within Humboldt Redwoods State Park (HRSP). Caltrans would obtain temporary construction easements (TCEs) and permits and is also proposing to acquire right of way from HRSP adjacent to the highway. Approximately 1.6 acres TCE would be necessary for construction and channel work upstream and downstream of Fish Creek. Additionally, Caltrans proposes a permanent acquisition of approximately 0.44 acre of State Park land into the state highway right of way to accommodate the widening of the roadway and the new structure. A Transfer of Jurisdiction (TOJ) would be required for the permanent acquisition and would be completed prior to project construction. The TOJ would not divide or split the park in two, as state highway right of way already exists adjacent to this location.

1.5. No-Build Alternative

This alternative would maintain the facility in its current condition and would not meet the purpose and need of the project. For each potential impact area discussed in Chapter 2, the No-Build alternative has been determined to have no impact. Under the No-Build alternative, no alterations to the existing conditions would occur and the proposed improvements would not be implemented. The No-Build alternative is not discussed further in this document.

1.6. Alternatives Considered but Eliminated from Further Consideration

In the Project Initiation Report (PIR) and the Environmental Study Request (ESR), two alternatives were proposed: a 40-foot bridge and an 80-foot bridge. Both alternatives were discussed at a field review with Humboldt Redwoods State Park, California Department of Fish and Wildlife (CDFW), U.S. Army Corps of Engineers (USACE), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS) and Caltrans staff.

It was determined the 80-foot alternative would be more impactful to adjacent redwood trees and would not provide a substantial benefit to the channel when compared to the 40-foot alternative. At a Project Development Team (PDT) meeting on March 20, 2020, this alternative was eliminated from further consideration.

1.7. General Plan Description, Zoning, and Surrounding Land Uses

The project area and surrounding lands are within Humboldt County and subject to the Humboldt County General Plan (Humboldt County 2017a), as well as the Avenue of the Giants Community Plan (AGCP) (Humboldt County 2017b). The Humboldt County General Plan and the AGCP together constitute the General Plan for the Avenue of the Giants. The project area is zoned State Park. The land use designation for this location and the surrounding areas includes conservation floodway, public lands, and public facility. The project would not alter the existing land use or zoning designation in the project area.

1.8. Permits and Approvals Needed

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

Table 1. Agency Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	1602 Lake and Streambed Alteration Agreement	Obtain after Final Environmental Document (FED) approval
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Obtain after FED approval
U.S. Army Corps of Engineers (USACE)	Section 404 Authorization (Nationwide Permit)	Obtain after FED approval
U.S. Fish and Wildlife Service (USFWS)	Section 7 Consultation for Threatened and Endangered Species	Consultation initiated after DED
National Marine Fisheries Service (NMFS)	Section 7 Consultation for Threatened and Endangered Species, Critical Habitat, and Essential Fish Habitat	Consultation initiated after DED
Humboldt Redwoods State Park	Section 4(f)	Obtain after circulation of DED

For projects funded with federal funds, Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 prohibits the Federal Transit Administration and other USDOT agencies from using land from publicly owned parks, recreation areas (including recreational trails), wildlife and water fowl refuges, or public and private historic properties unless there is no feasible and prudent alternative to that use and the action includes all possible planning to minimize harm to the property resulting from such a use. This project has federal funds and would require the temporary and permanent use of a Section 4(f) resource. See Appendix D for more information.

Projects affecting Wild and Scenic Rivers are subject to the National Wild and Scenic Rivers Act (16 United States Code [USC] 1271) and the California Wild and Scenic Rivers Act (WSRA) (CA Public Resources Code [PRC] Section 5093.50 et seq.). Due to the project's proximity to the South Fork Eel River, Caltrans consulted with the National Park Service and determined the National and California WSRA are not applicable to the project.

1.9. Standard Measures and Best Management Practices Included in All Alternatives

Aesthetics/Visual Resources

AR-1: Aesthetic treatment to the bridges/guardrails/retaining walls would[1] be included, such as tribal patterns, to address context sensitivity.

AR-2: Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and revegetated with regionally-appropriate native vegetation.

AR-3: Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.

AR-4: Where feasible, construction lighting would be limited to within the area of work.

AR-5: Where feasible, the removal of established trees and vegetation would be minimized. Environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.

[1] Given a project is considered "proposed" until a contract is awarded, in environmental documents (including technical studies) "would" should be used instead of "will".

Biological Resources

BR-1: General

Before start of work, as required by permit or consultation conditions, a Caltrans biologist or ECL would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

BR-2: Animal Species

A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

B. Pre-construction surveys for active raptor nests within one-quarter mile of the construction area would be conducted by a qualified biologist within one week prior to initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.

C. To prevent attracting corvids (birds of the *Corvidae* family which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash would be deposited in a secure container daily and disposed of at an approved waste facility at least once a week. Also, on-site workers would not attempt to attract or feed any wildlife.

D. A qualified biologist would monitor in-stream construction activities that could potentially impact sensitive biological receptors. The biological monitor would be present during activities such as installation and removal of dewatering or diversion systems, bridge demolition, pile-driving and hoe-ramming, and drilling for bridge foundations to ensure adherence to permit conditions. In-water work restrictions would be implemented.

E. An Aquatic Species Relocation Plan, or equivalent, would be prepared by a qualified biologist and include provisions for pre-construction surveys and the appropriate methods or protocols to relocate any species found. If previously unidentified threatened or endangered species are encountered or anticipated incidental take levels are exceeded, work would either be stopped until the species is out of the impact area, or the appropriate regulatory agency would be contacted to establish steps to avoid or minimize potential adverse effects. This Plan may be included as part of the Temporary Creek Diversion System Plan identified in **BR-5**.

F. Artificial night lighting may be required. To reduce potential disturbance to sensitive resources, lighting would be temporary, and directed specifically on the portion of the work area actively under construction. Use of artificial lighting would be limited to Cal/OSHA work area lighting requirements.

G. Protocol surveys would be performed for western pond turtle during the species critical egg laying period (March through August) for each construction season (every year of construction). If species are discovered during construction, work would stop in the area of discovery and coordination with the appropriate resource agencies would occur.

H. A Limited Operating Period would be observed, whereby all in-stream work below ordinary high water would be restricted to the period between June 15 and October 15 to protect water quality and vulnerable life stages of sensitive fish species.

I. To protect nesting or roosting northern spotted owl (NSO) and marbled murrelet (MAMU), suitable northern spotted owl or marbled murrelet nesting trees would be removed between September 15 and January 31. No construction activities generating noise levels greater than 90 decibels (dB) (with the exception of backup alarms) or activities generating sound levels 20 or more dB above ambient sound levels would occur between February 1 and August 5. Between August 6 and September 15, work that generates noise levels greater than 10 dB above ambient sound levels or above 90 dB max

would observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Noise-related work windows would be lifted between September 16 and January 31. Further, no construction activities would occur within a visual line-of-sight of 131 feet or less from any known active nest locations for northern spotted owl or marbled murrelet.

J. Caltrans would contact USFWS if proposed NSO/MAMU habitat removal is within the designated critical habitat area to ensure removal would not result in an adverse effect.

BR-3: Invasive Species

Invasive non-native species control would be implemented. Measures would include:

- Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules.

- All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* for all field gear and equipment in contact with water.

BR-4: Plant Species, Sensitive Natural Communities, and Environmentally Sensitive Habitat Areas

A. A Revegetation Plan would be prepared and would include a plant palette, establishment period, watering regimen, monitoring requirements, and pest control measures. The Revegetation Plan would also address measures for wetland and riparian areas temporarily impacted by the project.

B. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas.

C. When possible, excavation of roots of large diameter trees (>2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.

D. After completion, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.

BR-5: Wetlands and Other Waters

A. The contractor would be required to prepare and submit a Temporary Creek Diversion System Plan to Caltrans for approval prior to any creek diversion. Depending on site conditions, the plan may also require specifications for the relocation of sensitive aquatic species (see also Aquatic Species Relocation Plan in **BR-2**). Water generated from the diversion operations would be pumped and discharged according to the approved plan and applicable permits.

B. In-stream work would be restricted to the period between June 15 and October 15 to protect water quality and vulnerable life stages of sensitive fish species (see also **BR-2H**). Construction activities restricted to this period include any work below the ordinary high water. Construction activities performed above the ordinary high water mark of a watercourse that could potentially directly impact surface waters (i.e., soil disturbance that could lead to turbidity) would be performed during the dry season, typically between June through October, or as weather permits per the authorized contractor-prepared Storm Water Pollution Prevention Plan (SWPPP), Water Pollution Control Program (WPCP), and/or project permit requirements.

C. See **BR-4** for Temporary High Visibility Fencing (THVF) information.

Cultural Resources

CR-1: If cultural materials are discovered during construction, work activity within a 60-foot radius of the discovery would be stopped and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).

CR-2: If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code § 7050.5. Further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

Human remains and related items discovered on federally-owned lands would be treated in accordance with the Native American Graves Repatriation Act of 1990 (NAGPRA) (23 USC 3001). The procedures for dealing with the discovery of human remains, funerary objects, or sacred objects on federal land are described in the regulations that implement NAGPRA 43 CFR Part 10. All work in the vicinity of the discovery shall be halted and the administering agency's archaeologist would be notified immediately. Project activities in the vicinity of the discovery would not resume until the federal agency complies with the 43 CFR Part 10 regulations and provides notification to proceed.

Geology, Seismic/Topography, and Paleontology

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential.

GS2: In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.

Greenhouse Gas Emissions

GHG-1: Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.

GHG-2: Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.

GHG-3: Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.

GHG-5: All areas temporarily disturbed during construction would be revegetated with appropriate native species. Landscaping reduces surface warming and, through photosynthesis, decreases CO_2. This replanting would help offset any potential CO_2 emissions increase.

GHG-6: Pedestrian and bicycle access would be maintained on State Route 254 during project activities.

Hazardous Waste and Material

HW-1: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-2: When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision "Residue Containing Lead from Paint and Thermoplastic."

Hydrology and Floodplain

HF-1: The proposed bridge would maintain the same elevation above the ordinary high water mark (OHWM) as the existing bridge, and no new structures would be placed which would result in a substantial backflow during a flood event.

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses and buildings within the work zones.

TT-3: A Transportation Management Plan (TMP) would be applied to the project.

Utilities and Emergency Services

UE-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to State Route 254 throughout the construction period.

UE-2: Caltrans would coordinate with utility providers to plan for relocation of any utilities to ensure utility customers would be notified of potential service disruptions before relocation.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) as amended by subsequent orders, which became effective July 1, 2013, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009-0009-DWQ).

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre) that includes erosion control measures and construction waste containment measures to protect waters of the State during project construction.

The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the Caltrans *Storm Water Quality Handbooks: Construction Site BMPs Manual* to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction may require one or more of the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Accumulated stormwater, groundwater or surface water from excavations or temporary containment facilities would be removed by dewatering.
- Water generated from the dewatering operations would be discharged on-site for dust control and/or to an infiltration basin or disposed off-site.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
- Soil disturbing work would be limited during the rainy season.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the *2016 Caltrans Storm Water Management Plan*. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ) as amended by subsequent orders.

The project design may include one or more of the following:

- Vegetated surfaces would feature native plants, and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.
- Where possible, stormwater would be directed in such a way as to sheet flow across vegetated slopes, thus providing filtration of any potential pollutants.

1.10. Discussion of the NEPA Categorical Exclusion

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

Chapter 2. CEQA Environmental Checklist

Environmental Factors Potentially Affected

The environmental factors noted below would be potentially affected by this project. Please see the CEQA Environmental Checklist on the following pages for additional information.

Potential Impact Area	Impacted: Yes / No
Aesthetics	**Yes**
Agriculture and Forestry	No
Air Quality	No
Biological Resources	**Yes**
Cultural Resources	**Yes**
Energy	No
Geology and Soils	No
Greenhouse Gas Emissions	**Yes**
Hazards and Hazardous Materials	**Yes**
Hydrology and Water Quality	**Yes**
Land Use and Planning	No
Mineral Resources	No
Noise	No
Population and Housing	No
Public Services	No
Recreation	No
Transportation and Traffic	No
Tribal Cultural Resources	No
Utilities and Service Systems	No
Wildfire	No
Mandatory Findings of Significance	No

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project will indicate there are no impacts to a particular resource. A "No Impact" answer in the last column of the checklist reflects this determination. The words "significant" and "significance" used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Environmental Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standard measures applied to all or most Caltrans projects (such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions), are an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

Project Impact Analysis Under CEQA

CEQA broadly defines "project" to include "*the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment*" (14 CCR § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project's possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a "statement of the objectives sought by the proposed project" (14 CCR § 15124(b)).

CEQA requires the identification of each potentially "significant effect on the environment" resulting from the action, and ways to mitigate each significant effect. Significance is defined as "*Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project*" (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a "fair argument" can be made that a "substantial adverse change in physical conditions" would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental professional with specific training in an area of environmental review can make this determination.

Though not required, CEQA suggests Lead Agencies adopt thresholds of significance, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and it's varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing thresholds of significance on a state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts in the project area based on their location and the effect of the potential impact on the resource as a whole. For example, if a project has the potential to impact 0.10 acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a "less than significant" determination would be considered appropriate. In comparison, if 0.10 acre of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acre of wetland impact could be considered "significant."

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a negative declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed negative declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a "Mitigated Negative Declaration" in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or

other similar processes may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§15126.4(a)(1)(B)). Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370).

Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered "mitigation" under CEQA, these measures are often referred to in an Initial Study as "mitigation", Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

No-Build Alternative

For each of the following CEQA Environmental Checklist questions, the "No-Build" alternative has been determined to have "No Impact". Under the "No-Build" alternative, no alterations to the existing conditions would occur and no proposed improvements would be implemented. The "No-Build" alternative is not discussed further in this document.

2.1. Aesthetics

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

Regulatory Setting

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

Environmental Setting

The proposed Fish Creek Bridge project is located on State Route (SR) 254 in Humboldt County, California, at post mile (PM) 4.18, approximately two miles northwest of the unincorporated community of Phillipsville and two miles southeast of the unincorporated community of Miranda. SR 254, also known as "Avenue of the Giants," is an undivided two-lane conventional highway, generally with 10- to 12-foot lanes and 0- to 4-foot shoulders and is functionally classified as a Rural Major Collector. The regulatory speed limit is 55 mph within the project limits and 30 mph warning signs are posted where needed. The operating speed was measured as 45-50 mph in fall 2020. SR 254 experiences seasonal heavy motorized and non-motorized traffic in and near the communities of Phillipsville, Miranda, Myers Flat, Weott, and Redcrest—all of which have populations of less than 500 people. SR 254 is also available for use as a secondary route in the event that US 101 becomes closed.

SR 254 is eligible for Scenic Highway designation and is listed in the 2015 Pacific Coast Bike Route Survey Final Report as a Pacific Coast Bike Route scenic alternate. This route is used as a connector for communities and as a recreational corridor, providing access to State Parks and the Eel River which are popular for scenic and recreational resources, including camping, swimming, and fishing. The Eel River is designated a State and National Wild and Scenic River with recreational status. The landscape is characterized by stands of large old-growth redwood forest that enclose the highway, the Eel River, and small rural communities. The terrain is rolling with moderate grades. SR 254 roughly parallels the South Fork Eel River and US 101 from the unincorporated community of Stafford to just south of Phillipsville, extending approximately 32 miles through the Humboldt Redwoods State Park. Humboldt Redwoods State Park is internationally renowned for having one of the largest contiguous stands of old growth redwood forests. The Park is classified as part of a UNESCO World Heritage Site and has more than 100 miles of trails and more than 250 campsites.

The Humboldt County General Plan identifies views of coastline, mountains, hills, ridgelines, inland water features, forests, agricultural features, idyllic rural communities, and a combination of all these items as visual resources that contribute to the county's unique sense of place. The scenic value of these natural resources, viewed both from within a vehicle or from outside, is greatly valued. Predominantly, scenic resources along SR 254 include old-growth redwood forest, the Eel River, and views of creek and streams.

Scenic resources viewed from the proposed project corridor include old-growth redwood forest, Fish Creek, and a large 16-foot diameter redwood tree. The large redwood is one of the first notable larger trees viewed from the highway when traveling north. There is a large pullout at the east end of the project limits on the northbound side of the highway. Across from the pullout is an entrance to a graveled parking area at a trail head. The public utilizes these facilities to access the project area, predominately for viewing the large redwood. The South Fork Eel River is approximately 400 feet downstream from the project site. There are no views of the river from within the project area. Fish Creek Road is just west of the project limits on the northbound side, connecting to private residences located far outside of the viewshed of the project area.

Elevation in the project area is around 280 feet. The climate is affected by the cool and often foggy Pacific coast and the Mediterranean-like inland. Summers are warm and dry with temperatures averaging in the 80s (°Fahrenheit [F]) during the day and 50s at night, although encroaching fog and onshore winds often keep the area cool. Winters are mostly rainy with day and night temperatures averaging in the 40s and 50s. The area receives between 60-80 inches of rain per year, primarily between the months of October and May.

Discussion of CEQA Environmental Checklist Question 2.1c)—Aesthetics

The project would not have a substantial adverse effect on a scenic vista, substantially damage scenic resources, nor create a new source of light or glare that would adversely affect day or nighttime views in the area. Therefore, based on the scope, description, and location of the proposed project, as well as the Visual Impact Assessment (Caltrans 2020l) prepared in December 2020, it was determined there would be "No Impact" for Questions a), b), and d) of the CEQA Environmental Checklist Aesthetics determinations. See below for further discussion of the "Less Than Significant Impact" determination made for Question c).

> ***c) Would the project, 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.)***

The project corridor may be divided into a series of "outdoor rooms" or visual assessment units. Each visual assessment unit has its own visual character and visual quality. It is typically defined by the limits of a particular viewshed, or by an area of similar visual character. Only one visual assessment unit and its associated key views was identified for this study. The project corridor is small, has a limited viewshed range, and has a similar

visual character throughout the extent of the project limits. The project can be broken up into two different key views within one visual assessment unit. Key view locations include Key View 1—Traveling northbound on the bridge and Key View 2—Looking south from Fish Creek to the bridge.

There are other views towards and from the project area; however, for this study, the established key views listed above most accurately represent the change in overall visual character and visual quality between the existing conditions and the proposed project for the majority of viewers. This analysis better informs the visual resources and resource change within the project corridor.

Key View (KV) 1 includes motorist, pedestrian, and cyclist viewers on SR 254 from on top of the existing RCB culvert while traveling northbound. From the project location, the highway is oriented in an easterly-westerly direction. The viewshed encompasses views to the south, west, and north of the culvert. KV 1 informs visual impacts caused by the installation of the bridge, secant walls, chain link fence, and tree removal, as seen from the highway. Any visual changes associated with KV 1 would also reflect impacts for viewers who are traveling southbound within the project limits (Figure 2).

Figure 2. Visual simulation of proposed bridge from southbound SR 254

KV 2 includes recreational tourist viewers from the bank of Fish Creek, located north of the RCB culvert. The viewshed encompasses views from the creek bank looking south towards the culvert (Figure 3). KV 2 informs visual impacts caused by the installation of the bridge, secant walls, chain link fence, and channel restoration as seen from adjacent to and below the bridge. Many of the visual changes associated with KV 2 would also reflect impacts for viewers who are next to the creek, on the south side of, and below the bridge (Figure 4).

Figure 3. Visual simulation of Fish Creek Bridge looking downstream

Figure 4. Visual simulation of Fish Creek Bridge looking upstream

The average resource change for the proposed project would be low to low-moderate. Due to bridge installation and wall expansion, but considering views of and from the project overall, the project would result in lower changes to visual resources. Roadway widening would not lead to changes to visual resources. The highway would become slightly more dominant due to the increase in scale; however, widths are still narrow and there are existing larger paved and flat graveled areas adjacent to the project site. The proposed bridge would be a more dominant feature within the landscape than in existing conditions but would not diminish the visual quality of the area. Secant walls with associated wall struts and chain link fence would have the highest change to visual resources. Because there are existing walls, the introduction of larger walls would be a visual change, but not in great contrast with what currently exists. Bridge rails and secant walls would incorporate context sensitive architectural treatment to be consistent with, and maintain, the surrounding visual resources. As wall struts and chain link fence are uncharacteristic visual features amongst the scenic and rural visual resources and detract from the visual quality of the area, to minimize visual intrusion, chain link would be colored and wall struts would be constructed to look like wood.

The quantity of trees scoped for removal are few and relatively spaced out. Due to bridge installation, three trees larger than 2 feet DBH would be removed above the existing RCB culvert on top of the outlet. As a result, there would be a more open area adjacent to the new bridge and views of the creek downstream would be increased. The surrounding redwood forest is considered a large and scenic visual resource. Because the trees anticipated for removal do not have a specifically unique quality or character that make them stand out compared to surrounding trees, it is not anticipated there would be a high level of resource change associated with tree removal. Channel grading work would result in a wider creek channel near the bridge. There would be a change in land massing that would alter the character of the project area, however the work would be compatible with the existing character of the creek corridor as the channel would be more visually consistent with what the channel already looks like up-stream and downstream of the existing RCB culvert. Visual resources would be enhanced as there would be increased views of the creek.

There would be temporary visual impacts due to construction. These visual impacts would be primarily caused by the large equipment and temporary structures that would occupy the area for the duration of construction. Temporary impacts would also include vegetation removal and disturbed soil. Local traffic would be the most affected as they have the highest awareness of the project area and are exposed to it the most.

Based on the Visual Impact Assessment, as well as the scope of the project, it was determined the project would have a "*Less Than Significant Impact*" as the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.2. Agriculture and Forest Resources

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
Would the project: c) Conflict with existing zoning or cause rezoning of forest land (as defined by 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))?				✓
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: 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" determinations in this section are based on the scope, description, and location of the proposed project. There are no farmland, timberland or agricultural uses within the project area. Therefore, potential impacts to agriculture and forest resources are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.3. Air Quality

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

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
Would the project: 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?				✓
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?				✓
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Noise, Air Quality, Energy and Greenhouse Gas Memorandum dated July 16, 2020 (Caltrans 2020i). Humboldt County is designated as attainment or is unclassified for all current National Ambient Air Quality Standards. Therefore, conformity requirements do not apply. The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM10, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature.

Dust and emissions are reduced and controlled according to Caltrans 2015 Standard Specifications. Additionally, the proposed modifications would not result in changes to the traffic volume, fleet mix, speed, location of existing facility or any other factor that would cause an increase in emissions relative to the no build alternative; therefore, this project would not cause an increase in operational emissions. Potential impacts to air quality are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.4. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?			✓	
Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
Would the project: c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
Would the project: 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?			✓	

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
Would the project: 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?				✓

Regulatory Setting

Within this section of the document (2.4. Biological Resources), the topics are separated into Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, and Invasive Species. Plant and animal species listed as "threatened" or "endangered" are covered within the Threatened and Endangered sections. Other special status plant and animal species, including CDFW fully protected species, species of special concern (SSC), USFWS and NMFS candidate species, and California Native Plant Society (CNPS) rare and endangered plants are covered in the Plant and Animal sections.

Natural Communities

CDFW maintains records of sensitive natural communities (SNC) in the California Natural Diversity Database (CNDDB). SNC are those natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special-status taxa or their habitat.

Wetlands and Other Waters

"Waters" of the United States (including wetlands) and State are protected under several laws and regulations. The primary laws and regulations governing wetlands and other waters include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order (EO) for the Protection of Wetlands (EO 11990)
- State Sections 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, Section 3000 et seq.

Plant Species

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. The primary laws governing plant species include:

- Federal Endangered Species Act (FESA), United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402
- California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq.
- Native Plant Protection Act, California Fish and Game Code, Sections 1900–1913
- National Environmental Policy Act (NEPA), 40 C.F.R. Section 1500 through Section 1508
- California Environmental Quality Act (CEQA), California Public Resources Code, Sections 21000–2117

Animal Species

The USFWS, NMFS, and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special status animal species. The primary laws governing animal species include:

- NEPA, 40 C.F.R. Section 1500 through Section 1508
- CEQA, California Public Resources Code, Sections 21000–2117
- Migratory Bird Treaty Act, 16 U.S.C. Sections 703–712
- Fish and Wildlife Coordination Act, 16 U.S. Code Section 661
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

Threatened and Endangered Species

The primary laws governing threatened and endangered species include:

- FESA, United States Code 16 (USC), Section 1531, et seq. See also 50 CFR Part 402
- CESA, California Fish and Game Code, Section 2050, et seq.
- CEQA, California Public Resources Code, Sections 21000–21177
- Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S. Code Section 1801

Invasive Species

The primary laws governing invasive species are Executive Order (EO) 13112 and NEPA.

Environmental Setting

A Natural Environment Study (NES) (Caltrans 2021) was prepared for the project. Caltrans coordinated with fisheries biologists and water quality specialists, as well as agency personnel from CDFW, USFWS, NMFS, NCWQCB, and USACE. See Chapter 3 for a summary of these coordination efforts and professional contacts.

Field reviews were conducted to identify existing habitat types and natural communities, potential jurisdictional waters and wetlands, rare species and/or factors indicating the potential for rare species (i.e., presence of suitable habitat), sensitive water quality receptors, and existing ambient noise levels. Airborne noise and water quality assessments were also examined to evaluate potential impacts to terrestrial and aquatic species from proposed construction activities.

The Environmental Study Limits (ESL) were established for the purpose of conducting surveys within the general project area. The Biological Study Area (BSA) includes the ESL and extends an additional 0.25 mile from the edge of the ESL for species that require additional analysis for auditory disturbance. The "project area" referenced in this document describes the area where construction activities would occur, likely to be directly impacted.

The project is in Humboldt County in the Miranda United States Geological Survey (USGS) quadrangle in T3S, R3E, S11, at 40.22303 latitude and -123.80136 longitude. The culvert is north of the town of Phillipsville and south of the town of Miranda on State Route 254, also known as the Avenue of the Giants. Humboldt Redwoods State Park surrounds the project area outside of the Caltrans right of way.

The project is within the Butte Creek-South Fork Eel River Hydrologic Unit. Fish Creek is a tributary to the South Fork (SF) Eel River. The confluence is approximately 440 feet downstream from the project area. Fish Creek is a federally and state-recognized jurisdictional water that is a Riverine system, Intermittent subsystem, Streambed subclass, with a Seasonally Flooded water regime. Fish Creek drains a watershed of approximately 4.5 square miles. The elevations range from 200 to 2600 ft at Elk Mountain. The terrain near the project area is characterized by an evergreen landscape dominated by redwood forest, with rugged and steep ridges and narrow stream valleys. The elevation at the project area is approximately 265 feet. Much of the watershed is privately owned and managed for timber and other agricultural products.

The area is influenced by the coastal marine climate, giving this region mild, foggy summers and wet winters. The average minimum temperature of 35°F and an average maximum temperature of 84 °F. Rainfall occurs primarily within the winter months and is abundant, with an average annual precipitation of 57 inches per year.

When analyzing impacts to listed species, ambient noise levels are defined by the U.S. Fish and Wildlife Service (USFWS) (USFWS 2006) as sound levels in existence prior to implementation of the proposed action. These include human-generated sound sources when

they constitute a long-term presence in the habitat analyzed. Temporary, short term sources, even if in effect during or immediately prior to the proposed action, would generally not be considered part of the ambient noise level, but would instead be considered a separate effect or considered in combination with sources from the proposed action.

Ambient noise levels within the project site are typically between 81-90 decibels (dB) and are generally characterized by the presence of highway traffic including RV's, large trucks, buses, and loud motorcycles. These noise levels fall within the "high" range of the USFWS guidelines (USFWS 2006).

