

Ditch Gulch Curve Improvement Project

TRINITY COUNTY, CALIFORNIA

02-TRI-36-PM 26.7/27.1

EA#: 02-4F860

EFIS#: 0213000043

Draft Initial Study with Proposed Mitigated Negative Declaration



Caltrans

Prepared by the
State of California Department of Transportation
Caltrans District 2
1031 Butte Street
Redding, CA 96001

August 2016

General Information about This Document

What's in this document?

The California Department of Transportation (Caltrans), as CEQA Lead Agency, has prepared this Initial Study/proposed Mitigated Negative Declaration (IS/MND), which examines the potential environmental impacts of alternatives being considered for the proposed project in Trinity County, California. The document discusses the purpose and need of the proposed project, the alternatives being considered, the existing environment, potential environmental impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do?

- Please read this Initial Study. Additional copies of this document are available for review at:
 - Caltrans District 2 office, 1031 Butte Street, Redding, CA 96001
 - Trinity County Public Library
Hayfork Library
6641 State Highway 3, Hayfork, CA 96041
 - The document can also be downloaded at the following website:
<http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm>
- Supporting technical studies are available upon request by contacting Wesley Stroud, Environmental Branch Chief at (530) 225-2928, or at wesley.stroud@dot.ca.gov
- Tell us what you think. If you have any comments regarding the proposed project, please send your written comments to Caltrans by the deadline. Submit comments via U.S. mail to: California Department of Transportation, Attention: Wesley Stroud, Environmental Branch Chief, North Region Office of Environmental Management, 1031 Butte Street, Redding, CA 96001
- You may also submit comments via email to: wesley.stroud@dot.ca.gov
- Submit comments by the deadline: September 8, 2016

What happens next?

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

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Wesley Stroud, North Region Environmental Management, 1031 Butte Street, Redding, CA 96001; (530) 225-2928 (Voice), or use the California Relay Service 1 (800) 735-2929 (TTY), or 711.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SCH No. _____
02-TRI-36-PM 26.7/27.1
EA: 4F860
EFIS# 0213000043

Ditch Gulch Curve Improvement Project

Improve State Route 36 in Trinity County about 9 miles east of Forest Glen from 0.5 mile west to 0.1 mile west of Route 3

Draft Initial Study with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

8-1-16
Date of Approval

Amber Kelley
Amber Kelley
Office Chief – Redding
North Region Environmental Management
California Department of Transportation

STATE OF CALIFORNIA
DEPARTMENT OF
TRANSPORTATION

SCH No. *Pending*
02-TRI-36-PM 26.7/27.1
EA#: 02-4F860
EFIS#: 0213000043

Proposed Mitigated Negative Declaration Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) is proposing a curve improvement project on State Route (SR) 36 between post miles (PM) 26.7 and 27.1 in Trinity County. The project would consist of constructing a bridge on a new alignment, bypassing the curve. After the new bridge is constructed and traffic is routed to the new alignment, the abandoned roadway curve and existing culvert would be removed and the Ditch Gulch channel would be reestablished.

Determination

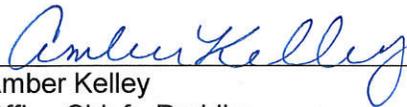
This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an MND for this project. This does not mean that Caltrans' decision regarding the project is final. This MND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project, and pending public and agency review, expects to determine from this study that the proposed project would not have a significant effect on the environment for the following reasons:

- The project would have *No Impact* on Cultural Resources, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, and Utilities and Service Systems.
- The project would have a *Less Than Significant Impact* on Aesthetics, Agriculture and Forest Resources, Air Quality, Geology and Soils, and Hydrology and Water Quality.
- The proposed project would result in *Less Than Significant Impacts with Mitigation* to Biological Resources. The proposed project would include the following avoidance, minimization, and/or mitigation measures:
 - Avoid and Minimize Impacts to Northern Spotted Owl
 - If northern spotted owl is determined to be present within the BSA no construction activity generating sound levels 20 or more decibels above

ambient sound levels or with maximum sound levels above 90 decibels will occur within 0.25 mile (1320 feet) of suitable northern spotted owl nesting and/or roosting habitat during the majority of the nesting season (February 1 to July 9).

- Avoid and Minimize Impacts to Foothill Yellow-Legged Frog and Western Pond Turtle
 - o A qualified biologist will be present during the temporary clear water diversion activities. Any foothill yellow-legged frogs and/or western pond turtles encountered will be relocated outside of the clear water diversion area.



Amber Kelley
Office Chief - Redding
North Region Environmental Management
California Department of Transportation



Date

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List of Abbreviated Terms

ABMP	additional best management practice
ACHP	Advisory Council on Historic Preservation
ACS	Aquatic Conservation Strategy
ADL	aerially deposited lead
ASR	Archaeological Survey Report
ATCM	Airborne Toxic Control Measure
Basin Plan	North Coast Regional Water Quality Control Plan
BMP	best management practice
BSA	biological study area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEHC	California Essential Habitat Connectivity
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CRHR	California Register of Historical Resources
CWA	Clean Water Act
dbh	diameter at breast height
DPS	Distinct Population Segment
DSA	Disturbed Soil Area
ECA	Essential Connectivity Area
ECR	environmental commitment record
EO	Executive Order
ESA	Environmentally Sensitive Area
ESL	environmental study limit
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
ft.	feet
HPSR	Historic Property Survey Report
ISA	Initial Site Assessment
LCP	Lead Compliance Plan
LEDPA	least environmentally damaging practicable alternative
LSAA	Lake or Streambed Alteration Agreement
MIA	Management Indicator Assemblage
MLD	Most Likely Descendant
MS4	municipal separate storm sewer system
NAHC	Native American Heritage Commission

NES	Natural Environment Study
NHPA	National Historic Preservation Act of 1966
NOA	naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
North Coast Water Board	North Coast Regional Water Quality Control Board
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NWFP	Northwest Forest Plan
OHWM	Ordinary High Water Mark
PLOC	Programmatic Letter of Concurrence
PM	post mile
PRC	California Public Resources Code
RCRA	Resource Conservation and Recovery Act of 1976
RWQCB	Regional Water Quality Control Board
S&M	Survey and Manage Species
SMARA	Surface Mining and Reclamation Act of 1975
SPCC	spill prevention, control, and countermeasure
SR	State Route
SUP	special use permit
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	total maximum daily load
TPZ	Timberland Production Zone
U.S. EPA	United States Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
VIA	Visual Impact Assessment
WDR	Waste Discharge Requirement

Chapter 1. Introduction

1.1 Project Title

Ditch Gulch Curve Improvement Project

1.2 Lead Agency Name and Address

State of California Department of Transportation, Caltrans District 2
Office of Environmental Management
1031 Butte Street
Redding, CA 96001

1.3 Contact Person and Phone Number

Wesley Stroud, Caltrans Environmental Branch Chief
(530) 225-2928

1.4 Project Location

The project is located on State Route (SR) 36 from PM 26.7 to PM 27.1 (Figures 1 and 2).

