PULGA PROFILE CHANGE PROJECT

BUTTE COUNTY, CALIFORNIA
DISTRICT 3 – BUT – 70 (Post Miles 46 to 47)
EA: 03-3H540 / EFIS: 0318000012

Environmental Assessment and Draft Individual Section 4(f) Evaluation

Prepared by the
State of California, Department of Transportation

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

October 2021

General Information about this Document

What's in this document?

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

What should you do?

- Please read this document.
- Additional copies of the document and the related technical studies are available for review at the Caltrans District Office at 703 B Street Marysville, CA 95901, or at the Oroville Branch Library at 1820 Mitchell Avenue, Oroville CA 95966.
- The document can be viewed digitally via Caltrans weblink: https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs
- Send comments via postal mail to:

  California Department of Transportation
  Attn: David Gould, Associate Environmental Planner
  703 B Street
  Marysville, CA, 95901

- Submit comments via email to: David.Gould@dot.ca.gov
- Submit comments by the deadline: December 11, 2021

What happens next?

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, or in digital format. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: David Gould, North Region Environmental-District 3, 703 B Street, Marysville, CA 95901; 530-821-8305 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

On State Highway Route 70 in Butte County between post miles 46.0 and 47.0.
Raise existing roadway profile approximately 5 feet.

Environmental Assessment and Draft Individual Section 4(f) Evaluation

Submitted Pursuant to: Division 3, California Public Resources Code
(Federal) 42 USC 4332(2)(C) 49 USC 303, and/or 23 USC 138

THE STATE OF CALIFORNIA
Department of Transportation

10/12/2021
Date of Approval

Mike Bartlett
Mike Bartlett, Office Chief (South)
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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
ADA	Americans with Disabilities Act
ARB	Air Resources Board
BAU	Business as Usual
BMPs	Best Management Practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH4	methane
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CRHR	California Register of Historical Resources
CTP	California Transportation Plan
CWA	Clean Water Act
EIR	Environmental Impact Report
EO	Executive Order

EPA	Environmental Protection Agency
EPACT92	Energy Policy Act of 1992
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GHG	greenhouse gas
H_2S	hydrogen sulfide
HFC-23	fluoroform
HFC-134a	s,s,s,2-tetrafluoroethane
HFC-152a	difluoroethane
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
LCFS	low carbon fuel standard
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MMTC02e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4s	Municipal Separate Storm Sewer Systems
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration

NPDES	National Pollutant Discharge Elimination System
O_3	ozone
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
OSTP	Office of Science and Technology Policy
Pb	lead
PCBR	Pacific Coast Bike Route
PDT	Project Development Team
PM	particulate matter
PM2.5	particles of 2.5 micrometers and smaller
PM10	particles of 10 micrometers or smaller
PM	post mile
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SF6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SLR	Sea Level Rise
SMARA	Surface Mining and Reclamation Act of 1975
SO_2	sulfur dioxide
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDLs	Total Maximum Daily Loads
TMP	Traffic Management Plan
TPZ	Timber Production Zones

U.S. or US	United States
U.S. 101	U.S. (United States) Highway 101
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WQOs	Water Quality Objectives

Chapter 1 Proposed Project

1.1 Introduction

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

The proposed project is located on SR-70 in Butte County between PM 46.0 to 47.0. Within the project area, SR-70 is an undivided two-lane conventional scenic highway that runs North-South. It is also part of the Feather River Highway Historic District. (See Figure 1. Project Location Map). SR-70 runs adjacent to the North Fork of the Feather River (NFFR). Annual winter storms have raised water of the NFFR which has repeatedly flooded the highway in this area, with the most recent flooding event in 2017. Flooding of SR-70 has eroded the embankment and caused damage to the roadway. Flooding of the roadway and emergency repairs has led to long traffic delays and detours requiring commuters to backtrack approximately 30 to 80 miles, depending on direction. On occasion, flooding has trapped motorists between closures and flooding events. Continuous attempts to restore the roadway following flooding events and subsequent emergency repairs have led to the conclusion that raising the existing roadway profile 5 feet will provide the facility with resilience from future recurring flood events. This project is included in the 2019 Federal Transportation Improvement Program for Butte County.

1.1.1 NEPA Assignment

California participated in the "Surface Transportation Project Delivery Pilot Program" (Pilot Program) pursuant to 23 USC 327 for more than five years, beginning July 1, 2007, and ending September 30, 2012. MAP-21 (P.L. 112-141), signed by President Obama on July 6, 2012, amended 23 USC 327 to establish a permanent Surface Transportation Project Delivery Program. As a result, the Department entered into a Memorandum of Understanding pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA. The NEPA

Assignment MOU became effective October 1, 2012, and was renewed on December 23, 2016, for a term of five years. In summary, the Department continues to assume FHWA responsibilities under NEPA and other federal environmental laws in the same manner as was assigned under the Pilot Program, with minor changes. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off of the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

1.2 Project Description

Caltrans proposes a permanent restoration of roadway on State Route (SR) 70 in Butte County between post mile (PM) 46.0 and 47.0 (See Figure 2. Vicinity Map) by raising the existing roadway profile approximately 5 feet, replacing the Bear Creek Bridge (No. 12-0039) at PM 46.40, protecting the embankment with Rock Slope Protection (RSP), and installing a retaining wall to safeguard against future flood damage. The proposed project occurs on the east bank North Fork Feather River (East Branch) within the Feather River Canyon in eastern Butte County, approximately 4.3 miles northeast of the town of Pulga and 25 miles northeast of Oroville.

The following are the major design components that propose a more resilient solution to protect this one-mile section of highway from flood damage, reduce the number of times the highway closes due to high flows, and reduce the likelihood of flood conditions. The bulleted points emphasize the benefits achieved from these improvements.

Caltrans proposes to raise the vertical profile of the roadway by five feet, which would also require the replacement of the Bear Creek Bridge. Since the 2017 storm overtopped the road by roughly five feet, it is estimated that with a five-foot profile raise, future storm events up to a size similar to the 2017 storm would not overtop this section of SR-70. Similarly, a five-foot raising of

the vertical profile will lessen the need to close the roadway when the river's flowrate reaches 30,000 cfs. Raising the profile more than five feet will not provide any additional benefit unless the corridor to the east and west are also raised, which is not reasonable to the east because of the existing tunnel located close to the east end of the project. It is expected that the five foot raising of the vertical profile will:

- decrease the likelihood of flooding;
- add resiliency by significantly decreasing flooding on this section of the highway; and
- minimize traffic delays and/or closures due to flooding or high flow rates.

The project proposes to install a retaining wall and rock slope protection. The prior damage to the roadway associated with flooding included erosion to the embankment and undercutting of the roadway. Therefore, these improvements are expected to:

- protect against future flood damage; and
- eliminate embankment erosion.

1.2.1 Purpose and Need

The purpose of this proposed project is to protect this section of highway from flood damage, reduce the number of times the highway is closed due to high water flow in the river, and to reduce the likelihood of flood conditions.

This project is needed because occasional flooding within the project limits has resulted in damage to the highway. This one-mile section of highway is subject to floodwaters that overtop the travel lanes due to a low point in the existing roadway profile and proximity to the river.

1.2.2 Independent Utility and Logical Termini

Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR] 771.111 [f]) require that the action evaluated:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope.
- Have independent utility or independent significance (be useable and be a reasonable expenditure even if no additional transportation improvements in the area are made).
- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

This project is needed to address the high occurrence of flooding during high river flows along this segment of SR-70. The purpose of this project is to restore and improve resiliency on the roadway by reducing the occurrence of flooding onto SR-70, which results in long traffic delays and detours. This project's facility improvements would not require the completion of other projects to be functioning and is a stand-alone project, therefore, the project has independent utility.

Logical termini is defined as (1) rational end points for a transportation improvement, (2) rational end points for a review of the environmental impacts. This project is located on SR-70 between PM 46.0 and 47.0 in Butte County. This segment of SR-70 is an undivided two-lane conventional scenic highway with the NFFR running adjacent to it. The points at which the project begins and ends are logical in their placement and environmental impacts studies within and/or adjacent to the project are broad enough to encompass the project as a whole. SR-70 would not require an additional project to extensively modify, widen, add lanes, etc. to accommodate the proposed project. Therefore, the project has logical termini.

1.3 Alternatives

The one build and no-build alternative which are being considered are listed below:

Build Alternative - 12-foot lanes, 8-foot shoulders with slab barrier (Alternative 2)

This alternative proposes to correct roadway deficiency by raising the profile of the highway approximately 5 ft. The new roadway will be 0.8 mile long

with standard 12-ft lanes and standard 8-ft shoulders. The existing bridge over Bear Ranch Creek will be replaced with either a 50-ft span cast-in-place prestressed concrete slab or a precast prestressed concrete slab bridge. The new bridge will be constructed on either spread footings or cast-in-drilled-holes piles. The soldier pile wall will be founded on steel piles in drilled holes and will be constructed on the westbound side to minimize grading into the riverbank. A California Type ST-75 Bridge Railing will be installed on a concrete slab that will be placed on the top of the soldier pile wall. On the eastbound side, the hinge point will be reduced from 3 ft to 0 ft in a cut section to minimize the impacts to the steep rock hillside.

Thirteen existing drainage culverts within the project limits will also be replaced, with a new culvert being installed at post mile 46.26.

Nine existing drainage inlets will be replaced, and 12 additional inlets will be installed. There are three existing headwalls; two will be removed and replaced with drainage inlets and one will be constructed in a new location.

The estimated construction cost for Alternative 2 is $30,299,123. The roadway construction and structure construction costs are estimated at $16,704,000 and $12,561,000 respectively. Right-of-way costs are estimated at $1,034,123.

No Build Alternative

This alternative does not result in any construction or changes. However, as the potential for storm events overtopping the highway would remain the same, this section of the highway would likely be damaged again and require additional repairs.

1.4 Alternatives Considered but Eliminated from Further Consideration

Alternative 1: 12-foot lanes, 4-foot shoulders with Midwest Guardrail System

This alternative would raise the highway profile by approximately five feet, construct two lanes that are 12 feet wide with 4-foot shoulders, replace the bridge over Bear Ranch Creek and construct a retaining wall. The retaining

wall would be founded on steel piles in drilled holes on the westbound side to minimize grading into the riverbank. A Midwest Guardrail System would be constructed at the edge of pavement and it would be offset 4 feet from the retaining wall and a cable railing would be installed on top of the retaining wall. The estimated construction cost for Alternative 1 is $26,705,935. The roadway construction and structure construction costs are estimated at $12,410,000 and $14,129,700 respectively. Right-of-way costs are estimated at $166,235.

Alternative 3: 12-foot lanes, 8-foot shoulder with MGS

This alternative would raise the profile by approximately 5 feet, construct two lanes that are 12 feet wide with 8-foot shoulders, and replace the bridge over Bear Ranch Creek. The new bridge would be constructed on either spread footings or cast-in-drilled-holes piles. A retaining wall would also be constructed, founded on steel piles in drilled holes, on the westbound side to minimize grading into the riverbank. A Midwest Guardrail System would be constructed at the edge of pavement. It would be offset 4 feet from the retaining wall and a cable railing would be installed on top of the retaining wall. A 1 foot deep ditch and a standard 3-foot hinge point are proposed on the eastbound side. The estimated construction cost for the Alternative 3 is $28,805,500. The roadway construction and structure construction costs are estimated at $14,216,800 and $13,056,600 respectively. Right-of-way costs are estimated at $1,532,100.

Alternative 4: Viaduct

This alternative proposes to build a new 0.6-mile-long viaduct from PM 46.2 to the Shady Rest Area, at PM 46.8. The viaduct would follow the existing alignment of SR-70 with a maximum offset of four feet from centerline. The proposed viaduct would have standard 12-foot travel lanes with 8-foot shoulders and result in the replacement of the bridge over Bear Ranch Creek. The estimated construction cost is $115 million.

Alternative 5: Avoidance Alternative (Oro-Quincy Alternative)

Caltrans, in concert with the USFS, identified an alternative route to improve that would avoid 4(f) resources, called the Oro-Quincy Alternative. This alternative would make improvements to the Oro-Quincy highway, which is currently an access road to remote forested areas, in order to handle the traffic during the closures of SR-70 during high river flows. The main improvement would be straightening curves to allow safe maneuvering of large trucks, but other improvements would likely be needed, such as signage, guardrails, median barriers, and more. The curve straightening alone is estimated to cost $150 million.

Additionally, the Oro-Quincy highway currently closes due to snow during the winter months, which are the months that high river flows occur and cause SR-70 to close. Therefore, regular snow removal and other winter maintenance would be required, which would require the construction of a new maintenance station.

Rehabilitation Alternative

This avoidance alternative proposes to add signs warning of the potential exposure to flooding, add informational signs to post any flood conditions, install equipment to monitor the height of river, increase the diameter of culverts to improve drainage capacity in attempt to alleviate flooding, add more pavement on top of existing pavement, modify existing dikes, and remove any debris or sediment collected within roadside stormwater ditches.

Realignment Concepts

Some consideration was given to alignment shifts to SR-70 that do not use the FRHHD. The profile on the new alignment would be five feet higher than the current roadway and a new bridge would be constructed to achieve the purpose and need, but the old alignment and bridge would be preserved in place.