Natural Communities

Sensitive Natural Communities (SNCs) are natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status taxa or their habitat. High priority SNCs are globally (G) and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively (CDFW 2010a). Natural communities in the ESL were identified based on the vegetation classification used in *A Manual of California Vegetation*, 2nd edition (Sawyer et al., 2009)

The Coast Redwood (*Sequoia sempervirens*) Forest and Woodland Alliance (G3S3) is globally and state ranked as vulnerable with all its recognized communities being classified as SNCs. This Alliance contains all communities in which the Coast redwood is the dominant vegetation species, which represents the entirety of the 5.45-acre ESL for this project. Non-dominant trees within the ESL include California bay (*Umbellularia californica*), bigleaf maple (*Acer macrophyllum*), white alder (*Alnus rhombifolia*), Pacific madrone (*Arbutus menziesii*), and tanoak (*Notholithocarpus densiflorus* var. *densiflorus*). The understory is fairly open, but contains shrubs such as California rhododendron (*Rhododendron macrophyllum*), red elderberry (*Sambucus racemosa*), thimbleberry (*Rubus parviflorus*), elk clover (*Aralia californica*), salmonberry (*Rubus spectabilis*), California hazelnut (*Corylus cornuta* ssp. *californica*), and herbaceous vegetation such as redwood sorrel (*Oxalis oregana*), western coltsfoot (*Petasites frigidus* var. *palmatus*), western sword fern (*Polystichum munitum*), mugwort (*Artemisia douglasiana*), wild ginger (*Asarum caudatum*), false lily-of-the-valley (*Maianthemum racemosum*), evergreen violet (*Viola sempervirens*), fringe cups (*Tellima grandiflora*), and Douglas' iris *(Iris douglasiana*), as well as other common ruderal roadside herbs.

A Tree Impact Analysis for the Fish Creek Bridge Fish Passage Improvement Project (Arborist Report) was prepared in July 2020 to analyze the potential impacts to Coast redwood trees and their roots as a result of this project (Caltrans 2020k). The report presents the results of a tree impact analysis of large-diameter trees, mainly Coast redwood, that could potentially be affected by the project. For the report, a tree is considered large diameter if it has a diameter-at-breast height (dbh) of 2.0 feet or greater. The purpose of the report was to recommend changes to draft project designs that could reduce potential for impacts on large-diameter trees, assess the accuracy of tree mapping efforts, assess tree health and growing conditions, and recommend which trees should be removed or left in place.

Wetlands and Other Waters

Fish Creek is a federally and state-recognized jurisdictional water that is 2.75 acres of the Riverine system, Intermittent subsystem, Streambed subclass, with a Seasonally Flooded water regime.

The United States Army Corp of Engineers (USACE) regulates Waters of the U.S. under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbor Act. Waters of the U.S. include wetlands, special aquatic sites, and other non-wetland waters, such as bays, rivers, and lakes.

The California Regional Water Quality Control Board (RWQCB) regulates discharges of fill and dredged material into Waters of the State under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. This program protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters because these water bodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. The RWQCB is involved with protection of special status species and regulation of hydro-modification effects. The program encourages basin or landscape level analysis and protection of functions of wetlands, riparian areas, and headwater streams, including pollutant removal, floodwater retention, and habitat connectivity.

A field review was conducted to identify jurisdictional features, wetlands, and other waters within the project limits. The boundaries of Other Waters of the U.S. would be delineated at the ordinary high-water mark (OHWM) in accordance with 33 CFR 328.3 and *USACE Regulatory Guidance Letter 05-05* (USACE 2005). No wetland features were identified within the ESL. Methods used to come to this determination are described in *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional*

Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010). The OHWM represents the limit of potential USACE jurisdiction over non-tidal waters (e.g., rivers) in the absence of adjacent wetlands. There are no tidal waters in the study area. Wetlands and other waters were classified according to *Classification of Wetlands and Deepwater Habitats of the United States, 2nd Edition* (Federal Geographic Data Committee 2013). Waters of the U.S. and State are present within the project area. The width of the channel within the OHWM upstream of the culvert is approximately 40 feet. A low-flow channel about 5 feet wide sits within the active channel. Below the culvert, the channel balloons out into a bowl-like amphitheater that reaches a maximum width of about 130 feet before narrowing back down to 40 feet wide approximately 100 feet downstream. The undersized culvert at this location causes channel widening upstream due to channel aggradation and widening downstream in response to both erosion and sedimentation (CDFW 2016). The amphitheater is likely exacerbated when flows traveling at high velocities through the culvert hit backwater from the South Fork Eel River.

Vegetation present on the banks of Fish Creek within the ESL is considered riparian, regardless of species composition or origin, owing to their connectivity to the project area waters and relative functional values for improving water quality and habitat for aquatic species. Riparian vegetation at this location includes alder, bigleaf maple, several small redwoods less than 12 inches in diameter, and several fern species.

Plant Species

The California Native Plant Society (CNPS) inventory, California Natural Diversity Database (CNDDB) and USFWS Information for Planning and Consultation (IPaC) species lists indicate several rare plants which could potentially occur within the BSA (Appendix C). However, none of the plants in these records were detected within the ESL. Botanical surveys were conducted during the appropriate time of year when potentially occurring rare plants would be present and identifiable. The surveys followed the CDFW *Protocols for Surveying and Evaluating Special Status Native Plant Populations and Natural Communities* (CDFW 2009). Floristic surveys were conducted by Caltrans biologist Annie Allen on June 28, 2019; July 11, 2019; and May 1, 2020. All plants were identified to the taxonomic level necessary to determine rarity status using taxonomy from The Jepson Manual (Baldwin et al., 2012). Discussions of Humboldt County milk vetch (*Astragalus agnicidus*) and water howellia (*Howellia aquatilis*) are provided below given their FESA and/or CESA listing status and relative sensitivity, along with their potential to occur in the project area.

Humboldt County Milk-Vetch

Humboldt County milk-vetch (*Astragalus agnicidus*) is a state endangered, California Rare Plant Rank (CRPR) 1B.1, coarse leafy perennial herb that blooms in the summer to early fall. The geographical distribution of this species in California includes the outer North Coast ranges in Mendocino and Humboldt counties (Hickman 1993). It ranges in elevation from 635 to over 2,624 feet (180 to 800 meters) (CNPS 2019, HRC 2013). It is documented in several locations in Mendocino County but in only two watersheds (Larabee Creek and Bear Butte) in Humboldt County, with the populations on Humboldt Redwood Company (HRC) land being the largest (CDFW-CNDDB 2020). The largest population occurs in the Larabee Creek drainage, which is on the mainstem Eel River about ten miles to the north of the project. It is described as occupying disturbed areas in the broad-leaved upland forest and North Coast coniferous forest and open soil in woodland (Baldwin 2012, HRC 2013).

Seasonally-appropriate floristic surveys were completed within the project area in 2019 and 2020 for Humboldt County milk-vetch and other regionally-occurring special status plants. CNDDB records the nearest detection approximately 3.4 miles west of the project area in the Bear Butte watershed. While the project site may support suitable habitat for Humboldt County milk-vetch, the species was not present within the project area during botanical surveys.

Water Howellia

Water howellia (*Howellia aquatilis*) is a federally threatened, CRPR 2B.2 aquatic plant. Water howellia usually flowers in June, with small trumpet-shaped blooms ranging from white to light purple in color, at or above the water surface. Water howellia reproduces only by seed that germinates when ponds dry during fall. This results in annual variability in population size depending on the extent of the previous seasonal drying. Water howellia can be found in freshwater marshes and swamps. It is often found in clear ponds with other aquatic plants and surrounded by ponderosa pine forest and sometimes riparian associates.

Seasonally-appropriate floristic surveys were completed within the project area in 2019 and 2020 for water howellia and other regionally-occurring special status plants. A CNDDB record from 130 years ago shows the nearest detection approximately 7.5 miles east of the project area. The project site does not contain suitable habitat for water howellia, and the species was not observed within the project area.

Animal Species

Record searches and habitat assessments were conducted to determine whether special-status (threatened, endangered, species of special concern) wildlife species have the potential to occur within the BSA. Lists of special status taxa and sensitive natural communities known to occur, or could potentially occur, within the project region are provided in Appendix E. Species that were queried but do not have potential habitat in the BSA are not discussed in this document as CEQA, FESA, and CESA only require analysis of species that could potentially be affected by a project. Those species and habitats listed in Appendix E that could potentially be impacted by the proposed project, and all species listed under the Federal or California Endangered Species Acts (regardless of impact given their relative sensitivity), are further evaluated below.

Bat Species

In the mild northern California coastal climate, bats are present year-round. In colder areas they are often migratory. In California, fourteen species of bats are either considered Species of Special Concern (SSC) by CDFW or currently proposed for such status. Additionally, the Forest Service and Bureau of Land Management list some species as sensitive and the Western Bat Working Group lists some as high priority for consideration of conservation measures. Under CEQA, state agencies, local governments, and special districts are required to evaluate and disclose impacts from projects in the state. California Fish and Game Code Section 4150 provides further protection to bats (non-game mammals) from take or possession. Disturbances by humans, especially in hibernacula and maternity roosts, are a serious threat to most of the species.

All 25-bat species that occur in California use one or more natural features or anthropogenic structures for roosting and 15 species are known to use bridges. Bats also forage in habitats near bridges such as riparian communities and open water, and along transportation corridors (e.g., roadside tree canopies) (Caltrans 2019b). Bridges are the transportation structures most commonly associated with bat species. Bats use bridge cavities for roosting during the day and for bearing and rearing young (i.e., maternal roost) typically from February through August. They may also use bridges in winter as hibernacula. At night, bats often roost in the open on the concrete undersides of bridges. Night roosts, which are used from approximately sunset to sunrise, are sites where animals congregate to rest and digest their food between foraging bouts. Night roosts also serve as important stopping points during migration and appear to have a social function.

In addition to bats roosting inside or on bridge structures, bats can roost in culverts, on rocky banks, or in nearby trees, such as those in adjacent riparian habitat. These trees represent potential roosting sites for foliage roosting bats such as hoary bats (*Lasiurus cinereus*) and western red bats (*Lasiurus blossevillii*), as well as for many species of crevice roosting bats. Buildings and other structures that are adjacent to a transportation project may also provide potential habitat for crevice or cavern roosting species. Two species of bats considered to be SSC by CDFW were documented within the nine-quad database searches: pallid bat (*Antrozous pallidus*), and western red bat. These species could potentially occur within the BSA.

The project is also within range of fringed myotis (*Myotis thysanodes*), little brown bat (*Myotis lucifugus*), Mexican free-tailed bats (*Tadarida brasiliensis*), hoary bat, silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*) and Yuma myotis (*Myotis yumanensis*) and several other species (CDFW-CNDDB 2020). Of these, Mexican free-tailed bat, little brown bat, and Yuma myotis are commonly found on bridges, and fringed myotis, Townsend's big-eared bat (*Corynorhinus townsendsii*), and little brown bat are occasionally found on bridges. All these species are known to use bridge structures for day roost, maternity roost, and/or night roost where habitat is suitable (Erickson et al., 2002). Yuma myotis, Townsend's big-eared bat, big brown bat (*Eptesicus fuscus*), long-legged myotis (*Myotis volans*), long-eared myotis (*Myotis evotis*), hoary bat, and California myotis have been historically documented roosting within redwood trees (Zielinski et al., 2007). Hoary bat, silver-haired bat, and western red bat are known to roost in trees exclusively.

The redwood forest within Humboldt Redwoods State Park and within the BSA offers foraging and roosting habitat for bats. Both day and night roosting bats could occur within crevices and cavities of trees and snags within the forested landscape.

The CNDDB RareFind database shows the nearest pallid bat occurrence approximately 13 miles south of the project area within Richardson Grove State Park. The closest recorded observations of western red bat are approximately 13 miles northwest of the project area in Humboldt Redwoods State Park near Bull Creek.

Trees in the immediate vicinity of the project area were inspected for cavities, guano accumulations, staining, and observable crevices. No signs of potential bat colonies were detected within the immediate vicinity of the project area. No trees marked for removal had signs of bat roosting activity or observable roosting cavities or crevices. The large 16-foot-diameter redwood tree within the ESL has a large cavity that may provide night roosting habitat for bats but did not contain evidence of being used as a prominent day roost by a maternity colony, and no bats were observed inside during multiple daytime field visits.

Foothill Yellow-Legged Frog

Foothill yellow-legged frog (FYLF) (*Rana boylii*) is a SSC and was a candidate for state-threatened listing. CDFW made the decision in March of 2020 to not list the Northwest/Northcoast clade of this species. The BSA falls within the range of this clade. The species is characteristically found very close to water in association with perennial streams and ephemeral creeks that retain perennial pools through the end of summer. Adults preferentially utilize shallow edgewater areas with low water velocities for breeding and egg laying, usually characterized by gravel, cobble, and boulder substrate. Reproduction occurs in aquatic environments, however mating and egg-laying occurs exclusively in streams and rivers (not in ponds or lakes). This occurs from April until early July, after streams have slowed from winter runoff. Eggs hatch within 5 to 37 days, depending on temperature. Tadpoles transform in three to four months, typically from July to October (California Herps 2019). Juvenile and non-breeding adult frogs may be found adjacent to riffles, cascades, main channel pools, and plunge pools that provide escape cover. During cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water.

Approximately 5-7 adult FYLF were observed within the project area during each snorkel survey in 2019. Fish Creek acts as foraging habitat for adults and juveniles but does not provide adequate breeding habitat due to the low water temperatures and dense canopy cover of the redwood forest. It is more likely that individuals would move downstream to the South Fork Eel River during the spring and summer to breed and lay their egg masses.

Migratory Birds

Trees and vegetation present at the project location provide habitat for migratory birds. Several bird species were detected during site visits in 2019. A comprehensive list of avian species observed can be found in the Natural Environment Study (NES) (Caltrans 2021) for this project.

Northern Red-Legged Frog

The northern red-legged frog (NRLF) (*Rana aurora*) is a SSC that occurs along the California Coast Ranges from Del Norte County to Mendocino County, usually below 3,936 feet (1,200 meters). NRLF use ephemeral, intermittent, and perennial creeks and streams, reservoirs, springs, wetlands, and man-made impoundments as breeding habitat and aquatic non-breeding habitat (CDFW-CNDDB 2020). Upland dispersal habitats are primarily utilized by NRLF in dispersal events, which can be triggered by both periods of wet weather and dry weather when breeding pools and other occupied aquatic habitats dry up and are no

longer suitable (CDFW 2018). NRLF likely require rains for dispersal as individuals have been found considerable distances from breeding sites on rainy nights. This frog is highly aquatic and prefers shorelines with extensive vegetation. It uses deep-water habitat [three feet (one meter) or more] at the bottom of pools to escape predation. NRLF breed from January to July and require permanent or nearly permanent pools for larval development, which takes 11 to 20 weeks. Intermittent streams must retain surface water in pools year-round for frog survival (CDFW 2018).

No specific surveys were conducted by Caltrans biologists for this species. The CNDDB Rarefind database shows the nearest recorded NRLF occurrence approximately 4.5 miles north of the project area. Fish Creek may provide suitable habitat for NRLF. While no NRLF were observed during field visits, this species may be present within the ESL.

Osprey

Osprey (*Pandion haliaetus*) are treated as "taxa to watch" by CDFW due to their former inclusion on special concern lists. While they have demonstrated population declines, they are still common and widespread in the state and are currently at a low risk for extinction. The current population trends for osprey are steadily increasing (International Union for Conservation of Nature [IUCN] 2016). Osprey feed almost exclusively on fish and inhabit areas near shallow waters, either fresh or salt, that offer a steady source of food. Nests are usually built on snags, treetops, or crotches between large branches and trunks, on cliffs or human-built platforms. Nests are placed in open surroundings for easy approach and elevated for safety from ground predators.

No species-specific surveys were performed for this species. The nearest CNDDB RareFind database observation is 2.3 miles south of the project area. The eBird database lists multiple non-nesting observations of this species 2-3 miles from the project area along the South Fork Eel River (eBird 2019). No osprey nests or individuals were observed within the BSA during 2019 or 2020 surveys.

Pacific Fisher

The Pacific fisher (*Pekania pennanti*) West Coast DPS is a SSC and some California populations are regulated as state threatened. The 20160420 FGC Notice of Findings stated that the Pacific fisher Southern Sierra ESU (defined as California south of the Merced River) warranted listing as threatened, while the Northern California Evolutionarily Significant Unit

(ESU) does not currently warrant listing. The project would occur within the range of the Northern California ESU of Pacific fisher West Coast DPS.

The fisher is one of the larger members of the weasel family (*Mustelidae*) and are opportunistic, generalist predators with a diverse diet including mammalian and avian prey, ungulate carrion, vegetation, insects, and fungi. Fisher are known to occur in coniferous forest in the coastal ranges of Northern California, including second growth and old growth redwood forest, with a possible preference for stands with structural complexity, diversity, and large logs and snags for resting and denning (Hatler et al., 2003). The fisher requires intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. They require large areas of mature, structurally complex, conifer and mixed conifer hardwood forest and occupy home ranges that can exceed 14,826 acres (6,000 ha) (Zielinski et al., 2006). Fishers are generally solitary animals, except during the breeding. They mate between February and late April, giving birth the following March or April (CDFW 2010b).

The CNDDB RareFind database shows the nearest fisher detection approximately 1.7 miles north of the project area. Protocol-level surveys were not performed for this species. The immediate project vicinity was surveyed for trees suitable for fisher resting habitat and maternity den sites. Trees suitable for fisher den sites include conifers ≥ 22 inches DBH and hardwoods ≥ 18 inches DBH, not smaller trees. Day resting sites could include branches, platforms, and cavities of live trees. Suitably sized trees with the following characteristics were considered as potential fisher den sites: Any broken-topped tree with a minimum diameter at the break of 18 inches or larger;

- Trees with one or more limbs 12 inches or greater in diameter;
- Trees with a cavity (or void within a tree bole or large limb), with a relatively small opening; includes all cavities with entrances 2.5 to 6 inches across the smallest direction (for example, a vertical slit-like opening 4 inches across would count, as would a more circular entrance).

The BSA most likely contains numerous potential day resting locations and large hollow redwoods with suitable denning cavities; however, there are no potential den structures or day resting locations within the ESL where work would be conducted. Fishers are a nocturnal species averse to interacting with humans. They would likely be absent from marginal quality habitat within the ESL due to high levels of human disturbance, such as

areas bordering roads, trails, human habitation, etc. No signs of fisher occupation were observed and no trees with suitable denning habitat would be removed.

Ring-Tailed Cat

Ring-tailed cat (ringtail) (*Bassariscus astutus*) is a CDFW fully protected mammal. It is a member of the raccoon family (*Procyonidae*) that may be found in fragmented and disturbed areas and will den inside buildings and other manmade structures (Myers 2010). Ring-tailed cats are nocturnal carnivores that forage at night for a variety of prey, primarily small mammals, invertebrates, birds, and reptiles. Ring-tailed cats may supplement their diet with plants or fruit. In northwestern California, ring-tailed cats tend to select diurnal rest sites in proximity to steep slopes and water sources. They frequently change rest sites, although some may be revisited regularly. Most litters are born in May or June, with young beginning to forage outside the den site after two months. Dens can be in rock crevices, living and dead hollow trees, logs, brush piles, buildings, and other manmade structures. Female ring-tailed cats may regularly move young between dens (Poglayen-Neuwall and Toweill, 1988).

No species-specific surveys were conducted for this species. No CNDDB occurrence information is available as CNDDB does not track ring-tailed cat observations. No potential natal dens were observed within the ESL, however potential den sites and are present within the BSA.

Western Bumble Bee

The western bumble bee (*Bombus occidentalis occidentalis*) is a California SSC and is currently a candidate for listing as endangered under the CESA. The species once had a broad historic distribution across the west coast of North America and has been documented in much of Northern and Central California. However, recent data suggests that the western bumble bee has been lost from much of its historic range and its relative abundance has greatly declined (Xerces Society et al., 2018). In California, populations are currently restricted to high elevation areas in the Sierra Nevada, with a couple of observations on the northern California coast (Xerces Society et al., 2020).

The western bumble bee requires meadows and grasslands with abundant floral resources with potential nest sites and overwintering sites. Floral resources (nectar and pollen) must persist throughout the colony's lifecycle of approximately February to November, although dates likely vary by elevation and local climate. The flight period for this species varies by caste, in California: queens flight period is from February to November, peaking in late June

and late September, workers and males flight period is from April to early November. Abundance peaks in early August (workers), and in early September (males) (Thorp et al., 1983).

Nest sites typically consist of unoccupied animal nests/burrows (such as ground squirrel burrows) however above ground nests (i.e. in logs) have also been documented. This bees' colonies can include over 1,500 individuals and are relatively large compared to other bumble bee species. Little is known about overwintering sites, however hibernacula in "a steep west slope" of approximately 2 inches deep have been reported for this species and other closely related species have been reported hibernating beneath trees.

No surveys were conducted for western bumble bee. The project location is outside of the current range of the species as it is currently restricted to high elevation sites in the Sierras and a few areas along the coast (Xerces Society et al., 2018). According to the CNDDB Rarefind database, there are several historical occurrences along the SF Eel River within the general vicinity of the project. The nearest observation to the project area is shown approximately 0.5 mile from the project area around the town of Miranda. This observation is from 1955. The most recent documented occurrence within the project vicinity was collected in 1976 and is mapped approximately 6 miles south of the project area near Redway. No suitable meadows or grasslands exist within the project area that would provide habitat for this species. Additionally, no animal burrows (such as ground squirrel) were observed, which the species may rely on for nesting habitat. There may be potential nesting sites within the interstitial spaces between rocks in the fill slope/creek channel near the outlets or above ground in logs.

Western Pond Turtle

Western pond turtle (WPT) (*Emys marmorata*) is a state SSC. This species can be found near permanent ponds, lakes, streams, and irrigation ditches. They favor habitats with large numbers of emergent logs or boulders, where they gather to bask. WPT are omnivorous and most of their animal diet includes insects, crayfish, and other aquatic invertebrates. Fish, tadpoles, and frogs are eaten occasionally, and carrion is eaten when available. Plant foods include filamentous algae, lily pads, tule, and cattail roots. Females typically move overland for up to 100 feet (30 meters) to find suitable nesting sites for egg laying. Eggs are laid from March to August and incubate underground for approximately 75 days. Eggs are typically deposited in nests constructed in sandy banks along large slow-moving streams, though nests have been observed in many soil types as far as 325 feet from water.

No species-specific surveys were conducted for WPT. This species was not observed during surveys within the ESL in 2019 or 2020, but habitat exists downstream of the culvert in the South Fork of the Eel River. The CNDDB RareFind database shows the nearest WPT detection approximately 3.5 miles north of the project area.

Threatened and Endangered Species

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus anatum*) is a CDFW fully protected species. The peregrine falcon feeds mainly on birds (doves, shorebirds, pigeons, ducks), as well as some mammals, such as bats, rabbits, and rodents, and occasionally insects, reptiles, and fish. Peregrine falcons are usually found alone or in breeding pairs, with each pair maintaining a breeding territory and often remaining together throughout the year. Nesting in Northern California may begin in March, with young leaving the nest by early July. Although peregrine falcons often nest on cliff faces, they will select a wide variety of other structures for nest sites, including buildings, bridges, and electrical transmission structures (White et al., 2002). No species-specific surveys were performed for this species. CNDDB lists one observation approximately 7 miles south of the project. The eBird database lists one detection approximately 2 miles east of the project area. While suitable habitat is present within the BSA, no peregrine falcon nests were observed in the BSA.

Bald Eagle

Although the bald eagle (*Haliaeetus leucocephalus*) was delisted from federal status, it is still considered state endangered. Bald eagles remain federally protected by the Bald and Golden Eagle Protection Act (16 U.S.C. §668). They typically nest in large trees within one mile of fishable waters, within or directly adjacent to forests with large trees that provide suitable nesting structures (Buehler 2000). The active breeding season occurs February through August. Bald eagles are known to feed on a wide variety of fish, small mammals, amphibians, reptiles, and small birds. They are also documented to scavenge for food and eat carrion. In Humboldt County, bald eagles are strongly tied to open water and undisturbed shorelines. River corridors and estuaries attract scattered individuals thought to be migrants, or otherwise nonresident, from October to March (Hunter et al., 2005).

No species-specific surveys were performed for this species. CNDDB lists no observations within the nine-quad search. The eBird database lists 10 detections within 3.5 miles of the project area. A bald eagle was observed at the mouth of Fish Creek at the South Fork Eel River just outside of the ESL during surveys in 2020.

Golden Eagle

The Golden eagle (*Aquila chrysaetos*) is federally protected under the Bald and Golden Eagle Protection Act and is a CDFW Fully Protected species. Golden eagles can be found from the tundra, through grasslands, forested habitat and woodland-brushlands, south to arid deserts, including Death Valley, California. They are aerial predators and eat small to mid-sized reptiles, birds, and mammals up to the size of mule deer fawns and coyote pups. They also are known to scavenge and utilize carrion. Golden eagles build nests on cliffs or in the largest trees of forested stands that often afford an unobstructed view of the surrounding habitat. Their nests are usually, sticks and soft material added to existing nests, or new nests that are constructed to create strong, flat or bowl-shaped platforms. Golden eagles avoid nesting near urban habitat and do not generally nest in densely forested habitat. Individuals will occasionally nest near semi-urban areas where housing density is low and in farmland habitat; however Golden eagles have been noted to be sensitive to some forms of human presence. Golden eagles lay one to four eggs, with two eggs being most common and four eggs most rare. The laying interval between eggs ranges between three to five days (USFWS 2011a).

No species-specific surveys were performed for this species. The CNDDB Rarefind database shows the nearest recorded observation 1.8 miles north east of the project area. The eBird database shows the nearest observation approximately 2 miles from the project area. No Golden eagles or their nests were observed within the ESL during surveys in 2019 or 2020. There is no suitable nesting habitat within the project area.

Humboldt Marten

The Humboldt marten (*Martes caurina humboldtensis*) is a federally proposed threatened and state endangered species. It is a carnivorous mammal that historically occupied the coastal mountains of California from Sonoma County north to the Oregon border. The current distribution is limited to areas of Humboldt, Del Norte, and Siskiyou counties. Humboldt marten are associated with late successional conifer stands with dense shrub layers and abundant downed tree structures used for resting, denning, and escape cover. They are also associated with serpentine soil communities of various seral stages with variable tree cover, dense shrubs, and rock piles and rock outcrops used for resting, denning, and escape cover. Natal and maternal dens would likely be occupied from late March or April, when females give birth until the young disperse in late summer or autumn (Hamlin et al., 2010). This project is outside the current known population distribution

The CNDDB RareFind database shows the nearest recorded location of Humboldt marten as 8 miles north of the project area near Weott. Protocol-level surveys were not performed for this species due to the lack of suitable habitat. Any trees that would be removed do not provide suitable denning habitat for marten.

Little Willow Flycatcher

Little willow flycatcher (WIFL) (*Empidonax traillii brewsteri*) is a state endangered bird species. WIFL occur annually both as a spring and fall migrant and casual summer resident and breeder in northwestern California. Along the coast, they are late spring migrants, appearing in May-June and in August-September. WIFL are locally rare to uncommon during their nesting season in June and July. Breeding habitat is typically moist meadows with perennial streams; lowland riparian woodlands dominated by willow (primarily in tree form) and cottonwoods; or smaller spring-fed or boggy areas with willow or alder (Craig, D. and P. L. Williams, 1998). In lowland riverine habitats, it is thought that contiguous willow thickets are used because the linear nature of these areas provides sufficient edge habitat and/or the tree-like willows typically found in these areas provide sufficient openings within the canopy (Harris 1991).

The CNDDB RareFind database shows the nearest recorded location of WIFL as 2.3 miles north of the project area near Miranda. Protocol-level surveys were not performed for this species due to the lack of suitable habitat within the ESL. Any trees that would be removed do not provide suitable nesting habitat for WIFL.

Marbled Murrelet

Marbled murrelet (MAMU) (*Brachyramphus marmoratus*) is a federally threatened and state endangered species. The MAMU is a small Pacific seabird that breeds along the Pacific coast of North America from the Aleutian Archipelago and southern Alaska south to central California. In the Pacific Northwest (Washington, Oregon, and California), they have a unique life history strategy in that they feed primarily in nearshore marine waters (within a few miles of shore) but fly inland to nest in mature conifers. Nesting habitat is primarily associated with large tracts of old-growth forest, typically within 50 miles from shore, characterized by large trees, a multistoried stand, and moderate to high canopy closure. They are commonly absent from stands less than 60 acres in size. Nests in the Pacific Northwest are typically found in the largest diameter old-growth tree available in the stand. Nests are not built, but an egg is laid in a depression of moss or other debris on the limb of a large conifer. Suitable nest structures include large mossy horizontal branches, mistletoe

(*Phoradendron spp*.) infections, witch's brooms (structural deformities of the tree), and other such structures (NatureServe Explorer 2021). During the March to September breeding season, MAMU typically fly along river corridors for their morning and evening nest visits.

The project area is within MAMU Critical Habitat. The primary constituent elements (PCEs) for MAMU Critical Habitat are:

1. Forested stands containing large-sized trees, generally more than 32 inches (81 centimeters) in diameter with potential nesting platforms at sufficient height, generally greater than or equal to 33 feet (10 meters) in height; and

2. The surrounding forested areas within 0.5 mi (0.8 km) of these stands with a canopy height of at least one-half the site-potential tree height.