1.5 Project Sponsor's Name and Address

State of California Department of Transportation, Caltrans District 2
Office of Environmental Management
1031 Butte Street
Redding, CA 96001

1.6 Purpose and Need

The purpose of the project is to reduce the frequency and severity of accidents occurring along the portion of SR 36 between post mile (PM) 26.7 and PM 27.1, in Trinity County. The project is needed due to a high number of accidents that have occurred within the project limits.

1.7 Project Description

Using both state and federal funds, Caltrans is proposing a safety improvement project on SR 36 between PM 26.7 and PM 27.1, in Trinity County (Figure 1 and Figure 2). This section of SR

36 is a two-lane conventional highway located in rural, mountainous terrain. Caltrans proposes to improve roadway geometrics, increase sight distances, place metal beam guardrail, and install roadway signs.

In order to realign the roadway a bridge would be constructed north of the existing alignment. The proposed reinforced concrete box girder bridge would have a total length of approximately 312 feet (ft.), with two abutments and two bents making it a three span structure. Spread footings of approximately 28 ft. wide by 16 ft. long are proposed for the bents. Cast-in-drilled-hole piles may be constructed to properly support the proposed structure if subsurface material does not permit the use of spread footings. Each abutment would require approximately 20,000 to 30,000 cubic yards of earthen fill material to construct. This material would come from onsite excavation of a cut slope found on the east side of the project limits. Equipment operation and other construction-related activities would require a construction buffer of approximately 15 ft. beyond the abutment catch lines in order to properly construct the abutments. The new bridge structure would provide two 12-ft. lanes with 4-ft. shoulders. The bridge rails will receive an aesthetic treatment.

Because the proposed bridge would be placed on a new alignment, a traffic detour would not be required during bridge construction. Once the new bridge is constructed and traffic is routed to the new alignment, the abandoned roadway would be removed. The abandoned roadway area on the east side of Ditch Gulch Creek would be used to treat roadside runoff from the new bridge. This may include the construction of permanent stormwater management features (best management practices [BMPs]), including check dams, detention basins, and bioswales. The existing cross culverts located at PM 26.94 and PM 26.83 would also be removed.

The existing 10,000-cubic yard embankment and 140 ft. by 7 ft. corrugated metal pipe cross culvert would be excavated to bedrock or original stream grade and the Ditch Gulch Creek channel would be re-established. Equipment operation and other construction-related activities would require a construction buffer of approximately 15 ft. beyond the excavation catch lines in order to properly re-establish the Ditch Gulch Creek channel. The excess material would be disposed of onsite at the bridge borrow location (Figure 3). Work below the Ordinary High Water Mark (OHWM) of Ditch Gulch Creek would be required to remove the existing cross culvert and re-establish the channel. This would require the use of clear water diversion to temporarily divert the perennial stream around the construction site.

Construction equipment and materials would be staged onsite within the project limits. Construction of the new bridge would require removing trees and vegetation, which would take place during the fall/winter prior to construction, outside of the migratory bird nesting season. The new alignment would require additional right-of-way from the U.S. Forest Service in the form of a highway easement.

It is anticipated that the proposed project would require two seasons to construct. Utility relocation would not be required as a part of the proposed project. Night work is not anticipated, although the contractor may request the ability to do so.

BMPs for Construction Operations, as described in Caltrans' *Construction Site Best Management Practice (BMP) Field Manual and Troubleshooting Guide* (California Department of Transportation 2003) will be incorporated in the project. These BMPs include; stabilizing soil through mulching, hydroseeding, use of soil binders, or other means; temporary sediment control measures; wind erosion control measures; non-storm water management measures; and waste management and materials pollution control measures.