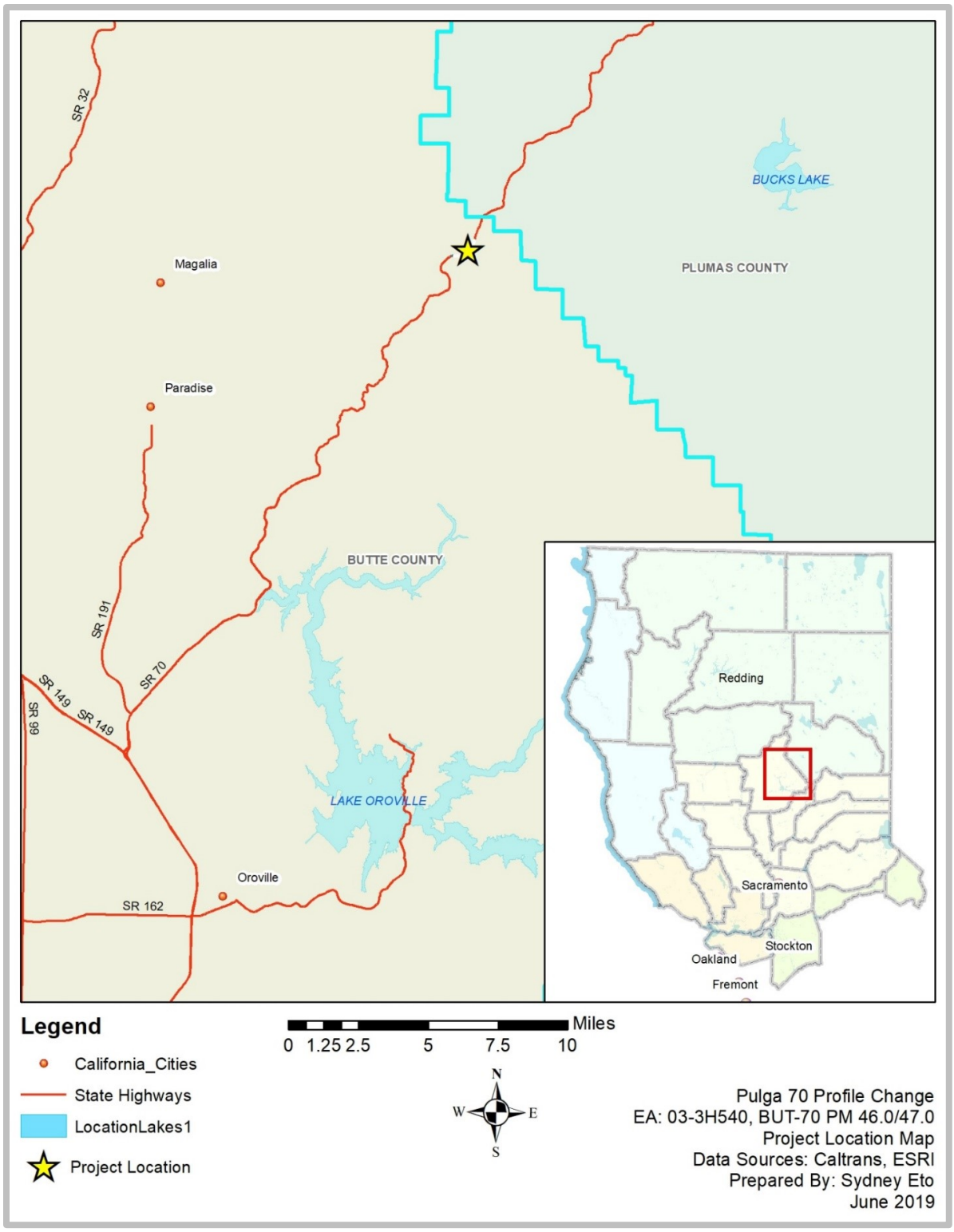

Figure 1. Project Location Map

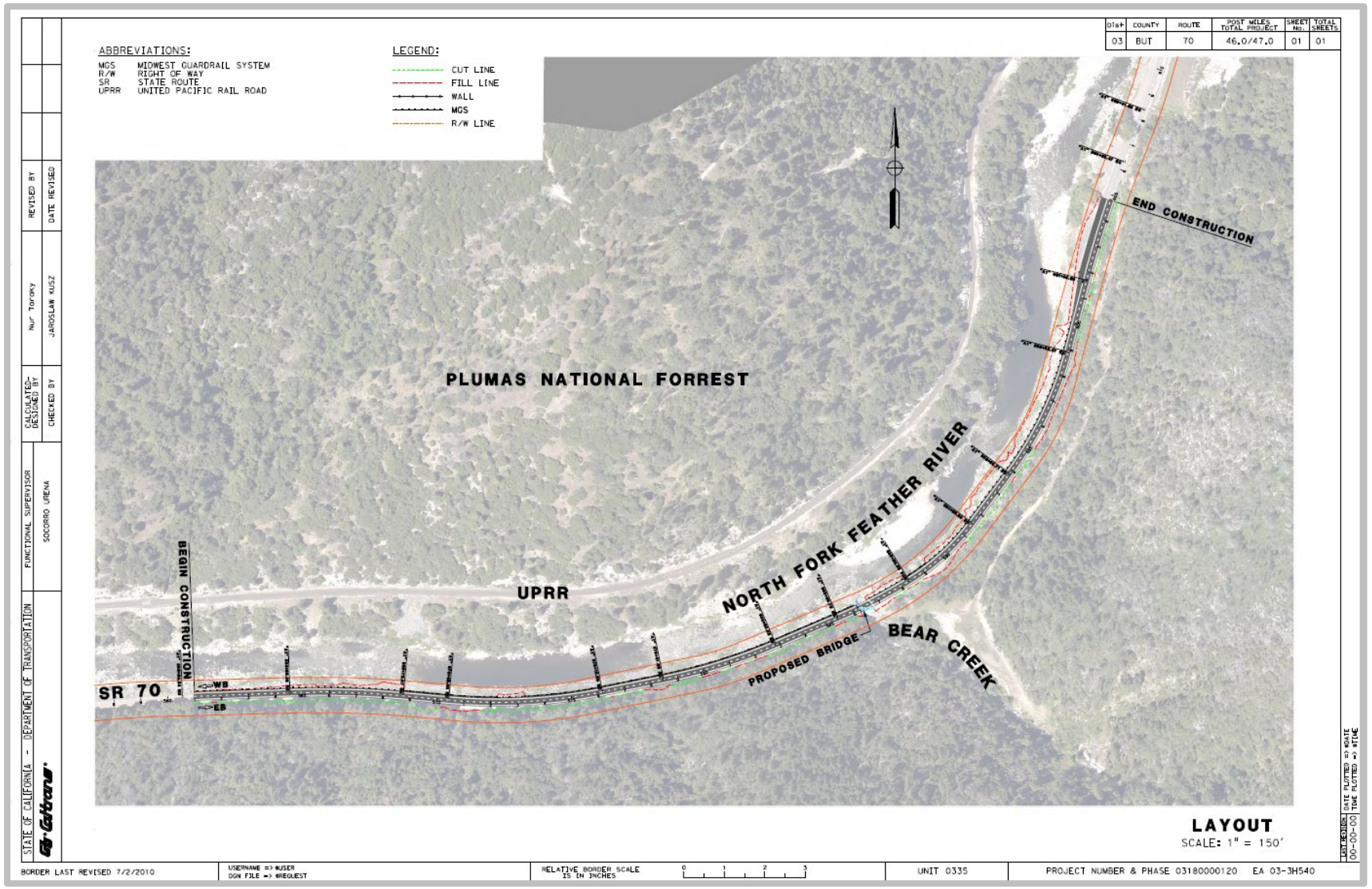

Figure 2. Vicinity Map

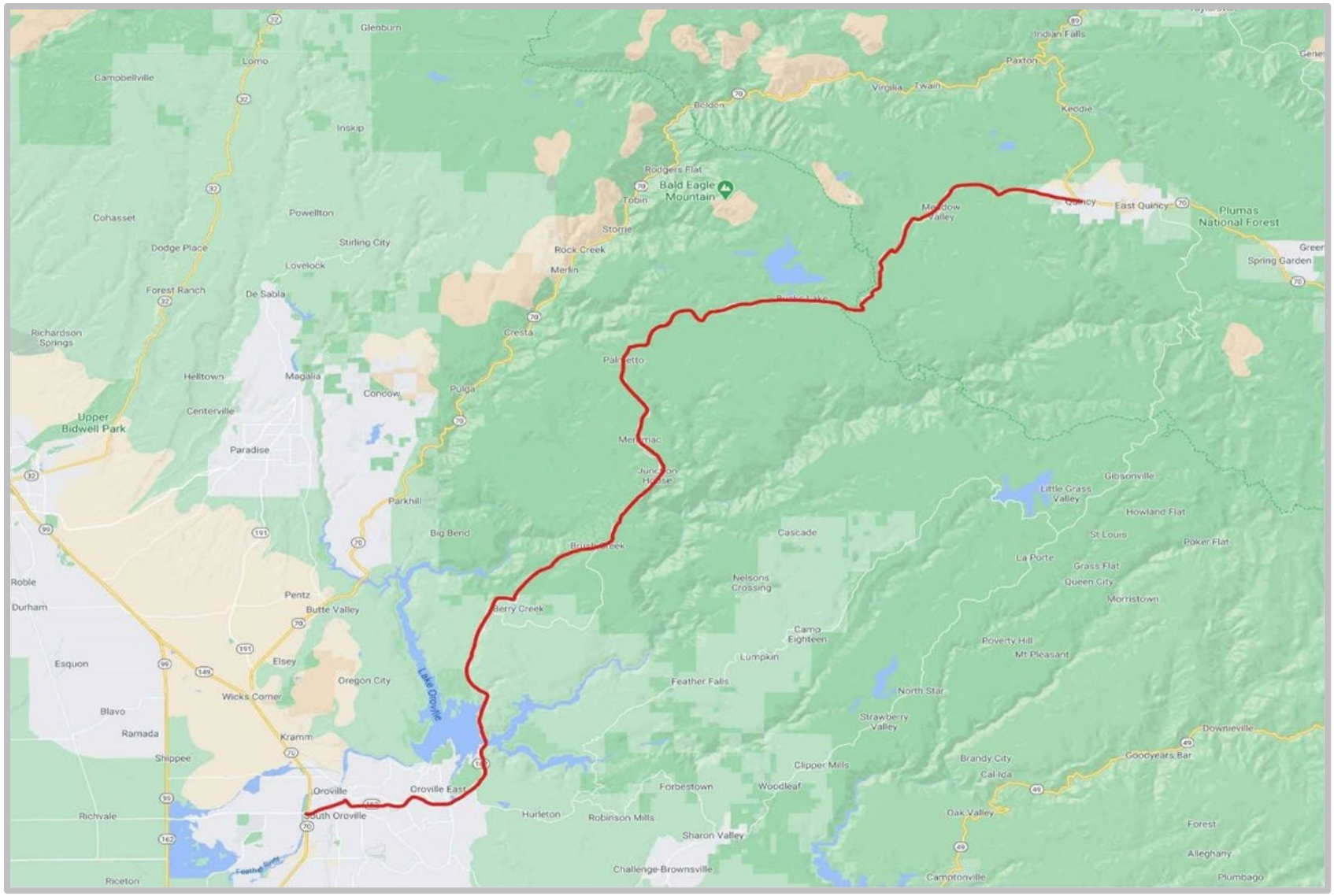

Figure 3. Oro-Quincy Avoidance Alternative Route

1.5 Permits and Approvals Needed

The proposed project would require the following permits, licenses, agreements, and certifications:

Table 1. Agency Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife (CDFW)	1602 Agreement for Streambed Alteration Section 2080.1 Agreement for Threatened and Endangered Species	Pending
Regional Water Quality Control Board (RWQCB)	401 from Central Valley	Pending
U.S. Army Corps of Engineers (USACE)	Section 404 Nationwide Permit	Pending
Department of Interior	Individual Section 4(f)	Pending
California Transportation Commission	CTC vote to approve funds	Following the approval of the FED, the California Transportation Commission will be required to vote to approve funding for the project.
State Historic Preservation Offices (SHPO)	Memorandum of Agreement (MOA)	MOA expected following the circulation of the draft ED/SHPO approved MOA (TBD).

For projects that have federal funds involved, 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 permanent use of a Section 4(f) resource. Please see Appendix A for the Individual Section 4(f) Evaluation.

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

As part of the scoping and environmental analysis carried out for the project, some topics considered were determined not to be relevant. The following environmental issues were considered, but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document.

Existing and Future Land Use

The project would have no impact to existing and future land use, as work would be repairing damaged roadway by raising the road profile and protecting the embankment against future flooding.

Consistency with State, Regional, and Local Policies

The project is consistent with State, Regional, and Local Policies.

Coastal Zone

There would be no effect to coastal resources because the project is not located within the coastal zone.

Wild and Scenic Rivers

The North Fork Feather River is not designated as a wild or scenic river and none are in the project area.

Parks and Recreational Facilities

No parks or recreational facilities will be affected by the project.

Farmlands/Timberlands

No farmlands are present within or adjacent the project. No timberlands will be affected by the project.

Growth

The project would be addressing flooding in this segment of SR-70 and does not propose to make any changes to accessibility or add capacity; therefore, the project is not expected to induce or affect growth.

Community Character and Cohesion

The project would have no impact to community character and cohesion as no homes or business are present within or near the project limits.

Relocation and Real Property Acquisition

The project would not require permanent acquisition of land, nor require property owners to relocate.

Environmental Justice

No minority or low-income populations would be adversely affected by the proposed project. Therefore, the project is not subject to the provisions of Executive Order 12898.

Utilities/Emergency Services

The project would have no impact to utilities including water, sewer, electrical power, and telecommunication systems. The project would have no impact to emergency services as one-way traffic control will be implemented during construction.

Traffic and Transportation/Pedestrian and Bicycle Facilitates

The project would have no impact to traffic and transportation as the project would not be increasing travelling lanes. No pedestrian and bicycle facilities are present at this segment of SR-70 and none are being proposed for the current project.

Hydrology and Floodplain

The proposed project would have no effect on the 100-year floodplain because the project is not located within a 100-year base floodplain.

Geology/Soils/Seismic/Topography

The project would have no impact to geology/soils/seismic/topography as the project area is not within a fault zone, nor is it located on a geologic unit or soil that is unstable, or that would become unstable.

Paleontology

The project would have no impact to paleontology as none is present within the project area.

Air Quality

This project is exempt from all air quality conformity analysis requirements per Table 2 of 40 Code of Federal Regulations (CFR) §93.126, subsection "Safety" (Pavement resurfacing and/or rehabilitation").

Noise

The project would not result in adverse traffic noise impacts and would not require noise abatement. The project meets the criteria for a Type III defined in 23 CFR 772. The project was not identified as a Type 1 project based on the fact that traffic volumes, composition, and speeds would remain the same in both the build and no-build alternatives.

Energy

The project would not increase capacity or provide congestion relief as the purpose of the project is roadway rehabilitation and slope stabilization. Energy consumption during construction would be temporary and cease once construction is complete.

Human Environment

2.1 Visual/Aesthetics

2.1.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969, as amended, establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings (42 United States Code [USC] 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA), in its implementation of NEPA (23 USC 109[h]), directs that final decisions on projects are to be made in the best overall public interest, taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

Per the California Streets and Highways Code, Section 92.3, the department shall use drought tolerant landscaping whenever feasible, taking into consideration factors such as erosion control and fire-retardant needs. The department shall also implement the use of recycled water when feasible.

2.1.2 Affected Environment

A Visual Impact Assessment (VIA) was prepared on February 13, 2020.

Within the project limits, SR-70 is designated as Scenic Highway and listed as a scenic bypass under USFS. This segment of SR-70 is considered a scenic bypass due to the unique blend of natural and manmade visual qualities surrounding SR-70.

2.1.3 Environmental Consequences

Based on the VIA, it is anticipated that the visual quality of the existing corridor will be altered by the proposed project. The soldier pile wall and concrete barrier will alter the visual environment and obstruct highway users the ability to view the natural scenic environment. While raising the roadway profile by 5 ft. would give highway users the ability to better view the natural

scenic environment, the concrete barrier may be a partial impediment to the existing views. Temporary impacts would be the result of areas used for staging, access, and other construction activities.

2.1.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures would be implemented for visual/aesthetics:

- An aesthetic treatment is recommended to stain the guardrail. Staining may reduce the possible glare from the new guardrail and help it blend in with the existing environment.
- For the proposed RSP, all necessary efforts should be made in the selection materials. The colors, type and shape of the rocks should blend with the existing environment and maintain the scenic quality.
- The soldier pile walls will be visible from points along the curvilinear roadway and the USFS Shady Rest Area. The natural scenic quality of SR-70 corridor should be protected by ensuring that the walls are visually compatible with their natural surroundings through an application of architectural textures, patterns, materials, and/or colors.
- At the end of construction, all areas using for staging, access, or other construction activities shall be repaired pursuant to Section 5-1.36 "Property and Facility Preservation".

2.2 Cultural Resources

2.2.1 Regulatory Setting

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

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

2.2.2 Affected Environment

A Historic Property Survey Report (HPSR) was completed for the project on January 28, 2020. A Finding of Effect (FOE) was completed for the project on February 13, 2020.

Cultural resources studies for this project included fieldwork, such as an archaeological pedestrian survey and Extended Phase 1 (XPI) study to determine the presence or absence of archaeological resources within or near the project limits. Caltrans cultural resources staff conducted searches of the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), National Historic Landmark (NHL), California Historical Landmarks (CHL), California Points of Historical Interest, Caltrans Historic Bridge Inventory, Caltrans Cultural Resources Database (CCRD), and USFS files. A Sacred Lands Search and List of Native American Contacts were requested from the NAHC. Letters were sent to initiate consultation with tribal contacts who are known to represent heritage interests in the project area.

The Area of Potential Effects (APE) was established as the area subject to direct and indirect effects of activity during the project. The APE includes all ground disturbance, vegetation removal, road widening and raising as well as drainage/culvert modifications along SR-70 between PM 46.0 and 47.0. The horizontal limits of the direct APE is confined to the existing Caltrans right-of-way; however, the indirect APE includes a previously identified historic district. The vertical APE limits will be two feet for the guardrail installation along the pullouts. The vertical APE for the Shady Rest Area and adjacent pullout and roadway work is two feet for the guardrail installation along the pullouts.

One cultural resource was identified by Caltrans archaeologist on a bedrock mortar outcrop overlooking the NFFR. The resource is within the APE of the project, but outside the Area of Direct Impact of proposed work. The cultural resource can be protected from project effects with Environmentally Sensitive Area fencing. During construction, the cultural resource would need to be monitored by both an archaeologist and tribal representative.