No species-specific surveys were conducted by Caltrans at this location to observe and record MAMU. The nearest recorded CNDDB observation is from 1994 and is approximately 6.5 miles northwest of the project area. Murrelets likely use the South Fork Eel River as a migratory corridor. Presence within the action area is inferred since no surveys were performed.

Northern Spotted Owl

The northern spotted owl (NSO) (*Strix occidentalis caurina*) is a federal and state threatened species. NSOs generally have large home ranges and use large tracts of land containing significant acreage of older forest to meet their biological needs. The attributes of superior NSO nesting and roosting habitat typically include a moderate-to-high canopy closure (60 to 80 percent); a multi-layered, multi-species canopy with large overstory trees; a high incidence of large trees with deformities (large cavities, broken tops, mistletoe infections, and debris accumulation); large accumulations of fallen trees and other debris; and sufficient open space below the canopy for flight. In redwood forests and mixed conifer-hardwood forests along the coast of northwestern California, considerable numbers of NSO also occur in young forest stands (USFWS 2011b). NSOs tend to select broken-top trees and cavities in older forests for nest sites, although they will also use existing platforms such as abandoned raptor nests, squirrel nests, mistletoe brooms, and debris piles. In younger forests, existing platforms are more frequently utilized for nest sites (Gutierrez et al., 1995). Courtship initiates in February or March with the first eggs laid in late March through April. Fledglings generally leave the nest in late May or in June but continue to be dependent on their parents

into September until they are able to fly and hunt on their own. By September, juveniles have left their natal area.

No species-specific surveys were performed for NSO. According to the CNDDB RareFind database, the closest positive detections (dated between 1995 and 2000) to the project site were 0.5 and 0.75 mile away from the project area. The nearest NSO activity center is approximately 1 mile to the northeast of the project area and was last surveyed in 2008. Potential NSO habitat is present on-site and presence is assumed at this location.

Salmonids

Chinook Salmon

The California Coastal (CC) Evolutionarily Significant Unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*) is federally listed as threatened and a state SSC. NMFS published its decision to list the CC ESU of Chinook salmon as threatened under the Federal Endangered Species Act (FESA) on September 16, 1999 (64 FR 50394), with the final decision on June 28, 2005 (70 FR 37159). This status was updated on April 14, 2014 (79 FR 20802). Chinook salmon have a life history similar to Southern Oregon/Northern California Coast (SONCC) coho salmon but are easily distinguished from other *Oncorhynchus* species by their large size, with some individuals growing to more than 100 pounds. In the Eel River, two-year-old premature males (jacks) and three to four-year-old adult Chinook salmon enter the Eel River estuary between September and February and move upstream after sufficient rains.

Chinook salmon spawn in November and December, depending on rainfall patterns. The female lays eggs for the male to fertilize in the gravel river bottom, with the adults dying soon after. After three to four months, in late winter or spring, the fry emerge from the gravel. Juvenile Chinook salmon will start their downstream migration to the estuary and out to the ocean. Once juveniles descend from their freshwater natal streams, it is likely they use the estuary in the winter and spring as a transition before ocean entry. This project is within designated critical habitat for CC Chinook salmon.

Caltrans anticipates Section 7 Consultation for the project will be covered under the *Programmatic Authorization for Caltrans' Routine Maintenance and Repair Activities in Districts 1, 2, and 4* (National Marine Fisheries Service 2013).

Survey Results

A California Department of Fish and Wildlife (CDFW) field survey dated April 30, 1969, made the following observation after completing an electrofishing operation, "No fish were found above this culvert. Silver (coho) salmon and steelhead young of the year were found below this culvert. At this date, this culvert remains a complete barrier to anadromous fish."

A CDFW stream inventory was conducted during the summer of 1999 on Fish Creek. The inventory was conducted in two parts: habitat inventory and biological inventory. The objective of the habitat inventory was to document the habitat available to anadromous salmonids in Fish Creek. The objective of the biological inventory was to document the presence and distribution of juvenile salmonid species, the current habitat conditions, and to recommend options for the potential enhancement of habitat for Chinook salmon, coho salmon and steelhead trout. Recommendations for habitat improvement activities are based upon target habitat values suitable for salmonids in California's North Coast streams.

An adult carcass survey was last conducted on Fish Creek by CDFW during the 1993-1994 season. No live or dead anadromous salmonids were observed, no skeletons were found, and no redds were observed in the survey conducted on January 6, 1994.

In 2007, a second habitat typing survey was completed by CDFW, which encompassed the lower 5,500 feet of Fish Creek. The 2007 habitat survey also included snorkeling in seven pools and divers counted a total of 11 coastal rainbow trout/juvenile steelhead.

In July of 2015, Ross Taylor and associates prepared a biological monitoring report for a proposed barrier removal project on Fish Creek. The previous habitat findings were confirmed in this report. At the time of the July 6 survey, the channel was dry between the culvert and the confluence with the South Fork Eel River. Approximately 800 feet of channel immediately upstream of the culvert was also dry. At the confluence of the first tributary on the right-bank, there was mostly continuous flow, but several larger pools were isolated. Electrofishing began at the pools with continuous flow and moved upstream from there. Twenty pools were sampled. The objective of sampling was to confirm fish presence; therefore, once fish were detected within a specific pool, the electrofishing effort was concluded and moved upstream. There were several age classes of trout found in the survey, but no salmon were observed. During the winter of 2015, in the channel downstream of the culvert, several spot checks for redds and adult salmonids were conducted, and none were observed.

Additionally, Caltrans biologists conducted three salmonid surveys over two years. The surveys were conducted from the confluence with the South Fork Eel River, approximately 440 feet downstream to approximately 1,000 feet upstream. The findings are summarized in Table 2 below. Most fish observed were trout species, apart from four coho found at the outlet of the culvert in July 2019.

These young-of-the-year (YOY) coho were likely using Fish Creek as non-natal rearing habitat due to the lack of past evidence of anadromous fish upstream and the fact that the velocity within the culvert is likely to create a complete barrier to adult salmonids (especially to coho, who are relatively weak swimmers).

Additionally, during an August 14, 2020, field visit, approximately 20 pikeminnow were observed in a pool just above the confluence with the SF Eel River. No in-water salmonid surveys were conducted on this date, as the creek upstream of this was mostly dry.

Table 2. Summary of Caltrans Fish Creek Salmonid Surveys

Species	6/28/19	7/11/19	5/1/20	8/14/20
Chinook Salmon	0	0	0	N/A
Coho Salmon	0	4 YOY at culvert outlet	0	N/A
Trout	9 YOY	13 YOY and yearling, half of them upstream of culvert	3 yearlings at culvert outlet	N/A
Additional Species	0	0	0	>20 Sacramento pike minnow (*Ptychocheilus grandis)*

Coho Salmon

The Southern Oregon/Northern California Coast (SONCC) coho salmon (*Oncorhynchus kisutch*) includes all naturally spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California, as well as salmon produced by three artificial propagation programs: the Cole River Hatchery near the Rogue River in Oregon and the Trinity River and Iron Gate (Klamath River) hatcheries in California. The SONCC ESU is listed as threatened at both the state and federal levels.

NMFS published its final decision to list the SONCC ESU of coho salmon as threatened under the Federal Endangered Species Act (FESA) on May 6, 1997 (62 FR 24588), a status that was reaffirmed on August 15, 2011 (76 FR 50447). The listing initiated the development of a recovery plan for the ESU that includes delisting goals. The final recovery plan for the SONCC coho salmon was published by NMFS in 2014. Critical habitat for the SONCC coho salmon was designated in 1999 (64 FR 24049). This project is within designated critical habitat for SONCC coho salmon.

In the Eel River system, the coho salmon spawning run occurs from December to February. Spawning is predominantly confined to the upper South Fork and its tributaries, and lower tributaries of the mainstem Eel and Van Duzen rivers. Fry emergence takes place between March and July, with peak emergence between March and May. Juvenile coho salmon typically feed and rear within the streams of their natal watershed for a year before migrating to the ocean. Coho salmon fry may move upstream or downstream to rear after emergence. Coho salmon rearing areas include lakes, sloughs, side channels, estuaries, beaver ponds, low-gradient tributaries to large rivers, and large areas of slack water (Pacific Fishery Management Council [PFMC] 2014).

See survey results in above Chinook section.

Steelhead

The Northern California DPS of steelhead (*Oncorhynchus mykiss irideus*) (NC steelhead) is a federally threatened species. The Northern California DPS includes all naturally spawned anadromous *O. mykiss* (steelhead) populations below natural and manmade impassable barriers in California coastal river basins from Redwood Creek southward to, but not including, the Russian River, as well as some state and federal propagation programs. Steelhead in this DPS include both winter and summer-run types, and what is presently considered to be the southernmost population of summer steelhead in the Middle Fork Eel River. Immature steelhead that return to fresh water after only spending a few months in the ocean (half-pounder) also occur within the range of this DPS, specifically in the Mad River and Eel River. Summer-run steelhead are a state candidate threatened and SSC population within the NC steelhead DPS (Population 36). Summer-run steelhead have not been recorded in the SF Eel River since the 1960s (CDFW 2014). Summer-run steelhead would therefore not be able to migrate to Fish Creek and are not expected to occur within the project area. Steelhead that have the potential to be present at this project location are NC steelhead, Population 16. The SF Eel River and Fish Creek are considered critical habitat for the NC DPS of steelhead.

Winter steelhead generally enter the river between November and April as sexually mature fish, spawning between February and April. Once suitable spawning habitat is found, females prepare the spawning nest (i.e., redd). Females can lay between 200 and 12,000 eggs (depending on their size and condition) before migrating back to the ocean by May. Eggs hatch within three to four weeks. Newly emerged steelhead school together and seek shallow waters with gentle currents to grow, while older juveniles maintain territories in faster water and in pool habitats. Steelhead young rear in freshwater environments for one to three years. Juveniles become smolts in early spring and migrate to estuaries or the ocean from March to June, with peak periods in April and May. During this time, smolts may use estuaries to acclimate to saline environments prior to entering the ocean.

See survey results above in Chinook section.

Pacific Salmon Essential Fish Habitat

Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) or federally-managed species as "those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity". The Eel River and associated tributaries support EFH for species regulated under the federal Pacific Coast Salmon Fishery Management Plan.

EFH for the Pacific coast salmon fishery means those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. Freshwater EFH for Chinook salmon and coho salmon consists of four major components: (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors. EFH for Chinook salmon also includes adult holding habitats. Fish Creek supports EFH for species regulated under the federal Pacific Coast Salmon Fishery Management Plan.

Western Snowy Plover

The western snowy plover (WSP) (*Charadrius nivosus* formerly *C. alexandrinus nivosus*) is federally listed as threatened (58 FR 12864) and a state SSC. The Pacific Coast DPS population is defined as those individuals that nest within 50 miles of the Pacific Coast from southern Washington to southern Baja California, Mexico (USFWS 2007). Sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries above the high tide line are the main coastal habitats for nesting. Nests typically occur in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse

or absent. WSP also regularly nest on gravel bars along the Eel River in northern California (USFWS 2007). There is no critical habitat for WSP within the BSA.

There is no suitable nesting habitat within the ESL or BSA. This species is not expected to breed or nest as far inland as the project area (personal communication Greg Schmidt USFWS), and the gravel bars of the nearby South Fork Eel River are too small and receive too little sun. The nearest occurrence records in CNDDB are from around Humboldt Bay, located approximately 40 miles northwest of the project site.

Western Yellow-Billed Cuckoo

The western DPS of yellow-billed cuckoo (YBCU) (*Coccyzus americanus occidentalis*) is federally listed as threatened and state listed as endangered. These birds breed in large blocks of riparian habitats (particularly woodlands with mature cottonwoods and willows). The optimal size of habitat patches for the species is generally greater than 200 acres in extent and have dense canopy closure (Laymon and Halterman, 1989). Rarely do YBCU use sites less than 50 acres for nesting, and sites less than 37 acres are considered unsuitable habitat (Laymon and Halterman, 1989). In coastal northern California, YBCU have occurred during the breeding season intermittently over the past 15 years, and there is some indication that YBCU occurrences in the region may be correlated with presence of tent caterpillars.

Critical habitat for YBCU was proposed by the USFWS in 2014 (79 FR 48547). The nearest proposed critical habitat to the project site is Unit 1, located along the Eel River in Humboldt County, California. There is no proposed critical habitat within or adjacent to the project area.

No species-specific survey was performed for YBCU. Suitable habitat for YBCU is not present within the ESL or BSA. The nearest occurrences on the CNDDB RareFind database are near Ferndale and Cock Robin Island 40 miles north of the project area.

Invasive Species

Introduction and naturalization of non-native species is one of the most important threats to global biodiversity. The Eel River watershed contains several invasive plant species that adversely affect ecologic functions. Some of the species that most threaten native ecosystem function and structure include English ivy (*Hedera helix*), yellow star-thistle (*Centaurea solstitialis*), jubata grass and pampas grass (*Cortaderia spp.*), Scotch broom, (*Cytisus scoparius*), French broom (*Genista monspessulana*), water primrose (*Ludwigia sp.*), and Spanish broom (*Spartium junceum*).

At Fish Creek, invasive plant species observed near the project include Himalayan blackberry (*Rubus armeniacus*) and English ivy. These were observed along the roadway as well as in small patches adjacent to the ESL.

The Sacramento pikeminnow is a large piscivorous cyprinid (minnow) native to the Sacramento-San Joaquin drainage and several smaller coastal drainages in California. Pikeminnow were introduced into the Eel River system in Pillsbury Lake in 1979 and have since become widespread throughout the Eel River Basin (Brown and Moyle, 1997). Adult pikeminnow are known to consume native salmonid species and native amphibians. Pikeminnow were observed in Fish Creek in a pool less than 20 feet from the confluence with the SF Eel during the late summer. Water temperatures in Fish Creek are typically too low to support pikeminnow throughout the rest of the year.

Discussion of CEQA Environmental Checklist Questions 2.4 e) and f)—Biological Resources

"No Impact" determinations were made for Questions e) and f) of the CEQA Environmental Checklist-Biological Resources section based on the scope, description, and location of the proposed project, as well as the NES prepared in 2021 (Caltrans 2021).

Caltrans has determined project activities would have *"No Impact"* on special status species that were queried but did not have potential habitat in the BSA. However, as mentioned in the Environmental Setting, the special-status wildlife species listed below could potentially occur in the project vicinity.

Discussion of CEQA Environmental Checklist Question 2.4 a)—Biological Resources

The following discusses Question a) through d) of the CEQA Environmental Checklist-Biological Resources section. Each species is discussed individually; however, it should be noted that some resources fall under more than one question. As such, where necessary, those resources are discussed multiple times throughout this section.

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?

Plant Species

Humboldt County Milk-Vetch

Humboldt County milk-vetch has not been documented within or adjacent to the ESL; therefore, proposed construction would not be expected to directly or indirectly impact this species. Given this, a determination was made that the project would have *"No Impact"* on Humboldt County milk-vetch or its habitat.

Per CESA, a determination was made that the project would not result in "*take*" of Humboldt County milk-vetch.

Water Howellia

Water howellia has not been documented within or adjacent to the project area; therefore, proposed construction would not be expected to directly or indirectly impact this species. Given this, a determination was made that the project would have *"No Impact"* on water howellia or its habitat.

Per FESA, a determination was made that the project would have "*No Effect"* on water howellia.

Animal Species

Bat Species

No known maternity roosts or other colonial night roosts would be removed or altered during project activities. Furthermore, all tree removal would occur outside of the maternity season to ensure no impacts would occur to any potentially unidentified maternity roosts. Although the large 16-foot diameter redwood tree within the project area offers crevice and cavity roosting habitat and may be utilized as a night roost, it is unlikely that crevice or cavity roosting bats use it as a day roost due to the lack of physical evidence of bats (i.e. guano, staining), its close proximity to the traveled roadway, and evidence of human disturbance inside the cavity. This tree would not be removed to construct this project. All tree removal would occur outside of the bat maternity roosting season. Any bats that may use trees as a temporary night roost that are planned to be removed for this project would not be affected by their removal, as plenty of similar habitat is present within and around the project area in the redwood forest. Impacts to bat species are not anticipated given the specific trees to be removed, seasonal timing of the project, and the Standard Measures and Best Management Practices (Section 1.9) to avoid disturbing active colonies.

Given this, a determination was made that the project would have a "*Less than Significant Impact*" on bat species and their habitat.

Foothill Yellow-Legged Frog

FYLF egg masses are not likely to be encountered in Fish Creek during construction, but it is likely that adults or juveniles may be present. Due to the temporary nature of construction and the abundance of suitable habitat near the project where frogs could relocate if necessary, impacts to FYLF from this project would be minimal. However, preconstruction surveys and relocation of this species would be required at all active construction areas and areas that may result in effects to FYLF. Potential impacts to FYLF from dewatering and relocation, noise and visual disturbance, and water quality impacts would be avoided or minimized through incorporation of the Standard Measures and Best Management Practices designed to protect sensitive aquatic resources (Section 1.9). Given the small amount of habitat affected, the short duration/intermittent nature of the work, and implementation of the Standard Measures and Best Management Practices (Section 1.9) to reduce project impacts, the proposed project is not likely to result in substantial population-level effects to FYLF.

Given this, a determination was made that the project would have a "*Less than Significant Impact*" on FYLF and their habitat.

Migratory Birds

Impacts on migratory birds or their nests are not anticipated with incorporation of the Standard Measures and Best Management Practices identified in Section 1.9.

Given this, a determination was made that the project would have a "*Less Than Significant Impact*" on migratory bird species or their habitat.

Northern Red-Legged Frog

Due to the temporary nature of construction and the abundance of suitable habitat in the project vicinity for which frogs could relocate if necessary, the impacts to northern red-legged frog (NRLF) from this project would be minimal. Additionally, as a standard measure, if any NRLF are encountered by the biological monitor while following FYLF avoidance and minimization efforts, the NRLF would be relocated outside the project limits.

Given this, no adverse impacts to this species are anticipated and a determination was made that the project would have a "*Less than Significant Impact*" on NRLF and their habitat.

Osprey

No osprey nests or individuals were observed in the BSA during 2019 or 2020 surveys. Also, there would be no nest removal associated with this project. Give this, a determination was made that the project would have "*No Impact*" on osprey or their habitat.

Pacific Fisher

The BSA most likely contains numerous potential day resting locations and large hollow redwoods with suitable denning cavities; however, there are no potential den structures or day resting locations within the ESL where work would be conducted. Additionally, the proximity to a heavily traveled roadway and human habitation likely deter fisher from utilizing the ESL. No potential den trees would be removed during the critical denning period (March 1 through July 31).

Given this, a determination was made that this project would have a "*Less Than Significant Impact*" on fisher and their habitat.

Ring-Tailed Cat

This project would not remove ring-tailed cat denning or nesting habitat. The presence of a highly traveled roadway and occupied human structures in the proximity of the BSA are likely to preclude ring-tailed cats from denning in the project area.

Given this, a determination was made that this project would have "*No Impact*" to ring-tailed cat or their habitat.

Western Bumble Bee

The project will not impact large areas of grassland or meadows that would be suitable habitat for this species. Additionally, the project is outside the current range of this species.

Given this, a determination was made that this project would have "*No Impact*" on the western bumble bee.

Western Pond Turtle

Due to the temporary nature of construction and the abundance of suitable habitat in the project vicinity for which turtles could relocate if necessary, impacts to western pond turtle from this project are not anticipated. Additionally, the access road locations would be surveyed for signs of nesting before they are graded and, if present, would be marked for

avoidance under the guidelines set forth in Standard Measure BR-2E and the Aquatic Species Relocation Plan (Section 1.9).

Given this, the project would be expected to have a "*Less Than Significant Impact*" on western pond turtle.

Threatened and Endangered Species

American Peregrine Falcon

Given there would be no potential nest removal associated with this project, this project would have no impact on American peregrine falcons or their habitat. As peregrine falcons would unlikely be affected by the proposed work, no species-specific avoidance and minimization measures would be implemented. Given this, it was determined the project would have a *"No Impact"* on American peregrine falcons and their habitat.

As the project would not directly harm this species, per CESA, this project would have no "*Take*" of American peregrine falcons.

Bald Eagle

As there would be no nest removal associated with this project, the proposed work would have no impact on bald eagles or their habitat. Pre-construction nest surveys would be conducted to identify any new bald eagle nests near project activities and to provide opportunity to develop appropriate avoidance measures, if present. As bald eagles are unlikely to be affected by the proposed work, no species-specific avoidance and minimization measures would be implemented. Given this, it was determined the project would have *"No Impact"* on bald eagles and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of bald eagles.

Golden Eagle

As there would be no nest removal associated with this project, the proposed work would have no impact on Golden eagles or their habitat. Standard measures for raptors include pre-construction nest surveys to identify any new Golden or bald eagle nests near project activities and development of appropriate avoidance measures if present. Given this, it was determined the project would have *"No Impact"* on Golden eagles and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of Golden eagles.

Humboldt Marten

Habitat within the ESL does not contain suitable denning sites or day resting sites for Humboldt marten. The proximity to a heavily traveled roadway and human habitation would also likely deter marten from utilizing the ESL. Additionally, this project is outside the current known population distribution. Given this, it was determined this project would have *"No Impact"* on Humboldt marten and their habitat.

Per FESA, Caltrans has determined the project would have "*No Effect*" on Humboldt marten.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of Humboldt marten.

Little Willow Flycatcher

The project area contains no nesting habitat and very little favorable foraging habitat. Willow flycatchers are extremely scarce as breeders in Humboldt County; therefore, the probability of the project impacting a breeding willow flycatcher is extremely unlikely. Likewise, the project site does not comprise ideal migratory stopover habitat for nonbreeding migrants, although migrants might occasionally occur in the project area. Given this, a determination was made the project would have "*No Impact*" on little willow flycatcher and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of little willow flycatcher.

Marbled Murrelet

Suitable nesting habitat exists within the project area; however, the redwood trees that would be removed for this project are not likely to be considered suitable nesting habitat for MAMU due to their relatively small size and availability of much larger trees within the vicinity. Removal of these trees would not significantly affect the composition of the stand and would therefore not negatively impact MAMU critical habitat. Individuals could potentially be exposed to elevated, action-generated noise levels during a portion of the breeding season.

Caltrans would initiate consultation under the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2* with USFWS after circulation of the draft environmental document. Caltrans anticipates receiving a Programmatic Letter of Concurrence (PLOC) from USFWS as a result of this consultation. The measures included in the PLOC will be incorporated into the project. These include:

- No potential MAMU nest trees would be removed during the nesting season, March 24 to September 15.
- No noise-generating activities with the potential to generate sound levels of 20 or more decibels above ambient sound levels, or with maximum sound levels above 90 decibels may occur between March 24 to August 5.
- Between August 6 and September 15, project activities that will generate sound levels ≥10 dB above ambient sound levels will observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset.

If suitable nest trees must be removed within nesting season, or if noise levels above 90 dB must occur within the nesting season and outside of the diurnal work window, then formal consultation would be initiated with USFWS after circulation of the environmental document. Caltrans does not anticipate construction noise levels would exceed 90 decibels. Caltrans does not anticipate adverse effects to MAMU or MAMU critical habitat.

Given this, a determination was made that this project would have a "*Less Than Significant Impact*" on MAMU and their habitat.

Per FESA, Caltrans anticipates the proposed project "*may affect, but is not likely to adversely affect*" MAMU or MAMU critical habitat. Because adverse effects to MAMU and MAMU

critical habitat are not likely to occur, the need for a Consistency Determination or Incidental Take Statement from CDFW is not anticipated.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of MAMU.

Northern Spotted Owl

No known nest trees would be removed for this project. If present, individuals could potentially be exposed to elevated, action-generated noise levels during a portion of the breeding season. Caltrans would initiate consultation under the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2* with USFWS after circulation of the draft environmental document. Caltrans anticipates receiving a Programmatic Letter of Concurrence (PLOC) from USFWS as a result of this consultation. The measures included in the PLOC will be incorporated into the project. These include:

- No suitable NSO nest trees would be removed during the nesting season, February 1 to September 15.
- No noise-generating activities with the potential to generate sound levels of 20 or more decibels above ambient sound levels, or with maximum sound levels above 90 decibels may occur between February 1 to July 31.
- After July 31, noise levels above 90 decibels would have no effect on nesting spotted owls and dependent young.

If above-ambient noise levels must occur before July 31, or if habitat trees would need to be removed within the nesting season, then Caltrans would initiate formal consultation with USFWS after circulation of the environmental document. Caltrans does not anticipate adverse effects to NSO or NSO critical habitat.

Given this, a determination was made that this project would have a "*Less Than Significant Impact*" on NSO and their habitat.

Per FESA, Caltrans anticipates the proposed project "*may affect, but is not likely to adversely affect*" NSO and NSO critical habitat. Adverse effects to NSO or NSO critical habitat are not likely to occur; therefore, the need for a Consistency Determination or Incidental Take Statement from CDFW is not anticipated.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of NSO.

Salmonids

Construction would take place during the summer months when fish abundance and water levels are at the lowest; however, several activities associated with the proposed project could negatively impact Chinook salmon, coho salmon and steelhead occupying the South Fork Eel River during this period. These include clear water diversion and associated fish relocation, noise and visual disturbance, and water quality impacts, as described below. Minor vegetation removal, noise and visual disturbance, and/or water quality impacts could temporarily affect designated critical habitat.

To protect the most vulnerable life stages of sensitive species that occur within the project area, in-stream work would be restricted to the period between June 15 and October 15. Over the last decade the region has experienced several drought years. However, surveys show that Fish Creek does have reaches that sustain perennial flow and it is possible that juvenile fish could be present during the construction work window. The fish found in 2019 were likely a rare occurrence. If fish are present, numbers are likely to be low.

Clear Water Diversion and Electrofishing

The temporary clear water diversion system that may be needed for construction may require fish capture and relocation using electrofishing. Electrofishing can harm individual fish, resulting in up to 3% mortality (pers comm Mike Kelly NMFS). The diversion itself could temporarily restrict the movement of rearing juvenile salmonids, potentially making them more vulnerable to stress and predation, but avoids the late fall-winter migration period for adult salmon that may pass through the project area to spawn, and most of the spring-early summer smolt out-migration. It is extremely unlikely for any salmonids to be present above the culvert during the work period due to the low water levels, as well as the culvert acting as a barrier to fish passage.

Any impacts would be minimized by implementation of a contractor prepared Construction Site Dewatering and Diversion Plan and included Aquatic Species Relocation Plan. These are described in Section 1.9 above.

Noise and Visual Disturbance

Construction activities may cause behavioral responses to stress associated with noise and visual disturbance of juvenile salmonids if they are present during the in-stream work period of June 15 to October 15. Physical changes to the water column caused by shading, vibration from construction equipment and/or workers walking in or near the channels could disrupt feeding, delay migration, or flush fish from suitable habitat, potentially making them more vulnerable to predation. Impact noise such as hoe ramming and jackhammering during culvert demolition would create impulsive noise. Impulsive noises can cause abrupt and extreme changes in pressure that could be harmful or fatal to fish. Injury sustained from these pressure changes is termed barotrauma.

Negative effects to salmonids and other fish from general (non-impulsive) construction noise, impulsive noises (demolition), and visual disturbance would be minimized through implementation of the clear water diversion and minimizing the project footprint to only that which is needed to build the bridge.

If salmonids are present in the project area, potential impacts from noise and visual disturbance would likely be minor and short term, and unlikely to result in injury or mortality of fish. It is extremely unlikely for any salmonids to be present above the culvert during the work period due to the low water levels, as well as the culvert acting as a barrier to fish passage.

Water Quality Impacts

Pollutants in highway runoff, or from construction operations, could result in the mobilization of sediment both during and after construction. Disturbance for access and staging, creation of new impervious surface, and the removal of riparian vegetation would all have the potential to temporarily impact water quality within the project area. However, as described below, the project is not anticipated to cause or contribute to the permanent violation of water quality standards or water quality objectives, nor would it affect the beneficial uses of downstream receiving waters (Caltrans 2017b).