Figure 1. Project Location

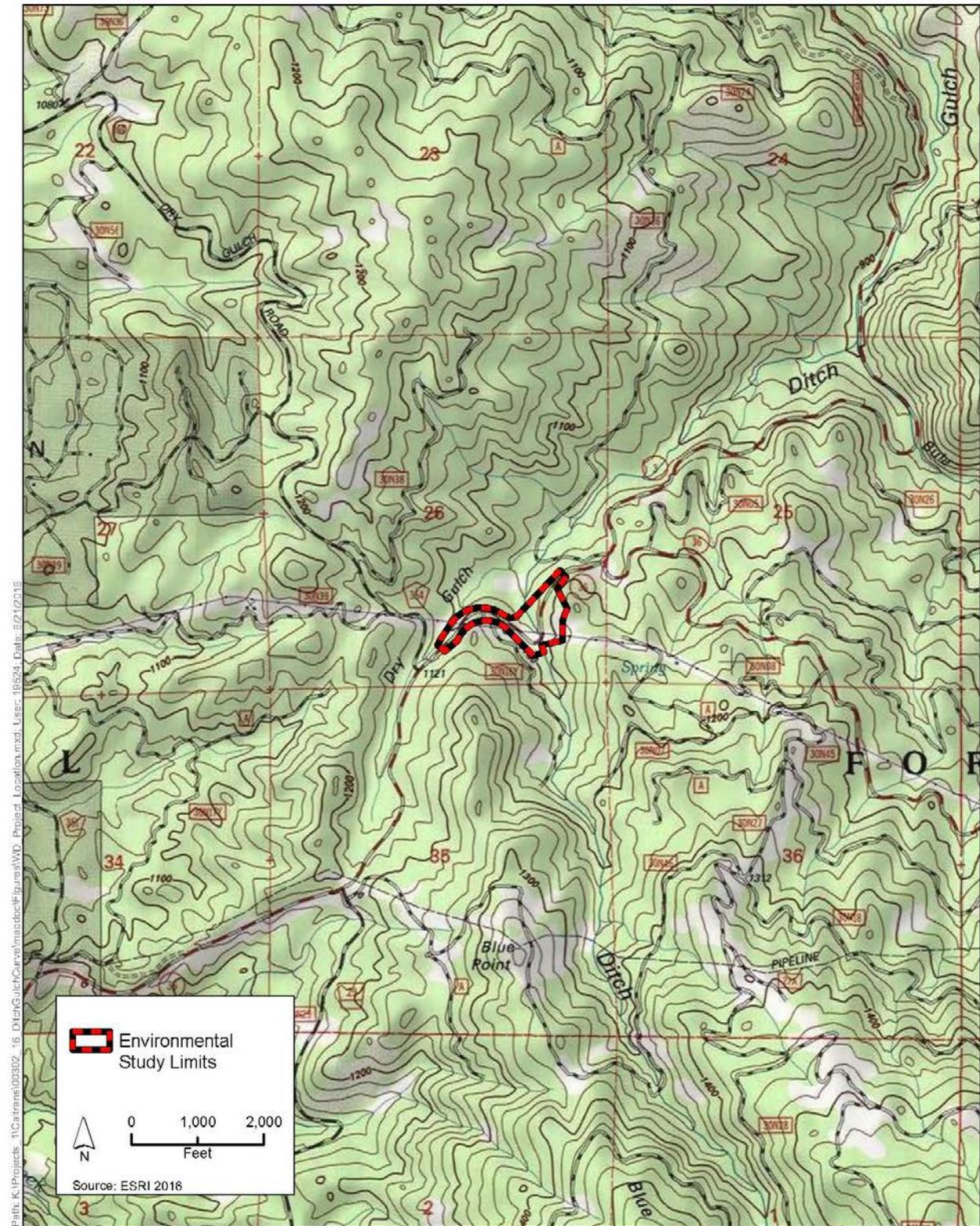


Figure 2. Project Site

1.8 Project Alternatives

Two project alternatives, one of which is a no-build alternative, were developed.

Alternative 1 (proposed Ditch Gulch Curve Improvement project) is the preferred alternative because it meets the project purpose and need.

Alternative 2 (no-build) does not meet the purpose and need of this project. Current conditions would continue. The no-build alternative would not reduce accident frequency and severity because it would not improve roadway geometrics, improve sight distances, install metal beam guardrail, or install roadway signs.

1.9 Permits and Approvals

The following permits and approvals will be required to implement the project.

Permit Required	Issuing Agency
CWA §404 Nationwide Permit #14	U.S. Army Corps of Engineers
CWA §401 Nationwide Water Quality Certification	North Coast Regional Water Quality Control Board
Fish and Game Code §1602 Lake or Streambed Alteration Agreement	California Department of Fish and Wildlife
Construction General Permit	State Water Resources Control Board
Special Use Permit	U.S. Forest Service

Chapter 2. CEQA Environmental Checklist

2.1 Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 2-3 for additional information.

<input checked="" type="checkbox"/>	Aesthetics	<input checked="" type="checkbox"/>	Agriculture and Forest Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input checked="" type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Service Systems	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

2.2 Determination:

On the basis of this initial evaluation:

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

Signature: <i>Amber Kelley</i>	Date: <i>8-1-16</i>
Printed Name: Amber Kelley	For:

2.3 CEQA Environmental Checklist

02-TRI-36

26.7/27.1

02-4F860

Dist.-Co.-Rte.

P.M/P.M.

E.A.

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to California Environmental Quality Act (CEQA), not National Environmental Policy Act (NEPA), impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. There are no scenic vistas associated with the project site. There would be no impact.
- b. SR 36 is eligible, but not officially designated, as a State scenic highway and is not a Trinity County scenic roadway. Accordingly, implementing the proposed project would not damage scenic resources, such as trees, rock outcroppings, and historic buildings along a scenic highway. There would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a. Trinity County does not have any lands enrolled in the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation 2016) (Appendix A). Accordingly, the project site is not located on lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.

Therefore, the proposed project would result in no impact to farmlands designated under the Farmland Mapping and Monitoring Program.

c. The parcel on which the project is located is designated Resource (RE) under the Trinity County general plan. The project would not require a change in land use designation. The project is not located on lands designated Timberland Production Zone and thus would not require rezoning of such lands. The project would not conflict with zoning for, or cause rezoning of, forest lands. There would be no impact.

e. The project would involve minor reconfiguration of an existing road, and activities would take place outside the existing State right-of-way. As discussed under (d) in Section 3.2,

Agriculture and Forest Resources, the project footprint would be directly converted from forest land to non-forest use, but the project does not involve other changes in the existing environment that would result in additional conversion of forest land to non-forest use. There would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. The proposed project lies within the North Coast Air Basin and within the North Coast Air Quality Management District. Project construction would be carried out in compliance with the North Coast Air Quality Management District Rules & Regulations (North Coast Unified Air Quality Management District n.d.). There would be no change in emissions under project operation. There would be no impact.
- b. The project area is in attainment for all federal and state criteria pollutants (North Coast Unified Air Quality Management District 2016). Project construction would cause a temporary increase in criteria pollutants but would not violate any air quality standards. There would be no change in emissions under project operation. There would be no impact.
- c. The project area is in attainment for all federal and state criteria pollutants (North Coast Unified Air Quality Management District 2016). Project construction would cause a temporary increase in criteria pollutants but would not violate any air quality standards. There would be no change in emissions under project operation. The project would not result in a cumulatively considerable net increase of any criteria pollutant that would cause the area to enter into non-attainment for any criteria pollutant. There would be no impact.
- e. The project would not generate objectionable odors due to the nature of the project. Because of the rural nature of the project area, there is not a substantial number of people in the vicinity of the project. Therefore, there would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- c. There are no federally protected wetlands within the project footprint; accordingly, there would be no impact to federally protected wetlands.
- d. Because the proposed project would occur within a limited area and within a limited timeframe, it would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Additionally, the new open span bridge would create a wildlife undercrossing, facilitating safe wildlife movement below SR 36. There would be no impact.
- e. There are no local ordinances protecting biological resources in the proposed project area, which is within the Shasta-Trinity National Forest.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. There are no known historical resources, as defined in Section 15064.5., located within the area of potential effects. Therefore, there would be no impact to historical resources. Although the project is not anticipated to result in impacts to historical resources, it is Caltrans standard practice to stop work in case of accidental discovery during construction and evaluate the resource and potential project-related impacts before work is resumed. Caltrans Standard Specification 14-2.03A
- b. There are no known archaeological resources located within the project area of potential effects that are either unique or considered a historical resource. Therefore, the proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5. Although the project is not anticipated to result in impacts to archaeological resources, it is Caltrans standard practice to stop work in case of accidental discovery during construction and evaluate the resource and potential project-related impacts before work is resumed. Caltrans Standard Specification 14-2.03A
- c. There are no known unique paleontological resources located within the area of potential effects. The project setting is Paleozoic/Triassic in age and consists of Rattlesnake Creek Terrane of Permian to Early Jurassic age, serpentinite of uncertain age, Post Creek Pluton of Late Triassic or Early Jurassic age, and Holocene landslide deposits (Trinity County 2014; Irwin et al. 2011; California Geological Survey 2010). This geological setting has low paleontological potential to yield significant fossils (University of California Museum of Paleontology 2016; Irwin et al. 2011). Therefore, there would be no impact to a unique paleontological resource or site or unique geologic feature. Although the project is not anticipated to result in impacts to a unique paleontological resource or a unique geologic feature, it is Caltrans standard practice to stop work in case of accidental discovery during construction and evaluate the resource and potential project-related impacts before work is resumed. Caltrans Standard Specification 14-2.03A
- d. There are no known human remains within the project area of effects. The project area has low sensitivity for buried resources. Therefore, there would be no impact to human remains, including those interred outside of formal cemeteries. Although the project is not anticipated to result in impacts to human remains, it is Caltrans standard practice to stop work in case of accidental discovery during construction and evaluate the resource and potential project-related impacts before work is resumed. Caltrans Standard Specification 14-2.03A.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. i., ii. There are no known active faults that cross the project site or in the immediate project vicinity. The closest active fault, the San Andreas fault, Shelter Cove section, is approximately 50 miles from the project site (U.S. Geological Survey 2016). There is no impact related to surface fault rupture or strong seismic ground shaking that would expose people or structures to substantial adverse effects, including the risk of loss, injury, or death.