Caltrans identified one historic property, The Feather River Highway Historic District (FRHHD) (CA-PLU-970H), within the APE. The Bear Creek Bridge (No. 12-0039) located at PM 46.40, which would be replaced as part of the project, is a contributing feature to the FRHHD. This bridge is part of the original fabric of the FRHHD and it is unchanged from the time of construction.

The FRHHD is approximately 50 miles long and lies between Jarbo Gap in Butte County at PM 35.57 and Keddie in Plumas County at PM 36.00. The FRHHD was determined eligible for listing in the NRHP through consensus with the SHPO on April 16, 1987, at a state level of significance under Criterion A and C with a period of significance of 1927-1937. The FRHHD is listed in the CRHR and is on the Master List of State-Owned Historical Resources.

With few exceptions, the current vertical and horizontal alignments of the FRHHD remain unchanged from its original date of design and construction. Although other bridge replacements within the FRHHD have occurred, those bridges were constructed on the original alignment of the highway. Despite

previous alterations in the FRHHD, the historic property retains a high level of integrity of location, design, setting, materials, workmanship and feeling.

2.2.3 Environmental Consequences

Based on the Finding of Effects document prepared for the proposed project, Caltrans has determined that the project would have an Adverse Effect on the FRHHD; therefore the project as a whole would have an Adverse Effect on historic properties. The State Historic Preservation Officer (SHPO) concurred with the Finding of Adverse Effect in a letter dated April 1, 2020.

Additionally, Caltrans applied the List of Adverse Effects and determined that the proposed project would have an Adverse Effect pursuant to Public Resources Code (PRC) §§ 5024(f) and 5024.5.

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

If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the project archeologist so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

The FRHHD and Bear Creek Bridge, as a contributing element to the historic district, are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966. The proposed project would result in a "use" of the FRHHD as defined by Section 4(f). Please see additional details in Appendix A.

2.2.4 Avoidance, and Minimization Measures

The following measures will be implemented to minimize the adverse effects to the FRHHD:

- Caltrans will consult with the USFS and SHPO to arrive at a consensus on aesthetic applications to apply for the new bridge and retaining walls.

2.2.5 Mitigation Measures

Caltrans, in coordination with the USFS and in consultation with SHPO, will develop mitigation measures that would offset the impacts caused by the project and provide a benefit to the general public. Caltrans submitted a draft Memorandum of Agreement to SHPO that proposes the following measures. SHPO comment is pending.

- Record the affected section of the FRHHD, including the Bear Creek Bridge, in accordance with the standards of the Historic American Engineering Record, Level III. Documentation would include large format photographs, as-built drawings (if available), and an architectural data form. Electronic and paper copies would be provided to the USFS, Plumas National Forest; the SHPO; Caltrans Library and History Center; and Caltrans CSO. Copies would also be offered to the Plumas County Museum, Butte County Historical Society, and the Northeast Information Center at Chico State University.

- Produce a short film documenting the evolution of the Feather River Canyon. The film would include its geological formation, Native American occupation, construction of the railroad, hydroelectrical facilities, the roadway, and the establishment of numerous small towns. The film would be posted on the Caltrans website and provided to local repositories and schools.

2.3 Water Quality and Storm Water Runoff

2.3.1 Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source[1] unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

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

The goal of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and

[1] A point source is any discrete conveyance such as a pipe or a man-made ditch.

cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of the USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[2] standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or

[2] The U.S. EPA defines "effluent" as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

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

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of

water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

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

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

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

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

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

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

Construction General Permit

Construction General Permit, Order No. 2009-0009-DWQ (adopted on September 2, 2009 and effective on July 1, 2010), as amended by Order No. 2010-0014-DWQ (effective February 14, 2011) and Order No. 2012-0006-DWQ (effective on July 17, 2012). The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases and are

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

Section 401 Permitting

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

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

2.3.2 Affected Environment

A water quality assessment was completed on March 26, 2019.

The project is located within a mountainous area with the closest receiving water body being the Feather River which confluences with Lake Oroville.

There are no water bodies within the project limits that are listed on the 303(d) list for sedimentation/siltation or turbidity. This project does not lie within a city or county municipal separate storm sewer system. No drinking water reservoirs and/or recharge facilities have been identified within the project limits.

2.3.3 Environmental Consequences

Short-term water quality impacts are anticipated as a result of construction activities along the NRRF. The primary pollutant of concern during construction is sediment and siltation from disturbed construction areas. An approved Storm Water Pollution Prevention Plan (SWPPP) will be required as estimated total soil disturbance is greater than 1 acre. No long-term water quality impacts are anticipated as a result of the project.

To ensure that water quality is not impacted, the project would select temporary Best Management Practices (BMP's) identified in the Stormwater Pollution Prevention Plan with the intent of protecting water bodies, within or near the project limits from potential storm water runoff resulting from construction activities. To reduce and minimize sediment and siltation entering the waterway, temporary sediment and erosion control measures will be used, including, but not limited to, fiber rolls, gravel bag berms, rolled erosion-control product (netting), designated construction entrance/exit, revegetation, and wind erosion control.

2.3.4 Avoidance and Minimization Measures

The following measures would be required to minimize potential water quality impacts associated with construction and operation. The following measures would be included, but not limited to the following:

- Prior to the start of construction, existing drainage facilities should be identified and protected by the application of appropriate temporary construction site BMPs.
- If and where applicable, shoulder backing areas should be stabilized by temporary construction site BMPs, or rolled and compacted in place, by the end of each day and prior to the onset of precipitation.

- All temporary equipment and material storage areas on State property must be accounted for and included in the total land disturbance estimate, unless a stabilization method has been implemented, reviewed, and approved by the NPDES and Water staff.

- The project would adhere to the conditions of the Caltrans Statewide National Pollutant Discharge Elimination System (NDPES) MS4 Permit CAS No. 000003 (Order No. 2012-0011-DWQ and all associated adopted amendments).

- The project would adhere to the compliance requirements of the NPDES Construction General Permit (CGP) CAS No.000002 (Order No. 2009-0009-DWQ) for General Construction Activities (see special considerations within the SWDR).

- The SWPPP will be prepared by the contractor and provide and incorporate appropriate and approved temporary construction site BMPs that address the effective implementation, placement, handling, storage, use and disposal practices of all BMPs used during construction operations and field activities for the duration of the project.

- If any dewatering operations involving discharge to water is required, then consultation with the Regional Board would be needed that may involve special conditions within the 401 permit. The Regional Board Permit that may be applicable is the Low Threat Discharge to Surface Water Permit (General Order No. R5-2013-0074). Discharges covered by this General Order are either 4 months less in duration or have an average dry weather flow of less than 0.25 million gallons per day.

- Caltrans' Storm Water Management Plan (SWMP), Project Planning and Design Guide (PPDG) Section 4, and Evaluation Documentation Form (EDF) provide detailed guidance in determining if a specific project requires the consideration of permanent Treatment BMPs.

- The project must follow all applicable guidelines and requirements listed in the 2018 Caltrans Standard Specification (2018 CSS) Section 13, regarding water pollution control and general specifications for preventing, controlling, and abating pollutant discharge into streams, waterways, and other bodies of water.

2.4 Hazardous Waste/Materials

2.4.1 Regulatory Setting

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

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

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

Section 121(d) of CERCLA requires that remedial action plans include consideration of more stringent state environmental "Applicable or Relevant and Appropriate Requirements" (ARARs). The 1990 National Oil and Hazardous Substances Pollution Contingency Plan (NCP) also requires compliance with ARARs during remedial actions and during removal actions

to the extent practicable. As a result, state laws pertaining to hazardous waste management and cleanup of contamination are also pertinent.

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

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

2.4.2 Affected Environment

An Initial Site Assessment (ISA) was completed on March 28, 2019. The ISA identified and evaluated potentially hazardous waste sites and includes the following tasks:

- Review of the project plans.
- Discussion with the project engineers.
- A review of previous studies in the vicinity of this project.
- A review of Geotracker (a database of hazardous waste sites).

Lead in Soil

Aerially deposited lead (ADL) is attributed to the historic use of leaded gasoline. Areas of primary concern are soils along routes that have had high vehicle emissions from large traffic volumes or congestion during the time when leaded gasoline was in use (generally prior to 1986). Along roads where the shoulder subgrade has not been disturbed, the presence of ADL is generally limited to the upper 24 inches. Lead concentrations typically drop rapidly with increasing depth below the ground surface.

Thermoplastic/Paint Stripe/Pavement Markings

SR-70 has thermoplastic paint and/or pavement markings. Thermoplastic striping and markings may contain elevated concentration of lead chromate and hexavalent chromium if manufactured before 2005 and painted markings if manufactured before 1997.

Treated Wood Waste

Treated wood waste (TWW) is wood with preservative chemicals that protect it from insect attack and fungal decay during use. Typical uses in the highway environment include signposts, metal beam guardrail wood posts, and lagging on retaining walls. The chemical preservatives used are hazardous and post a risk to human health and the environment. Arsenic, chromium, copper, creosote and pentachlorophenol are among the chemicals used. These chemicals are known to be toxic carcinogenic. Harmful exposure to these chemicals may result from dermal contact with TWW or from inhalation or ingestion of TWW particulate (e.g., sawdust and smoke) as this material is handled.

2.4.3 Environmental Consequences

Lead in Soil

Lead-contaminated soil may exist within or near Caltrans right-of-way due to historic use of leaded gasoline throughout California. As a result, elevated concentrations of lead may be present along the state highway system right-of-way within the limits of the project. Aerially deposited lead (ADL) from the historical use of leaded gasoline, exists along roadways throughout California. If encountered, soil with elevated concentrations of lead as a result of ADL on the state highway system right-of-way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met. Lead levels are yet to be determined, but as the project would be relinquishing a large amount of excess soil, a site investigation (SI) for ADL would be required. A SI will involve sampling soils for ADL. A SI needs to be requested by the PE or PM before being prepared, approved, and issued to the contractor. The

contractor is then required to prepare work plans, health and safety plans, conduct site investigation, and prepare site investigation reports for Caltrans review and approval.

Thermoplastic/Paint Stripe/Pavement Markings

Residue from removal of yellow color traffic stripes and pavement markings contains lead chromate in varying concentrations. Since these traffic stripes will be cold planned along with the roadway, the levels of lead and chromium will become non-hazardous. These grindings will be removed and disposed of in accordance with Standard Special Provision (SSP) 36-4 Residue Containing Lead from Paint and Thermoplastic. SSP 7-1.02K(6)(j)(iii) Lead Compliance Plan will also be required in addition to SSP 36-4.

Treated Wood Waste

Hazardous chemicals are known to exist in the wood posts associated with signposts. As such, if wood posts are removed, they shall be disposed of in accordance with NSSP 14-11.14 Treated Wood Waste.

2.4.4 Avoidance, Minimization, and/or Mitigation Measures

The following SSPs will be included in the construction contract to address the following issues:

- SSP 7-1.02K(6)(j)(iii) "Lead Compliance Plan", requires the submittal of a lead compliance plan that identifies specific CAL/OSHA requirements for working with lead.
- SSP 36-4 Residue Containing Lead from Paint and Thermoplastic
- NSSP 14-11.14 Treated Wood Waste
- For any right of way acquisitions, a Hazardous Materials Disclosure Document (HMDD) will be required for attachment to the Certificate of Sufficiency (COS) before any right of way can be acquired. To provide the HMDD, Design will need to provide our office with final right of way mapping as soon as it is possible.

Biological Environment

2.5 Natural Communities

Biological resources were studies within the environmental study limit (ESL), which encompasses beyond the project limits that could conceivably be affected directly or indirectly by the project.

2.5.1 Natural Communities

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

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

2.5.2 Affected Environment

A Natural Environmental Study was prepared on December 26, 2019.

The proposed project area is within the Feather River Canyon, in the Plumas National Forest. This portion of the North Fork Feather River (NFFR) is between two controlled release dams. There are several small perennial drainages and Bear Ranch Creek that flow into the NFFR along the project area. The southern bank of the NFFR is comprised of riparian vegetation disbursed throughout rock slope protection (RSP).

Arroyo Willow Thicket Habitat (*Salix lasiolepis*) was identified within ESL along the NFFR. This habitat is typically found along streambanks and benches, slope seeps, and stringers along drainages. Arroyo willow thicket habitat identified within the ESL consisted primarily of arroyo willow and Himalayan

blackberry (*Rubes armeniacus*). White alder (*Alnus rhomnifolia*), mugwort (*Atemisia doulasiana*), and spice bush (*Calyanthus accidentalis*) were also present within this habitat.

2.5.3 Environmental Consequences

Within the ESL, approximately 3.56 acres of arroyo willow thicket habitat was identified along the NFFR. Of the 3.56 acres along the NFFR, approximately 0.97 acre of habitat will be permanently impacted by fill slope along the NFFR.

Temporary impacts to arroyo willow habitat are anticipated to be up to 0.67 acre along the NFFR. Temporary impacts along the NFFR will be the result of installation of the soldier pile wall and related RSP. Since the primary cover along the NFFR is arroyo willow and Himalayan blackberry, it is anticipated to readily revegetate via natural recruitment. At Bear Ranch Creek, approximately 0.04 acre of habitat will be temporarily impacted by the bridge replacement and FYLF habitat enhancement work at this location. As part of the Foothill Yellow Legged Frog (a species of special concern under California Endangered Species Act) habitat enhancement, the 0.04 acre along Bear Ranch Creek will be revegetated as required using regionally appropriate species.

2.5.4 Avoidance and Minimization Measures

The following avoidance and minimization measures will be implemented for arroyo willow thicket habitat.

- Install and maintain temporary construction Best Management Practices (BMPs) to minimize the impacts to riparian habitat.
- A dewatering plan will be established and conditions set forth in the applicable permits will be implemented.
- Construction will be limited to the minimum area necessary to construct the project and excavation will be limited to the minimum required to complete the project.

2.5.5 Mitigation Measure

- Compensatory mitigation is proposed for the 0.95 acre of permanent riparian impacts in the form of off-site permittee responsible mitigation or through the purchase of mitigation credits from a CDFW approved mitigation bank.

2.6 Wetlands and Other Waters

2.6.1 Regulatory Setting

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

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

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

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code

require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

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

2.6.2 Affected Environment

A Natural Environmental Study was prepared on December 26, 2020.

On June 22, 2018, field surveys were conducted within the environmental study limit (ESL) to determine whether potential jurisdictional Waters of the United States and Waters of the States were present. Field surveys were also conducted to determine the ordinary high water mark on April 22, 2019.

Surveys conducted within the ESL identified several potential jurisdictional waterways. Potentially jurisdictional waterways identified include the Bear Ranch Creek, NFFR, and four unnamed perennial drainages. In addition, approximately 3.56 acres of arroyo willow thicket habitat was identified within the ESL along the NFFR.

2.6.3 Environmental Consequences

Temporary impacts are anticipated for the Bear Ranch Creek and the confluence to the NRRF. Temporary impacts will be the result of replacing the existing bridge at Bear Ranch Creek with a 50-foot single span bridge. The new bridge will be a wider structure than the current bridge, which will allow the creek channel to expand to a more natural width. In addition, the project would restore Bear Ranch Creek channel by reshaping it with natural structures, such as dirt and rocks, and revegetating the associated riparian habitat where necessary. Restoration of Bear Ranch Creek and a wider bridge will also decrease water turbidity and slow the flow rate to allow more access for aquatic organisms to travel safely up and down Bear Ranch Creek. No permanent impacts are anticipated at this location.

The four unnamed perennial drainages identified within the ESL would be temporarily and permanently impacted during construction. Table 2 (below) lists the locations where both temporary and permanent impacts will occur. Temporary impacts will be the result of water diversion during culvert extension work. Permanent impacts will be the result of modifying the culvert outlets. Permanent impacts for the four unnamed perennial drainages will be less than 1 acre. Culvert outlets will be modified so there is no more than a 6 inch gap between the bottom of the culvert outlet and the RSP below. Culvert modification is part of the frog habitat enhancement, which will allow Foothill Yellow-Legged Frog (FYLF) to jump into the culvert and travel upslope without having to cross the highway and improving passage conditions for FYLF.