Turbidity and Sedimentation

Increases in suspended sediment or turbidity can affect water quality, which in turn can affect fish health and behavior. Salmonids typically avoid areas of higher suspended sediment, which means they displace themselves from their preferred habitat to seek areas with less suspended sediment. Fish unable to avoid suspended sediment can experience negative

effects; the severity of which increases as a function of the sediment concentration and exposure time (Newcombe and Jensen, 1996; Bash et al., 2001). Suspended sediment and turbidity generally do not acutely affect aquatic organisms unless they reach extremely high levels. At levels reaching 25 mg/L, suspended sediment can adversely affect the physiology and behavior of aquatic organisms and may suppress photosynthetic activity at the base of food webs, affecting aquatic organisms either directly or indirectly (Alabaster and Lloyd, 1980). While benthic communities can normally withstand short-term increases in suspended sediment, small increases over longer or continuous durations can affect the quantity and composition of aquatic invertebrates (i.e., prey species) and reduce the production of aquatic plants (Robertson et al., 2006).

Construction of the bridge (and associated stream diversion) in Fish Creek, as well as widening of the roadway, would disturb soils[2] that could potentially be transported to the wetted channels during storm events. Culvert demolition could produce fugitive dust emissions that could reach the project area watercourses or fall to the ground and later be discharged to waterways. The re-watering operation could potentially increase turbidity but would be minimized by undertaking it slowly to avoid a sudden influx of water into the restored channel. There is also potential for increases in sediment delivery post construction if areas of soil disturbance are not stabilized and remain susceptible to erosion.

However, the proposed project is not likely to result in sustained increases of sediment and turbidity relative to baseline conditions that would result in acute physical or behavioral effects on individual salmonids with implementation of the standard measures as follows:

- Minimizing disturbed areas.
- Scheduling that avoids the most vulnerable periods of adult and juvenile migration and coincides with the period when juvenile salmonid populations are lowest.
- Metered re-watering of the channel as the clear water diversion is decommissioned.
- Utilizing erosion control BMP's during and after construction.
- Existing drainage patterns over vegetated fill slopes and swales would be maintained for bio-filtration treatment.

[2] The total disturbed soil area within the project limits is currently estimated to be 1 acre, represented by areas within the BSA where construction activities (including staging and storage) would take place and ground disturbance and/or vegetation would be cleared.

Pollutants Associated with Stormwater Runoff and Accidental Spills

Contaminants generated by traffic[3], pavement materials, and airborne particles that settle may be carried by stormwater runoff into receiving waters, which may be taken up by aquatic organisms. Accidental spills of hazardous material, such as that caused by highway-related traffic accidents or equipment refueling, maintenance, and fluid leakage near watercourses, also pose a risk of contamination to aquatic habitat, depending on the type and quantity of the material spilled. Exposure to stormwater pollutants can cause reduced growth, impaired migratory ability, and impaired reproduction in salmonids and other fishes. Contaminants in runoff can also be taken in by prey species, reducing prey availability or providing an indirect source of toxicity. The extent and severity of these effects vary depending on the extent, timing, and duration of the exposure; ambient water quality conditions; the species and life history stage exposed; pollutant toxicity; and synergistic effects with other contaminants (U.S. EPA 1980).

During construction, a risk would exist for accidental release of oil, grease, wash water, solvents, cement, or other construction materials into Fish Creek. However, with implementation of the Standard Measures and Best Management Practices to protect water quality, which include provisions for the proper handling, storage and disposal of contaminants, localized degradation of water quality from construction-related spills is unlikely. The Standard Measures and BMPs are expected to sufficiently restrict any discharged pollutants to the immediate area; therefore, chemical contamination of the project watercourses because of construction operations is unlikely to occur and the potential effects to salmonids are discountable. There would not be a significant increase in pollutant loading from roadway runoff due to traffic over the existing condition, as the proposed project is not intended to generate an increase in traffic volume.

New Impervious Surface

New impervious surface has the potential to cause an increase in peak flow and higher runoff volumes that can lead to channel scouring and bank erosion which, in turn, can increase sediment and turbidity in receiving waters. It can also lead to decreased storage capacity and outflow efficiency, thereby negatively affecting floodplain processes that are important for salmonids. The removal of riparian vegetation could result in reduced channel shading and

[3] Stormwater runoff can be a source of metals (e.g., zinc and copper) and polycyclic aromatic hydrocarbons (PAHs), which can be toxic to aquatic organisms depending on concentration.

allochthonous inputs and increased water temperature, thus potentially affecting water chemistry by decreasing the concentration of dissolved oxygen.

While there would be an estimated 0.04-acre increase in impervious surface, there would be no detectable change in peak flow or runoff volumes, no decrease in capacity of existing drainage systems. The new bridge is designed to span the channel; the removal of the culvert would remove fill from approximately 0.06 acre of the channel and improve flow patterns. The elevation of the new bridge would be the same as the existing roadway and the facility would span approximately 40 feet; therefore, the potential for backwater and obstruction from debris would be reduced compared to the existing condition. Any potential effects to salmonids because of new impervious surface would be discountable.

Summary of Impacts

Most project impacts identified above are expected to result in discountable and/or insignificant effects to salmonids and salmonid critical habitat with incorporation of the Standard Measures and Best Management Practices (Section 1.9) designed to protect water quality, limit noise and visual disturbance, and restore wetland and riparian habitat. Salmonids are not anticipated to be within the BSA during in-stream construction work.

As outlined in Standard Measures and Best Management Practices (Section 1.9), the contractor would be required to prepare and submit a Construction Site Dewatering/Diversion Plan to Caltrans for authorization prior to any dewatering. The dewatering plan would include specifications for the relocation of sensitive aquatic species—an "Aquatic Species Relocation Plan". Provisions for dewatering and aquatic species relocation would include the following measures:

- Aquatic species relocation and installation of cofferdams or a temporary diversion would be conducted on or after June 15. The diversion would be removed, and the channel restored to pre-existing conditions, prior to October 15 each project season, and upon completion of construction.
- Any electrofishing for salmonids would comply with *Guidelines for Electrofishing Waters Containing Salmonids Listed under the Endangered Species Act* (NMFS 2000) and performed by only qualified individuals with appropriate training and experience in electrofishing techniques.
- Water generated from any dewatering operations would be disposed of per the *Field Guide to Construction Site Dewatering* (Caltrans 2014) and the Caltrans-authorized Dewatering Plan.

Additional Best Management Practices (ABMPs) have been developed specifically for listed fish within the action area and may not be covered by the standard BMPs. The ABMPs were developed in the *Programmatic Authorization for Caltrans' Routine Maintenance and Repair Activities in Districts 1, 2, and 4*. Use of these ABMPs would be consistent with the effects determination for listed fish species within the project action area. A list of these ABMPs can be found in the Natural Environment Study (Caltrans 2021).

The project would not result in cumulative impacts to salmonid species; furthermore, it would be overall beneficial to the species because the installation of a bridge and restoration of natural stream conditions would remove a fish passage barrier.

Given this, a determination was made that this project would have a "Less Than Significant Impact" on salmonids and their habitat.

Per FESA, Caltrans anticipates this project "*may affect, but is not likely to adversely affect"* CC Chinook salmon, SONCC coho salmon, and NC steelhead. Caltrans anticipates this project "*may affect, but is not likely to adversely affect***"** critical habitat for CC Chinook salmon, SONCC coho salmon, and NC steelhead. Caltrans anticipates Section 7 Consultation for the project will be covered under the *Programmatic Authorization for Caltrans' Routine Maintenance and Repair Activities in Districts 1, 2, and 4* (National Marine Fisheries Service 2013). If adverse effects are identified, additional conservation measures may be implemented.

Per CESA, Caltrans anticipates there will be no "*take*" of SONCC coho salmon as coho salmon are not anticipated to be within the BSA during construction.

Essential Fish Habitat

The proposed project would affect essential fish habitat (EFH) for Pacific salmon managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). During construction, water quality may be temporarily impaired due to short term, localized increases in turbidity from activities that involve ground disturbance. Stormwater runoff has the potential to compromise downstream habitat and reduce the quality of localized rearing habitat. However, the Standard Measures and Best Management Practices to protect water quality (identified in Section 1.9) would minimize the magnitude and duration of any turbidity increases, provide for site stabilization post construction, and ensure proper handling and storage of contaminants to avoid accidental spills.

Cover, shelter, foraging potential, and safe passage conditions may also be temporarily compromised due to noise (e.g., vibration from construction equipment, hoe-ramming) and visual stressors (e.g., artificial light, sudden movements) during construction. There would also be a temporal loss of vegetation that provides riparian function. The scale of these effects would be small, resulting in no measurable decrease in the quality of the rearing habitat or migration corridors for EFH species. Elements of EFH would also be impacted by the temporary water diversion and placement of RSP within the channel.

Elements of EFH that may be affected by the proposed action are the same as those identified for designated critical habitat, which include water quality, foraging potential, safe passage conditions, and riparian vegetation; however, the functional components of these elements would be restored once construction is complete. Given this, a determination was made that the project would have a "*Less Than Significant Impact*" to salmonids and their habitat.

Caltrans anticipates the proposed project "*would adversely affect*" EFH for Pacific salmon. However, no measurable, long term permanent impacts to waters, substrates, food production and availability, cover conditions, or vegetation would be expected. Therefore, Caltrans anticipates there would be no long-term, permanent impacts to EFH for Pacific salmon after construction that would reduce the quality of habitat to an extent that individual salmon would be impacted.

Western Snowy Plover

The habitat within or adjacent to the project area is outside the known breeding range of WSP. There is no suitable nesting habitat for western snowy plover within the ESL or BSA. Given this, a determination was made that the project would have "*No Impact*" on WSP or WSP habitat.

Per FESA, Caltrans has determined the project would have "*No Effect*" on western snowy plover or their habitat.

Western Yellow-billed Cuckoo

Habitat for yellow-billed cuckoo (YBCU) is not present within the BSA of this project. Therefore, a determination was made that the project would have "*No Impact*" on YBCU or YBCU habitat.

Per FESA, Caltrans has determined the project would have "*No Effect*" on western yellow-billed cuckoo or their habitat.

Invasive Species

There are numerous invasive species within the project area. Many invasive plant species are disturbance-related and could recolonize or increase population sizes through construction activities. Although pikeminnow were observed in Fish Creek, construction of the project would not facilitate the spread of this invasive fish species due to the low water temperatures of Fish Creek. The Standard Measures and Best Management Practices listed in Section 1.9 of this document would be implemented to ensure invasive species would not proliferate. Given this, a determination was made that this project would have "*No Impact*" on invasive species proliferation.

Discussion of CEQA Environmental Checklist Question 2.4b)—Biological Resources

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Natural Communities

The Coast Redwood Forest and Woodland Alliance (G3S3), containing only Sensitive Natural Communities, is present throughout the entire ESL. To construct the bridge, Caltrans is currently proposing to remove 2 large diameter Coast redwood trees (2.1 and 2.8-foot DBH) that have grown up within the fill above the culvert. A large diameter (2.8-foot DBH) bigleaf maple with multiple stems will also need to be removed. This vegetation is part of the Coast Redwood Forest and Woodland Alliance. However, the loss of this small amount of vegetation would not have a substantial effect on the overall quality, characteristics, or structure of the approximately 5.45 acres of this Alliance that exists within the ESL.

The Tree Impact Analysis for the Fish Creek Bridge Fish Passage Improvement Project (Arborist Report) prepared for this project analyzed the potential impacts to Coast redwood trees, as well as their root zones (Caltrans 2020k). In this analysis, the abstract concept of a critical root zone (CRZ) was defined, not by the crown diameter, but rather as a diameter-dependent radial area where potential effects are quantified around each tree within an interior structural root zone (SRZ), which is critical to tree stability, and a larger absorber root zone (ARZ), which is essential for tree health (Figure 5).

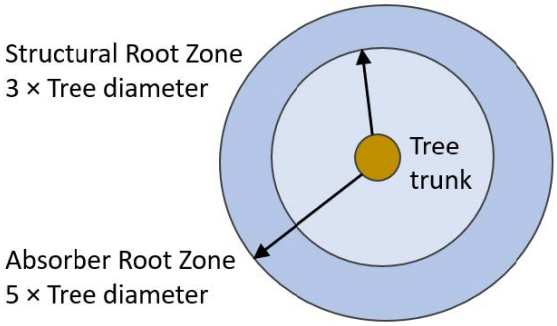

Figure 5. Illustration of Critical Root Zone (CRZ) used for Coast Redwood

Impacts on up to 40% of the ARZ of large-diameter Coast redwood trees are unlikely to have a substantial effect on the overall health and stability of the trees because absorbing roots of Coast redwoods are continuously replaced and resprout rapidly in response to severing, burial in new sediments, or erosion of surface soils (Caltrans 2020k). Although absorbing roots likely occur beyond the limit of the ARZ, as defined for this project, absorbing roots are assumed present at higher densities in an area 5 times the DBH, and therefore only impacts to this high probability root area are considered potentially substantial enough to merit tree removal. Removal, severing, or shaving of up to 20% of the SRZ is unlikely to affect tree stability, particularly in Coast redwood forests, because Coast redwood trees have extensive lateral roots systems that intertwine with adjacent trees to disperse aboveground wind-loading forces and resist uprooting (Caltrans 2020k). Structural roots almost certainly occur beyond the limit of the SRZ defined for this project, particularly when seeking water in stream channels or where soils are unstable or roots. Deep structural roots almost certainly extend under shallow road subbases, especially when subsurface soils consist of well-drained sandy loam soils (CDFW 2016). Regardless, structural roots, particularly those growing toward deeper soils, are assumed present at higher densities within the SRZ than outside it. Impacts on the SRZ due to cutting of structural roots are considered permanent. Soil compaction impacts on the ARZ are considered temporary unless soil areas are replaced by impermeable or high-density materials. This project proposes limited compacted native soil roadway slopes for all areas located away from the roadway surface and subgrade materials; therefore, roadway fill slopes are considered a temporary impact to the ARZ. The ARZ and SRZ for trees within the project area are shown in Appendix F.

The Arborist Report initially determined the project would be expected to have substantial permanent impacts on four large-diameter Coast redwood trees, ranging from 2 to 5 feet in

diameter, and one multi-stemmed bigleaf maple (Table 3). However, after discussions with Caltrans Design, State Parks and CDFW regarding tree removal, it was determined that only two Coast redwoods (Trees 32 and 34) and one bigleaf maple (Tree 28) would be removed as a part of this project (Figure 6). These three trees have grown in the south side of the current fish passage obstruction fill that was added when the original box culvert was completed. The fourth tree (Tree 46), a Coast redwood directly adjacent to SR 254, was recommended for removal because a substantial portion of its roots appeared to be within the fill beneath the existing Fish Creek SR 254 road crossing. This fill would be removed to restore the width of Fish Creek, and the banks would be protected with a secant wall abutment and downstream wing-wall. However, after discussions with Caltrans Design, the proposed angle of the secant wall was adjusted to avoid substantial impacts to the structural root zone of this tree. The fifth tree (Tree 84) recommended for removal is a Coast redwood upstream of SR 254 along Fish Creek. This tree has a severe lean (40%) due in part to ongoing scour of the in-stream trunk base (Figure 7). Post-project flows are expected to increase scour and the tree appears likely to fall naturally if not felled during construction. After discussions with Caltrans Design, State Parks, and CDFW, a plan is being developed for Tree 84 that would potentially leave the root wad and approximately 20 feet of trunk in place. This would provide stream habitat and channel diversity, as well as morphological features that would protect the bank from scour. Discussions with State Parks, CDFW and NMFS are ongoing with regards to trees in the project vicinity and incorporation of large woody debris (LWD) into the channel and bank restoration.

Table 3. Trees Recommended for Removal in Arborist Report

Tree	Species	DBH (feet, tenths)	Impact Type	Recommend Tree Removal?	Permanent Impacts (SRZ)	Permanent Impact (ARZ)	Cut #
28	Bigleaf maple	2.8	Direct; culvert fill removal	Yes	100%	100%	1
32	Coast redwood	2.8	Direct; culvert fill removal	Yes	100%	100%	2
34	Coast redwood	2.1	Direct; culvert fill removal	Yes	71.2%	63.8%	3
46	Coast redwood	4.1	Direct; secant wall construction	Yes	97%*	66.3%*	4
84	Coast redwood	5.0	Indirect; scour and severe tree lean	Yes	89.0%	76.2%	5

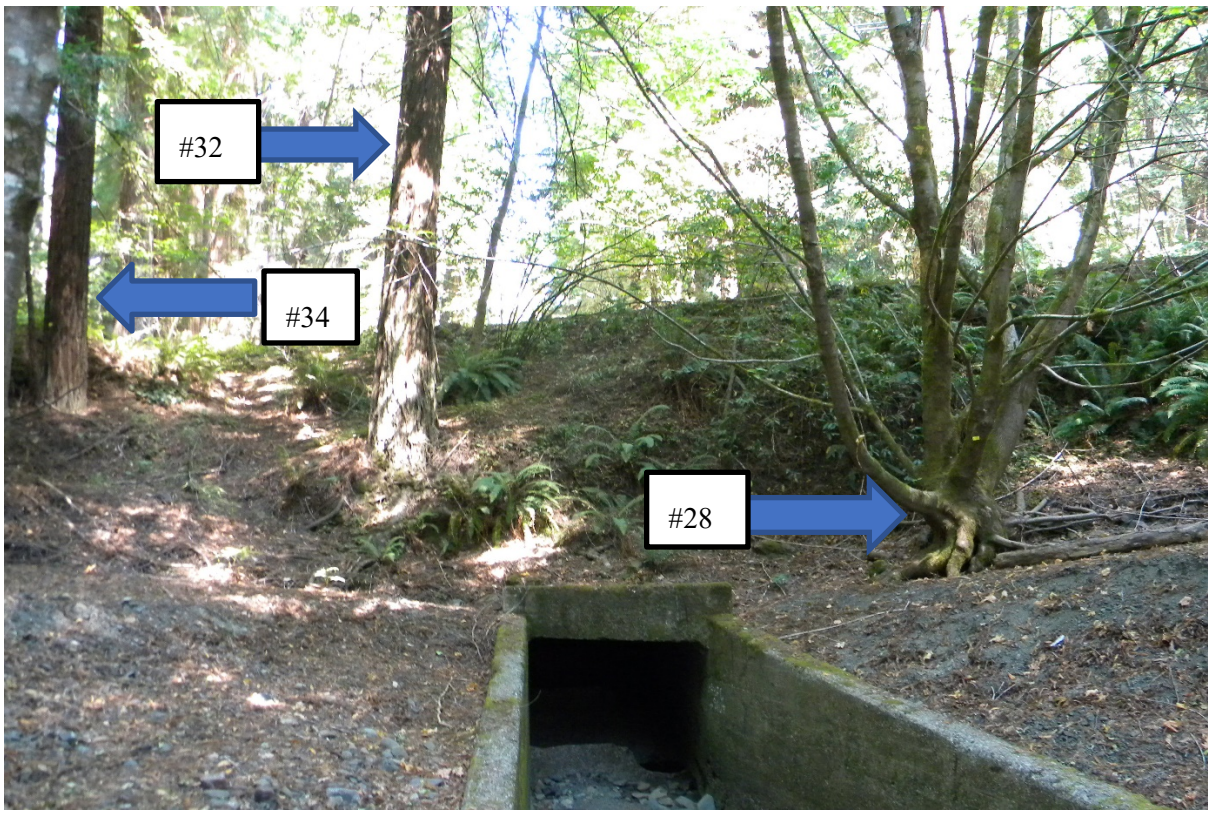

Figure 6. Photograph of Trees 28, 32, and 34 to be removed

Figure 7. Photograph of Tree 84, the "leaner"

Multiple small diameter trees on the upstream and downstream side would be removed, including an alder, another maple, and several small redwoods less than 12 inches in diameter. As these trees all contribute shade to the channel and are part of the Fish Creek system, they are considered riparian. These trees amount to an estimated 0.20 acre of temporary riparian impacts. Removal of this small amount of riparian vegetation would not have an adverse impact on the quality or function of the adjacent riverine creek system, affect wildlife corridors, or result in fragmentation of essential fish habitat. The trees that would be removed mostly function as understory of the redwood forest, and minimal canopy cover would be lost as a result. Temporary impacts to riparian vegetation would also be addressed in a project-specific Revegetation Plan.

Temporary impacts to riparian vegetation would be minimized with incorporation of standard measures. Standard measures and Best Management Practices (BMPs) (Section 1.9) would be implemented to stabilize all bare soil areas over both the short and long term and to minimize adverse effects to water quality, aquatic habitat, and aquatic species. BMPs include treatment controls, soil stabilization practices, and weather-appropriate scheduling.

The project would not have a substantial impact on any Alliance, associated sensitive natural community, or riparian vegetation; therefore, no additional avoidance and minimization measures would be implemented, and no compensatory mitigation would be required. Given this, a determination was made that the project would have a "*Less Than Significant Impact*" on any riparian habitat or Sensitive Natural Communities.

Invasive Species

Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits. Ruderal vegetation is also present along the roadway and more heavily traveled footpaths within the project area. Areas where invasive exotic plant species are present may be subject to vegetation removal and restoration efforts. Given this, a determination was made that the project would have "*No Impact*" on invasive species.

Discussion of CEQA Environmental Checklist Question 2.4c)—Biological Resources

c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Wetlands and Other Waters

Waters of the U.S. and State are present within the RCB culvert and within the Environmental Study Limits (ESL). However, based on surveys conducted within the ESL, no wetlands or other waters were identified. As a result of this project, the channel of Fish Creek would be excavated and graded approximately 150 feet up and downstream of the new bridge (approximately 350 feet by a width of 40 feet, or 0.26-acre) in order to reach a 3% grade suitable for fish passage. This would be a temporary impact to the channel. The widening of the channel under the new bridge structure would increase the channel size by approximately 0.06 acre (Table 4).

Table 4. Estimated Impacts to Waters of the U.S. and State

Estimated Total Temporary Impacts to Waters of the U.S. and State (acres)	Estimated Total Increase in Waters of the U.S. and State (acres)	Estimated Total Permanent Impacts to Waters of the U.S. and State (acres)
0.26	0.06	0

The result of this widening and grading would have a permanent positive effect on the channel. There would be no permanent impacts to the channel as a result of this project. Replacing the culvert with a full-span bridge would result in a net improvement to jurisdictional waters.

Temporary impacts to jurisdictional waters and riparian vegetation would be minimized with incorporation of the Standard Measures and Best Management Practices identified in Section 1.9. These standard measures and Best Management Practices (BMPs) would be used to stabilize all bare soil areas over both the short and long term and to minimize adverse effects to water quality, aquatic habitat, and aquatic species. BMPs include treatment controls, soil stabilization practices, and weather-appropriate scheduling. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits. Caltrans would also prepare a project-specific Revegetation Plan.

Given this, it was determined the project would have "*Less Than Significant Impact*" on wetlands or other waters.

Discussion of CEQA Environmental Checklist Question 2.4d)—Biological Resources

d) Would the project 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?

Caltrans has determined project activities would have "*No Impact"* on special status species that were queried but did not have potential habitat within the BSA. However, as mentioned in the Environmental Setting, the following special-status wildlife species could potentially occur in the project vicinity.

Animal Species

Bat Species

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on bat species and their habitat.

Foothill Yellow-legged Frog

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on foothill yellow-legged frog and their habitat.

Migratory Birds

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of migratory birds in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on migratory bird species and their habitat.

Northern Red-legged Frog

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on northern red-legged frog and their habitat.

Osprey

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on osprey and their habitat.

Pacific Fisher

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on Pacific fisher and their habitat.

Ring-tailed Cat

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"No Impact"* on ring-tailed cat and their habitat.

Western Bumble Bee

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of western bumble bee in Question a), a determination was made that the project would have "*No Impact*" on western bumble bee and their habitat.

Western Pond Turtle

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bat species in Question a), a determination was made that the project would have a *"Less Than Significant Impact"* on western pond turtle and their habitat.

Threatened and Endangered Species

American Peregrine Falcon

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of American peregrine falcon in Question a), a determination was made that the project would have *"No Impact"* on American peregrine falcon and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of American peregrine falcons.

Bald Eagle

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of bald eagle in Question a), a determination was made that the project would have *"No Impact"* on bald eagle and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of bald eagles.

Golden Eagle

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of Golden eagle in Question a), a determination was made that the project would have *"No Impact"* on Golden eagle and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of Golden eagles.

Humboldt Marten

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of Humboldt marten in Question a), a determination was made that the project would have *"No Impact"* on Humboldt marten and their habitat.

Per FESA, a determination was made that this project would have "*No Effect*" on Humboldt marten.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of Humboldt marten.

Little Willow Flycatcher

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of little willow flycatcher in Question a), a determination was made that the project would have *"No Impact"* on little willow flycatcher and their habitat.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of little willow flycatcher.

Marbled Murrelet

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of marbled murrelet in Question a), a determination was made that the project would have *"Less Than Significant Impact"* on marbled murrelet and their habitat.

Per FESA, a determination was made that this project "*may affect but is not likely to adversely affect*" marbled murrelet.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of marbled murrelet.

Northern Spotted Owl

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of northern spotted owl in Question a), a determination was made that the project would have *"Less Than Significant Impact"* on northern spotted owl and their habitat.

Per FESA, a determination was made that this project "*may affect but is not likely to adversely affect*" northern spotted owl.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of northern spotted owl.

Salmonids

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a) for discussion of impacts to salmonids and their habitat. These impacts have been examined to determine if the proposed project would interfere substantially with the movement of migratory salmonid species or with established migratory corridors.

Construction activities may cause behavioral responses to stress associated with noise and visual disturbance of juvenile salmonids if they are present during the in-stream work period of June 15 to October 15. Physical changes to the water column caused by shading, vibration from construction equipment and/or workers walking in or near the channels could disrupt feeding, delay migration, or flush fish from suitable habitat, potentially making them more vulnerable to predation.

Negative effects to salmonids and other fish from general (non-impulsive) construction noise, impulsive noises (demolition), and visual disturbance would be minimized through implementation of the clear water diversion and minimizing the project footprint to only that which is needed to build the bridge. The diversion itself would temporarily restrict the movement of rearing juvenile salmonids, potentially making them more vulnerable to stress and predation, but the timing of diversion avoids the late fall-winter migration period for adult salmon that may pass through the project area to spawn, and most of the spring-early summer smolt out-migration.

The culvert at Fish Creek is one of the highest priority fish passage remediation locations in District 1. The proposed project would eliminate the existing fish passage barrier by replacing the culvert with a bridge that fully spans the channel of Fish Creek and would be overall beneficial to the migration of salmonids. The culvert is the only barrier on Fish Creek and there is approximately 2.4 miles of habitat upstream of the culvert that will be opened up for spawning, rearing and refuge. Impacts to habitat, such as temporal loss of riparian vegetation, would not result in a measurable decrease in the quality of the rearing habitat or migration corridors for salmonid species.

A Revegetation Plan would be implemented to restore the project area to pre-construction conditions with native tree and plant species. Additional Standard Measures and Best Management Practices described in Section 1.9 would avoid and minimize impacts to the movement and migration of salmonids. Given the above, a determination was made that the project would have a "*Less Than Significant Impact*" to movement of salmonid species and established migratory corridors.

Per FESA, Caltrans has determined the project "*may affect, not likely to adversely affect*" federally listed salmonid species and Caltrans will continue to consult with NMFS regarding the project effects on these species which include CC Chinook salmon, SONCC coho salmon and NC steelhead.

Per FESA, Caltrans anticipates that this project "*may affect, but is not likely to adversely affect*" critical habitat for CC Chinook salmon, SONCC coho salmon, and NC steelhead.

Given the project would not directly harm this species, per CESA, this project would have no "*Take*" of SONCC coho salmon or NC steelhead.

Caltrans anticipates a determination that the proposed project "*would adversely affect*" EFH.

Western Snowy Plover

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of western snowy plover in Question a), a determination was made that the project would have *"No Impact"* on western snowy plover and their habitat.

Per FESA, a determination was made that this project would have "*No Effect*" on western snowy plover.

Western Yellow-Billed Cuckoo

Please reference Section 2.4. Biological Resources—Discussion of CEQA Environmental Checklist, Question a). Based on the discussion of western yellow-billed cuckoo in Question a), a determination was made that the project would have *"No Impact"* on western yellow-billed cuckoo and their habitat.