a. iii. Soils are generally subject to liquefaction if they are young, composed of particles of approximately equal size, and saturated. Soils at the project site are well-drained (Natural Resources Conservation Service 2016), and there is no report that the site is subject to liquefaction. There would be no impact.

a. iv, c. The project site is not in a mapped landslide zone nor are soils within the project site prone to lateral spreading, liquefaction, subsidence, or collapse. There would be no impact.

e. The project does not involve septic tanks or alternative wastewater disposal systems. There would be no impact.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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VII. GREENHOUSE GAS EMISSIONS: Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

An assessment of the greenhouse gas emissions and climate change is included in Chapter 3. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project.

See Chapter 3, Section 3.6, Greenhouse Gas Emissions.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. Project construction would not include substances listed in 40 CFR 355 Appendix A: Extremely Hazardous Substances and Their Threshold Planning Quantities, the list of thresholds required for notification of extremely hazardous substances covered under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Project construction would involve routine transport, use, and disposal of small amounts of hazardous materials such as solvents, paints, oils, grease, and caulking. Such transport, use, and disposal would comply with applicable regulations such as the Resource Conservation and Recovery Act (RCRA) and Department of Transportation Hazardous Materials Regulations. Because the project would not include 40 CFR 355 Appendix A-listed substances and because the project would be in compliance with existing regulations, the project is not expected to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. There would be no impact.
- b. Previous studies in the project vicinity have indicated non-hazardous levels of lead in soils along this route. Accordingly, an Aerially Deposited Lead (ADL) site investigation is not required, and soils at the project site can be assumed to be non-hazardous. Caltrans requires the use of a Lead Compliance Plan (LCP) for all projects to address any possible occurrence of ADL at any level. The proposed project will implement a LCP, therefore, there would be no impact related to ADL.

Naturally Occurring Asbestos (NOA) is known to exist in the project vicinity. However, it is Caltrans standard practice to incorporate standard specifications regarding the handling and disposal of NOA. Therefore there would be no impact related to NOA.

The existing yellow traffic stripes contain hazardous levels of lead and chromium. Lead is known also to exist in white traffic striping, although at non-hazardous levels. The pavement surface and traffic stripes will be cold planed as part of surface preparation. Cold planing involves immediate dust and debris removal such that any hazardous debris will not remain behind on the surface. Grindings from the cold planing, consisting of roadway material and traffic stripes, will be removed and disposed of in accordance with Caltrans Standard Special Provision 36-4 (Residue Containing Lead from Paints), which requires a Lead Compliance Plan. Therefore, there would be no impacts related to the removal of yellow traffic striping.

Treated wood is present within the project limits in the form of metal beam guardrail posts. If treated wood is removed, it must be disposed of at an appropriately permitted disposal facility or may be reused on the originating project in a manner consistent with the intended use for the preservative. In addition to disposal, regulations specify the manner in which treated wood must be stored while awaiting disposal. The proposed project will adhere to regulations regarding treated wood waste. Therefore, there would be no impacts related to treated wood waste.

- c. No schools are within 0.25 mile of the project site. Therefore, no hazardous materials handling or transport would take place within 0.25 mile of a school during project implementation. There would be no impact.
- d. The project site is not located on the Cortese list. Therefore, the project would not create a hazard related to failure to comply with corrective action orders. There would be no impact.

- e, f. No airports or private air strips are located within 2 miles of the project site (GoogleEarth 2016), so the project would not result in air-traffic related safety hazards for construction workers or for project users during project operations. There would be no impact.
- g. The project is located on a designated evacuation route. However, project construction would not impede traffic. Because the proposed bridge would be placed on a new alignment, a traffic detour would not be required during bridge construction. There would be no impact.
- h. The project site is surrounded by forest lands that are designated as a Very High Fire Hazard Severity Zone that may contain substantial wildland fire risks and hazards, as determined by CAL FIRE (2007). However, the proposed project will adhere to the legal requirements of PRC 4290–4291 and Title 14 which require specific vegetation management practices in very high-severity hazard risk zones in order to reduce property damage and loss of life in these areas. It is anticipated that the proposed project would result in no impact related to wildland fires.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY: Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- b. The project area is not located within a recognized groundwater basin. Recharge in the area would continue to occur through infiltration into streambeds and canals and through infiltration of precipitation. The project would have no impact to groundwater supplies.
- d, e. The increase in pervious area resulting from the removal of the existing roadway and three cross culverts, would further minimize runoff volumes and the potential for ponding and other drainage issues onsite.

Project construction activities would alter existing drainage systems and patterns. Three cross culverts and their embankments will be removed, including a 140-foot long cross culvert in Ditch Gulch. The cross culvert would be excavated to bedrock or original stream grade and Ditch Gulch creek channel would be re-established. However, no hydromodification impacts are expected. The existing roadway will be removed, and treatment BMPs will be implemented. Temporary and permanent stormwater BMPs, including check dams, detention basins, and bioswales, may be implemented during and after project construction to address stormwater runoff. The project's paved area will decrease, and no adverse impacts to the surrounding drainage systems or Ditch Gulch will result. There will be no impacts related to runoff exceeding the existing or planned stormwater drainage systems, and no additional sources of polluted runoff.