Table 2. Temporary and Permanent Impacts to Water of the United States

Name	Postmile	Temporary Impacts (Acres)	Temporary Impacts (Sq Ft.)	Permanent Impacts (Acres)	Permanent Impacts (Sq Ft.)	Comments
Unnamed Perennial Drainage at PM 46.15	46.15	0	0	<0.01	25	Placing grouted RSP at culvert outlet to facilitate frog dispersal not previously accessible at this location.
Unnamed Perennial Drainage at PM 46.30	46.30	0	0	<0.01	25	Placing grouted RSP at culvert outlet to facilitate frog dispersal not previously accessible at this location.
Bear Ranch Creek	46.44	0.06	2477.51	0	0	Creek channel will be widened and regraded to enhance the existing aquatic conditions.
North Fork Feather River	46.44	<0.01	39.53	0	0	Temporary impacts at the confluence of Bear Ranch Creek and North Fork Feather River
Unnamed Perennial Drainage at PM 46.73	46.73	0	0	<0.01	25	Placing grouted RSP at culvert outlet to facilitate frog dispersal not previously accessible at this location.
Unnamed Perennial Drainage at PM 46.80	46.80	0	0	<0.01	25	Placing grouted RSP at culvert outlet to facilitate frog dispersal not previously accessible at this location.
	Total	0.06	24517.04	<0.01	100	

In addition, the project would require a 1602 Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife, a Section 401 Water Quality Certification from the Regional Water Quality Control Board, and a Section 404 Nationwide Permit from the U.S. Army Corps of Engineers. Coordination with the agencies has been initiated and is ongoing.

2.6.4 Avoidance, Minimization Measures

The following avoidance and minimization measures will be implemented to protect wetlands and other waters of the U.S.:

- Install and maintain temporary construction Best Management Practices (BMPs) to minimize the impacts to arroyo willow habitat.
- Construction will be limited to the minimum area necessary to construct the project and excavation will be limited to the minimum required to complete the project.
- Install and maintain temporary construction Best Management Practices (BMPs) to minimize the impacts to water quality and the contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) to establish temporary pollution control measures.
- A dewatering plan will be established, and conditions set forth in the applicable permits will be implemented.
- Work within drainages will be limited to July 1 and August 15.

2.6.5 Mitigation Measures

- No compensatory mitigation is proposed for permanent impacts to waters of the U.S.
- Compensatory mitigation for permanent impacts to riparian vegetation under the LSAA is proposed in the form of off-site permittee responsible mitigation or through the purchase of mitigation credits from CDFW approved mitigation bank.

2.7 Plant Species

2.7.1 Regulatory Setting

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

This section of the document presents a broader view of special-status plant species because the surrounding land is under the jurisdiction of the U.S. Forest Service. This land management agency may identify certain species of plants as important, although the plant species may not be protected by USFWS.

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

2.7.2 Affected Environment

A Natural Environment Study was prepared on December 26, 2019. Floristic surveys were conducted on several occasions adjacent to and within the ESL, during the blooming periods of the flowers that have the potential to occur. Out of the 26 species identified by the California Native Plant Society

(CNPS) as having the potential to occur within the project site, 3 were encountered.

Slender Silver Moss (*Anomobryum julaceum*)

Slender silver moss is a CNPS 4.2 ranked bryophyte found in broad-leafed upland forests, lower montane coniferous forests, and north coast conifer forests across California. It tends to grow on damp rocks and acids soil, usually seen on roadcuts. This plant does not have federal or state protection status but based on its CNPS listing, it meets the criteria for sensitivity under CEQA.

Slender silver moss specimens were detected within Feather River Canyon during field surveys. These plants were abundant and found attached to granite rock faces in various moist location along SR-70.

Mildred's Clarkia (Clarkia mildrediae ssp. mildrediae)

Mildred's clarkia is a 1B.3 CNPS ranked plant found in cismontane woodlands and lower montane coniferous forests on decomposed granite and sometimes found along roadsides. It is an uncommon annual herb and is known from the southernmost Cascade Range and northern Sierra Nevada range along the Feather River. This plant does not have federal or state protection status but based on CNPS listing, it meets the criteria for sensitivity under CEQA.

A population of approximately 10 Mildred's clarkia plants were detected during field surveys at the eastern end of the ESL, at approximately PM 46.8, along the north western side of the roadway pullout.

Cantelow's Lewisia (*Lewisia cantelovii*)

Cantelow's lewisia is a 1B.2 CNPS ranked perennial herb found on moderately moist granite cliff faces, rocky outcrops, ravines, and sometimes serpentine seeps within broad-leafed upland forests, chaparral, cismontane woodlands and lower montane coniferous forests. This plant does not have federal or state protection status but based on its CNPS listing, it meets the criteria for sensitivity under CEQA.

Many Cantelow's lewisia specimens were located attached to the exposed granite rockfaces along the ESL during field surveys. Plants appeared to be locally abundant and widely distributed in the immediate area adjacent to the project site as well as the Feather River Canyon.

2.7.3 Environmental Consequences

Slender silver moss and Cantelow's lewisia plants within the project cut lines would be impacted during project construction activities. Although these local individuals would be affected by construction activities, the species appears to be locally abundant, therefore the affects to individuals within the project limits are not anticipated to jeopardize the overall continued existence of either species. To ensure that both species are not impacted extensively, excavation activities will be limited to the minimum required to complete the project. Prior to the start of construction, Slender silver moss and Centelow's lewisia specimens will be collected and relocated outside of the ESL.

The 10 Mildred's clarkia plants detected at the eastern end of the ESL at PM 46.8 are outside of where construction activities would occur. To ensure that the 10-plant won't be impacted during construction, the population will be marked as environmentally sensitive area (ESA) and fencing will be erected to protect them from accidental disturbance. In addition, construction staging will be limited to the minimum required to complete the project.

2.7.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented for plant species. No mitigation is anticipated.

- Limit excavation to the minimum required to complete the project.
- Before the start of project activities, slender silver moss and Cantelow's lewisia specimens will be collected and relocated outside of the ESL.
- Before the start of the project activities, Mildred's clarkia population will be marked as an environmentally sensitive area (ESA) on construction

layouts and ESA fencing will be installed to protect it from accidental disturbance.

2.8 Animal Species

2.8.1 Regulatory Setting

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

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

2.8.2 Affected Environment

A Natural Environment Study was prepared on December 26, 2019.

Limited wildlife were encountered during field surveys, however, various wildlife were documented and recorded in the past including American beaver (*Castor canadensis*), coyote (*Canis latrans*), mountain lion (*Puma concolor*), California Newt (*Taricha torosa*), ringtail (*Bassariscus astutus*), mallard (*Anas platyrhynchos*), canyon wren (*Catherpes mexicanus*), Stellar's jay (*Cyanocitta stelleri*), California scrub-jay (*Aphelocoma californica*), and turkey vulture (*Cathartes aura*).

Foothill Yellow Legged Frog (*Rana boylii*)

FYLF is found from sea level up to 5,000 ft across most of southwestern Oregon west of the Cascade Mountains crest, and south through California to Baja California. This species generally spends the fall and winter in small tributary streams with perennial water where frogs can forage and avoid mortality from seasonal flooding. FYLF appear to select previously used breeding sites with distinctive channel features. Breeding typically occurs in the spring after winter runoff has ceased but can be as late as July in snowmelt-dominated watersheds like the NFFR.

Within the ESL, NRRF was identified as having potentially suitable habitat for FYLF. The confluences of Bear Ranch Creek and four unnamed drainages within the ESL were also identified as potential waterways utilized by FYLF for moving between adjacent tributaries.

Hardhead (Mylopharodon conocephalus)

Hardhead minnows are a widely distributed CDFW species of special concern. They are found in low to mid-elevation streams in the Sacramento-San Joaquin drainage. Their range extends from Kern County to Modoc County. Populations are present in most large tributary streams of the Sacramento River drainage, including the Sacramento River.

Species specific surveys were not conducted for hardhead, but their presence is assumed at the confluences of Bear Ranch Creek and NFFR based on data from CDFW and USFS.

2.8.3 Environmental Consequences

Foothill Yellow Legged Frog (*Rana boylii*)

Temporary impacts would be the result of ground disturbing activities at the four unnamed drainages and the confluence of the Bear Ranch Creek. Ground disturbing activities would impact the footprint of the culverts and bridge, the area immediately outside the culvert inlet and outlet, and the area immediately upstream of Bear Ranch Creek Bridge and the portion of the creek between the bridge and NRRF confluence.

Permanent impacts are not anticipated for FYLF dispersal as Caltrans proposes to enhance FYLF habitat by modifying culvert outlets and expand Bear Ranch Creek. Modifications of the culvert outlets will improve FYLF connectivity to areas that may have been previously inaccessible. Modification includes reducing the distance between culvert outlets and RSP to approximately 6 inches, which is low enough for FYLF to jump into the culvert. The Bear Ranch Creek would be recontoured and expanded with the new bridge, which would widen the creek channel into the NRRF. Widening the creek channel will reduce turbidity and slow flows into the NRRF. In addition, revegetation will be done to provide FYLF refuge areas. The concreted RSP will ensure that future flooding events do not degrade the newly established dispersal corridors.

Hardhead (Mylopharodon conocephalus)

The NRRF and Bear Ranch Creek offer suitable habitat for hardhead minnows and the project has the potential to impact this species. Dewatering at Bear Ranch Creek could lead to direct mortality for hardhead minnows. Dewatering could also limit access to suitable habitat since Bear Ranch Creek contains several small pools immediately upstream of the bridge that meet their habitat preference.

2.8.4 Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented for FYLF and hardhead:

- Limit water diversion to the minimum amount of time required to complete work at each location.
- Limit excavation to the minimum required to complete the project.
- Limit the construction footprint to the minimum area possible to complete the project.
- Construction in-water work window will be established in potential frog habitat. This period is established to be July 1 to August 20 and is limited to a period before tadpoles morph into subadults, and FYLF begin to disperse into adjacent upstream tributaries and the associated upland habitat. This window is estimated to have the least amount of direct effects on FYLF overall and provide the least difficulty to species movement throughout the ESL.
- Pre-construction surveys will be performed to determine presence of FYLF.
- An aquatic organism rescue plan will be developed and utilized during dewatering to minimize the effects of dewatering and prevent mortality of existing organisms. This plan will require the capture and relocation of organisms from Bear Ranch Creek to a preselected relocation in the adjacent NFFR.
- Worker awareness training will be performed to educate personnel, explaining protective measures, species identification, life history, habitat requirements during all life stages, and species' protective status. It will also include instructions that if any worker encounter a hardhead within or near the worksite, work shall halt, and the biological representative will be informed.
- A qualified biologist will be present during in-water work and will record all observations and detections of other sensitive species during surveys.

2.9 Threatened and Endangered Species

2.9.1 Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC)

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

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

2.9.2 Affected Environment

A Natural Environmental Study was prepared on December 26, 2019.

Federally listed species that had the potential to be present include Valley elderberry longhorn beetle (Desmocerus californicus dimorphus), California Red-Legged Frog (Rana draytonii), Delta smelt (Hypomesus transpacificus), Bald eagle (Haliaeetus leucoephalus), and North American wolverine (Gulo

gulo luscus). No federally listed plant species have been documented within the ESL.

Surveys were conducted to identify the presence of threatened and endangered species within the ESL, but none were observed.

2.9.3 Environmental Consequences

Based on the proposed project and field surveys conducted within the ESL, the project would have "no effect" on federally listed plant or wildlife species identified in Table 3. FESA Effect Findings.

Table 3. FESA Effect Findings

Scientific Name	Common Name	Status	Effect Finding	Effect Finding for Critical Habitat (if applicable)
Invertebrates				
Desmocerus californicus dimorphus	Valley elderberry longhorn beetle	FT	No Effect	No Effect
Amphibians and Reptiles				
Rana draytonii	California Red-Legged Frog	FT	No Effect	No Effect
Salmonids and Fish				
Hypomesus transpacificus	Delta smelt	FT	No Effect	No Effect
Birds				
Haliaeetus leucoephalus	Bald Eagle	N/A	No Effect	No Effect
Mammals				
Gulo gulo luscus	North American wolverine	FPT	No Effect	No Effect

***Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT)**

2.9.4 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures would be required for threatened and endangered species.

2.10 Invasive Species

2.10.1 Regulatory Setting

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration (FHWA) guidance issued August 10, 1999 directs the use of the State's invasive species list, maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.10.2 Affected Environment

A Natural Environment Study (NES) was prepared on December 26, 2019.

Invasive species including American bullfrog (*Lithobates catesbeianus*), and the signal crayfish (*Pacifastacus leniusculus*) have been sighted within the ESL, but none were detected during field surveys.

Two state-listed noxious weeds were encountered during field surveys: yellow star thistle and bull thistle. Two invasive species were also encountered during field surveys: cheatgrass and Himalayan blackberry.

2.10.3 Environmental Consequences

Project activities are not anticipated to contribute to indirect spread of both noxious weeds and invasive species as they widely present within and outside the project ESL.

In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from the Federal Highway Administration (FHWA), the landscaping and erosion control included in the project will not use species listed as invasive. None of the species on the California list of invasive species is used by the Department for erosion control or landscaping. All equipment and materials will be inspected for the presence of invasive species and cleaned if necessary. In areas of particular sensitivity, extra precautions will be taken if invasive species are found in or next to the construction areas. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

Standard measures will be included in the construction contract that requires construction equipment and vehicles to be cleaned prior to entering the entering and exiting the project.

2.10.4 Avoidance, Minimization Measures

The following avoidance and minimization measures will be implemented to prevent the spread and introduction of new invasive species:

- After construction materials are removed, the project would be restored to a natural setting by grading, placing erosion control, and replanting. Replanting would be subject to a plant establishment period as defined by project permits, which would require Caltrans to adequately water plants, replace unsuitable plants, and control pests.

Chapter 3 Coordination and Comments

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

These agencies, organizations, and individuals were consulted to prepare this environmental document.

3.1 Coordination with Resource Agencies

Cultural

- Consultation letters were mailed on July 2018 to representatives of the Estom Yumekon Maidu Tribe of Enterprise Rancheria, Konow Valley Band of Maidu, Meechupa Indian Tribe, Mooretown Rancheria of Maidu Indians, Tsi Akim Maidu, Greenville Rancheria, and Berry Creek Rancheria of Maidu Indians.
- Native Heritage Commission was contacted for a Sacred Lands File search.
- Several site visits were conducted in 2019, two of which included members of United States Forest Service.
- A meeting was held on August 21, 2019 with United States Forest Service, Plumas National Forest, regarding project impacts and possible mitigation measures.

- Consultation with the California State Historic Preservation Officer is ongoing regarding resolution of the Finding of Adverse Effect on the FRHHD.

Biology

- Greg Schmidt, United States Fish and & Wildlife Biologist for the Endangered Species Program and Caltrans Liaison for USFWS, was contacted for Technical Assistance on March of 2019.

- Several conversations between California Department of Fish and Wildlife and Caltrans biologist occurred between January 1, 2019 and December 30, 2019.

Chapter 4 List of Preparers

These individuals performed the environmental work on the project:

California Department of Transportation, District 3

David Gould – Associate Environmental Planner. Contribution: Environmental Coordinator and Document Writer.

Junior Magana - Associate Environmental Planner. Contribution: Environmental Coordinator and Document Writer.

Laura Loeffler - Senior Environmental Planner. Contribution: Environmental Branch Chief.

Erick Wulf - Associate Environmental Planner (Archeologist). Contribution: Historic Property Survey Report and Archaeological Survey Report.

Sydney Eto – Associate Environmental Planner (Natural Sciences)/Project Biologist. Contribution: Natural Environmental Study.