Per FESA, a determination was made that this project would have "*No Effect*" on western yellow-billed cuckoo.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.5. Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?			✓	
Would the project: b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?			✓	
Would the project: c) Disturb any human remains, including those interred outside of dedicated cemeteries?				✓

Regulatory Setting

The term "cultural resources", as used in this document, refers to the built environment (e.g. structures, bridges, railroads, water conveyance systems, etc.), places of traditional or cultural importance, and archaeological sites (both prehistoric and historic), regardless of significance. Under California state laws, cultural resources that meet certain criteria of significance are referred to by various terms including "archaeological resources," "historic resources," "historic districts," "historical landmarks," and "tribal cultural resources" as defined in PRC § 5020.1(j) and PRC § 21074(a). The primary state laws and regulations governing cultural resources include:

- California Historical Resources, PRC 5020 et seq.
- California Register of Historical Resources, PRC 5024 et seq. (codified 14 CCR § 4850 et seq.)
    - PRC 5024, Memorandum of Understanding: The MOU between Caltrans and the State Historic Preservation Officer streamlines the PRC 5024 process.
- California Environmental Quality Act, PRC § 21000 et seq. (codified 14 CCR § 15000 et seq.)

- Native American Historic Resource Protection Act, PRC § 5097 et seq.
- Assembly Bill 52, amends California Environmental Quality Act and the Native American Historic Resource Protection Act
    - An effect that may cause a substantial adverse change in the significance of a tribal cultural resource, as defined, is a project that may have a significant effect on the environment.
    - Additional consultation guidelines and timeframes
- California Native American Graves Protection and Repatriation Act, CA Health and Safety Code 8010-8011

Environmental Setting

An Archaeological Survey Report (ASR), completed in March 2020, evaluated potential impacts within the area of potential impact (APE) and area of direct impact (ADI). The project is located near the community of Phillipsville, CA, within the Coast Ranges Geomorphic Province. The APE is underlain by Mesozoic Upper Cretaceous Marine sediments resulting in shale, mudstone, greywacke, and conglomerates. A review of the United States Department of Agriculture (USDA) Soil Survey Geographic Database Soil Series for Humboldt County (CA601) revealed that the APE consists predominately of one soil type. The climate of the project vicinity is cold-summer Mediterranean with an annual mean precipitation of 56.44 inches.

Based on the geomorphological and topographic characteristics of the project area, the results of the records and literature search, the age the soils mapped in the area, and the level of historic disturbance, the APE is considered to have a low potential for buried prehistoric and historical resources.

Discussion of CEQA Environmental Checklist Questions 2.5—Cultural Resources

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

According to the ASR, Caltrans Local Bridge (No. 04C0154) is within the APE and the ADI. Although termed a “bridge”, the construction is that of a road over an RCB preformed cement box culvert with wing dams on both sides within the creek. Evaluated by Caltrans in 2017, the “bridge” is determined not eligible for listing on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). This property

meets the criteria in Attachment 4 "Properties Exempt from Evaluation," of the Section 106 PA and for the PRC 5024 MOU for state-owned resources. As such, it may be dismissed from further discussion with no consideration as a resource.

A Historic Resources Evaluation Report (HRER) has been drafted and is currently being reviewed. According to the ASR and HRER, a new historic resource was identified within the APE. The historic resource is a memorial, a brass plaque affixed to the face of a large round, smooth stone which denotes the gift to Charles B. Alexander from his wife, Harriett Crocker Alexander. Although not explicit on the memorial, it denotes the Charles B. Alexander Grove within North Coast Redwoods District, California State Parks. The memorial is located to the north bank of Fish Creek and is considered to be within the area of direct impact (ADI). The memorial will be designated an Environmentally Sensitive Area (ESA) during project construction. ESA fencing will be placed around the memorial and no work will occur within the ESA.

Additional historic resources were identified in the ASR but were well outside the APE, therefore would not be impacted. Caltrans anticipates a Finding of No Adverse Effect with standard conditions based on the assumption of eligibility with regards to the memorial. Given this, a determination of "*Less than Significant Impact*" was made for this question.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

According to the ASR, a new archaeological resource was identified within the project area. A log crib dam was identified near the mouth of Fish Creek and is typical of logging or settlement operations and water control in the late 19th and early 20th centuries. Remnants of the Fish Creek log crib dam are situated low within the steeply-banked channel of Fish Creek, near its confluence with the Eel River and approximately 260 feet from the Fish Creek RCB. The site boundary was determined by the extent of visible components of the single feature. The dam comprises four discontiguous segments of log-elements as well as dam ballast deposits. Good visibility during the survey demonstrated that much of the dam has been destroyed by the creek's water flow, leaving only the logs and some ballast as evidence of the dam. The log crib dam is within the APE but not the ADI.

Additional archaeological resources were identified in the ASR but were well outside the APE, therefore would not be impacted. Based on this, the determination of "*Less than Significant Impact*" was made for this question.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

The Archaeological Site Record within the ASR indicates it is unlikely for human remains to be present given the nature of the site. Additionally, the Standard Measures and Best Management Practices discussed in Section 1.9 would reduce the potential for impacts to human remains. Therefore, it was determined the project would have "*No Impact*".

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.6. Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?				✓
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic Noise, Air Quality, Energy and Greenhouse Gas Memorandum dated July 16, 2020 (Caltrans 2020i). The proposed project would not increase capacity or provide congestion relief when compared to the No-Build alternative. It would contribute to roadway improvement that may improve vehicles' fuel economies, thus positively affecting project energy consumption. The proposed project does not include maintenance activities which would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway. Thus, it is unlikely to increase indirect energy consumption though increased fuel usage. Energy use associated with the proposed project construction would result in short-term consumption of diesel and gasoline-powered equipment. This represents a small demand on local and regional fuel supplies that would be easily accommodated, and this demand would cease once construction is complete. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand, and demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.7. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: 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.				✓
ii) Strong seismic ground shaking?				✓
iii) Seismic-related ground failure, including liquefaction?				✓
iv) Landslides?				✓
Would the project: b) Result in substantial soil erosion or the loss of topsoil?				✓
Would the project: 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?				✓
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: 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?				✓
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Structures Preliminary Geotechnical Report (SPGR) dated October 19, 2019 (Caltrans 2019c) and the Paleontological Identification/Evaluation Report dated October 6, 2020 (Caltrans 2020f). According to the SPGR, the site is not situated within an Earthquake Fault Zone (Alquist-Priolo) as identified by the California Geologic Survey, nor is it located within 1,000 feet of a mapped fault that is Holocene-Latest Pleistocene age or younger (active less than or equal to 15,000 years). Therefore, the potential for fault rupture occurring at the site does not exist. The established groundwater (elevation 217 feet) is approximately 23 feet below top of ground at the boring locations. The materials encountered below the groundwater at all three boring locations consist of very dense clayey gravel with sand and clayey sand with gravel and cobbles as well as Metaclaystone. Due to the nature of materials present below groundwater, the potential for liquefaction during a seismic event does not exist. Furthermore, the potential for lateral spreading does not exist. Additionally, the project is not located on expansive soil and would not create substantial risks to life or property. Therefore, potential impacts to geology and soils are not anticipated.

Mitigation Measures—Geology and Soils

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

The Paleontological Identification/Evaluation Report indicates the project area is underlain by Quaternary surficial sediments of low paleontological potential, consisting of the alluvial and fluvial deposits. Subjacent of these deposits is the Eocene/Paleocene Yager terrane, which has been identified as low paleontological potential for paleontological resources. Project activities, such as pile installation, excavation activities, roadway and structures, access roads, drainage, utility relocation, and retaining wall construction for the Fish Creek Fish Passage project would encounter these geologic units. Based on the geologic and paleontological information available and proposed project activities, scientifically significant fossils in these formations within the project area are unlikely to be encountered. Therefore, potential impacts to paleontological resources are not anticipated.

Mitigation Measures—Paleontological Resources

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.8. Greenhouse Gas Emissions

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

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change.

Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

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

FEDERAL

To date, no national standards have been established for nationwide mobile-source 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.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the *Energy Policy and Conservation Act of 1975 (42 USC Section 6201*) and *Corporate Average Fuel Economy (CAFE) Standards*. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels, including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

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 (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires the CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (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. The CARB 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 the CARB 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 the CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): 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 the CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO2e).[4] Finally, it requires the Natural Resources Agency to update the

[4] GHGs differ in how much heat each trap in the atmosphere (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" (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.

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."

AB 134, Chapter 254, 2017: Allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled 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 the CARB 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 the CARB 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.

Environmental Setting

The proposed project is along State Route (SR) 254, also known as the Avenue of the Giants, a 31.59-mile-long scenic route through the Humboldt Redwoods State Park (HRSP). The region consists of forested hill slopes, rivers and streams, and associated floodplains. It is a rural area, with a primarily natural-resources based agricultural and tourism economy. The Avenue of the Giants corridor includes the small, unincorporated communities of Stafford, Pepperwood, Shively, Holmes, Redcrest, Weott, Myers Flat, Miranda, and Phillipsville surrounded by resource management lands. Traffic counts are low, and SR 254 is rarely congested. The Humboldt County Association of Governments (HCAOG) is the designated Regional Transportation Planning Agency (RTPA) for the region and guides transportation development. The Humboldt County General Plan Circulation, Safety, and Traffic elements address GHGs in the project area.

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 CARB does so for the state, as required by H&SC Section 39607.4.

NATIONAL GHG INVENTORY

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (Figure 8). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO2e GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (U.S. EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

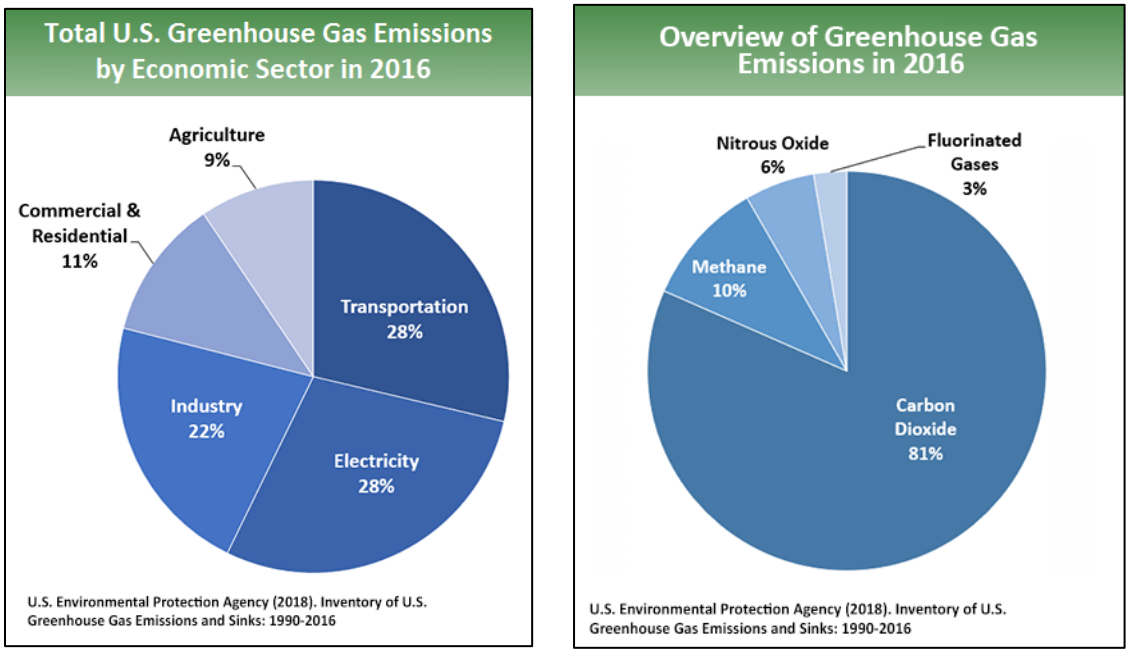

Figure 8. U.S. 2016 GHG Gas Emissions

STATE GHG INVENTORY

The CARB 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 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO2e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (Figure 9) (CARB 2019a).

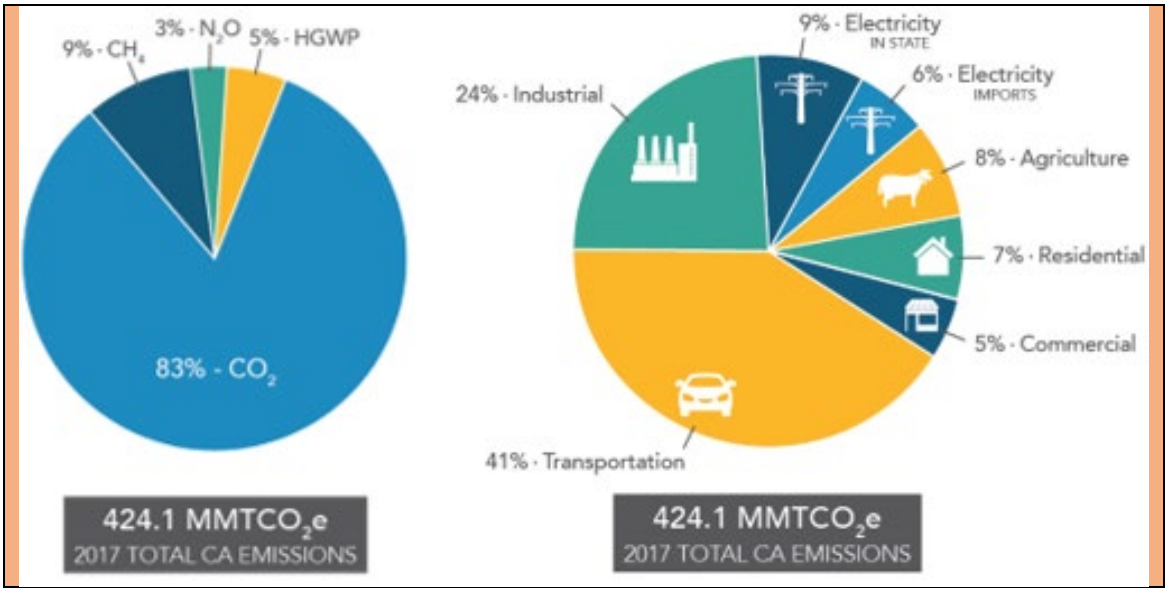

Figure 9. California 2017 Greenhouse Gas Emissions

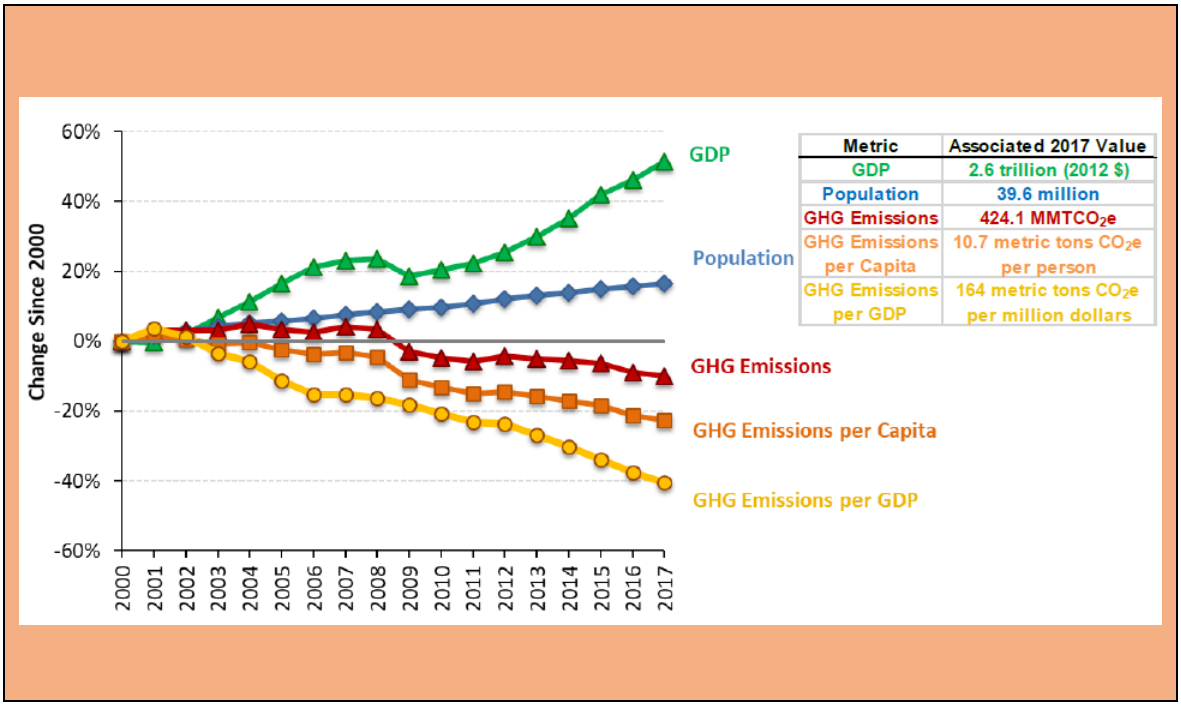

Figure 10. Change in California GDP, Population, and GHG Emissions Since 2000

(Source: CARB 2019b)

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

REGIONAL PLANS

CARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is within the jurisdiction of the HCAOG RTPA. HCAOG is not an MPO, and therefore does not have regional targets established by CARB. The Variety in Rural Options of Mobility 2017 RTP identifies GHG reductions goals and strategies, such as those listed below in Table 5 (HCAOG 2017).

Table 5. Regional GHG Reduction Goals and Strategies

Title	GHG Reduction Policies or Strategies
HCAOG Regional Transportation Plan (2017)	• Policy CS-11: Carry out policies and program funding for projects that will help achieve the goals of the Global Warming Solutions Act (California Assembly Bill 32 (2006) and Senate Bill 32 (2016)). This shall include supporting efforts to reduce non-renewable consumption and air pollution, such as projects that increase access to alternative transportation and renewable fuels, reduce congestion, reduce single-occupancy (motorized) vehicle trips, and shorten vehicle trip length, and reduce greenhouse gas emissions. • Climate Objective: Reduce motor vehicle miles traveled (VMT) and lower GHG emissions. • Policy Climate C-3: Support local communities in developing integrated transportation and land use strategies for responding resiliently to climate change, and codifying such strategies in General Plans, Regional Transportation Plans, and Local Coastal Programs

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are 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 (Public 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 §§ 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.

Operational Emissions

The purpose of the proposed project is to eliminate a barrier to fish passage created by an existing reinforced box culvert and reduce sediment loads to the South Fork Eel River and will not increase the vehicle capacity of the roadway. According to the Transportation Analysis Under CEQA: Evaluating Transportation Impacts of State Highway System Projects document published by Caltrans in September 2020, (TAC, First Edition), Caltrans concurs that Vehicle Miles Traveled (VMT) "is the most appropriate measure of transportation impacts under CEQA" (Caltrans 2020h). Section 5.1.1 (ii) describes project types that are not likely to lead to a measurable and substantial increase in vehicle travel.

The proposed project meets the following criteria from the TAC in bolded text:

- This is a "**rehabilitation… project designed to improve the condition of existing transportation assets (e.g., … culverts…) that do not add additional motor vehicle capacity.**"
- The project may widen existing shoulders to meet minimum facility requirements, "**but which will not be used as automobile vehicle travel lanes.**"

Therefore, it was determined the proposed Fish Creek Fish Passage project is unlikely to increase VMT on SR 254 and would not require an induced travel analysis. Additionally, projects that do not increase VMT usually generate minimal or no increase in operational GHG emissions. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected as a result of the project.

Construction Emissions

Construction GHG emissions would result from material processing, 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 could be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved Transportation Management Plans, and changes in materials, the GHG emissions produced during construction could be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The proposed project would generate construction-related GHG emissions. The Caltrans Construction Emission Tool (CAL-CET2018 version 1.2) was used to estimate average carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydrofluorocarbon (HFCs) emissions from construction activities. Table 6 below summarizes estimates of GHG emissions during the construction period for the project. Approximately 0.29 mile of SR 254 would be closed during construction. The detour would direct traffic to U.S. Highway 101, which runs parallel to SR 254, to the next exit which is approximately 5 miles north—and also the same distance they would have traveled on SR 254. Therefore, the detour would not add vehicle miles traveled or increase potential GHG emissions during construction.

Table 6. Maximum GHG Emissions from Construction

Construction Year 2022	CO_2	CH_4	N_2O	HFC
Tons	223	<1	<1	<1

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7-1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all CARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations (such as equipment idling restrictions) which reduce construction vehicle emissions also help reduce GHG emissions. A construction Transportation Management Plan would be implemented to reduce traffic delays during construction.

CEQA Conclusion

While the proposed project would result in GHG emissions during construction, it is anticipated the project would 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.

Greenhouse Gas Reduction Strategies

STATEWIDE EFFORTS

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (Figure 11) that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to fifty percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

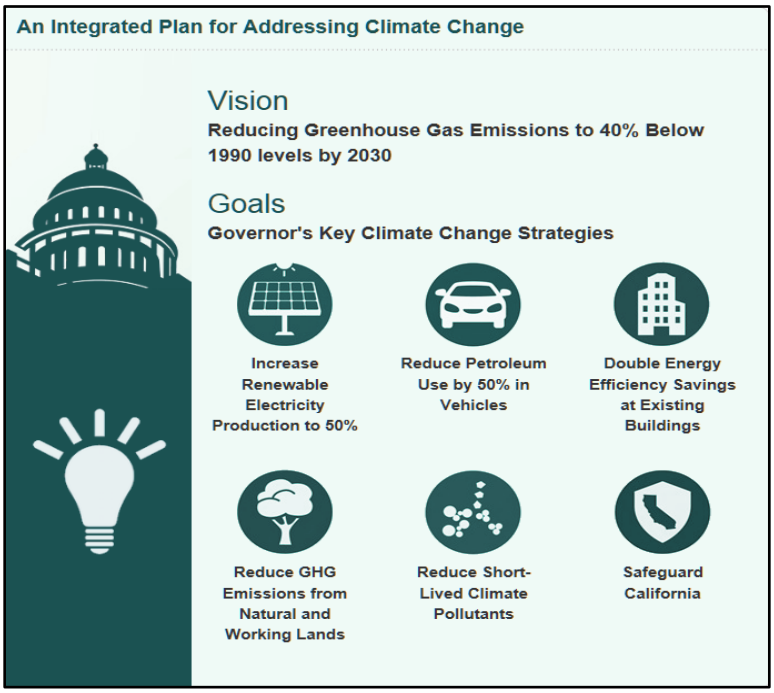

Figure 11. California Climate Strategy

(Source: State of California 2019 https://www.climatechange.ca.gov/)

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). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

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.

CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB 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.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, rather than continuing to expand capacity on existing roadways, California will be working to improve transit and reduce long-run repair and maintenance costs of roadways and developing a comprehensive assessment of climate-related transportation demand management and new technologies.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiatives

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

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

- Caltrans Standard Specifications, Section 14-9.02, Air Pollution Control: requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes of the California Air Resources Board (CARB) and the local air pollution control district.

- Caltrans Standard Specifications, Section 7-1.02C, Emissions Reduction: requires the contractor to certify awareness of, and comply with, the emissions reduction regulations mandated by the CARB.

- A Transportation Management Plan (TMP) would be implemented in the project to maintain traffic flow and minimize delays and idling that would generate extra GHG emissions.

Adaptation Strategies

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 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 U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the President every four years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. Ch. 56A § 2921 et seq.). 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." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The *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 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. *California's Fourth Climate Change Assessment* (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factors. These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality.

> Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions to state agencies on how to incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California—An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017 to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

CALTRANS ADAPTATION EFFORTS

Caltrans Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure*—Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence*—Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization*—Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Efforts

Sea-Level Rise

The proposed project is outside the Coastal Zone and is not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains

A Preliminary Hydraulics Design Recommendation (Caltrans 2020g) was prepared on September 17, 2020, and a Draft Final Hydraulics Report (Caltrans 2020d) was prepared on August 26, 2020. The existing culvert at Fish Creek is approximately 440 feet upstream from the confluence with the South Fork (SF) Eel River. The SR 254 crossing at Fish Creek is in a river terrace deposit which comprises sand and gravel, with minor amounts of silt and clay deposited during larger flood events of the SF Eel River. The major flood of 1915 is likely to have created dramatic mass wasting throughout the Eel River watershed. As a result of this event in February 1915, it is likely there was excessive aggregation upstream of the highway on Fish Creek. It is theorized that this aggregation, due to the larger flood event, contributed to the configuration of the culvert construction in summer 1917 (Figure 12). At that time in history, it was common practice for drainage systems to be built as the contractor saw fit on the existing streambed grade. As a result, it is theorized the culvert entrance meeting the elevation of an aggregated riverbed upstream was likely the reason for the configuration constructed. As a result of this configuration, as well as the undersized culvert, the upstream channel would have even more of a tendency to excessive aggregation. Consequently, the next modification of the culvert appears to have been constructed to reach an even higher entrance elevation in the upstream channel. This is the beginning of the geomorphic feedback loop of excessive aggregation and widening as described by Mark Smelser, Professional Geologist, to be further exacerbated by the flood events of 1955 and 1964 (CDFW 2016).

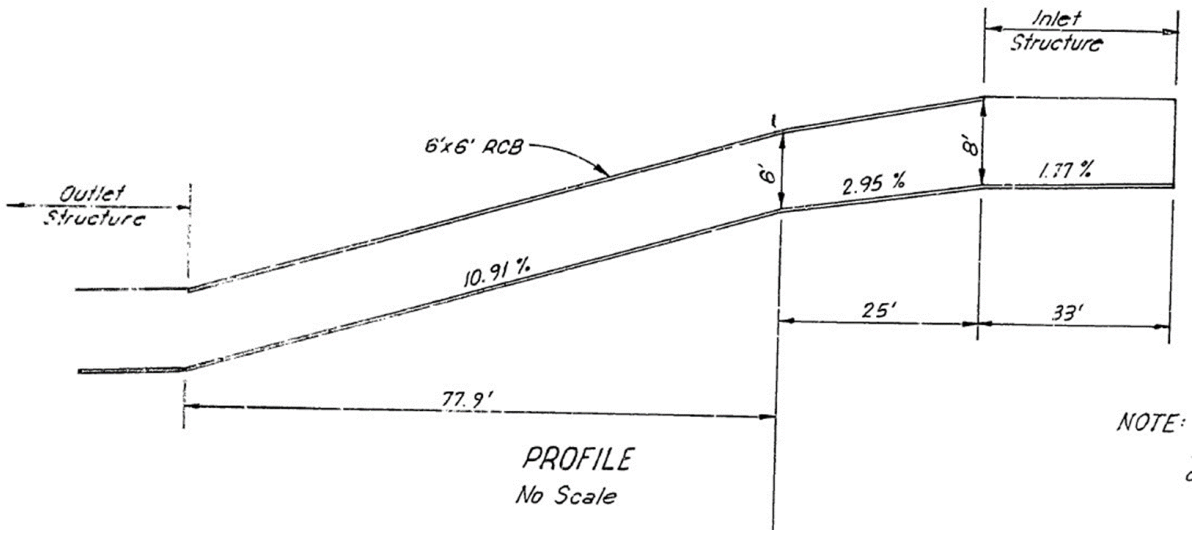

Figure 12. 1917 As-Built Profile of the Fish Creek Culvert

The project site is within Federal Emergency Management Agency (FEMA) designated flood zone "D"—"Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities." Additionally, FEMA has not determined the 100-year flood elevation for the South Fork Eel River or Fish Creek within the State Park boundaries. Based on the SMS 2-dimensional hydraulic model provided in the Draft Final Hydraulics Report, the existing culvert at this location is not expected to overtop the roadway at SR 254 in a 100-year event. However, SR 254 would likely flood over the 4-foot diameter overflow culvert 115 feet to the south of the existing Fish Creek culvert during a 100-year event (Figure 13). Additionally, a Caltrans maintenance supervisor for the project site testified in the Draft Final Hydraulic Report that "during his 20 years working at the yard he has never seen Fish Creek inundate [sic] State Route 254… and that he has seen high velocities at the culvert during large flow events."