- g, h, i. The project area is not within a 100-year flood hazard area. The project does not include a housing component. As such, implementing the project would not place housing or structures within a 100-year flood-hazard area; there would be no impact. The project would not place structures that would impede or redirect flood flows within a 100-year flood hazard area. Accordingly there would be no impact related to placing structures within a 100-year flood-hazard area. Because the project is not within a 100-year floodplain and is not protected by any levees or dams, there would be no impact related to exposing people or structures to a substantial risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- j. Elevations at the project site range from approximately 3,500 to 3,650 feet above sea level. The project site is approximately 54 miles east of the Pacific Ocean and the nearest lake (Ruth Lake) is approximately 13 miles west of the project site. The project site is not located in an area that would be affected by a seiche, tsunami, or mudflow. There would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. The project is located in a rural area, and no established communities exist at the project site. Therefore, the proposed project would not physically divide an established community. There would be no impact.
- b. Project development and use is consistent with the Resource land use designation and would not conflict with the applicable Trinity County General Plan policies. The project would include the installation and maintenance of landscaping that is consistent with Caltrans standards for project conditions, and would be consistent with the policies in the Open Space and Conservation Elements. Therefore, there would be no impact.
- c. No habitat conservation plan (HCP) or natural communities conservation plan (NCCP) applies to the project site. There would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. Mineral prospects for manganese are less than 1 mile from the project. However, project implementation would take place on and adjacent to an existing road and the project would not introduce new uses into the area. Furthermore, the existence of the road would not preclude use of adjacent land for mineral extraction. In addition, the project site is located in a larger vicinity with mineral resources, including manganese. Therefore, there would be no impact regarding the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- b. A small area of land under the road and right-of-way that has potential for presence of mineral resources, as identified in the Trinity County General Plan Open Space Element, would become unavailable for production as a result of the project. However, the area affected is small and the area adjacent to the project site would remain available for mineral production. Therefore, there would be no impact regarding the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. Operation of the project would not result in increases in noise levels. Construction noise would be temporary and intermittent in nature. The project area is rural and no residences or other receptors are present within approximately 0.5 mile of the proposed project. Therefore, the project would not expose people to noise levels in excess of established standards and there would be no impact.
- b. The project area is rural and no residences or other receptors are present within approximately 0.5 mile of the project. Therefore, neither the construction nor the operation of the project would expose people to excessive groundborne vibration or noise levels. There would be no impact.
- c. The project would not increase capacity or involve the introduction of noise-producing activities, and therefore would not result in a permanent increase of the ambient noise levels. There would be no impact.
- d. Operation of the project would not result in increases in noise levels and construction noise would be temporary and intermittent. Therefore the project would not result in substantial temporary or periodic increases in ambient noise levels and there would be no impact.
- e. The project area is not within an airport land use plan and the nearest airport is Silver Creek Ranch Airport, located approximately 8 miles to the southwest. Therefore, there would be no impact.
- f. There are no private airstrips in the vicinity of the project. Therefore, there would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING: Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. The proposed project would result in improvements to an existing road and would not increase capacity or access. Therefore, the project would not result in any population growth, directly or indirectly.

b, c. The proposed project would not displace any housing or people. There would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project would not result in any impacts to public services. No new service population would be added and no additional facilities would be required. There would be no impact.

XV. RECREATION:

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

a, b. The project site is located within the Shasta-Trinity National Forest, which the Trinity County General Plan considers a recreational resource. However, the project would not change the use of the resource and does not include recreational facilities. Accordingly, there would be no impact.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. The proposed project is listed in the 2016 RTP Short-Range Capital Improvement State Highway Projects. The project would not conflict with any plans.
- b. The project area operates at acceptable levels of service and is not part of a congestion management plan. There would be no impact.

- c. The project would not result in any changes to air traffic, as it is not located near an airport. There would be no impact.
- d. The project would improve curve geometrics and result in a safer highway. There would be no impact.
- e. The project would improve an existing road and therefore would not affect emergency access. There would be no impact.
- f. There are no public transit, bicycle, or pedestrian facilities within the project area. Therefore, there would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a-f. The project would not result in an increase in the service population for any utilities or service systems. Accordingly, there would be no impact.
- g. The project would comply with all statutes and regulations related to the disposal of solid waste generated during construction. No solid waste would be generated during operation. Accordingly, there would be no impact.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Please see Section 3.10 for a discussion of Mandatory Findings of Significance.

Chapter 3. Environmental Setting, Impacts, and Avoidance, Minimization, and/or Mitigation Measures

3.1 Aesthetics

3.1.1 Environmental Setting

A Visual Impact Assessment (VIA) has been prepared which assesses potential visual impacts of the proposed project based on guidance outlined in the *Visual Impact Assessment for Highway Projects* published in 1988 by the Federal Highway Administration (FHWA), and updated in 2015.

The following key terms describe visual resources in a project area. The terms are used as descriptors and as part of a rating system to assess a landscape's visual quality.

- *Visual character* includes attributes such as form, line, color, and texture and is used to describe, not evaluate, visual resources.
- *Visual quality* is evaluated by identifying the vividness, intactness, and unity present in the project area and is the “value viewers place on the existing visual character of the affected environment based on their visual preferences” (FHWA 2015: 5-15).
 - *Vividness* is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
 - *Intactness* is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
 - *Unity* is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Resource change is one of the two major variables used to determine visual impacts associated with a proposed project compared to existing conditions. *Resource change* is expressed by describing the change in visual character and how this would affect the visual quality of visual resources that comprise the project corridor after the proposed project is constructed. Visual quality is expressed using descriptive ratings that range from Very Low to Very High and resource change is determined by assessing the difference between existing and proposed conditions. The other major variable is *viewer response*, the response of viewers to changes in their visual environment.

3.1.1.1 Regulatory Setting

No roadways within or near the project area are designated in federal, state, or local plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. SR 36 is eligible for designation as a State scenic highway, but is not designated as such. SR 36 is not eligible or officially designated by Trinity County as a scenic roadway (Caltrans 2016a; Trinity County 2002a: 6, 32).

The following *Trinity County General Plan* elements apply to the project.

Land Use Element

The Land Use Element contains the following recommendations that are applicable to the proposed project (Trinity County 1988).

Cultural Objective. To retain the rural character of Trinity County:

- By assuring the wise use of the natural resources of the county.
- By encouraging uses that fit the land.
- **Cultural Policies.** The rural character of the county should be retained. Development occurring in the communities should be in character with the rest of the community.
- **Environmental Policies.** Stream protection techniques should be developed with the goal being to keep all free-flowing streams in the county in as natural a condition as possible.

Open Space Element

The Open Space Element contains the following recommendations that are applicable to the proposed project (Trinity County n.d.a.).