Gail St John – Senior Environmental Planner/Principal Architectural Historian. Contribution: Historic Property Survey Report, Finding of Effects report

Alice Brown - Landscape Architect. Contribution: Visual Impact Assessment.

Youngil Cho - Air and Noise Specialist. Contribution: Traffic Noise and Air Quality Impact Assessment and Greenhouse Gas Construction Emission Analysis.

Rajive Chadha - Hazardous Waste Specialist. Contribution: Initial Site Assessment (ISA) for Hazardous Waste and Water Quality Assessment.

Jaroslaw Kusz - Project Engineer. Contribution: Project Design.

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Appendix A Individual Section 4(f) Evaluation

Pulga Profile Change Project

State Route 70, Post Mile 46.0-47.0, Butte County

EA 03-3H540
EFIS 0318000012

Prepared by the State of California Department of Transportation

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

August 2021

Individual Section 4(f) Evaluation

Introduction

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.

Responsibility for compliance with Section 4(f) has been assigned to the California Department of Transportation (Caltrans) pursuant to 23 USC 326 and 327, including determinations and approval of Section 4(f) evaluations, 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 Feather River Highway Historic District is 50 miles of State Route 70 that was determined eligible for the National Register of Historic Places in 1987. This historic resource is also referred to as the Feather River Scenic Byway—a markedly known route that travels east-west across Butte and Plumas Counties that meanders through the bottom of a rugged mountain canyon lined with steep, granite walls and follows the natural course of the serene waters of north fork of the Feather River.

One of the main reasons that the Feather River Highway Historic District is eligible for the National Register is because this highway conveys and reflects the engineering and construction challenges met and overcome by the original designers, contractors, and workmen when the highway was originally built between the years 1927-1937.

The limits of the proposed project (postmile 46.0–47.0) involve approximately one mile of the 50-mile long Feather River Highway Historic District. As outlined in the Section 106 Finding of Effect document, "the character-defining features (CDFs) for this historic property (Feather River Highway Historic District) include stone masonry retaining walls and parapets, stone masonry fountains, concrete and stone masonry culverts and drains, four steel truss bridges (the fifth steel truss bridge at Spanish Creek has been replaced), and the Arch Rock, Grizzly Dome, and Elephant Butte tunnels. Additional roadway elements not yet formally documented as character-defining features include the horizontal and vertical alignments of the roadway, as well as the bench cuts and steep granitic walls formed during original blasting and construction." Although not individually eligible for the National Register, the Bear Creek Bridge (located at postmile 46.4), is a contributing feature to the historic district and is within the project limits.

The Federal Highway Administration's Section 4(f) Policy Paper (dated July 2012), Questions 7C, 7D, 8A, 8D were referenced as guidance to aid the analysis within this Individual Section 4(f) Evaluation. In accordance with guidance found within FHWA's Policy Paper, it is FHWA's longstanding policy that "all contributing properties or elements, including identified features and their settings are considered eligible for the National Register and are therefore Section 4(f) resources." Therefore, the horizontal and vertical

alignments of the roadway and bench cuts, though not formally documented as character-defining features under Section 106, are considered under Section 4(f) as contributing elements to the eligibility of the historic highway district.

It is essential to understand the history of flooding events that develop the backdrop to the advancement of the purpose and need for the proposed project.

The following paragraphs serve as a narrative to present the contextual and factual recorded events that led to the engineering decisions, development of purpose and need, the range of alternatives, and avoidance alternatives.

Background Information

The following paragraphs are meant to provide the reader with an understanding of the existing setting of the Feather River Canyon and explain the natural events that occur and will continue to occur within the project area. This provides a backdrop to the flooding events that have enfolded in the past. These paragraphs explain how the river flows are managed, the river gauges in place that read and feed anticyclical engineering data that diagnosis past river levels. All of this information and collected analytical data sets the stage that led to initiate the proposed project.

It is important to understand that State Route (SR) 70 is one of the primary west-east transportation corridors for eastern Sacramento Valley and is part of the Surface Transportation Assistance Act truck network. As part of this Surface Transportation Assistance truck network means that SR 70 allows larger trucks to use this highway off the National Network for the purposes to provide food, fuel, allows access to lodging and repairs to areas that are remote. SR 70 is the only major roadway open year-around through the Feather River Canyon. There are no other state routes through this area that are at highway standards to serve as a means for the Surface Transportation Assistance truck network.

The existing setting of the Feather River Canyon highlights the feats to construct this section of highway because of the obstacles to construct

through solid granite cliffs. The Feather River Highway Historic District is also known as a popular scenic drive that provides access to tourism, recreation, and destination stops to the remote towns of Pulga, Tobin Resort, Rodgers Flat, and Quincy. This two-lane facility is designated as a Rural Minor Arterial without on or off-ramps, but there is one Forest Service road entrance within the project limits.

Within the project limits, SR 70 is designated as Scenic Highway and listed as a scenic bypass under U.S. Forest Service. This segment of SR 70 is considered a scenic bypass due to the unique blend of natural and manmade visual qualities surrounding SR 70. Fifty-miles of this highway course through the Feather River Canyon and parallel the North Fork of the Feather River with adjacent land designated as the Plumas National Forest; thus, the title – Feather River Highway Historic District.

River levels are controlled by two release dams for this portion of the North Fork of the Feather River (NFFR). Within the project limits there are several small, perennial, unnamed drainages and Bear Ranch Creek flows underneath the highway at PM 46.4 through Bear Creek Bridge that connects into the North Fork of the Feather River. The southern bank of the NFFR is comprised of riparian vegetation disbursed throughout with rock slope protection (RSP).

Flooding Events within the Project Area

The Floodplain Hydraulic Study (September 5, 2018), an additional hydraulic analysis (October 22, 2019), and information obtained from the local Caltrans Maintenance Superintendent identify eleven closures of a portion of SR-70 due to water flow in the Feather River since 1985. Flooding concerns in the highway corridor is focused on the project location due to the highway's proximity to the Feather River and the lower profile of the roadway in this location. The documented highway closures include the Feather River overtopping SR-70 during three specific large storm events: 1986, 1997, and 2017. These events caused damage including erosion to the embankment and undercutting of the roadway. Other closures were due to rising water

levels where the roadway was closed to try and prevent travelers being trapped by floodwaters.

According to the Floodplain Hydraulic Study, "The 2017 Winter Storm Event brought flood waters approximately four feet above the roadway trapping the travelling public between the flood waters and a mudslide further up on Highway 70." Caltrans maintenance records also document the 2017 storm event trapping a Caltrans maintenance operator in the project area, which required him to use a grader to get out (See Figure 4 below.). During the 2017 storm event, the river overtopped the highway by approximately five feet.

The project limits are located between two PG&E dams: Cresta Dam, 1.9 miles upstream of the end of project limits and Poe Dam, 3.4 miles downstream from the project. A stream gauge is located just upstream of the project limits, which assists PG&E in regulating flows through the project area and are representative of the conditions at the project location.

The additional hydraulic analysis (October 22, 2019) reviewed available U.S. Geological Survey (USGS) flowrate data obtained from the Feather River stream gauge. According to the history of flowrates at this stream gauge, reviewed in the additional hydraulic analysis, dating back to 1987, the two mean daily discharge peaks are associated with the 1997 and 2017 storm events.

PG&E has used flowrates of 30,000 cubic feet per second (cfs) as a benchmark of when the flow can bring the river surface elevation above the existing roadway. When the flowrate exceeds this benchmark, PG&E requests that the roadway be closed. Over the 33 years of tracking flowrate data, the benchmark has been triggered eleven times. This was confirmed by maintenance records and the Sutter/Sierra Region Valley Area Maintenance Superintendent (email 1/22/2021). Therefore, on average, the highway is closed once every three years and represents a 33% chance of a highway closure in any given year without a profile change to the highway.

Appx. Figure 1. Storm Event in 2017

Past Roadway Repairs in the Project Area

Below is a list of projects Caltrans initiated over the years to address flood damage along this section of roadway.

1997:

On January 13, 1997, the first request for a cost increase to the original Director's Order dated January 3, 1997, for repairs on Butte 70, from PM 39.0 to 48.1 for storm damage repairs at various locations. The estimated cost was $2,250,000.00. On January 17, 1997, a second cost increase to the original Director's Order was submitted at the estimated cost increase of $600,000.00. The original Director's Order and the two cost increases were to repair scouring and shoulder damage caused by the severe storms of December 28, 1996 through January 2, 1997 and to install Rock Slope Protection (RSP) to try and prevent future damage.

2017:

On March 21, 2017, a separate Director's Order was requested for an Emergency Force Account (EFA) contract to repair a washout on Route 70 in Butte County from PM 46.0 to PM 47.0.

On February 11, 2017, the Feather River overtopped the highway approximately 5'-3" due to a series of storms starting on January 7, 2017. As a result, over 5,000 feet of embankment and shoulder were damaged, in addition to culverts and pavement undercutting in several locations. The proposed scoped of work was to replace approximately 6,000 cubic yards (cy) of RSP embankment, perform shoulder backing, remove and replace damaged pavement, clean and repair drainages and repair the traffic stripping. The estimated cost to complete the work was $1,510,000.00 and 68 working days.

Description of the Proposed Project

Caltrans proposes a permanent restoration of roadway on State Route (SR) 70 in Butte County between post mile (PM) 46.0 and 47.0 (Appx. Figure 2. Project Location Map) by raising the existing roadway profile approximately five feet, replacing the Bear Creek Bridge (No. 12-0039) at PM 46.40, protecting the embankment with RSP and installing a retaining wall to safeguard against future flood damage. The proposed project occurs on the east bank North Fork Feather River within the Feather River Canyon in eastern Butte County, approximately 4.3 miles northeast of the town of Pulga and 25 miles northeast of Oroville.

The following are the major design components that propose a more resilient solution to protect this one mile section of highway from flood damage, reduce the number of times the highway close due to high flows, and reduce the likelihood of flood conditions. The bulleted points emphasis the benefits achieved from these improvements.

The project proposes to raise the vertical profile of the roadway by five feet, which would also require the replacement of the Bear Creek Bridge. Since the 2017 storm overtopped the road by roughly five feet, it is estimated that with a five-foot profile raise, future storm events up to a size similar to the 2017

storm would not overtop this section of SR-70. Similarly, a five-foot raising of the vertical profile will lessen the need to close the roadway when the river's flowrate reaches 30,000 cfs. Also, raising the profile more than five feet will not provide any additional benefit unless the corridor to the east and west are also raised, which is not reasonable to the east because of the existing tunnel located close to the east end of the project. Therefore, it is expected that the five-foot raising of the vertical profile will:

- decrease the likelihood of flooding;
- add resiliency by significantly decreasing flooding on this section of the highway; and
- minimize traffic delays and/or closures due to flooding or high flow rates.

The project proposes to install a retaining wall and rock slope protection. The prior damage to the roadway associated with flooding included erosion to the embankment and undercutting of the roadway. Therefore, these improvements are expected to:

- protect against future flood damage; and
- eliminate embankment erosion.

A full description of the detailed construction methods and traffic control can be found in the NEPA environmental document.

Purpose and Need

The purpose of this proposed project is to protect this section of highway from flood damage, reduce the number of times the highway is closed due high water flow in the river, and to reduce the likelihood of flood conditions.

The need for this project is that occasional flooding within the project limits has resulted in damage to the highway and this one-mile section of highway is subject to floodwaters that overtop the travel lanes due to a low point in the existing roadway profile and proximity to the river.

Alternatives

The NEPA environmental document contains the full description of all project alternatives. Please refer to Chapter 1, "Proposed Project," for more details. The following paragraphs offer a summary of the Proposed Build Alternative (Alternative 2) considered in the NEPA document, the No-Build (No Action), and three alternatives considered but rejected prior to the NEPA document (Alternatives 1, 3 and 4). Summaries of these alternatives are provided below.

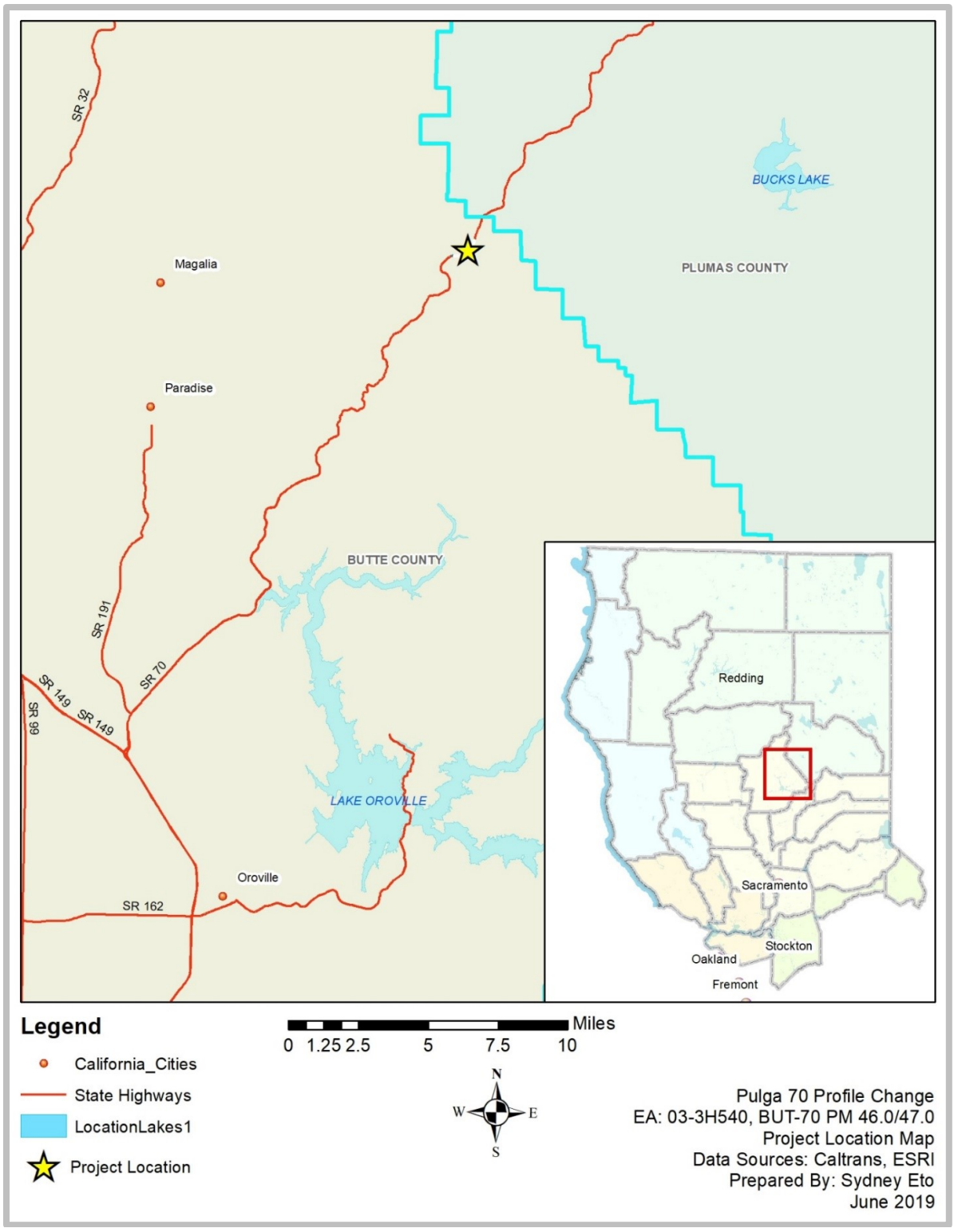
Additionally, if a 4(f) use occurs, Section 4(f) requires the analysis of avoidance alternatives. Thus, three additional alternative concepts are summarized below; an alternative that re-routes the entire project along a different alignment (Oro-Quincy Avoidance Alternative), a Rehabilitation Alternative that implements some design changes to the proposed project that avoids a use of the FRHHD, and Realignment Concepts that would realign SR-70 within the project area.