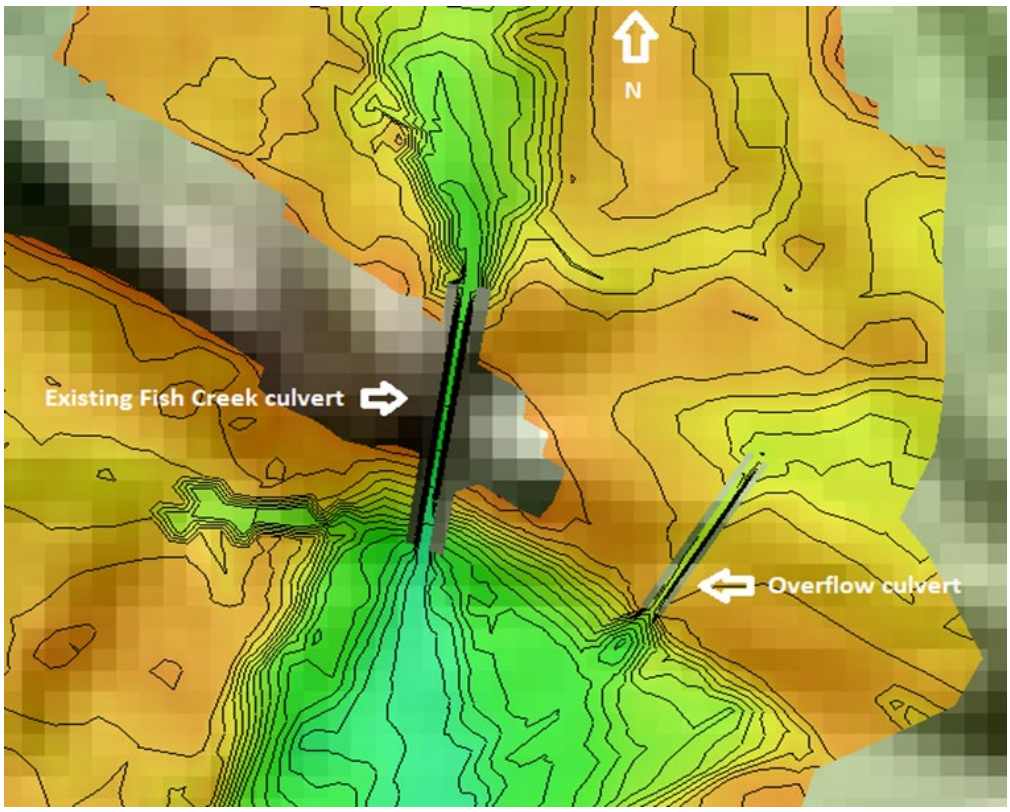

Figure 13. Existing Fish Creek 100-Year flood event, backflows from the SF Eel River

The *Caltrans Climate Change Vulnerability Assessment for District 1* (Caltrans 2019a) mapped potential changes in the 100-year storm precipitation event throughout the district. The 100-year storm event is a metric commonly used in the design of bridges and culverts. In Humboldt County, the 100-year storm event is expected to increase by 5% to 10% from 2025 to 2085. Many location-specific variables make it difficult to calculate exactly how precipitation change would affect flood flows at a given site.

The 100-year flow event for the Fish Creek project was calculated in the Preliminary Hydraulics Design Recommendation using the USGS Streamstats application. Streamstats uses PRISM Climate group and develops spatial climate datasets to reveal short and long-term climate patterns. The peak flows in a 100-year event in the Fish Creek watershed are estimated at 1,690 cubic feet per second. The removal of the existing undersized culvert at Fish Creek and replacement with a bridge will provide more capacity to allow for flood flows as well as provide fish passage (Figure 14).

The Preliminary Hydraulics Design Recommendation also notes that the proposed 32-foot-wide by 42-foot-long bridge will span more than the bankfull creek width of 25 feet with space for over bank flow. Additionally, the bridge would be designed with three feet of freeboard. Scour effects will be calculated at the design phase and appropriate scour prevention features, drainage features, and erosion control measures will be incorporated into the design. With these project design features, the bridge is expected to withstand effects that could occur with more-intense storm events under changed climate conditions.

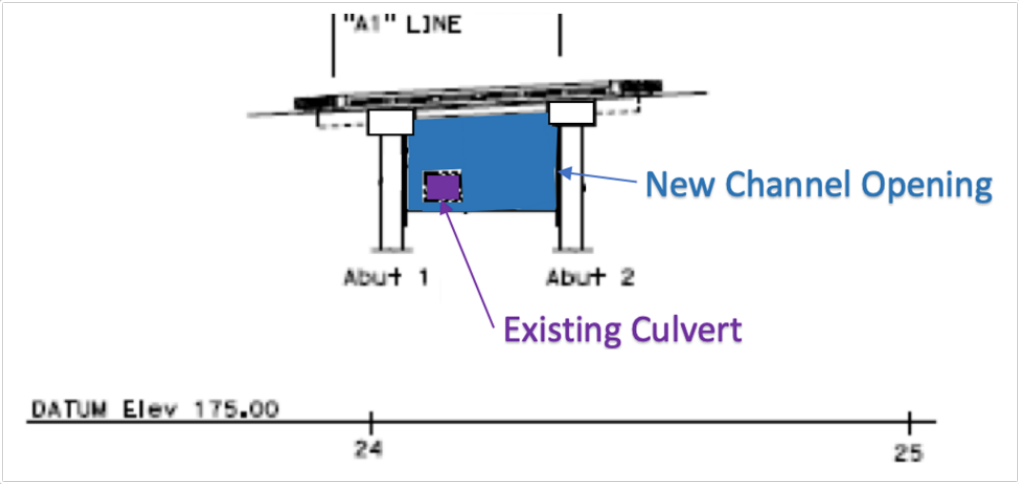

Figure 14. Diagram of new channel opening and existing culvert

Wildfire

The project is located within the State Responsibility Area (SRA) for wildfires. The project area is within lands classified as high fire severity hazard zones (CALFIRE 2020). The project would eliminate a barrier to fish passage and reduce sediment loads to the South Fork Eel River and is not expected to exacerbate wildfire risks. Caltrans 2018 revised Standard Specification 7-1.02M(2) mandates fire prevention procedures during construction, including a fire prevention plan. The project is not anticipated to exacerbate the impacts of wildfires intensified by climate change.

2.9. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
Would the project: 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?				✓
Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
Would the project: 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?				✓
Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

Regulatory Setting

The primary laws governing hazardous materials include:

- California Health and Safety Code, Chapter 6.5
- Porter-Cologne Water Quality Control Act, § 13000 et seq.
- CFR Titles 22, 23, and 27

Environmental Setting

A Preliminary Site Investigation (PSI) and an Asbestos Containing Material (ACM) and Lead Containing Paint (LCP) structure survey of the reinforced concrete box (RCB) was completed in February 2020. An Initial Site Assessment (ISA) Update was prepared on June 4, 2020, to identify potential hazardous materials that could be present within the project limits as well as the results of the PSI, ACM and LCP structure surveys. Results of the surveys are documented in the *Aerially Deposited Lead Site Investigation Report* and *Asbestos and Lead-Containing Paint Survey Report* (Caltrans 2020a and 2020c) prepared for the project.

Discussion of Environmental Evaluation Question 2.9a)—Hazards and Hazardous Materials

A "No Impact" determination was made for Questions b), c), d), e), f), and g) listed within the CEQA Environmental Checklist Hazard and Hazardous Material section. Determinations were based on the scope, description, and locations of the proposed project, as well as the 2020 ISA Update (Caltrans 2020e). See below for further discussion of the "Less Than Significant Impact" determination made for Question a).

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

The Preliminary Site Investigation found low levels of lead within shoulder soils to a depth of two (2) feet below ground surface within the project area. Lead concentrations ranged from 2.7 to 150 mg/kg with a 95% UCL (of the mean) of 53.38 mg/kg. These soils are considered non-hazardous and would qualify as non-regulated materials for unrestricted use. It will be required to include Caltrans Standard Special Provision (SSP) 7-1.02K(6)(j)(iii) EARTH MATERIALS CONTAINING LEAD for roadway excavation activities. The use of Caltrans SSP 36-4 CONTAINING LEAD FROM PAINT AND THERMOPLASTIC will be required to address containment of residue from grinding activities that may contain lead from paint or thermoplastic. The use of Caltrans SSP 84-9.03B REMOVE TRAFFIC STRIPES AND PAVEMENT MARKINGS CONTAINING LEAD will be required for paint marking and or thermoplastic stripe removal, if this method is preferred. Additionally, a Lead Compliance Plan (LCP) as a contract item will be required for soil, paint and thermoplastic disturbance or removal.

The Asbestos and Lead Containing Paint Survey found no ACM or LCP on or within the reinforced box culvert structure. No special handling or disposal requirements for ACM or LCP will be necessary for the demolition of the RCB in construction. However, since this project includes demolition to an existing structure, a National Emission Standards for Hazardous Air Pollutants (NESHAP) notification to the North Coast NESHAP. SSP 14-9.02 NESHAP NOTIFICATION would be included.

Note that the ISA found that the project work site is not on the Hazardous Waste and Substances Site List (Cortese List).

The project would not create a significant hazard to the public or environment. Therefore, a "*Less Than Significant Impact*" determination was made for Hazards and Hazardous Materials.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.10. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			✓	
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
Would the project: 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;			✓	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			✓	
(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			✓	
(iv) impede or redirect flood flows?			✓	
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

Regulatory Setting

The primary laws and regulations governing hydrology and water quality include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order for the Protection of Wetlands (EO 11990)
- State Sections 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, § 13000 et seq.

Environmental Setting

Fish Creek is a tributary to the South Fork Eel River, a tributary to the Eel River, which flows into the Pacific Ocean. State Route 254 is approximately 440 feet upstream of the confluence with South Fork Eel River. Fish Creek drains a watershed of approximately 4.5 square miles which ranges in elevation from 200 to 2,600 feet at Elk Mountain. The watershed is dominated by redwood forest. The underlying geology in this region of the Coast Ranges is the Franciscan Complex. The hillsides are steep due to debris slides in this relatively geologically active watershed. The upstream channel gradient averages approximately 4 percent. The downstream gradient is approximately 2 percent. The active channel width at this location is approximately 20 to 25 feet and is over widened upstream and downstream, likely due to the constriction of the culvert. In response to the backwater at the inlet from the proximity of the South Fork Eel River and the constriction created by the culvert, there is substantial aggregation upstream of the culvert. The 50-year and 100-year flood frequency discharges are estimated to be 1,450 cubic feet per second (cfs) and 1,690 cfs respectively. Fish passage design flows for Fish Creek were based on regional hydrology and percentages of the 2-year recurrence interval flow of 377 cfs. The 2-year recurrence interval flow is 377 cfs.

The South Fork Eel River and Tributaries were listed on the California CWA Section 303(d) list as impaired for temperature and sediment. The primary adverse impacts associated with excessive sediment in the South Fork Eel River are associated with the anadromous salmonid population declines. The Basin Plan (NCRWQCB 2011) requires Caltrans road construction and maintenance projects within and adjacent to areas with sediment TMDLs to implement effective erosion and sediment control measures identified in the Caltrans Statewide Storm Water Management Plan (SWMP). The Caltrans NPDES Permit No. CAS000003, Attachment IV, describes source controls for Sediment and Turbidity TMDLs. Specific control measures include:

- Protecting and stabilizing hillsides
- Intercepting and filtering stormwater runoff
- Avoiding concentrating flows in natural channels and constructed drainages
- Avoid and minimize the modification of natural runoff flow patterns (i.e., hydromodification)

Discussion of Environmental Evaluation Questions 2.10a) and c)—Hydrology and Water Quality

A "No Impact" determination was made for Questions b), d), and e) listed within the CEQA Environmental Checklist Hydrology and Water Quality section. Determinations were based on scope, description, and locations of the proposed project, as well as the Water Quality Assessment Memorandum (Caltrans 2020m), Preliminary Hydraulic Design Recommendation (Caltrans 2020g), and Stormwater Data Report (Caltrans 2017b). See below for further discussion of the "Less Than Significant Impact" determination made for Questions a) and c).

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Temporary impacts to water quality could occur during construction phase of the project. Soil disturbing work within and adjacent to drainage systems in the project area could result in the transport of sediment and other pollutants to adjacent wetland and riparian areas. However, potential impacts would be minimized with the incorporation of the following

BMPs from the *Caltrans Construction Site BMP Manual* (Caltrans 2017a) into the approved project Stormwater Pollution Prevention Plan (SWPPP).

- Existing vegetation would be removed to the minimum extent necessary to facilitate the proposed work.
- Streambank stabilization may be used to prevent erosion while the RCB is removed.
- Perimeter control devices such as fiber rolls, compost socks, and silt fences would be utilized to prevent sediment transport from the project site.
- Disturbed slopes would be stabilized with a combination of seed, biodegradable rolled erosion control products (RECP) such as fiber rolls, coir blankets, and geotextile fabrics.
- Concrete washout facilities, re-fueling areas, as well as equipment and storage areas should be covered and located away from drainage inlets and waterways to prevent both stormwater and non-stormwater discharges.
- Dewatering operations would be implemented to manage the discharge of pollutants from the accumulation of groundwater associated with excavations, temporary stream crossings and clear water diversions.
- Paving and sealing operations would be conducted to avoid and minimize the discharge of pollutants to receiving waters.
- Spill prevention and control practices would be utilized.
- Proper control and use of equipment, materials, and waste products from pile driving operations would reduce the discharge of pollutants to the storm drain system or receiving waters.
- Procedures would be followed to protect water bodies from debris and wastes associated with structure demolition or removal over or adjacent to receiving waters.

Permanent impacts to water quality would be prevented by adhering to the required permits and the incorporation of Design Pollution Prevention (DPP) BMP strategies found in Appendix A of the *Stormwater Quality Handbooks: Project Planning and Design Guide (PPDG)* (Caltrans 2017c). Any stabilized pervious area within the project limits that receives runoff from the impervious areas and promotes infiltration of the runoff may be designated as a DPP infiltration area. DPP infiltration areas can be vegetated or non-vegetated. DPP BMPs include prevention of downstream erosion, stabilization of disturbed

soil areas, maximization of vegetated surfaces, and consideration of downstream effects related to potentially increased flow. It is anticipated that the inclusion of appropriate temporary and permanent BMPs would avoid potential impacts to water quality and meet the requirements of the Caltrans NPDES Permit, Construction General Permit (CGP), and the North Coast Basin Plan. Given this, it was determined the project would have a "*Less than Significant*" impact.

c) Would the project 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?

Although there would be potential for temporary increases in suspended particulates and turbidity during storm events due to disturbed soil areas near receiving waters, this would be minimized with the implementation of site-specific erosion and pollution control measures. The project is not anticipated to result in substantial erosion or siltation on- or off- site.

c) Would the project 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:

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

The replacement of the existing culvert with a bridge structure which includes the widening of the roadway approaches would add new impervious surface areas, which has the potential to increase runoff water. According to the Stormwater Data Report (SWDR) prepared for this project in 2017, the total net new impervious (NNI) area resulting from the project would be 0.016 acre. The total new impervious surface (NIS) is 0.04 acre. The NIS is the sum of the NNI and the replaced impervious surface (RIS), which includes any area where existing impervious surfaces were replaced to a depth at which the underlying soil or pervious subgrade was exposed during construction. These additions of new impervious surface area would result in a negligible increase in flow and volume of runoff. The project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite.

c) Would the project 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:

(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?

Existing drainage patterns at the project location would be preserved to avoid and minimize the modification of natural runoff flow patterns. The treatment BMP threshold under the 401 Certification is 5,000 square feet (or 0.115 acre) of NIS. This project does not meet the threshold that would require post-construction treatment BMPs. Because the NIS is 0.04 acre, the project is not anticipated to create or contribute runoff water which would exceed the capacity of existing stormwater drainages or provide substantial additional sources of polluted runoff

c) Would the project 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:

(iv) impede or redirect flood flows?

This project proposes to replace the existing undersized RCB culvert with a 32-foot-wide by 42-foot-long bridge to improve passage for fish and reduce sediment load to the nearby South Fork Eel River. The new creek channel would be established from approximately 150 feet upstream to 150 feet downstream of the existing culvert to establish a channel slope that would improve fish passage. The new channel would be graded at roughly 3-to-4% slope, as opposed to the exiting 10.9% slope of the original RCB culvert. The channel width would be approximately 40 feet wide to provide for adequate velocities and flow depths for 50- to 100-year flood events. At lower flow rates, the creek would flow within a rock-lined thalweg, and at higher flow rates, the creek would widen to span most of the full channel width. The channel would be regraded to conform to the existing creek channel upstream and downstream. Native rocky material would be spread along the new channel. The new bridge would span the active channel of Fish Creek which would allow for flood flows and provide geomorphic continuity. The proposed project would not result in significant floodplain encroachment nor would it impede or redirect flood flows.

Given that the project is not anticipated to substantially increase erosion, siltation or surface runoff, provide sources of polluted runoff, exceed existing drainage capacity or impede or redirect flood flows, a "*Less Than Significant Impact*" determination was made for Question c) (i)(ii)(iii)(iv).

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.11. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				✓
Would the project: 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" determinations in this section are based on the scope, description, and location of the proposed project. The proposed project is located within Humboldt Redwoods State Park and would not physically divide an established community, nor does it conflict with any land use plan, policy or regulations. The project is consistent with existing zoning, plans, and other applicable land use controls (CEQA Guidelines Section 15063(d)(5)). Therefore, potential impacts to land use and planning are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.12. Mineral Resources

Question:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
Would the project: 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" determinations in this section are based on the scope, description, and location of the proposed project. There are no designated mineral resource areas of state or regional importance in the project area, and the project would not impede the extraction of any known mineral resources (Division of Mine Reclamation 2016). Therefore, potential impacts to mineral resources are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.13. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: 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?				✓
Would the project result in: b) Generation of excessive ground-borne vibration or ground-borne noise levels?				✓
Would the project result in: 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" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Traffic Noise, Air Quality, Energy and Greenhouse Gas Memorandum dated July 16, 2020 (Caltrans 2020i). Potential impacts to noise are not anticipated. Under Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772), projects are categorized as Type I, Type II, or Type III. Type I projects are proposed federal or federal-aid highway projects for the construction of a highway on a new location or addition of a through-traffic lane(s), the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment of the highway. This project is not considered a Type I project. A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment.

A Type III project is a project that does not meet the classifications of a Type I or Type II project. Based on the scope of work, this project is considered a Type III project. Type III projects do not require a noise analysis. Additionally, noise abatement is not considered.

During construction, noise may be generated from the contractors' equipment and vehicles. Caltrans requires the contractor to conform to the provisions of Standard Specification, Section 14-8.02 "Noise Control" which states "Control and monitor noise from work activities" and "Do not exceed 86 dBA Lmax at 50 feet from the job site activities from 9 p.m. to 6 a.m."

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.14. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: 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)?				✓
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project would replace the reinforced concrete box culvert with a bridge to allow for fish passage on Fish Creek and would not induce unplanned population growth, either directly or indirectly. The project would not involve acquisition of land occupied by homes or residences and would not result in displacement of people or housing. Therefore, potential impacts to population and housing are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.15. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project as well as the Transportation Management Plan Update prepared for this project, dated May 8, 2020 (Caltrans 2020j). Although there would be temporary traffic delays during construction, as well as a full closure of SR 254 during a portion of construction, all emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 254 throughout the construction period. The proposed project would not result in an increased demand for space in schools, parks, or public facilities in the area. Access to schools would not be affected because the Transportation Management Plan Update would ensure school bus routes are not impeded. As such, potential impacts on public services are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.16. Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The proposed project would replace an existing culvert with a bridge and would not result in an increased demand for park resources that could cause deterioration of existing parks or recreational facilities. Additionally, the proposed project does not include the construction of park resources or recreational facilities or the expansion of such facilities. Construction of the bridge at this location would facilitate additional public access to Fish Creek within Humboldt Redwoods State Park. Therefore, potential impacts on recreation are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.17. Transportation

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Transportation Management Plan Update dated May 8, 2020 (Caltrans 2020j). Although there would be full closure of SR 254 for a portion of construction, as well as delays to traffic during the remainder of construction, there would not be any permanent changes to transportation. During construction, bicycles would be accommodated through the construction area at all times. The proposed bridge is located near the south end of the Avenue of the Giants, a recreational avenue with a regulatory speed limit of 55 mph within the project limits and 30 mph warning signs posted where needed. The operating speed was measured as 45-50 mph in fall 2020. The bridge would be located on the current alignment and would not increase hazards due to geometric design features.

All emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 254 throughout the construction period. Because emergency vehicles are exempt from lane closures, effort would be made to allow police and fire vehicles to pass through construction zones without delay, therefore the project would not result in inadequate emergency access. Potential impacts to transportation are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.18. Tribal Cultural Resources

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Archaeological Survey Report (ASR) completed in March 2020 (Caltrans 2020b) which evaluated potential impacts within the area of potential impact (APE) and area of direct impact (ADI). On April 1, 2020, as required by the National Historic Preservation Act (NHPA) Section 106 regulations and Caltrans policy for federally funded undertakings, consultation was initiated with the Eel River Nation of Sovereign Wailaki, Round Valley Indian Tribes, Rohnerville Rancheria, and the Bear River Band. Tribal cultural resources were not identified in the ASR, therefore potential impacts to tribal cultural resources are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.19. Utilities and Service Systems

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

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. As discussed in Chapter 1, the project would require the relocation of existing AT&T utilities. Existing utilities at the project site include an AT&T utility pole located along the southbound shoulder and north of the existing RCB culvert and an underground AT&T line on the northbound side of the highway.

Both lines would be temporarily relocated during construction. After bridge construction, the underground utilities would be permanently located on the overhead poles or placed within conduit within the bridge structure. The project would not result in a new source of wastewater or solid waste or create a new demand for water supplies. Therefore, impacts to Utilities and Service Systems are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.20. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?				✓
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?				✓
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 may result in temporary or ongoing impacts to the environment?				✓
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?				✓

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Environmental Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project is located within the State Responsibility Area (SRA) for wildfires. The project area is within lands classified as high fire severity hazard zones (CALFIRE 2020).

The project would eliminate a barrier to fish passage and reduce sediment loads to the South Fork Eel River and potential impacts to wildfire are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.21. Mandatory Findings of Significance

Does the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) 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?				✓
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				✓
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✓

Discussion of Environmental Evaluation Question 2.21—Mandatory Findings of Significance

California Environmental Quality Act of 1970 (CEQA) requires preparation of an Environmental Impact Report (EIR) when certain specific impacts may result from construction or implementation of a project. The analysis indicated the potential impacts associated with this project would not require an EIR. Mandatory Findings of Significance are not required for projects where an EIR has not been prepared.

The project would not 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. Additionally, the project would not have impacts that are individually limited, but cumulatively considerable, or have environmental effects which would cause substantial adverse effects on human beings. Based on the scope, description, and location of the proposed project, "No Impact" determinations were made.

2.22. Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time (CEQA §15355)**.**

Cumulative impacts to resources may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "…situations where the cumulative effects are found to be significant." An EIR is required in all situations when a project might result in a "significant" direct, indirect, or cumulative impact on any resource. This project would restore a high priority fish passage barrier and eliminate sediment loads into the South Fork Eel River. The project is not anticipated to have a cumulative impact on any resources. Given this, an EIR and CIA were not required for this project.

Chapter 3. Agency and Public Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings, interagency coordination meetings, and field reviews. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The following agencies, organizations, and individuals were consulted in the preparation of this environmental document.

Coordination with Resource Agencies

Table 7. Coordination with Resource Agencies

Date	Coordination Effort	Personnel
December 16, 2019	Interagency Field Review	Mike Kelly, NMFS Greg Schmidt, USFWS Mike Van Hattem, CDFW Rick Macala, CDFW Jay Harris, HRSP Marisa Parish, HRSP Keith Hess, USACE Caltrans staff: Cathy McKeon, Todd Lark, Kahm Xiong, Lorna McFarlane, Annie Allen, Laurel Osborn, Jeremiah Joyner, Kristine Pepper, Lena Ashley, and Susan Leroy
August 11, 2020	Personal Communication	Mike Kelly, NMFS Annie Allen, Caltrans
August 14, 2020	Personal Communication	Greg Schmidt, USFWS Annie Allen, Caltrans
September 29, 2020-September 30, 2020	Email communication with National Park Service that Wild and Scenic Rivers Act does not apply	Stephen Bowes, NPS Laurel Osborn, Caltrans

Date	Coordination Effort	Personnel
October 8, 2020	Field Review	Jennifer Olson, CDFW Caltrans staff: Tagg Nordstrom, Amanda Haas, Jeffrey Barrett, Phlora Barbash, Annie Allen, Laurel Osborn, and Susan Leroy
November 18, 2020-present (ongoing)	Section 4(f) coordination via email and phone	Marisa Parish, HRSP Laurel Osborn, Caltrans
December 9, 2020	Coordination Webinar	Mike Kelly, NMFS John Wooster, NMFS Greg Schmidt, USFWS Jen Olson, CDFW Rick Macala, CDFW Susan Stewart, NCRWQCB Amber Barton, HRSP Marisa Parish, HRSP Anna Halligan, Trout Unlimited Tom Wheeler, EPIC Scott Greacan, Friends of the Eel Laura Lalemand, Save the Redwoods League Caltrans staff: Jaime Matteoli, Todd Lark, Kendall Thomas, Celeste Redner, Henry Fang, Manode Kodsuntie, Whitney Petrey, Alexis Kelso, Dan Bornman, Lianna Winkler-Prins, Parvin Sebti, Annie Allen, Laurel Osborn, Lena Ashley, and Susan Leroy
December 10, 2020	Field Review	Jen Olson, CDFW Marisa Parish, HRSP Laura Lalemand, Save the Redwoods League Caltrans staff: Jaime Matteoli, Todd Lark, Kendall Thomas, Celeste Redner, Tagg Nordstrom, Parvin Sebti, Annie Allen, Laurel Osborn, and Susan Leroy

Coordination with Property Owners

The project is within the boundaries of Humboldt Redwoods State Park (HRSP) along the Avenue of the Giants. Coordination with HRSP is ongoing. Section 4(f) will be completed after circulation of the Draft Environmental Document and documented agreement from the official with jurisdiction will be obtained before circulation of the Final Environmental Document.

Caltrans would obtain temporary construction easements (TCEs) and permits and is also proposing to acquire right of way from HRSP adjacent to the highway. Approximately 1.6 acres TCE would be necessary for construction and channel work upstream and downstream of Fish Creek. Additionally, Caltrans proposes a permanent acquisition of approximately 0.44 acre of State Park land into the state highway right of way to accommodate the widening of the roadway and the new structure. A Transfer of Jurisdiction (TOJ) would be required for the permanent acquisition and would be completed prior to project construction. The TOJ would not divide or split the park in two, as state highway right of way already exists adjacent to this location.

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 1

Annie Allen	Associate Environmental Planner (Biologist)
Barbara Wolf	Senior Environmental Planner (GHG and Climate Change)
Brandon Larsen	Supervising Environmental Planner (Office Chief)
Celeste Redner	Hydraulics Engineer
Christian Figueroa	Engineering Geologist (Hazardous Waste)
Dana York	Senior Environmental Planner
Jaime Matteoli	Transportation Engineer (Project Manager)
Karen Radford	Associate Government Program Analyst (Technical Editor)
Laurel Osborn	Associate Environmental Planner (Coordinator)
Lorna McFarlane	Associate Environmental Planner (Water Quality)
Phlora Barbash	Landscape Associate (Aesthetics)
Saeid Zandian	Transportation Engineer (Air, Noise, GHG, and Energy)
Samantha Hadden	Design Stormwater Coordinator (Water Quality)
Todd Lark	Transportation Engineer (Lead Project Engineer)
Whitney Petrey	Associate Environmental Planner (Archaeologist)

Consultants

David Andrew Funk	International Consulting Firm (ICF) (Arborist)
Dimitra Zalarvis-Chase	DZC Archaeology and Cultural Resources Consulting (Cultural)
Gemma Reblando	Geocon Consultants (Hazardous Waste)
John Juhrend	Geocon Consultants (Hazardous Waste)
Jordan Mayor	International Consulting Firm (ICF) (Arborist)

Chapter 5. Distribution List

Federal and State Agencies

Jeff Jahn, NOAA Fisheries
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Greg Schmidt, USFWS
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Marisa Parish, CA State Parks
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Eureka, CA 95502-2006

Susan Stewart, NCRWQCB
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403-1072

Sarah Firestone, USACE, San Francisco District
450 Golden Gate Ave, 4th Floor
San Francisco, CA 94102-3046

Interested Groups, Organizations, and Individuals

Tom Wheeler, EPIC
145 G Street, Ste A
Arcata, CA 95521

Scott Greacen, Friends of the Eel River
920 Samoa Blvd, STE 201
Arcata, CA 95521

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111 Sutter Street, 11th Floor
San Francisco, CA 94104

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Mike Kelly, Fisheries Biologist, National Marine Fisheries Service

Appendix A. Project Layouts

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED OR MICROFILMED PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN FOR REVIEW & STUDY ONLY

LEGEND

(#) TREE TRUNK DIAMETER (= OR > 4')

REMOVE CONCRETE BOX CULVERT

~42' LONG BRIDGE

"A1" 24+53.53 EC

"A1" 24+74.05 BC

BRIDGE RAIL TYPE 85

CRASH CUSHION

PRHV417

DRIVEWAY

R/W

"A1" LINE

TO PHILLIPSVILLE

TO MIRANDA

20.53'

N51° 53' 09.23"W

CRASH CUSHION

CRASH CUSHION

SECANT PILE RETAINING WALL

CREEK

FISH

LAYOUT

SCALE: 1" = 20'

PG

OG

+70.00 POT Elev 234.29

+55.12 BVC Elev 234.58

+94.24 BB Elev 237.31

+34.24 EB Elev 238.93

+55.12 EVC Elev 239.92

+12.00 POT Elev 247.77

0.340%

200' VC

5.000%

+55.12 VPI Elev 234.92

EXISTING CULVERT

PROFILE

SCALE: 1" = 10' VERT.
1" = 20' HORIZ.