- **Recreational Lands Recommendation 8.** Encourage the development of a system of scenic highways by establishing scenic conservation districts or scenic highway districts along all proposed scenic highways including the requirement of special architectural, site, and landscape control along with visual control, thereby preserving the outstanding quality along all the highways of Trinity County.
- **Natural Resource Lands Recommendation 1.** Preserve areas of established natural scenic beauty as areas of active and passive enjoyment.
- **Scenic Lands Recommendation 4.** Develop scenic highway zoning in addition to the scenic conservation and recreation zoning now in effect in many areas of the County, all of which are designed to preserve the scenic areas of the County.
- **Scenic Lands Recommendation 7.** Adopt stringent regulations requiring the landscaping and maintenance of vegetation on cut and fill slopes as required by the appropriate agency.

Conservation Element

The Conservation Element contains the following recommendations that are applicable to the proposed project (Trinity County n.d.b.).

- **Recreational Lands Recommendation 2.** Recreational resources on public and private lands should be protected for the future as these resources are largely irreplaceable natural assets.
- **Natural Resource Lands Recommendation 1.** To preserve areas of natural scenic beauty as areas of active and passive recreation.
- **Scenic Lands Recommendation 3.** Develop scenic highway zoning in addition to the scenic conservation and recreation zoning now in effect in many areas of the County, all of which are designed to preserve the scenic areas of the County.

- **Scenic Lands Recommendation 6.** Adopt stringent regulations requiring the landscaping and maintenance of vegetation on cut and fill slopes as required by the appropriate agency.

3.1.1.2 Existing Conditions

The proposed project is located within the Shasta-Trinity National Forest on SR 36, in a remote area of Trinity County, California, approximately 55 miles west of Red Bluff. The landscape at this location is characterized by steep and rolling mountain slopes with dense coniferous vegetation dominated by Ponderosa pine, Douglas-fir, and a sparsely vegetated understory. The tall coniferous trees lining the existing roadway corridor limit views to the immediate foreground and prevent views beyond. The winding nature of the roadway, terrain, and vegetation allow for segmented, partial views of shorter distances down the existing roadway corridor. A transmission corridor spans the existing roadway at the curve—close to the existing Ditch Gulch culvert—and one lattice steel tower is briefly visible from the roadway in passing. No other utility poles line the roadway and roadway signage is minimal. The tall vegetation and terrain preclude the availability of scenic vista views of or from the project site. The vividness of the existing project corridor is Moderate, because the corridor is fairly common to the project vicinity. However, the intactness and unity are High because the roadway winds through the mature forests and has few features that segment or intrude within the views. The resulting existing visual quality of the project corridor is Moderately High.

Viewers and Viewer Response

Two major types of viewer groups are of primary concern for highway projects: highway *neighbors* (views *to* the road) and highway *users* (views *from* the road). There are no rural residences or farms within 1 mile of the project site. In addition, the area around the project site is designated for off-highway vehicle riding but there are no designated campgrounds or hiking trails located near the project site (U.S. Forest Service 2014a, 2014b, 2014c). There are no other private or public campgrounds, hiking trails, or other recreational areas located within 0.5 mile of the project site. In addition to off-highway vehicle riding, recreational activities on national forest lands in the project area are most likely to include dispersed camping, bicycling, backcountry hiking, fishing, hunting, nature viewing, picnicking, scenic driving, and winter sports. Therefore, highway neighbors associated with the project site are few and include dispersed recreationists using national forest lands. Highway neighbors' views of the project vary based on their location within the landscape and distance from the project area. Most highway neighbors in the project corridor do not have immediate and direct views of the project area because views are limited by vegetation and topography. Highway neighbors are accustomed to views of the existing roadway and passing traffic and are identified as having moderate exposure and low/moderate sensitivity.

Highway users are people who have views from the road, and include local commuters traveling to and from work or other destinations, recreational travelers, agricultural transporters, and truck drivers. Depending on travel speed, drivers and passengers are able to take in brief-to-longer views of the scenery around them. Highway users are accustomed to views of the existing roadway corridor and passing traffic, and are identified as having low/moderate exposure and sensitivity. The composite viewer group response will be Low/Moderate.

3.1.2 Impacts

- c. Construction of the proposed project would temporarily introduce heavy equipment and associated vehicles (e.g., backhoes, graders, excavators, drilling rigs, cranes, pavers, compactors, and trucks). General construction activities, construction staging/stockpiling,

storage of building materials, presence of construction equipment, and temporary traffic barricades would temporarily alter the viewsheds throughout the project corridor. However, construction activities would be temporary in duration. Construction-related effects would not be substantial because of the temporary nature of construction and the transient nature of viewers passing by the project site.

During operation, the realigned roadway would be mostly in keeping with the visual character of the existing roadway.

The loss of vegetation (form, line, and color), as well as changes in landform and a new bridge are the primary changes to the existing visual character and visual quality within the project area. The vividness of the proposed project corridor would increase from Moderate to Moderately High, because the proposed project would increase visual contrast compared to existing conditions, making this area stand out more than other segments of the roadway. Additionally, the intactness and unity would be reduced from High to Moderate because the realigned roadway would cut through the mature forests and result in exposed cut slopes. The overall proposed visual quality rating, therefore, would decrease to Moderate, from an existing visual quality rating of Moderately High with the project, due to reductions in intactness and unity.

Although the proposed project would result in impacts to the visual quality and character of the project area, the project would be consistent with the applicable rules, regulations, standards, and policies relating to visual elements and aesthetic quality within the project area, such as the Trinity County General Plan elements. The resource change would be Moderate and the composite viewer response to these impacts would be Low/Moderate range. Therefore, the proposed project would result in less than significant impacts related to the degradation of the existing visual character or quality of the project site and its surroundings.

- d. Nighttime construction activities are not likely to occur. Therefore, the use of lighting at construction sites which could affect highway users and nighttime views of and from the work area are not anticipated. In addition, no corridor lighting is proposed. Glare is the natural phenomenon of light (natural or artificial) reflecting off of any surface. Surfaces either reflect or absorb light based on their materials (e.g., glass is more reflective than brick) and coloring (e.g., light colors are more reflective than dark colors). Glare can be perceived by viewers directly using a facility (highways users) or by viewers of a facility (highway neighbors). Glare can be increased by the introduction into a landscape of new features that have a higher reflective property than existing conditions or through the removal of features, such as trees, that provide shading and aid in reducing reflective properties. The new pavement associated with the realigned roadway surface would be asphalt, which generally absorbs light. The surface area of the existing pavement that would be removed is larger than the new surface area of the proposed roadway, reducing the amount of reflective paved surfaces in the area. However, the removal of tall, mature evergreen trees that create shade would increase sunlight exposure and glare associated with the project site. Although the removal of trees and vegetation would increase sunlight exposure and glare, the project area contains a very small quantity of highway *neighbors*. There are no residences within 1 mile of the project area, no residences would have views of the new bridge or areas where tree and vegetation removal would take place, and recreational users are not common in the area. Additionally, highway *users* would pass through the project area on the new bridge and would have minimal opportunities to view disturbed areas within the project limits.