Alternative 2

This alternative would raise the profile of the highway by approximately five feet, construct two lanes 12 feet wide with 8-foot shoulders, replace the bridge over Bear Ranch Creek, and construct a retaining wall on the westbound side of the highway to minimize grading into the riverbank. The retaining wall will be founded on steel piles in drilled holes on the westbound side to minimize grading into the riverbank. Alternative 2 has steeper cut slopes and uses underground longitudinal drainage in lieu of roadside ditches. These design changes reduce the overall width of the project to minimize the environmental impacts. The estimated construction cost for Alternative 2 is $30,299,123. The roadway construction and structure construction costs are estimated at $16,704,000 and $12,561,000 respectively. Right-of-way costs are estimated at $1,034,123.

No Build Alternative

This alternative does not result in any construction or changes. However, as the potential for storm events overtopping the highway would remain the same, this section of the highway would likely be damaged again and require additional repairs.



Appx. Figure 2. Project Location Map

Alternative 1

This alternative would raise the highway profile by approximately five feet, construct two lanes that are 12 feet wide with 4-foot shoulders, replace the bridge over Bear Ranch Creek and construct a retaining wall. The retaining wall would be founded on steel piles in drilled holes on the westbound side to minimize grading into the riverbank. A Midwest Guardrail System would be constructed at the edge of pavement and it would be offset 4 feet from the retaining wall and a cable railing would be installed on top of the retaining wall. The estimated construction cost for Alternative 1 is $26,705,935. The roadway construction and structure construction costs are estimated at $12,410,000 and $14,129,700 respectively. Right-of-way costs are estimated at $166,235.

Alternative 3

This alternative would raise the profile by approximately five feet, construct two lanes that are 12 feet wide with 8-foot shoulders, and replace the bridge over Bear Ranch Creek. The new bridge would be constructed on either spread footings or cast-in-drilled-holes piles. A retaining wall would also be constructed, founded on steel piles in drilled holes, on the westbound side to minimize grading into the riverbank. A Midwest Guardrail System would be constructed at the edge of pavement and it would be offset 4 feet from the retaining wall and a cable railing would be installed on top of the retaining wall. A 1 foot deep ditch and a standard 3-foot hinge point are proposed on the eastbound side. The estimated construction cost for the Alternative 3 is $28,805,500. The roadway construction and structure construction costs are estimated at $14,216,800 and $13,056,600 respectively. Right-of-way costs are estimated at $1,532,100.

Alternative 4

This alternative proposes to build a new 0.6-mile-long viaduct from PM 46.2 to the Shady Rest Area, at PM 46.8. The viaduct would follow the existing alignment of SR-70 with a maximum offset of four feet from centerline. The proposed viaduct would have standard 12-foot travel lanes with 8-foot

shoulders and result in the replacement of the bridge over Bear Ranch Creek. The estimated construction cost is $115 million.

Alternative 5

Caltrans, in concert with the USFS, identified an alternative route to improve that would avoid 4(f) resources, called the Oro-Quincy Alternative. This alternative would make improvements to the Oro-Quincy highway, which is currently an access road to remote forested areas, in order to handle the traffic during the closures of SR-70 during high river flows. The main improvement would be straightening curves to allow safe maneuvering of large trucks, but other improvements would likely be needed, such as signage, guardrails, median barriers, and more. Additionally, the Oro-Quincy highway currently closes during the winter months due to snow, which are the months that high river flows occur and cause SR-70 to close. Therefore, regular snow removal and other winter maintenance will be required, which will require the construction of a new maintenance station. The curve straightening alone is estimated to cost $150 million.

Rehabilitation Alternative

This avoidance alternative proposes to add signs warning of the potential exposure to flooding, add informational signs to post any flood conditions, install equipment to monitor the height of river, increase the diameter of culverts to improve drainage capacity in attempt to alleviate flooding, add more pavement on top of existing pavement, and modify existing dikes, and remove any debris or sediment collected within roadside stormwater ditches.

Realignment Concepts

Some consideration was given to alignment shifts to SR-70 that do not use the FRHHD. The profile on the new alignment would be five feet higher than the current roadway and a new bridge would be constructed to achieve the purpose and need, but the old alignment and bridge would be preserved in place.

Description of the Section 4(f) Property

Properties subject to the provisions of Section 4(f) are publicly owned parks and recreation areas, wildlife and waterfowl refuges of national, state, or local significance, and historic sites of national, state, or local significance.

There is only one resource that is subject to the provisions of Section 4(f) within the project limits: The Feather River Highway Historic District, a 50-mile segment of State Route 70 that is notable for depression-era road design and is owned by Caltrans.

FHWA's long-standing policy is that Section 4(f) applies to those properties that are considered contributing to the eligibility of a historic district, as well as any individually eligible property within the district. Elements within the district are assumed to contribute unless they are determined, in consultation with SHPO, not to contribute.

Feather River Highway Historic District (FRHHD)

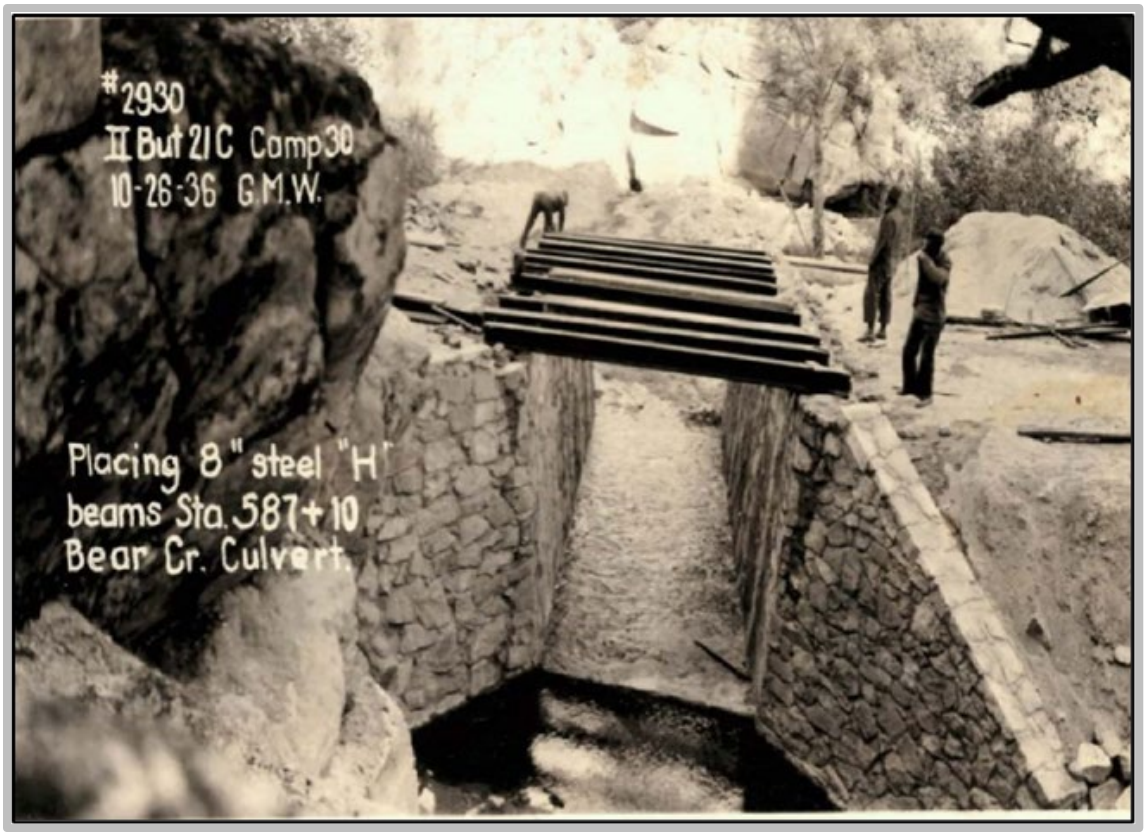
The proposed project is located within the boundaries of the Feather River Highway Historic District (FRHHD) where historic limits begin in Butte County and end in Plumas County, and was determined eligible for the National Register of Historic Places in 1987.

The FRHHD was determined eligible for listing in the National Register of Historic Places (NRHP) under criteria A and C at the state level of significance. Criteria A is the association with events that have made significant contribution to the broad patterns of our history. Criteria C is the embodiment of distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction. The FRHHD conveys and reflects the engineering and construction challenges met and overcome by the original designers, contractors, and workmen when the highway was originally built. The period of significance for the historic property is 1927 through 1937. The FRHHD is listed in the California Register of Historical Resources (CRHR) and is on the Master List of State-Owned Historical Resources.

The features and attributes that qualify the FRHHD for protection under Section 4(f) are those that contribute to the overall feel of the historic property and are physical reflections of the engineering and construction challenges met and overcome by the original designers, contractors, and workmen. Those contributing features include, but are not limited to, all of the masonry features, such as the stone masonry retaining walls and parapets, stone masonry fountains, and concrete and stone masonry culverts and drains; four steel truss bridges (the fifth steel truss bridge at Spanish Creek has been replaced); the Arch Rock, Grizzly Dome, and Elephant Butte tunnels; the horizontal and vertical alignments of the roadway; the bench cuts and steep granitic walls formed during original blasting and construction; and other structures that were part of the original construction of the highway, such as the Bear Creek Bridge. Additionally, for the FRHHD to maintain its eligibility, it must retain most, if not all, of the following aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. The following are the contributing elements within the project limits to the overall eligibility of the historic district: the Bear Creek Bridge and the vertical and horizontal alignments of the road.

The Bear Creek Bridge (Bridge Number 12-0039), located at PM 46.40, is a contributing feature to the FRHHD that is within the project limits. This bridge is part of the original fabric of the FRHHD and it is unchanged from the time of construction. The structure consists of twelve eight-inch steel "H" beams encased in concrete on rubble masonry wing abutments (Appx. Figure 3. Existing Bear Creek Bridge).

Appx. Figure 3. Existing Bear Creek Bridge



Appx. Figure 4. Bear Ranch Creek During Construction, 1936

The bridge is 14 feet long and 29 feet wide. The bridge was constructed by day labor in 1936, concurrently with the highway (Appx. Figure 4. Bear Ranch Creek During Construction, 1936). The Bear Creek Bridge maintains and demonstrates the original location, design, setting, materials, workmanship, feeling, and association of the FRHHD, and is therefore a contributing feature.

With few exceptions, the current vertical and horizontal alignments of the FRHHD were established during its original design and construction. Even other bridge replacements within the FRHHD have remained on the original alignment. The original alignments provide the FRHHD with integrity of location, design, setting, and feeling, and are therefore contributing features.

Use of the Section 4(f) Property

Under Section 4(f), a use occurs when a qualifying property is permanently incorporated into a transportation facility or a temporary occupancy of a qualifying property is adverse in terms of Section 4(f)'s preservation purposes.

The use of a historic district occurs when an individually eligible property within the district, or a property that is a contributing element to the historic district, is used.

Even though the FRHHD is already serving as a transportation facility, a use of this historic district would occur if a property that is a contributing element of the FRHHD is altered in a manner that affects the integrity of the attributes for which the property is determined to be a contributing element to the historic district.

Based on the Finding of Effects document prepared under the Section 106 regulation, the two proposed build alternatives that were analyzed, the Proposed Project and Alternative 2, will use the FRHHD because of the complete replacement of the Bear Creek Bridge and the alteration of the vertical and horizontal alignments.

This project does not meet the criteria for temporary occupancy, it does not qualify for an exception under 23 CFR § 774.13, and a *de minimis* use determination is not available. As such, two findings are required for this project, which will be discussed in turn below: (1) there is no feasible and prudent alternative that completely avoids the use of Section 4(f) property; and (2) the project includes all possible planning to minimize harm to the Section 4(f) property.

Avoidance Alternatives

After determining that a use will occur, the next step is to examine if there are any "feasible and prudent avoidance alternatives". This analysis of avoidance alternatives is based on the definition of "feasible and prudent avoidance alternative" found in 23 CFR 774.17.

The regulations state that an avoidance alternative is feasible and prudent if it "…does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resources to the preservation purpose of the statute."

The regulations state that a potential avoidance alternative is not feasible "if it cannot be built as a matter of sound engineering judgment." (23 CFR 774.17)

The regulations do not provide a single clear definition of "prudent." Instead, the regulation lists a series of six factors that can support a conclusion that an alternative is imprudent. The definition of "feasible and prudent avoidance alternative" provides the following standards to determine whether an alternative is not prudent. In other words, the regulation set forth factors to be considered and the standards to be applied when determining whether an avoidance alternative is prudent and feasible.

An alternative is not prudent if:

i. It compromises the project so that it is unreasonable given the purpose and need;

ii. It results in unacceptable safety or operational problems;

iii. After reasonable mitigation, it still causes:

    a) Severe social, economic, or environmental impacts;

    b) Severe disruption to established communities;

    c) Severe environmental justice impacts; or

    d) Severe impacts to other federally protected resources

iv. It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;

v. It causes other unique problems or unusual factors;

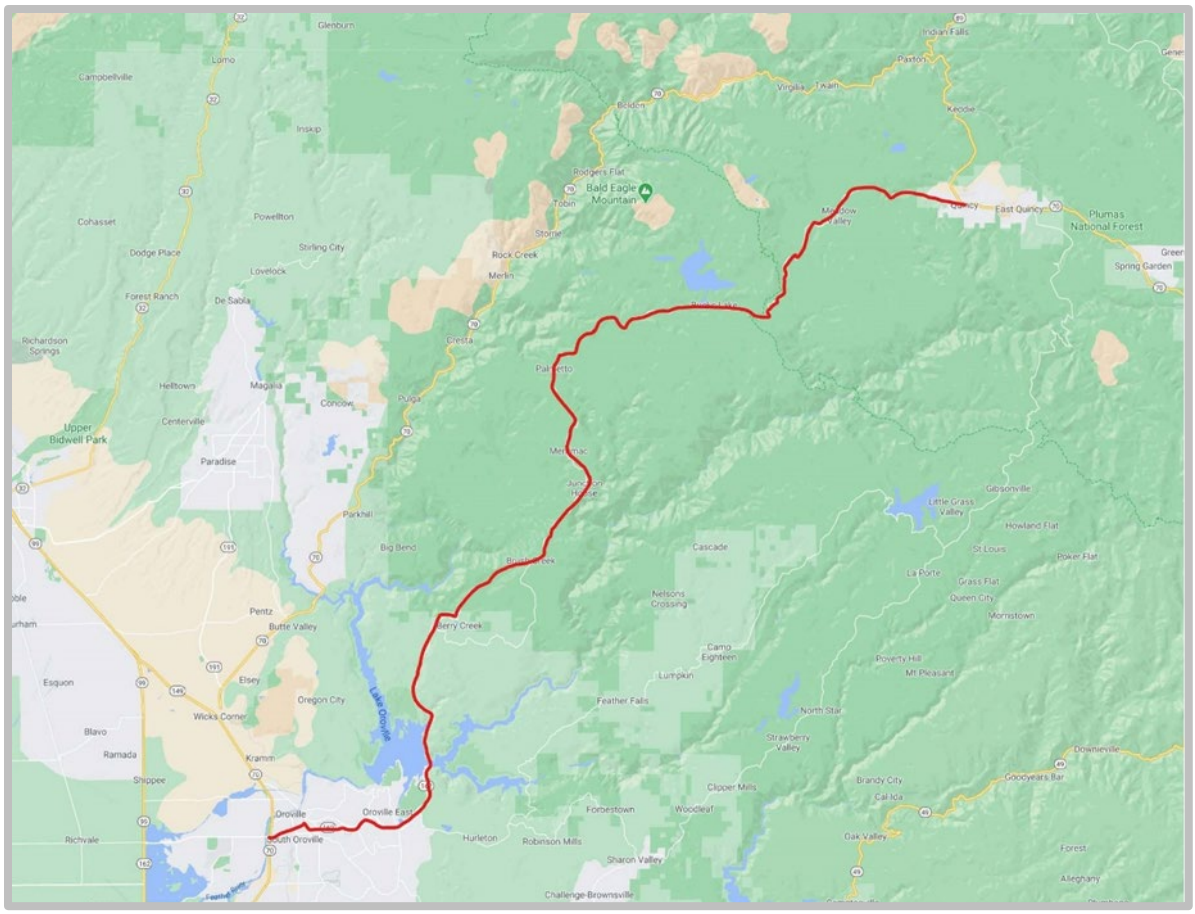
vi. It involves multiple factors listed above that, while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The two build alternatives analyzed in the NEPA document and four alternatives proposed during the early scoping phase of NEPA do not avoid the "use" of the FRHHD. The following three alternatives avoid any type of "use" of the historic district: (1) No-Build Alternative, (2) Oro-Quincy

Avoidance Alternative, and (3) Rehabilitation Alternative. Additionally, the Realignment Concepts would avoid a use of the FRHHD and are discussed below.