FISH CREEK
LAYOUT & PROFILE
SCALE: AS NOTED

STATION 21 22 23 24 25+00 26 27 TOTAL

CY Exc

CY Emb

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

LAST REVISION 00-00-00

DATE PLOTTED => 07-DEC-2020

TIME PLOTTED => 09:18

BORDER LAST REVISED 7/2/2010

USERNAME => s151814

DGN FILE => 0E790-L-1.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0313

PROJECT NUMBER & PHASE 0115000021

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	HUM	254	4.18		

REGISTERED CIVIL ENGINEER DATE

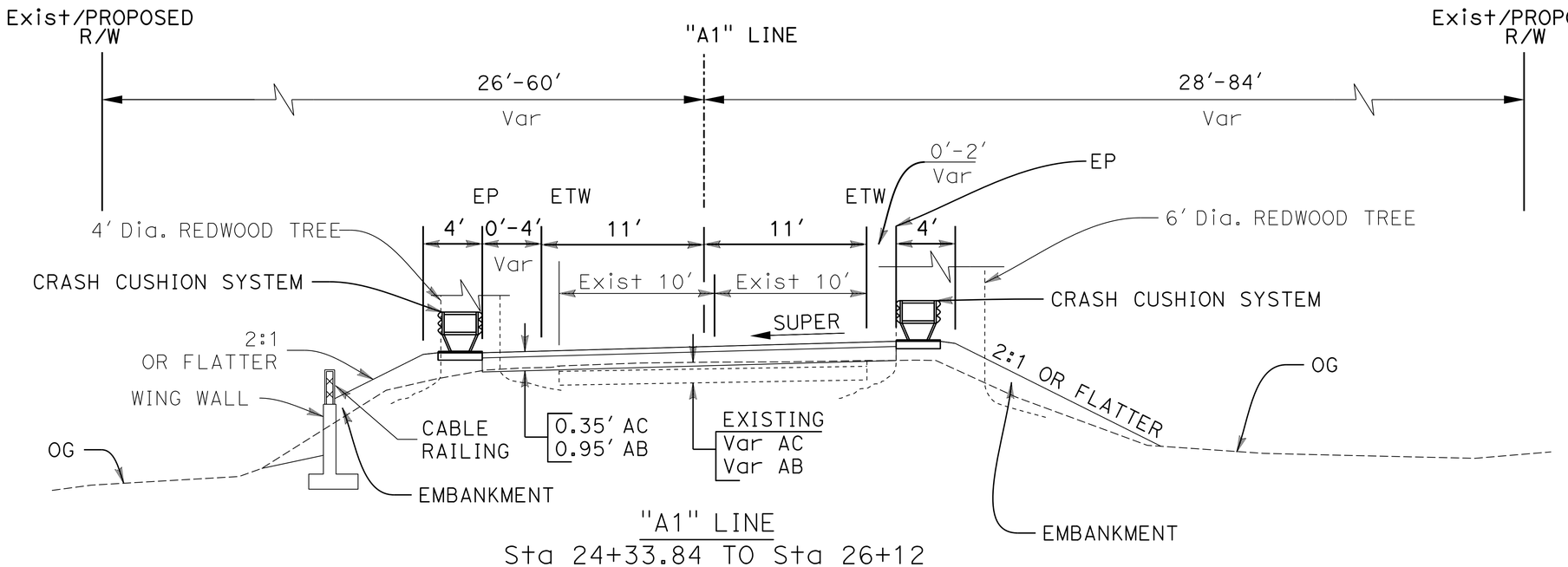
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA, ITS OFFICERS AGENTS SHALL NOT BE RESPONSIBLE FOR THE QUALITY OR COMPLETENESS OF SCANNED ELECTRONIC PLAN SHEET.

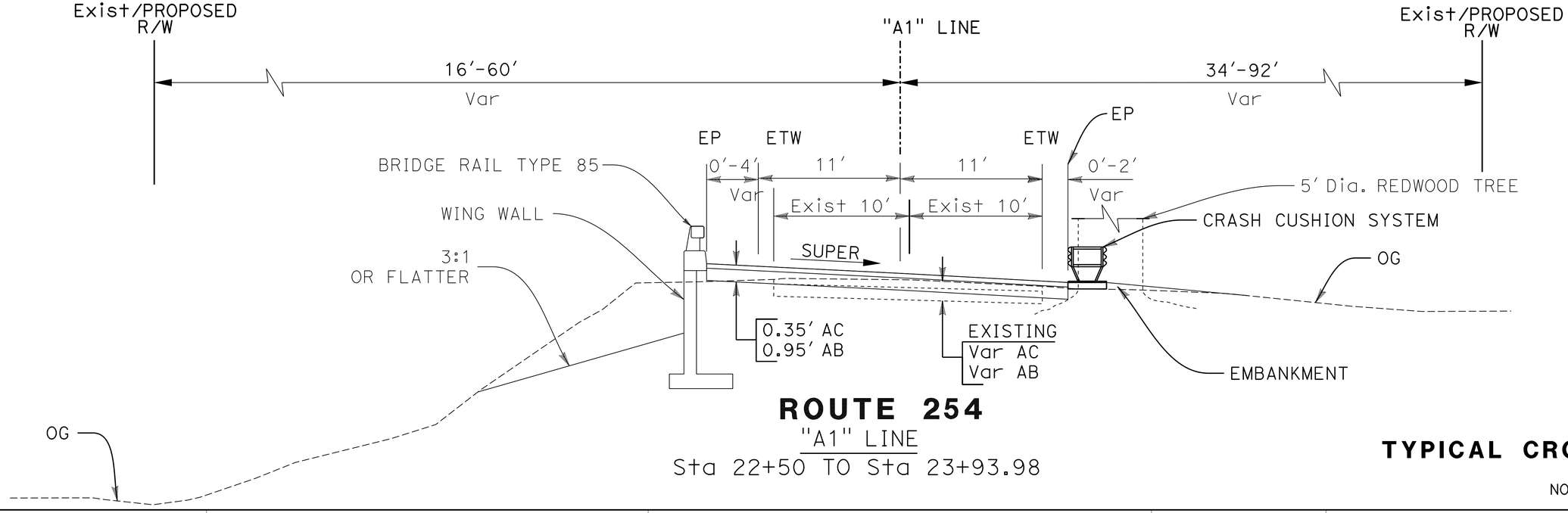
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

PRELIMINARY DESIGN FOR STUDY ONLY

Note: Refer To Advance Planning Study (Attachment F) For More Detailed Cross Sections Of Bridge



"A1" LINE
Sta 24+33.84 TO Sta 26+12



ROUTE 254

"A1" LINE
Sta 22+50 TO Sta 23+93.98

TYPICAL CROSS SECTIONS

NO SCALE

REVISED BY | DATE REVISED

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

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00-00-00 | TIME PLOTTED => 09:33

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UNIT 0313

PROJECT NUMBER & PHASE 0115000021

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

Dist	COUNTY	ROUTE	POST MILE
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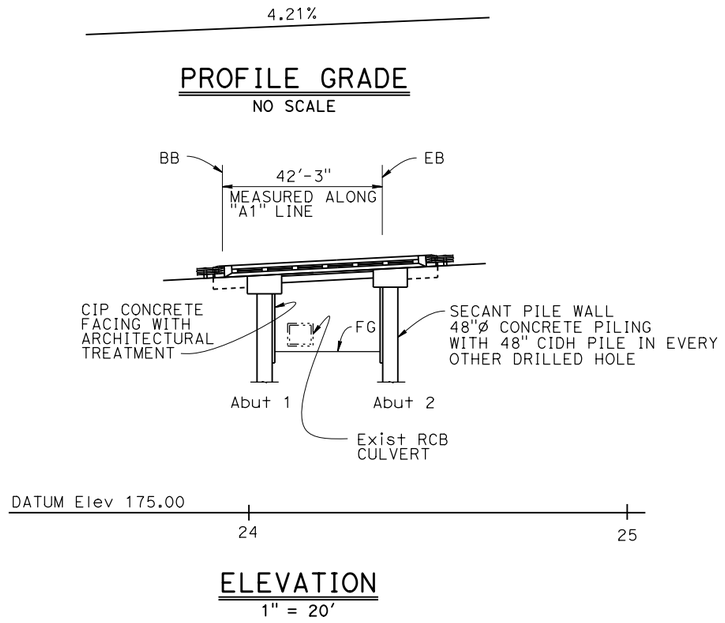
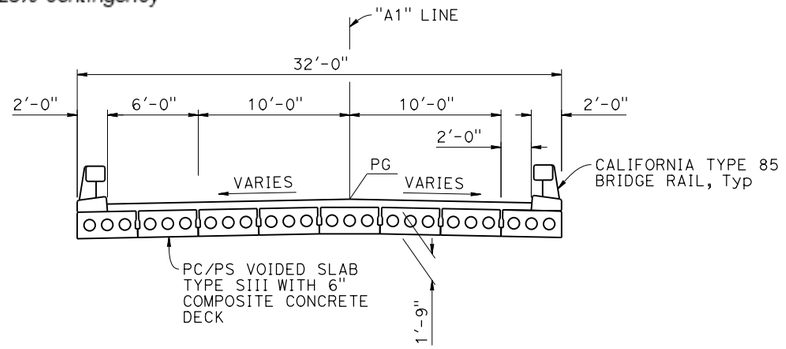
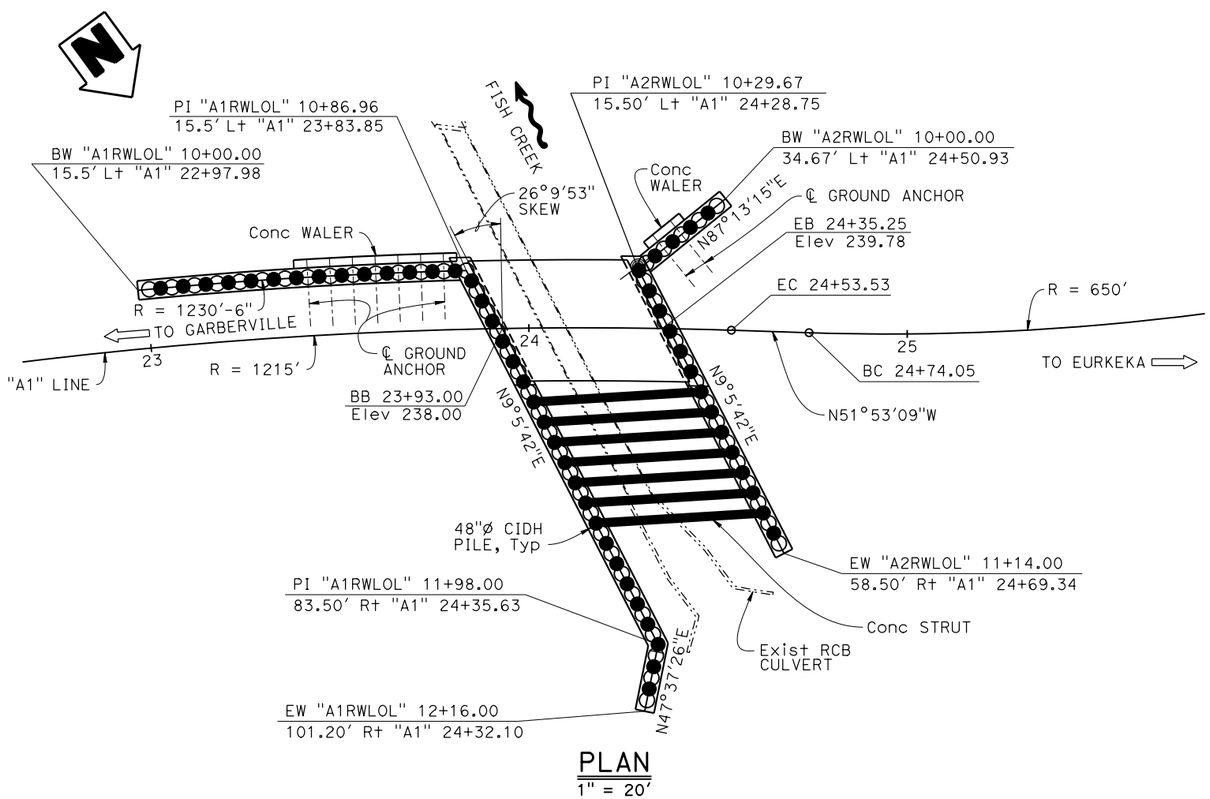


DATE OF ESTIMATE	11/09/20
AREA (SQFT)	1,352
STRUCTURE SUBTOTAL	$6,286,249
BR. REMOVAL SUBTOTAL	$36,306
TOTAL COST	$9,659,000

Total includes 10% TRO, 10% mobilization and 25% contingency



TYPICAL SECTION
1" = 5'



ASSUMPTIONS:

1. Traffic will be detoured from the site.
2. Work outside of Fish Creek can occur year-round.
3. Work within Fish Creek is permitted June 15th through October 15th.
4. Existing RCB culvert will be removed.
5. Project can be completed within one construction season.
6. Deck drains are not required.
7. Existing utilities will be relocated prior to construction commencing.
8. MGS and Exist RCB are District items.
9. Specified tip of secant wall piles with 48"Ø CIDH are 35 feet below FG at face of wall for cantilever wall, and 25 feet below FG at face of wall for ground anchor wall and braced wall. Specified tip of secant wall piles with concrete only is 17 feet below FG at face of wall.

LEGEND:

—·—·— Existing structure

DESIGNED BY H. Fang	DATE 10-12-20	STRUCTURE DESIGN	PLANNING STUDY
DRAWN BY J. Yang	DATE 10-12-20	DESIGN BRANCH 2	FISH CREEK BRIDGE
CHECKED BY M. Kodsuntie	DATE		ALTERNATIVE 1 (1 OF 3)
APPROVED M. Kodsuntie	DATE		UNIT: 3577 / BRIDGE No.: 04-NEW
			PROJECT EA: 01-0E7900 / PROJECT No. & PHASE: 01150000210

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 1/11/2019)

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

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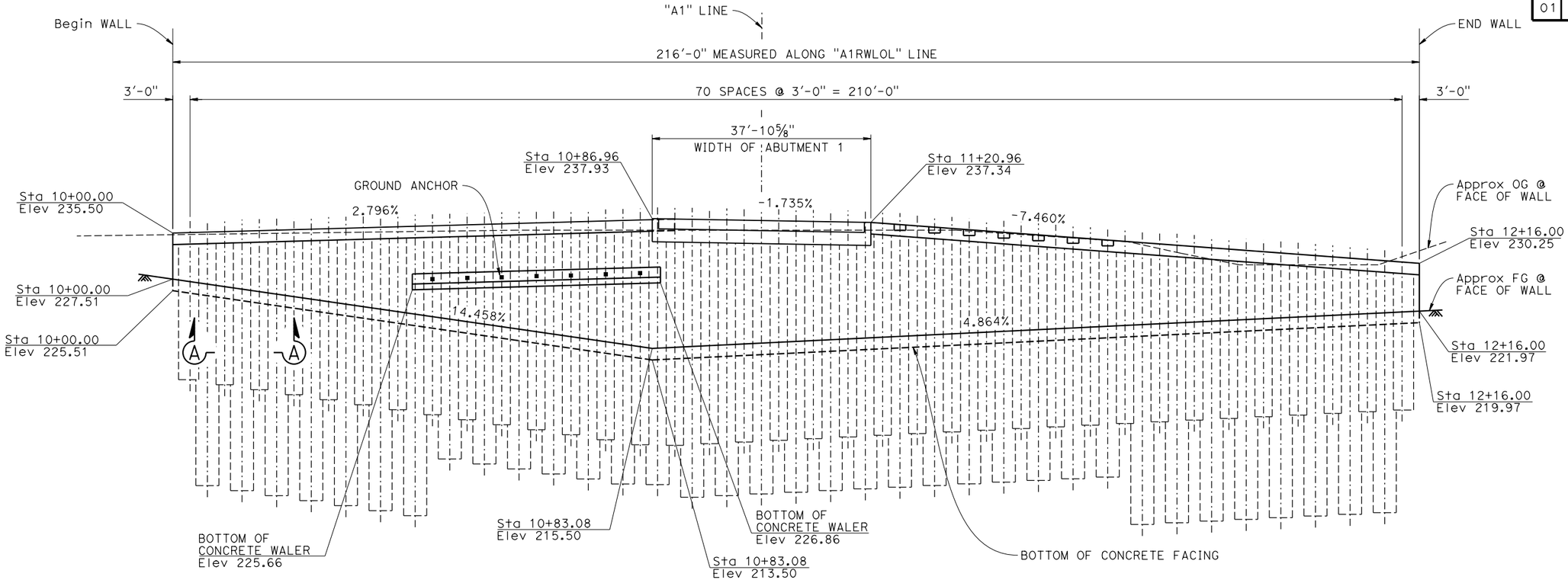

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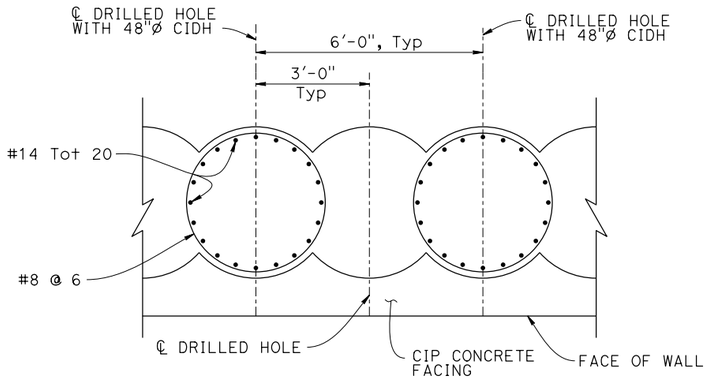
UNREINFORCED Pile Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
CIDH Pile Length (ft):	44	45	46	47	48	49	50	41	42	43	44	45	46	48	48	48	48	48	48	48	46	45	45	44	43	42	42	49	49	48	47	46	46	45	44	
UNREINFORCED Pile Length (ft):	26	27	28	29	30	31	32	33	34	35	36	37	38	39	39	39	39	39	39	37	37	36	35	34	34	33	32	31	31	30	29	28	28	27	26	
FDL (kips):								300	300	300	300	300	300	300																						
FTL (kips):								300	300	300	300	300	300	300																						
LL (kips):								165	165	165	165	165	165	165																						

Datum Elev = 150.00

A1 RETAINING WALL
MIRRORED DEVELOPED ELEVATION
1" = 10'



SECTION A-A
½" = 1'-0"

DESIGNED BY: H. Fang	DATE: 10-12-20	STRUCTURE DESIGN	PLANNING STUDY
J. Yang	DATE: 10-12-20	DESIGN BRANCH 2	FISH CREEK BRIDGE
CHECKED BY: M. Kodsuntie	DATE:		ALTERNATIVE 1 (2 OF 3)
APPROVED: M. Kodsuntie	DATE:		UNIT: 3577 / BRIDGE No.: 04-NEW
			PROJECT EA: 01-0E7900 / PROJECT No. & PHASE: 01150000210

STRUCTURES DESIGN ADVANCE PLANNING STUDY SHEET (ENGLISH) (REVISION 1/11/2019)

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING SERVICES

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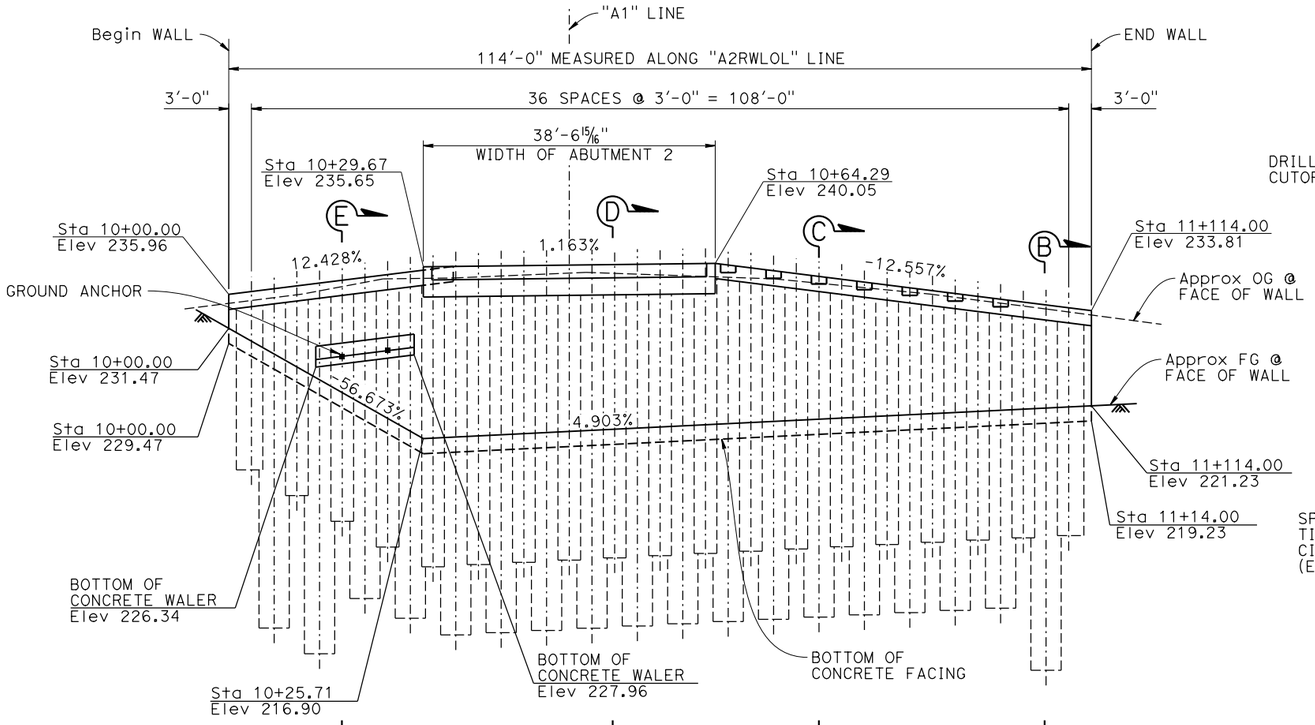
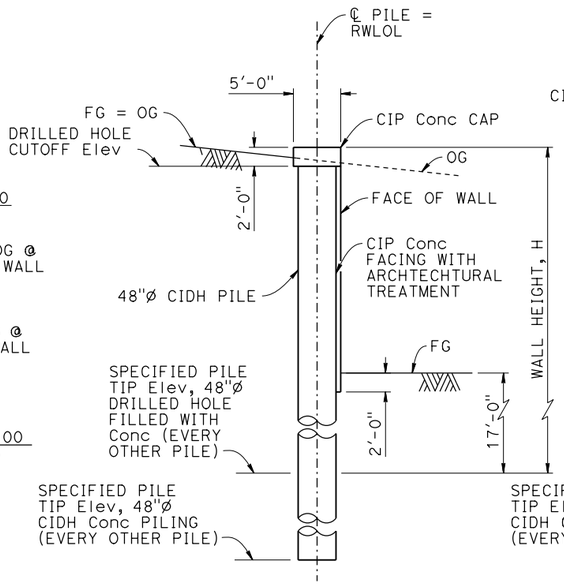


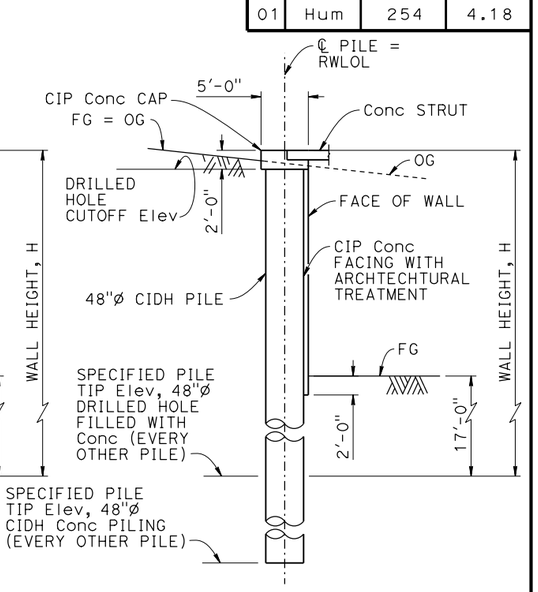
CIDH Pile Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
UNREINFORCED Pile Number:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
CIDH Pile Length (ft):	45	49	43	46	49	49	49	49	49	49	48	47	46	45	43	42	41	49	
UNREINFORCED Pile Length (ft):	24	28	32	36	40	40	40	40	40	40	40	38	37	36	35	34	33	32	31
FDL (kips):			300	300														
FTL (kips):			300	300														
LL (kips):			165	165														

Datum Elev = 150.00

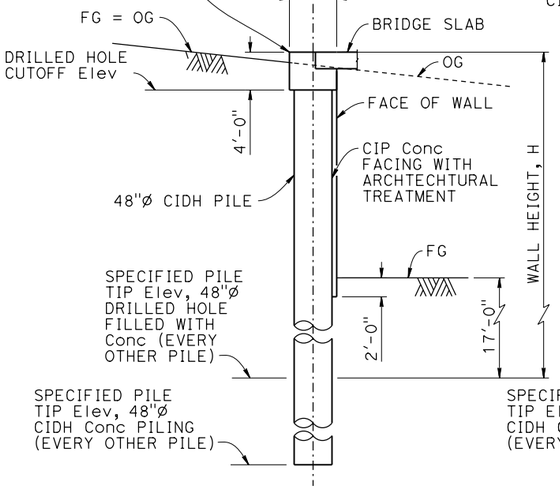
A2 RETAINING WALL
MIRRORED DEVELOPED ELEVATION
1" = 10'



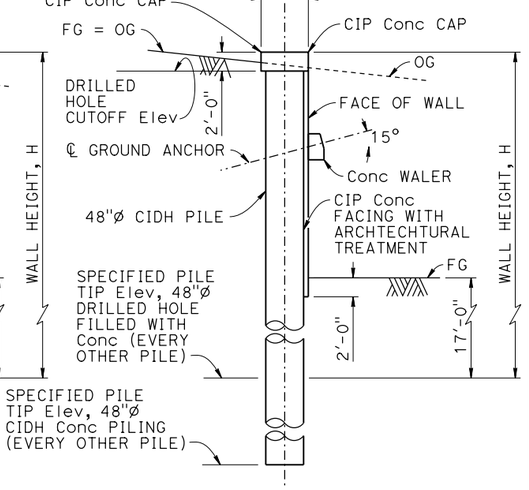
SECTION B-B
1/8" = 1'-0"



SECTION C-C
1/8" = 1'-0"



SECTION D-D
1/8" = 1'-0"



SECTION E-E
1/8" = 1'-0"

DESIGNED BY H. Fang	DATE 10-12-20	STRUCTURE DESIGN	PLANNING STUDY
J. Yang	DATE 10-12-20	DESIGN BRANCH 2	FISH CREEK BRIDGE
CHECKED BY M. Kodsuntie	DATE		ALTERNATIVE 1 (3 OF 3)
APPROVED M. Kodsuntie	DATE		UNIT: 3577 / BRIDGE No.: 04-NEW
			PROJECT EA: 01-0E7900 / PROJECT No. & PHASE: 01150000210

Appendix B. Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
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www.dot.ca.gov

Making Conservation
a California Way of Life.

August 2020

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; (916) 324-8379 (TTY 711); or at <Title.VI@dot.ca.gov>.