Highway users are accustomed to views of the existing roadway corridor which includes disturbed areas similar to what the project area would experience as a result of the proposed project. The proposed project would result in less than significant impacts related to the creation of a new source of substantial light or glare. The project would not adversely affect day or nighttime views in the area. The new bridge would not contribute to an increase in glare.

3.1.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.2 Agriculture and Forest Resources

3.2.1 Environmental Setting

3.2.1.1 Regulatory Setting

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

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

Impacts on timberland are analyzed as required by the California Timberland Productivity Act of 1982 (CA Government Code Sections 51100 et seq.), which was enacted to preserve forest resources. Similar to the Williamson Act, this program gives landowners tax incentives to keep their land in timber production. Contracts involving Timberland Production Zones (TPZs) are on 10-year cycles. Although state highways are exempt from provisions of the Act, the California Secretary of Resources and the local governing body are notified in writing if new or additional right-of-way from a TPZ will be required for a transportation project.

3.2.1.2 Existing Conditions

The project site is in the Shasta-Trinity National Forest on land that meets the definition of forest land under Public Resources Code Section 1222(g). The project site is also in an area with Trinity County's "Resource" land use designation (Trinity County 2016a). Natural resources with commercial value can be produced on land with this land use designation. Because the project site is in a national forest, the land is not in a TPZ, which must be in privately held lands or in state holdings. The project site contains merchantable trees that are at least 8 inches in diameter at breast height.

3.2.2 Impacts

- b. The project site is not located on land protected under Williamson Act contract (California Department of Conservation 2013) (Appendix A). However, the parcel on which the project is located is zoned Agricultural 10 Acre min (A10) in Trinity County (Trinity County 1988, 2016). No agricultural use currently exists in this parcel. The project would remove a small amount of land from potential agricultural use, but sufficient land remains in the vicinity for agricultural use. The impact would be less than significant.
- d. The project would involve removal of merchantable trees and other vegetation outside the existing right-of-way. However, this removal would be performed in accordance with Shasta-Trinity National Forest Special Use Permit requirements, and is consistent with allowed uses under Trinity County's "Resource" land use designation. The project would result in a less than significant impact on forest lands.

3.2.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, or mitigation measures are required.

3.3 Air Quality

3.3.1 Environmental Setting

3.3.1.1 Regulatory Setting

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its state counterpart is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM), lead (Pb), and sulfur dioxide (SO₂).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve federal actions to support programs or projects that are not first found to conform to the State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—the regional level and the project level. The proposed project must conform at both levels to be approved.

Regional-level conformity in California is concerned with how well the region is meeting the standards set for CO, NO₂, O₃, and PM. California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTPs) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that they meet the attainment requirements of the Clean Air Act. If the conformity analysis is successful, the appropriate regional planning organization and federal agencies make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the project in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires “hot spot” analysis if an area is “nonattainment” or “maintenance” for CO and/or PM. A region is a “non-attainment” area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called “maintenance” areas. “Hot spot” analysis is essentially the same, for technical purposes, as CO or PM analysis performed for NEPA and CEQA purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the CO standard to be violated, and in “nonattainment” areas the project must not cause any increase in the number and severity of violations. If a known CO or PM violation exists in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

3.3.1.2 Existing Conditions

The project area is in attainment for all federal and state criteria pollutants (North Coast Unified Air Quality Management District 2016).

3.3.2 Impacts

- d. The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM10, may be generated during excavation, grading, pavement grinding, and hauling activities, and would be the primary short-term construction impact. Both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature, and would not result in long-term adverse conditions. Project-related air quality impacts would be less than significant.

3.3.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.4 Biological Resources

Potential biological resource issues associated with the proposed project were identified through reviews of existing information and field surveys conducted for the proposed project. Sources consulted included, but were not limited to, the following.

- California Natural Diversity Database
- U.S. Fish and Wildlife Service species information
- California Native Plant Society’s *Inventory of Rare and Endangered Plants*
- Shasta-Trinity National Forest Sensitive Species List
- California Wildlife Habitat Relationship System (CWHR)
- Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG)
- U.S. Forest Service Ecoregions of California

Field surveys were conducted from 2013 to 2016.

- Northern spotted owl surveys were conducted between March 15 and September 1 of 2014.

- A botanical survey and wetland delineation were conducted in the spring of 2014.
- Rare plant and raptor nest surveys were conducted on April 8, 2016.

The environmental study limit (ESL) of the proposed project is the footprint of the project. It includes all areas required for project activities, such as staging, disposals areas, and other areas of potential direct effects. The biological study area (BSA) of the proposed project includes the ESL plus a 0.25-mile radius buffer for analysis of potential indirect effects of the proposed project on water quality downstream of the culvert and noise impacts to nesting raptors (California Department of Transportation 2016b).

3.4.1 Plant Species

3.4.1.1 Environmental Setting

Regulatory Setting

The U.S. Fish and Wildlife Service (USFWS) and CDFW have regulatory responsibility for the protection of special-status plant species. *Special-status* is a general term for species that are afforded varying levels of regulatory protection. Special-status species are selected for protection because they are rare and/or subject to population and habitat declines. 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* subsection below for detailed information regarding these species. This section of the document discusses non-listed special-status plant species.

The regulatory requirements for FESA can be found at 16 USC, Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900–1913; and CEQA, CA Public Resources Code, Sections 2100–21177.

Existing Conditions

Information on plant species occurring or potentially occurring in the ESL was obtained through database queries of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants and CDFW’s California Natural Diversity Database (CNDDDB) (California Native Plant Society 2014; California Department of Fish and Wildlife 2014). The US Forest Service Regional Forester’s Sensitive Plant Species List and Caltrans’ Target Species List were also reviewed to determine species that could potentially occur at the project site. The special-status (i.e., sensitive) plant species identified as potentially occurring in the ESL are identified in Table 1.