The **No-Build Alternative** avoids the use of the Section 4(f) resource. This alternative is feasible as it does not require any action. However, this alternative does not meet the purpose and need of this project as it would not address the occasional flooding, which results in erosion to the embankment and undercutting of the roadway and regular closures due to high river flows. Such flooding and closures are considered unacceptable operational problems. While likely not individually severe, the flooding and closures also result in economic impacts, the disruption of established communities, and additional maintenance and repair costs. Therefore, the No-Build Alternative is not considered a prudent alternative.

The **Oroville-Quincy Avoidance Alternative** avoids the "use" of the FRHHD by re-routing the entire project along a different alignment by way of the Oroville-Quincy Highway (also known as the Oro-Quincy Highway). See Appx. Figure 5.



Appx. Figure 5. Oro-Quincy Avoidance Alternative Route

Originally built in 1915, the Oroville-Quincy highway is not listed on the National Register and has not been officially evaluated to determine whether it is eligible for listing. For the purposes of this Section 4(f) analysis, the Oro-Quincy route was not presumed as a "potential" 4(f) resource.

Currently, the Oroville-Quincy highway is an undivided facility with two travel lanes (one lane in each direction) and no shoulders. A portion of the route is known as State Route 162, which is owned and maintained by Caltrans, but as the facility climbs in elevation along the steep ridges, the route transfers jurisdiction to the U.S. Forest Service (Plumas National Forest) near the community of Berry Creek, California. Under the jurisdiction USFS, the route is called Oro-Quincy highway until it reaches Buckeye (unincorporated community in Plumas County) and then converts to the name of Bucks Lake Road. Road characteristics narrow as it graduates from Oro-Quincy highway to Bucks Lake Road. See Appx. Figure 6.

Oro-Quincy highway serves as an access road to remote forested areas with a few driveway entrances to privately-owned residences. For the portion named Bucks Lake Road, modern-day conveniences such as gas stations, food, or lodging are extremely sparse until the road reaches the town of Quincy. Current speeds are limited below 55 mph due to the tight-radius curves and sight distance restrictions.

Although paved, the Oro-Quincy highway is only accessible during spring, summer, and fall with snow loads that require closures over winter. During the winter months, the Forest Service does not conduct snow removal operations along this 32-mile stretch of roadway.

Unless transferred from the USFS to Caltrans' jurisdiction, the Oro-Quincy highway (including the portion called Bucks Lake Road) cannot not be officially inventoried as a designated highway. Without this type of official highway designation, the route does not qualify to receive Caltrans transportation funds to maintain, repair, or improve this section of Oro-Quincy highway. In current condition, the route does not meet the Surface Transportation Assistance truck network standards, which means the prism of the roadway is not wide enough to accommodate safe maneuvers for heavy-weight, large-size tractor trailer trucks.

Immense and substantial changes along this forest road would have to be made to bring the facility to the conditions of uniform highway standards, such as straightening For the Oro-Quincy highway to serve as a viable alternative route during any closures of SR-70, several curves would need to be straightened in order to maintain adequate cornering movements for certain sized trucks, at a conceptive amount of $150 million. This estimate does not include additional costs for signage, environmental mitigation, costs to purchase additional right-of-way, safety features such as guardrails, median barriers, rumble strips, or utility relocation.

The months that SR-70 is subject to closure due to high river flows, the Oro-Quincy highway is closed due to heavy snow levels. In order for the Oro-Quincy highway to serve as an alternative route when SR-70 is closed, it would need to be maintained during the winter months. Therefore, in

addition to the cost to convert this forest road to highway standards, snow removal equipment would be required to maintain the highway open and safe during the winter months.

Appx. Figure 6. Bucks Lake Road & Oro Quincy Highway

Ease of access to snow removal equipment would require the construction of a new maintenance station because of the remote location. Additional maintenance costs would be approximately $1.2 million per year over the current maintenance cost for SR-70 because of the snow removal operations.

These improvements to, and maintenance of, the Oro-Quincy highway are feasible. This alternative, however, would not meet the purpose and need of keeping SR-70 open during high flow events or prevent SR-70 from being damaged by flooding even though it would keep traffic going through this area during such events. Also, the approximately $150 million for construction and $1.2 million a year for maintenance of this alternative is an extraordinary amount compared to the approximately $30 million for the Proposed Project or the approximately $5 million spent so far in flooding repair costs to SR-70. Additionally, while the impacts of this alternative were not fully studied, and therefore they cannot be declared severe, it is likely that the improvements and rerouting of traffic through this national forest will result in environmental impacts. For these reasons, the Oro-Quincy Avoidance Alternative is not considered a prudent alternative.

The **Rehabilitation Alternative** avoids the "use" of the FRHHD. The relatively minor changes that are proposed by this alternative are feasible.

This alternative may slightly reduce the likelihood of closures due to high river flows as a river height monitor would provide additional information to better inform a decision of whether or not to close SR-70. But it is likely that water flows in excess of 30,000 csf will cause the river to rise to levels that will still result in the closure of this section of roadway in the abundance of caution. The improved drainage may also improve the movement of stormwater through this section of highway, but improved drainage will not decrease the height of the river. Therefore, it is not expected that these minor improvements will substantially reduce the amount or likelihood of closures and they will not prevent the overtopping of the highway during major storm events like those in 1986, 1997, and 2017.

Additionally, this alternative will not protect the roadway from flood damage. As such, this alternative is not considered prudent because it does not meet the purpose and need and results in the unacceptable operational problem of the route regularly closing.

The **Realignment Concepts** would avoid direct "use" of the FRHHD by constructing a new alignment and bridge within the project limits and preserve in place the old alignment and bridge. However, the current alignment being located at the bottom of a canyon nestled between the river and the mountainous, granite walls poses design challenges. These same natural constraints are part of the setting to the FRHHD. An alignment shift to the left or to the right would place the highway either within the river or require massive amounts of mountainous hillside to be blasted. It is likely that an alignment shift to the left or right is feasible.

Realigning SR-70 and raising its height would substantially reduce the likelihood of closures. However, under Section 4(f), the building of a new bridge or roadway on a different alignment does not alleviate the maintenance of the historic, 4(f) resource. (Question 8B [the transportation agency "should ensure that a mechanism is in place for continued maintenance of the bridge that would avoid harm to the bridge due to neglect].) Therefore, Caltrans would still need to protect the old alignment and bridge and make any necessary repairs caused by flooding of the old

facility. The realignment concepts do not meet the protective aspects of the purpose and need.

Additionally, even if changes to the alignment were introduced to avoid the Bear Creek Bridge and existing alignments, a new, realigned facility would be incompatible with the setting and feel of the FRHHD to the extent that the contributing features within the project area would lose those aspects of their integrity. As discussed above, the features and attributes that qualify the FRHHD for protection under 4(f) are those that contribute to the overall feel of the historic property. Among other things, the existing alignments provide the FRHHD with integrity of setting and feeling. An alignment shift would also introduce new visual elements (slab and railing) into the district that are not seen in the FRHHD and an alignment shift alters the spatial relationship of the roadbed to the Feather River.

Also, while the impacts from the Realignment Concepts were not studied, it seems obvious that placing the new alignment in the Feather River or removing large amounts of the canyon walls would result in significant environmental impacts. It would also increase maintenance costs, since both the new alignment and the existing alignment would need to be maintained.

For these reasons, the Realignment Concepts are not prudent avoidance alternatives.

Based on the discussions above, it appears that there is no feasible and prudent avoidance alternative for this project. However, a final decision will not be made until after the NEPA environmental document has been circulated for public review, coordination efforts have been met under Section 4(f), and the Memorandum of Agreement signed by the consulting parties under Section 106.

Measures to Minimize Harm to the Section 4(f) Property

FHWA's Section 4(f) Policy Paper states "After determining that there are no feasible and prudent alternatives to avoid the "use" of the Section 4(f) property, the project approval process for a Section 4(f) Evaluation requires the consideration and documentation of all possible planning to minimize

harm to the Section 4(f) property (23 CFR 774.3(a)(2))." Minimization and mitigation measures should be determined through consultation with the official with jurisdiction, in this case, the State Historic Preservation Office (SHPO). Below are summaries of Caltrans' consultation efforts and the proposed measures to minimize harm to the FRHHD. These measures will be contained in the Memorandum of Agreement signed with the SHPO in accordance with 36 CFR 800. On August 21, 2019, Caltrans met with the USFS. Caltrans presented ideas and examples of aesthetic treatments that have been used on other projects in District 3 and discussed ideas for aesthetic applications in the setting of the Feather River Highway.

Appx. Figure 7. Bridge Railing Type California ST-75

Caltrans proposes to design the new bridge, bridge railing, and soldier pile wall to replicate to the maximum extent possible the existing design of the bridge abutments and masonry walls found throughout the FRHHD to minimize the adverse visual effect. To achieve the look of stone, Caltrans would take impressions of the existing Bear Creek Bridge abutments to create form liners that would be used to mold the concrete elements of the new bridge and retaining wall. Additionally, Caltrans would work with the USFS and SHPO to develop a mutually-agreeable aesthetic treatment for the concrete bridge barrier.

The proposed steel bridge railing (Type California ST-75), although not used elsewhere in the FRHHD, is a see-through, four-bar, curb mounted design that is less visually intrusive than a continuous concrete barrier and meets current standards (Appx. Figure 7). Further, this railing can be colored to blend in with

the surrounding landscape, if desired. Additionally, the concrete slab could be stained to be more visually compatible with the natural surroundings.

Caltrans will record the affected section of the FRHHD, including the Bear Creek Bridge, in accordance with the standards of the Historic American Engineering Record (HAER), Level III. The documentation, which will include large format photographs, as-built drawings (if available), and an architectural data form, will be retained by Caltrans District 3, and copies (electronic and paper) provided to the USFS, Plumas National Forest; the SHPO; the Caltrans Library and History Center; and Caltrans CSO. Copies will also be offered to the Plumas County Museum, Butte County Historical Society, and the Northeast Information Center at Chico State University.

Further, Caltrans has enlisted the aid of the USFS to develop mitigation measure ideas that would be of public benefit and not duplicate efforts already implemented within, or currently planned for, the FRHHD. Caltrans also contacted Scott Lawson at the Plumas County Museum to solicit suggestions; however, Mr. Lawson deferred to the USFS.

In addition to the aesthetic treatment of the new concrete elements and HAER documentation, Caltrans is proposing to produce a short film documenting the evolution of the Feather River Canyon as a cultural landscape that has evolved over time, including its geological formation, Native American occupation, construction of the railroad, hydroelectric facilities, the roadway, and the establishment of numerous small towns. The film would include still and moving images (historic and modern) with narration, and interviews with individuals with specific knowledge of the area (e.g., Dan Elliott, USFS; Scott Lawson, Plumas County Museum; Beverly Ogle, Maidu Elder, etc.). The film, which would be approximately 12 to 15 minutes long, would be posted on the Caltrans website and made available to local repositories and schools.

Design changes to the proposed Alternative were made to steepen the angle of the cut slopes and install underground longitudinal drainage in lieu of roadside ditches. These project design changes reduce the hinge point width to minimize the visual adverse effects to the FRHHD.

Least Overall Harm

If there is no prudent and feasible alternative to avoid harm to the Section 4(f) property, then only the alternative that causes the least overall harm in light of the statute's preservation purpose can be chosen. After the feasible and prudent discussion, the remaining alternatives include the Proposed Project and Alternatives 1, 2, 3, and 4. All of these alternatives include raising the profile of the road and replacing the Bear Creek Bridge.

Coordination

The State Historic Preservation Officer (SHPO) is the official with jurisdiction over the Feather River Highway Historic District. As part of the Section 106 process, public participation efforts and outreach were conducted with the Historical Society, Native Americans, and the United States Forest Service (USFS). Prior to making the Section 4(f) approval under 23 CFR 774.3(3), the Section 4(f) Evaluation will be provided for coordination and comment to the SHPO (official with jurisdiction) and to the Department of Interior for a 60 day period for receipt of comments. Coordination must occur and be documented before the Section 4(f) Evaluation can be approved.

State Historic Preservation Officer

Caltrans received the SHPO's concurrence on the Finding of Adverse Effect for the project on April 1, 2020. No other comments have been received.

United States Forest Service

Based on email discussions and in-person meetings (8/21/19 and 3/4/20) between Caltrans and the USFS, the USFS expressed a preference for Alternative 1 with four-foot shoulders. The USFS preferred their views on aesthetic treatments to be considered in the design and expressed disinterest in the Build Alternative (8-foot shoulders) because of concerns that the expansion to 8-foot is less in keeping with the historic highway.

Caltrans will continue to consult with the SHPO (as the official with jurisdiction) and the USFS to arrive at a design that is agreeable and within budget.

Appendix B Title VI Policy

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

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
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

November 2019

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."*

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/business-and-economic-opportunity/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 Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

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

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."

Appendix C Avoidance, Minimization and/or Mitigation Summary

In order to be sure that all of the environmental measures identified in this document are executed at the appropriate times, the following mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and /or mitigation measures will be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits will be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff will ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring will take place, as applicable. As the following ECR is a draft, some fields have not been completed, and will be filled out as each of the measures is implemented. Note: Some measures may apply to more than one resource area. Duplicative or redundant measures have not been included in this ECR.

Visual and Aesthetics

No mitigation measures are required for impacts to visual and aesthetics. The following avoidance and minimization measures are required:

- An aesthetic treatment is recommended to stain the guardrail. Staining may reduce the possible glare from the new guardrail and help it blend in with the existing environment.
- For the proposed RSP, all necessary efforts should be made in the selection materials. The colors, type and shape of the rocks should blend with the existing environment and maintain the scenic quality.
- The soldier pile walls will be visible from points along the curvilinear roadway and the USFS Shady Rest Area. The natural scenic quality of SR-70 corridor should be protected by ensuring that the walls are visually compatible with their natural surroundings through an application of architectural textures, patterns, materials, and/or colors.

- At the end of construction, all areas using for staging, access, or other construction activities shall be repaired pursuant to Section 5-1.36 "Property and Facility Preservation".

Cultural Resources

The following avoidance, minimization, and mitigation measures are proposed for impacts to archaeological resources:

- Caltrans will consult with the USFS and SHPO to arrive at a consensus on aesthetic applications to apply for the new bridge and retaining walls.
- Caltrans with the assistance of USFS will develop the following mitigation measures that would offset the impacts caused by the project and provide a benefit to the general public.

Mitigation Measures

- Caltrans will record the affected section of the FRHHD, including the Bear Creek Bridge, in accordance with the standards of the Historic American Engineering Record, Level III. Documentation will include large format photographs, as-built drawings (if available), and an architectural data form. Electronic and paper copies will be provided to the USFS, Plumas National Forest; the SHPO; Caltrans Library and History Center; and Caltrans CSO. Copies will also be offered to the Plumas County Museum, Butte County Historical Society, and the Northeast Information Center at Chico State University.
- Caltrans is proposing to produce a short film documenting the evolution of the Feather River Canyon. The film will include its geological formation, Native American occupation, construction of the railroad, hydroelectrical facilities, the roadway, and the establishment of numerous small towns. The film will be posted on Caltrans website and provided to local repositories and schools.