Original signed by
Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix C. USFWS, NMFS, CNDDB, CNPS, Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To: January 08, 2021
Consultation Code: 08EACT00-2020-SLI-0055
Event Code: 08EACT00-2021-E-00241
Project Name: 0E790 Fish Creek

Subject: Updated list of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2020-SLI-0055
Event Code: 08EACT00-2021-E-00241
Project Name: 0E790 Fish Creek
Project Type: TRANSPORTATION
Project Description: HUM 254 PM 4.16 bridge project
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.22280833231106,-123.80139073309675,14z

Counties: Humboldt County, California

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* https://ecos.fws.gov/ecp/species/4467#crithab	Final

0E790 NMFS List

Quad Name **Miranda**
Quad Number **40123-B7**

ESA Anadromous Fish

SONCC Coho ESU (T) - **X**
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat - **X**
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -

MMPA Pinnipeds -

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Weott (4012338) OR Myers Flat (4012337) OR Blocksburg (4012336) OR Fort Seward (4012326) OR Harris (4012316) OR Garberville (4012317) OR Briceland (4012318) OR Ettersburg (4012328) OR Miranda (4012327))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
Baker's navarretia *Navarretia leucocephala ssp. bakeri*	PDPLM0C0E1	None	None	G4T2	S2	1B.1
beaked tracyina *Tracyina rostrata*	PDAST9D010	None	None	G2	S2	1B.2
coast fawn lily *Erythronium revolutum*	PMLIL0U0F0	None	None	G4G5	S3	2B.2
coho salmon - southern Oregon / northern California ESU *Oncorhynchus kisutch pop. 2*	AFCHA02032	Threatened	Threatened	G4T2Q	S2	
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
Fisher *Pekania pennanti*	AMAJF01020	None	None	G5	S2S3	SSC
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
giant fawn lily *Erythronium oregonum*	PMLIL0U0C0	None	None	G4G5	S2	2B.2
golden eagle *Aquila chrysaetos*	ABNKC22010	None	None	G5	S3	FP
Howell's montia *Montia howellii*	PDPOR05070	None	None	G3G4	S2	2B.2
Humboldt County milk-vetch *Astragalus agnicidus*	PDFAB0F080	None	Endangered	G2	S2	1B.1
Humboldt marten *Martes caurina humboldtensis*	AMAJF01012	Proposed Threatened	Endangered	G5T1	S1	SSC
little willow flycatcher *Empidonax traillii brewsteri*	ABPAE33041	None	Endangered	G5T3T4	S1S2	
long-eared myotis *Myotis evotis*	AMACC01070	None	None	G5	S3	
maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0	None	None	G3	S3	4.2
marbled murrelet *Brachyramphus marmoratus*	ABNNN06010	Threatened	Endangered	G3G4	S2	
Methuselah's beard lichen *Usnea longissima*	NLLEC5P420	None	None	G4	S4	4.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
northern clustered sedge *Carex arcta*	PMCYP030X0	None	None	G5	S1	2B.2
northern red-legged frog *Rana aurora*	AAABH01021	None	None	G4	S3	SSC
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
Oregon goldthread *Coptis laciniata*	PDRAN0A020	None	None	G4?	S3?	4.2
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL
oval-leaved viburnum *Viburnum ellipticum*	PDCPR07080	None	None	G4G5	S3?	2B.3
Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6	None	None	G5T3	S2	1B.2
Pacific tailed frog *Ascaphus truei*	AAABA01010	None	None	G4	S3S4	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
red-bellied newt *Taricha rivularis*	AAAAF02020	None	None	G4	S2	SSC
running-pine *Lycopodium clavatum*	PPLYC01080	None	None	G5	S3	4.1
seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1	None	None	G4T4	S2S3	2B.2
Siskiyou checkerbloom *Sidalcea malviflora ssp. patula*	PDMAL110F9	None	None	G5T2	S2	1B.2
small groundcone *Kopsiopsis hookeri*	PDORO01010	None	None	G4?	S1S2	2B.3
Sonoma tree vole *Arborimus pomo*	AMAFF23030	None	None	G3	S3	SSC
southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020	None	None	G3G4	S2S3	SSC
summer-run steelhead trout *Oncorhynchus mykiss irideus pop. 36*	AFCHA0213B	None	Candidate Endangered	G5T4Q	S2	SSC
Ten Mile shoulderband *Noyo intersessa*	IMGASC5070	None	None	G2	S2	
Upland Douglas Fir Forest *Upland Douglas Fir Forest*	CTT82420CA	None	None	G4	S3.1	
water howellia *Howellia aquatilis*	PDCAM0A010	Threatened	None	G3	S2	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western bumble bee *Bombus occidentalis*	IIHYM24250	None	Candidate Endangered	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western red bat *Lasiurus blossevillii*	AMACC05060	None	None	G5	S3	SSC
white-flowered rein orchid *Piperia candida*	PMORC1X050	None	None	G3	S3	1B.2

Record Count: 43

0E790 Fish Creek Fish Passage CNPS List

Common Name	Scientific Name	CNPS List
Humboldt County milk-vetch	*Astragalus agnicidus*	1B.1
streamside daisy	*Erigeron biolettii*	3
giant fawn lily	*Erythronium oregonum*	2B.2
coast fawn lily	*Erythronium revolutum*	2B.2
Pacific gilia	*Gilia capitata* ssp. *pacifica*	1B.2
water howellia	*Howellia aquatilis*	2B.2
small groundcone	*Kopsiopsis hookeri*	2B.3
Howell's montia	*Montia howellii*	2B.2
seacoast ragwort	*Packera bolanderi* var. *bolanderi*	2B.2
white-flowered rein orchid	*Piperia candida*	1B.2
Siskiyou checkerbloom	*Sidalcea malviflora* ssp. *patula*	1B.2
beaked tracyina	*Tracyina rostrata*	1B.2
oval-leaved viburnum	*Viburnum ellipticum*	2B.3

Appendix D. Section 4(f)

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

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project . . . "requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use."

Section 4(f) further requires coordination with the Department of the Interior and, as appropriate, the involved offices of the Department of Agriculture and the Department of Housing and Urban Development, in developing transportation projects and programs that use lands protected by Section 4(f). If historic sites are involved, then coordination with the State Historic Preservation Officer is also needed.

Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only *de minimis* impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of a Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a *de minimis* impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) *de minimis* findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327 and a Memorandum of Understanding executed between FHWA and Caltrans (dated December 23, 2016), including *de minimis* impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

The activities associated with the project would occur within Humboldt Redwoods State Park. Consultation with Humboldt Redwoods State Park is ongoing, and the draft Section 4(f) analyses are on the following pages.

DEPARTMENT OF TRANSPORTATION

NORTH REGION ENVIRONMENTAL
1656 UNION STREET
EUREKA, CA 95501
(707) 492-4064
www.dot.ca.gov
TTY 711

Making Conservation a California Way of Life.

March 1, 2021

Victor Bjelajac, District Superintendent
California State Parks, North Coast Redwoods
PO Box 2006
Eureka, CA 95502-2006

Dear Mr. Bjelajac:

The California Department of Transportation (Caltrans) is proposing a project at the Fish Creek stream crossing on State Route (SR) 254 (Avenue of the Giants) at post mile 4.18, located near the community of Miranda in Humboldt County, California. The project proposes to remove the undersized reinforced concrete box (RCB) at Fish Creek and replace it with a 32-foot-wide by 42-foot-long bridge to remediate the fish passage barrier. The project is located within Humboldt Redwoods State Park.

Section 4(f) of the Department of Transportation Act of 1966 was designed to preserve publicly owned parklands, recreation areas, waterfowl and wildlife refuges, and historic significant historic sites, and is applicable whenever a U.S. Department of Transportation (USDOT) action involves the "use" of these sites. Because the proposed project is federally funded and proposes the "use" of a State-owned Section 4(f) resource, concurrence from Humboldt Redwoods State Parks on the Section 4(f) determination is needed for the project.

There is "use" of a Section 4(f) resource when a resource is Permanently Incorporated into a transportation facility, when there is Temporary Occupancy of the resource that does not meet the five criteria of temporary use (temporary duration, minor scope, no adverse physical impact or interference with activities or purposes of the resource, land is fully restored, and documented agreement with appropriate officials), or when there is Constructive Use of the resource (i.e., when the project's proximity impacts are so severe that the protected activities, features or attributes that qualify the resource for protection are substantially impaired).

Under 49 USC 303(d)1, based on the "use" of the 4(f) resource, Caltrans has determined the proposed Fish Creek Fish Passage project would result in a *de minimis* impact to Humboldt Redwoods State Park, as the project would not adversely affect the activities, features, or attributes of the park that make it eligible under Section 4(f). A *de minimis* impact determination is not an

exemption from Section 4(f); it is an authorization for a minor use of a Section 4(f) property, without having to make a finding that there are no feasible and prudent avoidance alternatives.

As part of the Section 4(f) process, the public must be afforded the opportunity to review and comment on the 4(f) evaluation. The evaluation was circulated as an attachment to the CEQA Initial Study (Negative Declaration) between March 1, 2021, and April 1, 2021.

The following sections provide project information and supporting documentation for the *de minimis* determination.

Project Description

The project proposes to remove the undersized reinforced concrete box (RCB) and replace it with a 32-foot-wide by 42-foot-long bridge to remediate the fish passage barrier. The project would include retaining wall installation, construction of a 42-foot-wide bridge that fully spans Fish Creek, and stream channel restoration. Fish Creek is about 2.8 stream miles long and is a major tributary to the South Fork Eel River. The existing RCB at Fish Creek was built in 1919 and is 6 feet wide by 8 feet high by 115 feet long and is located approximately 440 feet upstream of the confluence of Fish Creek and the South Fork Eel River. The existing RCB is a barrier to all life stages of anadromous salmonids due to the high flow velocities that are created by the steep slope of the RCB. Due to property rights in the area, Caltrans would obtain temporary construction easements (TCEs), and is also proposing to acquire right of way adjacent to the highway.

Description of 4(f) Resources

Humboldt Redwoods State Park (HRSP) is along the South Fork Eel River in Northern California and is the 3rd largest state park in California with over 53,000 acres, which includes 17,000 acres of old-growth coast redwood forest. HRSP also includes the Avenue of the Giants, a 32-mile-long avenue that winds through redwood forest. The park offers various recreational opportunities such as picnicking, camping, fishing, hiking, and swimming.

Section 4(f) Property "Use"

To account for the roadway widening and bridge construction within HRSP, Caltrans proposes to permanently incorporate approximately 0.44 acre of State Park land into the state highway right of way. A Transfer of Jurisdiction (TOJ) would be required for the Permanent Incorporation and would be completed prior to project construction. The Permanent Incorporation would not divide or split the park in two, as state highway right of way already exists adjacent to this location. In addition, Caltrans would need to obtain a temporary construction easement (TCE) from HRSP. The TCE

would be approximately 1.6 acres and would be necessary for project construction and channel work upstream and downstream of the Fish Creek bridge.

Another "use" of the Section 4(f) property would be minimal tree removal. Two coast redwood trees greater than 2 feet diameter at breast height (DBH) would be removed as part of construction of the bridge. The trees are 2.1- and 2.8-feet DBH respectively and are located downstream of the existing culvert. Additionally, a 2.8-foot DBH big leaf maple would be removed. Several other smaller diameter trees (less than one-foot DBH) would also be removed, and these would be addressed in the Revegetation Plan being prepared for the project. These smaller diameter trees include redwood, maple and alder. The Revegetation Plan would follow State Parks genetic integrity policy as well as include preventative measures outlined by State Parks to prevent the spread of Sudden Oak Death. There are other redwood trees within the project area, including a 16-foot DBH tree located to the southeast, that would not be removed. However, due to the proximity of the trees to the existing structure, the roots of the trees are likely growing under the roadway. As a result, the roots may be impacted during construction. Because the extent and depth of roots growing under the roadway is unknown, the extent of impacts would be determined during construction. The retaining wall construction method would minimize impacts to roots. All feasible measures would be taken to preserve the trees; however, some may need to be removed, as determined by a certified arborist or licensed forester monitor during construction.

During construction, 0.27 mile of the Avenue of the Giants (SR 254) would be closed to the public on either side of the project location, from post miles 3.95 to 4.22. PM 3.95 is the last location on SR 254 for large vehicles to turn around, if necessary, before the construction area (northbound). The northern limit of the closure is PM 4.22, which is just south of Fish Creek Road (which would be accessible for the duration of construction). No access roads would be needed because the closure of SR 254 would allow staging and construction to be completed from the roadway and creek channel. Also, the road closure would allow for construction to be completed in one season. Construction is estimated to take approximately 192 working days. The Avenue of the Giants would be accessible on either side of the closure.

Other anticipated "use" of Humboldt Redwoods State Park is expected to be Temporary Occupancy, and would include:

- Temporary closure of a vehicle pullout to the southeast of Fish Creek for the duration of the project. This pullout acts as one of the first access points to the large redwood trees along the Avenue of the Giants. Several makeshift trails are also accessible from this point.

- Temporary closure of the parking area to the southwest of Fish Creek. The parking area also has a gated river access which is open periodically. Because the parking area would be closed for the duration of the project, the river access would also be closed at this location for the duration of the project.

- Temporary increased noise during construction activities adjacent to the trails and nearby river segment.

Constructive Use impacts are not anticipated.

To avoid potential impacts to Humboldt Redwoods State Park, the following measures would be incorporated into the project:

- No work would be conducted on the trails in the project vicinity, and the trails and pullout would be re-opened after construction.

- Disturbed soil areas would be recontoured post-construction and re-seeded or revegetated per State Park guidelines.

- A certified arborist or licensed forester monitor would be on-site during construction to monitor activities that could impact tree roots and advise on appropriate best management practices (BMPs) to be implemented.

De minimis Determination

After considering potential "use" of park resources and measures to avoid impacts, Caltrans has determined the proposed project would result in a *de minimis* impact.

Although Caltrans is proposing to acquire right of way in the State Park to account for the roadway widening and bridge construction, the approximately 0.44-acre portion is adjacent to existing state highway right of way. The TCE area required for the channel work and restoration would remain in State Park control and would be restored after construction.

The project would temporarily close a pullout and small parking area that provides access to the park and its resources. However, the rest of the 32-mile Avenue of the Giants could still be accessed and would not be affected by project activities. Though the pullout, parking area, and trail segments would be temporarily closed for the duration of the project, there would be no change to these

features, and they would be re-opened after construction. Additionally, the new bridge at Fish Creek would add to the features by providing a location for the public to view fish returning to the creek.

Areas disturbed by vegetation and tree removal would be restored after construction. Caltrans' Standard Measures and Best Management Practices would be implemented to reduce impacts to tree roots. All feasible measures would be taken to preserve the group of trees growing adjacent to the creek, particularly the 16-foot DBH redwood tree to the southeast.

Based on the activities associated with the project, Caltrans determined the type of "use" of State Park resources would be *de minimis* because the project would not adversely affect the activities, features, or attributes of the park that make it eligible under Section 4(f).

Please sign below to indicate Humboldt Redwoods State Parks concurrence with Caltrans' *de minimis* determination for the activities located on State Park land associated with the fish passage project on SR 254 at Fish Creek.

_____
Signature Date

If you have questions or need additional information, please contact Laurel Osborn at Laurel.Osborn@dot.ca.gov or (707) 492-4064 or Dana York at Dana.York@dot.ca.gov or (707) 572-0948.

Sincerely,

Dana York
Senior Environmental Planner

c: Amber Transou, California State Parks

Marisa Parish, California State Parks

Appendix E. Special Status Species Table

Listed and Proposed Plant Species Potentially Occurring or Known to Occur in the Project Area

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/Absent	Potential for Occurrence and Rationale
Baker's navarretia	*Navarretia leucocephala* ssp. *bakeri*	--/--/1B.1	Mesic cismontane woodlands, lower montane coniferous forests, meadows and seeps, valley and foothill grasslands, vernal pools. 16–5,708 ft (5–1,740 m)	Absent	Suitable habitat does not exist on-site.
Beaked tracyina	*Tracyina rostrata*	--/--/1B.2	Open grassy meadows usually within oak woodland and grassland habitats. 150-2609 ft (150-795 m).	Absent	Suitable habitat does not exist on-site.
Coast fawn lily	*Erythronium revolutum*	--/--/2B.2	Bogs and fens, broad leafed upland forest, North Coast coniferous forest. Mesic sites; streambanks. 196-4910 ft (60-1405 m).	Present	Suitable habitat is present on site, but species was not present during botanical surveys.
Giant fawn lily	*Erythronium oregonum*	--/--/2B.2	Mixed evergreen forests, openings in woodlands 328-2460 ft (100-750 m).	Present	Suitable habitat may be present on site in openings in canopy, but species was not present during botanical surveys.
Howell's montia	*Montia howellii*	--/--/2B.2	Meadows, North Coast coniferous forest, vernal pools. Vernally wet sites; often on compacted soil. 33-3230 ft (10-1005 m).	Present	Suitable habitat may be present along disturbed areas, but species was not present during botanical surveys.
Humboldt County milk-vetch	*Astragalus agnicidus*	--/SE/1B.1	Broad-leafed upland forest, North Coast coniferous forest. Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects. 635-2624 ft (180-800 m).	Present	Suitable habitat may be present along disturbed areas, but species was not observed during botanical surveys.
Northern clustered sedge	*Carex arcta*	--/--/2B.2	Bogs and fens, North Coast coniferous forest. Mesic sites. 197-4609 ft (60-1405 m).	Absent	Suitable habitat does not exist on-site.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/Absent	Potential for Occurrence and Rationale
Oval-leaved viburnum	*Viburnum ellipticum*	--/--/2B.3	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 16-4413 ft (5-1345 m).	Absent	Suitable habitat does not exist on-site.
Pacific gilia	*Gilia capitata* ssp. *pacifica*	--/--/1B.2	Lower montane coniferous forests, cismontane woodlands, chaparral, generally volcanic soils. 722–6,069 ft (220–1,850 m)	Absent	Suitable habitat does not exist on-site.
Seacoast ragwort	*Packera bolanderi* var. *bolanderi*	--/--/2B.2	Coastal scrub, North Coast coniferous forest. Sometimes along roadsides. 30-3002 ft (30-915 m).	Absent	Suitable habitat does not exist on-site.
Siskiyou checkerbloom	*Sidalcea malviflora* ssp. patula	--/--/1B.2	Coastal bluff scrub, coastal prairie, North Coast coniferous forest. Open coastal forest; roadcuts. 16-4118 ft (5-1255 m).	Present	Suitable habitat may be present along disturbed areas, but species was not present during botanical surveys.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/Absent	Potential for Occurrence and Rationale
Small groundcone	*Kopsiopsis hookeri*	--/--/2B.3	North Coast coniferous forest. Open woods, shrubby places, generally on *Gaultheria shallon*. 394-4708 ft (120-1435 m).	Present	Suitable habitat may be present in the understory of adjacent forest, but species was not present during botanical surveys.
Streamside daisy	*Erigeron biolettii*	--/--/3	Foothill woodlands, mixed evergreen forest, North Coast coniferous forest. Dry slopes, rocls, ledges along rivers. < 3609 ft (1100 m).	Present	Suitable habitat may be present in the understory of adjacent forest, but species was not present during botanical surveys.
Water howellia	*Howellia aquatilis*	FT/--/2B.2	Freshwater marshes and swamps. In clear ponds with other aquatics and surrounded by ponderosa pine forest and sometimes riparian associates. 3543-4511 ft (1080-1375 m).	Absent	Suitable habitat does not exist on-site. Species was not observed during botanical surveys.
White-flowered rein orchid	*Piperia candida*	--/--/1B.2	North Coast coniferous forest, lower montane coniferous forest, broad-leaved upland forest. Coast ranges from Santa Cruz County north; on serpentine. Forest duff, mossy banks, rock outcrops and muskeg. 0–3,937 ft (0–1,200 m)	Absent	Suitable habitat does not exist on-site.

Listed and Proposed Animal Species Potentially Occurring or Known to Occur in the Project Area

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
American peregrine falcon	*Falco peregrinus anatum*	DL/FP/--	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Present	Suitable habitat is present adjacent to the site; species was not observed during surveys in 2019 or 2020.
Bald eagle	*Haliaeetus leucocephalus*	DL/SE/--	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Present	No suitable nesting habitat is present within the project area. Species was observed at the confluence of the SF Eel River in 2020 and may occur within the ESL for hunting purposes.
Chinook salmon - California Coastal ESU – pop. 17	*Oncorhynchus tshawytscha*	FT/SSC/--	Coastal, spring and fall river runs between Redwood Creek, Humboldt County, and Russian River, Sonoma County.	Present	Suitable habitat is present in the winter and spring within the BSA; however, this species was not observed during snorkel surveys in 2019. This species is not expected to be present during in-stream construction.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Coho salmon - Southern Oregon /Northern California Coast ESU pop. 2	*Oncorhynchus kisutch*	FT/ST/--	Streams, rivers between Cape Blanco, OR, and Punta Gorda, Humboldt County, CA.	Present	Suitable habitat is present in the winter and spring within the BSA. This species was observed during snorkel surveys in 2019. This species is not expected to be present during in-stream construction.
Foothill yellow-legged frog	*Rana boylii*	--/SSC/--	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats.	Present	Suitable habitat exists on-site, but suitable breeding habitat is not present. This species was observed during surveys in 2019.
Golden Eagle	*Aquila chrysaetos*	--/FP/--	Build nests on cliffs or in largest tree in a forested stand with an unobstructed view of surrounding habitat. Generally do not nest in densely forested habitat.	Absent	No suitable nesting habitat is present within the project area or adjacent to the project area. Species was not observed in 2019 or 2020 surveys. Species may be present adjacent to the ESL for hunting on the SF Eel River but is not expected within the ESL.
Humboldt marten	*Martes caurina humboldtensis*	FT/SE/--	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	Present	Habitat present within the BSA consists of large redwood trees, cavities, snags, and logs. BSA is bordered by riparian areas and is frequently disturbed by human activity and the adjacent roadway, making marginal quality habitat for marten.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Little willow flycatcher	*Empidonax traillii brewsteri*	--/SE/--	Prefers mountain meadows and riparian habitats. Nests near the edges of vegetation clumps and near streams in mountain meadows and riparian habitats	Absent	Suitable habitat is not present within the ESL.
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE/--	(Nesting) feeds nearshore; nests inland along coast, from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood dominated forests, up to six-miles inland, often in Douglas-fir trees.	Present	Suitable habitat is present adjacent to the site. Presence is assumed. .
Northern red-legged frog	*Rana aurora*	--/SSC/--	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	Present	Suitable breeding habitat exists on-site. Species was not observed during 2019 or 2020 surveys.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Northern spotted owl	*Strix occidentalis caurina*	FT/ST/--	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Present	Suitable breeding habitat is present adjacent to the site. Presence is assumed.
Osprey	*Pandion haliaetus*	--/WL/--	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Present	Suitable habitat may be present adjacent to the site. No nests or individuals were observed during 2019 or 2020 surveys.
Pacific Fisher - West Coast DPS	*Pekania pennanti*	--/SSC/--	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	Present	Habitat present within the BSA consists of large redwood trees, cavities, snags, and logs. BSA is bordered by riparian areas and is frequently disturbed by human activity and the adjacent roadway, making marginal quality habitat for fisher.
Pacific tailed frog	*Ascaphus truei*	--/SSC/--	Occurs in montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	Absent	At the project location, Fish Creek is an intermittent stream, which most likely precludes Pacific tailed frog presence on site. Suitable breeding habitat does not exist on-site.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Pallid bat	*Antrozous pallidus*	--/SSC/--	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.	Present	Suitable habitat is present adjacent to the project area.
Red-bellied newt	*Taricha rivularis*	--/SSC/--	Coastal drainages from southern Humboldt County south to Sonoma County, inland to Lake County. Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Present	Suitable habitat does exist on-site. The BSA may be too far north of the current range of this species, presence is unlikely. Species was not observed during 2019 or 2020 surveys.
Ring-tailed cat	*Bassariscus astutus*	--/FP/--	A mixture of forest and shrubland in close association with rocky areas or riparian habitats. Dens in rock recesses, hollow trees, logs, snags, abandoned burrows, or woodrat nests at low to middle elevations. Usually not found more than 0.6 mile (1 km) from permanent water.	Present	Suitable habitat is present on-site. Species was not observed.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Sonoma tree vole	*Arborimus pomo*	--/SSC/--	North Coast fog belt from Oregon border to Sonoma County. In Douglas-fir, redwood and montane hardwood-conifer forests. Feeds almost exclusively on Douglas-fir needles. Will occasionally take needles of grand fir, hemlock or spruce.	Absent	Suitable habitat does not exist on-site.
Southern torrent salamander	*Rhyacotriton variegates*	--/SSC/--	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Old growth forest. Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rock within trickling water.	Absent	Within the ESL, Fish Creek is an intermittent stream, which most likely precludes Southern torrent salamander presence on site. Suitable breeding habitat does not exist on-site.
Steelhead-Northern California DPS – pop. 16	*Oncorhynchus mykiss irideus*	FT/--/--	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	Present	Trout species were observed on site.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Steelhead-Northern California DPS – summer run pop. 36	*Oncorhynchus mykiss irideus*	--/SCE, SSC/--	Northern California coastal streams south to Middle Fork Eel River. Within range of Klamath Mountains province DPS and No. California DPS. Cool, swift, shallow water and clean loose gravel for spawning, and suitably large pools in which to spend the summer.	Present	The BSA is outside the known range of population 36 and is not expected to occur at this site.
Western bumblebee	*Bombus occidentalis*	--/SCE/--	Typically nests underground in abandoned rodent burrows or other cavities, mostly in open west-southwest slopes bordered by trees although a few nests have been reported from above ground locations such as in logs among railroad ties.	Present	Suitable habitat is present on-site but nesting on-site is not likely to occur under the cover of the redwood canopy within the project area.
Western pond turtle	*Emys marmorata*	--/SSC/--	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat generally up to 325 ft (100 m) from water for egg-laying.	Present	This species was not observed in the channel within the ESL, but habitat exists downstream of the culvert in the South Fork of the Eel river.

Common Name	*Scientific Name*	Status** USFWS/ CDFW/ CRPR	General Habitat Description	Habitat Present/ Absent	Potential for Occurrence and Rationale
Western red bat	*Lasiurus blossevillii*	--/SSC/--	Roosts primarily in trees, 2-40 ft 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.	Present	No colonies were observed; however, bats may utilize trees within the BSA for roosting.
Western snowy plover	*Charadrius alexandrines nivosus*	FT/SSC/--	Nests above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	Absent	Suitable nesting habitat does not exist on- site. This species is not expected or known to nest this far inland, and the gravel bars of the nearby SF Eel River are too small and receive too little sun.
Western yellow-billed cuckoo	*Coccyzus americanus*	FT/SE/--	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Absent	Suitable habitat does not exist onsite.

Federal: -- = No status definition. FE = Endangered. FPT = Proposed for federal listing as threatened under the Federal Endangered Species Act. FT = Listed as threatened under the Federal Endangered Species Act. FC = Candidate for Federal listing (taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened). DL = Delisted.

State: -- = No status definition. SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under the California Endangered Species Act. SC = Proposed for state listing as threatened under the California Endangered Species Act. FP = Fully protected, species may not be taken or possessed without a permit from the FG Commission and/or the CDFW, SSC = Species of Special Concern

California Rare Plant Rank (CRPR): -- = No status definition. Rank 1A = Plants presumed extinct in California. Rank 1B = Plants are rare and endangered in California. Rank 2 = Plants endangered in California, but more common elsewhere.

Source: Caltrans 2017; CNDDB 2017; USFWS 2017.

Natural Communities and Sensitive Habitat Known to Occur within the Project Area

Protected Habitat	Associated Species or Regulatory Feature	Managing Agency
Critical Habitat	Chinook salmon - California Coastal ESU	NMFS
Critical Habitat	Coho salmon - Southern Oregon / Northern California Coast ESU	NMFS
Critical Habitat	Steelhead trout - Northern California DPS	NMFS
Essential Fish Habitat	Chinook salmon - California Coastal ESU	NMFS
Essential Fish Habitat	Coho salmon - Southern Oregon / Northern California Coast ESU	NMFS
Sensitive Natural Community	Redwood (Sequoia sempervirens) Forest Alliance – G3/S3	CDFW

Appendix F. Tree Root Zone Impact Maps

Fish Creek Fish Passage Project (EA 01-0E790)