Water Quality and Storm Water Runoff

The following measures would be implemented to avoid and minimize potential water quality impacts associated with construction and operations:

- Prior to the start of construction, existing drainage facilities should be identified and protected by the application of appropriate temporary construction site BMPs.

- If and where applicable, shoulder backing areas should be stabilized by temporary construction site BMPs, or rolled and compacted in place, by the end of each day and prior to the onset of precipitation.

- All temporary equipment and material storage areas on State property must be accounted for and included in the total land disturbance estimate, unless a stabilization method has been implemented, reviewed, and approved by the NPDES and Water staff.

- The project would adhere to the conditions of the Caltrans Statewide National Pollutant Discharge Elimination System (NDPES) MS4 Permit CAS No. 000003 (Order No. 2012-0011-DWQ and all associated adopted amendments).

- The project would adhere to the compliance requirements of the NPDES Construction General Permit (CGP) CAS No.000002 (Order No. 2009-0009-DWQ) for General Construction Activities (see special considerations within the SWDR).

- The SWPPP will be prepared by the contractor and provide and incorporate appropriate and approved temporary construction site BMPs that address the effective implementation, placement, handling, storage, use and disposal practices of all BMPs used during construction operations and field activities for the duration of the project.

- If any dewatering operations involving discharge to water is required, then consultation with the Regional Board would be needed that may involve special conditions within the 401 permit. The Regional Board Permit that may be applicable is the Low Threat Discharge to Surface Water Permit (General Order No. R5-2013-0074). Discharges covered by this General Order are either 4 months less in duration or have an average dry weather flow of less than 0.25 million gallons per day.

- Caltrans' Storm Water Management Plan (SWMP), Project Planning and Design Guide (PPDG) Section 4, and Evaluation Documentation Form (EDF) provide detailed guidance in determining if a specific project requires the consideration of permanent Treatment BMPs.

- The project must follow all applicable guidelines and requirements listed in the 2018 Caltrans Standard Specification (2018 CSS) Section 13, regarding water pollution control and general specifications for preventing, controlling, and abating pollutant discharge into streams, waterways, and other bodies of water.

Hazardous Waste/Materials

No mitigation is required for hazardous waste impacts; however, avoidance and minimization measures would be required.

The following SSPs will be included in the construction contract to address the following issues:

- SSP 7-1.02K(6)(j)(iii) "Lead Compliance Plan", requires the submittal of a lead compliance plan that identifies specific CAL/OSHA requirements for working with lead.
- SSP 36-4 Residue Containing Lead from Paint and Thermoplastic
- SSP 14-11.14 Treated Wood Waste
- For any right of way acquisitions, a Hazardous Materials Disclosure Document (HMDD) will be required for attachment to the Certificate of Sufficiency (COS) before any right of way can be acquired. To provide the HMDD, Design will need to provide Environmental with final right of way mapping as soon as it is possible.

Biological Environment

Natural Communities/Wetlands and Other Waters

The following avoidance and minimization measures will be implemented to protect arroyo willow thicket habitat and other waters in the project footprint:

- Install and maintain temporary construction Best Management Practices (BMPs) to minimize the impacts to arroyo willow habitat.

- Construction will be limited to the minimum area necessary to construct the project and excavation will be limited to the minimum required to complete the project.
- Install and maintain temporary construction Best Management Practices (BMPs) to minimize the impacts to water quality and the contractor will prepare a Storm Water Pollution Prevention Plan (SWPPP) to establish temporary pollution control measures.
- A dewatering plan will be established, and conditions set forth in the applicable permits will be implemented.

Compensatory mitigation is proposed for the 0.95 acre of permanent riparian impacts in the form of off-site permittee responsible mitigation or through the purchase of mitigation credits from a CDFW approved mitigation bank.

Plant Species

The following avoidance and minimization measures will be implemented to protect slender silver moss, Cantelow's lewisia, and Mildred's clarkia within the project limits:

- Limit excavation to the minimum required to complete the project.
- Before the start of project activities, slender silver moss and Cantelow's lewisia specimens will be collected and relocated outside of the ESL.
- Before the start of the project activities, Mildred's clarkia population will be marked as an environmentally sensitive area (ESA) on construction layouts and ESA fencing will be installed to protect it from accidental disturbance.

Animal Species

The following avoidance and minimization measures will be implemented to protect hardhead:

- Limit excavation to the minimum required to complete the project.
- Limit the construction footprint to the minimum area possible to complete the project.

- Construction work windows will be established for in-water work. This period is estimated to be July 1 to August 20 and will be related to FYLF work windows.
- An aquatic organism rescue plan will be developed and utilized during dewatering to minimize the effects of dewatering and prevent mortality of existing organisms. This plan will require the capture and relocation of organisms from Bear Ranch Creek to a preselected relocation in the adjacent NFFR.
- Worker awareness training will be performed to educate personnel, explaining protective measures, species identification, life history, habitat requirements during all life stages, and species' protective status. It will also include instructions that if any worker encounter a hardhead within or near the worksite, work shall halt, and the biological representative will be informed.
- A qualified biologist will be present during in-water work and will record all observations and detections of other sensitive species during surveys.

Threatened and Endangered Species

The following avoidance and minimization measures will be implemented for FYLF:

- Limit water diversion to the minimum amount of time required to complete work at each location.
- Limit the construction footprint to the minimum area possible to complete the project.
- Construction in-water work window will be established in potential frog habitat. This period is established to be July 1 to August 20 and is limited to a period before tadpoles morph into subadults, and FYLF begin to disperse into adjacent upstream tributaries and the associated upland habitat. This window is estimated to have the least amount of direct effects on FYLF overall and provide the least difficulty to species movement throughout the ESL.
- Pre-construction surveys will be performed to determine presence of FYLF.

- An aquatic organism rescue plan will be developed and utilized during dewatering to minimize the effects of dewatering and prevent mortality of existing aquatic organisms. This plan will require the capture and relocation of organisms from the upstream tributaries to a preselected relocation in the adjacent NFFR.

- Worker awareness training will be performed to educate personnel, explaining protective measures, species identification, life history, habitat requirements during all life stages, and species' protective status. It will also include instructions that if any worker encounters a FYFL within or near the worksite, work shall halt, and the biological representative will be informed.

- A qualified biologist will be present during work in potential FYFL habitat and will record all observations and detections of other sensitive species during surveys.

Caltrans proposes to use the permanent FYLF habitat enhancement as compensatory mitigation for the anticipated impacts to FYLF and their habitat. Caltrans has proposed to include the following features:

- Recontouring and expanding the existing creek channel at Bear Ranch Creek and NFFR confluence using natural structures to reduce turbidity and slow flows into the NFFR.

- Revegetation, where necessary, using regionally appropriate vegetation to provide sunning and refuge areas for FYLF.

- Reducing the distance between the culverts and RSP to 6 inches or less and concreting the RSP to ensure this enhancement is not washed away or altered during future storm events. This distance is low enough that FYLF can jump into the culvert and travel upslope without having to cross the highway, improving passage conditions for FYLF. The concreted RSP will ensure the yearly flood events do not degrade the newly established dispersal corridors.

Appendix D USFWS, NMFS, CNDDB, CNPS Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2018-SLI-2724
Event Code: 08ESMF00-2022-E-00219
Project Name: 03-3H540

October 11, 2021

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

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

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

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

Species List Letter Page 1

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

Species List Letter Page 2

Official Species List

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

This species list is provided by:

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

Species List Letter Page 3

Project Summary

Consultation Code: 08ESMF00-2018-SLI-2724
Event Code: Some(08ESMF00-2022-E-00219)
Project Name: 03-3H540
Project Type: TRANSPORTATION
Project Description: BUT-70 PM 46.0/47.0 - Pulga
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.84614516415046,-121.39447844252439,14z

Counties: Butte County, California

Species List Letter Page 4

Endangered Species Act Species

There is a total of 3 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.

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii*	Threatened

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/2891

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus*	Threatened

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/321

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Species List Letter Page 5

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Pulga (3912174))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Allium jepsonii Jepson's onion	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,400 3,700	26 S:7	1	4	1	0	0	1	1	6	7	0	0
Anomobryum julaceum slender silver moss	G5? S2	None None	Rare Plant Rank - 4.2	1,560 1,657	13 S:2	0	2	0	0	0	0	0	2	2	0	0
Cardamine pachystigma var. dissectifolia dissected-leaved toothwort	G3G5T2Q S2	None None	Rare Plant Rank - 1B.2	1,530 2,900	19 S:3	0	1	0	1	0	1	2	1	3	0	0
Clarkia gracilis ssp. albicaulis white-stemmed clarkia	G5T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley USFS_S-Sensitive	1,500 2,800	32 S:3	0	0	0	0	0	3	3	0	3	0	0
Clarkia mildrediae ssp. mildrediae Mildred's clarkia	G3T2T3 S2S3	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	1,510 4,000	77 S:10	0	5	1	0	0	4	2	8	10	0	0
Clarkia mosquinii Mosquin's clarkia	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	1,600 4,050	78 S:3	1	1	0	0	0	1	1	2	3	0	0
Desmocerus californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		1,500 1,500	271 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	3,920 3,920	1398 S:1	0	0	0	0	0	1	1	0	1	0	0
Eremogone cliftonii Clifton's eremogone	G3 S3	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	1,600 4,100	68 S:12	0	4	3	0	0	5	1	11	12	0	0
Eriogonum umbellatum var. ahartii Ahart's buckwheat	G5T3 S3	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,630 3,984	30 S:7	0	2	0	0	0	5	1	6	7	0	0

Government Version -- Dated October, 1 2021 -- Biogeographic Data Branch

Page 1 of 2

Report Printed on Monday, October 11, 2021

Information Expires 4/1/2022

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks A	B	C	D	X	U	Population Status Historic > 20 yr	Recent <= 20 yr	Presence Extant	Poss. Extirp.	Extirp.
Erythranthe filicifolia fern-leaved monkeyflower	G2 S2	None None	Rare Plant Rank - 1B.2	1,400 2,515	25 S:10	0	3	0	0	0	7	4	6	10	0	0
Fritillaria eastwoodiae Butte County fritillary	G3Q S3	None None	Rare Plant Rank - 3.2 USFS_S-Sensitive	1,000 4,250	235 S:4	0	1	2	0	0	1	3	1	4	0	0
Lasionycteris noctivagans silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	4,725 4,725	139 S:2	0	0	0	0	0	2	2	0	2	0	0
Lewisia cantelovii Cantelow's lewisia	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,340 1,800	73 S:5	0	2	0	0	0	3	2	3	5	0	0
Mylopharodon conocephalus hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	1,470 1,470	33 S:1	0	0	0	0	0	1	0	1	1	0	0
Myotis thysanodes fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	4,225 4,225	86 S:1	1	0	0	0	0	0	0	1	1	0	0
Packera eurycephala var. lewisrosei Lewis Rose's ragwort	G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	1,300 4,000	39 S:11	1	6	0	0	0	4	5	6	11	0	0
Penstemon personatus closed-throated beardtongue	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	4,500 4,500	26 S:1	0	0	0	0	0	1	1	0	1	0	0
Poa sierrae Sierra blue grass	G3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive USFS_S-Sensitive	2,250 3,400	88 S:4	2	1	1	0	0	0	0	4	4	0	0
Rana boylii foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	1,000 4,770	2476 S:12	1	0	0	0	0	11	1	11	12	0	0
Rhynchospora capitellata brownish beaked-rush	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	3,700 3,700	25 S:1	0	0	0	0	0	1	0	1	1	0	0
Sedum albomarginatum Feather River stonecrop	G2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	1,500 1,500	15 S:1	1	0	0	0	0	0	0	1	1	0	0

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Report Printed on Monday, October 11, 2021

Information Expires 4/1/2022

CALIFORNIA NATIVE PLANT SOCIETY

Inventory of Rare and Endangered Plants of California

Search Results

30 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3912174:]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	None	None	G2	S2	1B.2
Anomobryum julaceum	slender silver moss	Bryaceae	moss		None	None	G5?	S2	4.2
Arctostaphylos mewukka ssp. *truei*	True's manzanita	Ericaceae	perennial evergreen shrub	Feb-Jul	None	None	G4?T3	S3	4.2
Aspidotis carlotta-halliae	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	None	None	G3	S3	4.2
Brodiaea sierrae	Sierra foothills brodiaea	Themidaceae	perennial bulbiferous herb	May-Aug	None	None	G3	S3	4.3
Calycadenia oppositifolia	Butte County calycadenia	Asteraceae	annual herb	Apr-Jul	None	None	G3	S3	4.2
Cardamine pachystigma var. *dissectifolia*	dissected-leaved toothwort	Brassicaceae	perennial rhizomatous herb	Feb-May	None	None	G3G5T2Q	S2	1B.2
Clarkia gracilis ssp. *albicaulis*	white-stemmed clarkia	Onagraceae	annual herb	May-Jul	None	None	G5T3	S3	1B.2
Clarkia mildrediae ssp. *lutescens*	golden-anthered clarkia	Onagraceae	annual herb	Jun-Aug	None	None	G3T3	S3	4.2
Clarkia mildrediae ssp. *mildrediae*	Mildred's clarkia	Onagraceae	annual herb	May-Aug	None	None	G3T2T3	S2S3	1B.3
Clarkia mosquinii	Mosquin's clarkia	Onagraceae	annual herb	May-Jul(Sep)	None	None	G2	S2	1B.1
Cypripedium californicum	California lady's-slipper	Orchidaceae	perennial rhizomatous herb	Apr-Aug(Sep)	None	None	G4	S4	4.2

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4	S4	4.2
Eremogone cliftonii	Clifton's eremogone	Caryophyllaceae	perennial herb	Apr-Sep	None	None	G3	S3	1B.3
Erigeron petrophilus var. sierrensis	northern Sierra daisy	Asteraceae	perennial rhizomatous herb	Jun-Oct	None	None	G4T4	S4	4.3
Eriogonum umbellatum var. ahartii	Ahart's buckwheat	Polygonaceae	perennial herb	Jun-Sep	None	None	G5T3	S3	1B.2
Erythranthe filicifolia	fern-leaved monkeyflower	Phrymaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	None	None	G3G4	S3S4	4.3
Frangula purshiana ssp. ultramafica	Caribou coffeeberry	Rhamnaceae	perennial deciduous shrub	May-Jul	None	None	G4T2T3	S2S3	1B.2
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3Q	S3	3.2
Lewisia cantelovii	Cantelow's lewisia	Montiaceae	perennial herb	May-Oct	None	None	G3	S3	1B.2
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	None	None	G4T3	S3	4.2
Packera eurycephala var. lewisrosei	Lewis Rose's ragwort	Asteraceae	perennial herb	Mar-Jul(Aug-Sep)	None	None	G4T2	S2	1B.2
Peltigera gowardii	western waterfan lichen	Peltigeraceae	foliose lichen (aquatic)		None	None	G4?	S3	4.2
Penstemon personatus	closed-throated beardtongue	Plantaginaceae	perennial herb	Jun-Sep(Oct)	None	None	G2	S2	1B.2
Poa sierrae	Sierra blue grass	Poaceae	perennial rhizomatous herb	Apr-Jul	None	None	G3	S3	1B.3
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	None	None	G5	S1	2B.2
Sedum albomarginatum	Feather River stonecrop	Crassulaceae	perennial herb	May-Jun	None	None	G2	S2	1B.2

Appendix E List of Technical Studies

Visual Impact Assessment - February 28, 2020

Air and Energy Analysis - December 6, 2019

Natural Environment Study - December 26, 2019

Historic Property Survey Report - January 28, 2019

Findings of Effect - January 28, 2019

Initial Site Assessment - March 28, 2019

Floodplain Hydrology Study - September 5, 2018

Water Quality Assessment - March 26, 2019

Noise Analysis - January 28, 2019