Table 1. Special-Status Lichens, Fungi, Bryophytes, and Plants Potentially Occurring in the Proposed Project Area

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
Lichens									
Alectoriaceae	<i>Sulcaria badia</i>	bay horsehair lichen	USFS_S	Coastally influenced open white oak grassland or mature forest with black oak component, growing in tree canopy	N/A	10	604	Not expected. Out of known elevation range.	Not observed.
Peltigeraceae	<i>Peltigera gowardii</i>	veined water lichen	USFS_S	On rocks in cold water creeks with little or no sediment or disturbance in riparian forest	N/A	1065	2375	Low. Marginal habitat is present.	Not observed.
Fungi									
Boletaceae	<i>Boletus pulcherrimus</i>	red-pored bolete	USFS_S	Mixed hardwood - conifer woods; known from coastal forests north of San Francisco	Nov-Jan		7000	Not expected, out of known range.	Survey conducted outside of fruiting period.
Cortinariaceae	<i>Phaeocollybia olivacea</i>	olive phaeocollybia	USFS_S	Mixed conifer forest with oak or pine.	Sep-Dec			Not expected, out of known range.	Survey conducted outside of fruiting period.
Cudoniaceae	<i>Cudonia monticola</i>	mountain cudonia	USFS_S	Spruce needle mats and conifer debris in perennially moist, shady late-seral forest.	Nov-Jan			Low. Marginal habitat is present.	Survey conducted outside of fruiting period.
Pyronemataceae	<i>Sowerbyella rhenana</i>	Stalked orange peel fungus	USFS_S	Grows in duff of moist, undisturbed conifer forests.	Sep-Mar			Low. Marginal habitat is present.	Survey conducted outside of fruiting period.
Tricholomataceae	<i>Dendrocollybia racemosa</i>	branched collybia	USFS_S	Decayed remains of mushrooms or in duff of mixed hardwood-conifer woods.	Nov-Feb			Low. Marginal habitat is present.	Survey conducted outside of fruiting period.
Liverworts									
Ptilidiaceae	<i>Ptilidium californicum</i>	Pacific fuzz wort	List 4.3, BLM_S	Lower montane coniferous forest, Upper montane coniferous forest/ Usually epiphytic on trees, fallen and decaying logs, and stumps; rarely on humus over boulders	May-Aug	1800	1800	Not expected, out of elevation range.	Not observed.
Mosses									
Buxbaumiaceae	<i>Buxbaumia viridis</i>	buxbaumia moss	List 2B.2, USFS_S	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/fallen, decorticated wood or humus	April-Nov	975	2200	Moderate. Suitable habitat is present.	Not observed.
Meesiaceae	<i>Meesia uliginosa</i>	broad-nerved hump moss	List 2B.2, USFS_S	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest/damp soil	Oct	1210	2804	Not expected, out of elevation range.	Not observed.
Mniaceae	<i>Melichhoferia elongata</i>	elongate copper moss	List 2B.2, USFS_S	Cismontane woodland (metamorphic, rock, usually vernal mesic)		500	1300	Low. Marginal habitat is present.	Not observed.
Schistostegaceae	<i>Schistostega pennata</i>	schistostega moss	Caltrans	Humid forests Oregon and northward, not known in California				Not expected, out of known range.	Not observed.
Ferns and Allies									
Ophioglossaceae	<i>Botrychium crenulatum</i>	scalloped moonwort	List 2B.2, USFS_S	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps (freshwater), Upper montane coniferous forest	Jun-Sep	1268	3280	Not expected, out of elevation range.	Not observed.
	<i>Botrychium minganense</i>	Mingan moonwort	List 2B.2, USFS_S	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest/Mesic	Jul-Sep	1455	2105	Not expected, out of elevation range.	Not observed.
	<i>Botrychium montanum</i>	western goblin	List 2B.1, Caltrans	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic	Jul-Sep	1465	2180	Not expected, out of elevation range.	Not observed.
	<i>Botrychium pinnatum</i>	northwestern moonwort	List 2B.3, USFS_S	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic	Jul-Oct	1770	2040	Not expected, out of elevation range.	Not observed.
	<i>Botrychium pumicola</i>	pumice moonwort	List 2B.2, USFS_S	Alpine boulder and rock field, Subalpine coniferous forest/volcanic	Jul-Sep	2750	2750	Not expected, out of elevation range.	Not observed.
	<i>Ophioglossum pusillum</i>	northern adder's-tongue	List 2B.2, USFS_S	Meadows and seeps, Marshes and swamps(margins)	Jul	1000	2000	Not expected to occur; no suitable habitat present.	Not observed.
Gymnosperms									
Pinaceae	<i>Pinus albicaulis</i>	whitebark pine	USFS S	Upper red-fir forest to timberline, subalpine forest	July-Aug	2000	3700	Not expected, out of elevation range.	Not observed.

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
Eudicotyledons									
	Apiaceae	<i>Lomatium engelmannii</i>	List 4.3	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/serpentine	Jun-Aug	870	2740	Moderate. Suitable habitat is present.	Not observed.
		<i>Lomatium tracyi</i>	List 4.3	Lower montane coniferous forest, Upper montane coniferous forest/serpentine	May-Jun	455	1950	High. Suitable habitat is present and nearest occurrence is less than 1 mile.	Not observed.
	<i>Sanicula tracyi</i>	List 4.2, USFS_S	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest/openings	Apr-Jul	100	1585	Low. Suitable habitat is present but outside of known range.	Not observed.	
	<i>Tauschia glauca</i>	glaucous tauschia	List 4.3	Lower montane coniferous forest (gravelly, serpentine)	Apr-Jun	80	1700	Moderate. Suitable habitat is present.	Not observed.
Apocynaceae	<i>Asclepias solanoana</i>	serpentine milkweed	List 4.2	Chaparral, Cismontane woodland, Lower montane coniferous forest/serpentine	May-Jul (Aug)	230	1860	High. Suitable habitat is present and nearest occurrence is less than 1 mile.	Not observed.
Asteraceae	<i>Anisocarpus scabridus</i>	scabrid alpine tarplant	List 1B.3, USFS_S	Upper montane coniferous forest (metamorphic, rocky)	Jul-Aug (Sep)	1650	2300	Not expected, out of elevation range.	Not observed.
	<i>Arnica cernua</i>	serpentine arnica	List 4.3	Lower montane coniferous forest (serpentine)	Apr-Jul	500	1920	Moderate. Suitable habitat is present.	Not observed.
	<i>Arnica spathulata</i>	Klamath arnica	List 4.3	Lower montane coniferous forest (serpentine)	May-Aug	640	1800	Moderate. Suitable habitat is present.	Not observed.
	<i>Arnica venosa</i>	Shasta County arnica	List 4.2	Cismontane woodland, Lower montane coniferous forest/Often in disturbed areas and roadcuts	May-Jul (Sep)	335	1490	Moderate. Suitable habitat is present.	Not observed.
	<i>Arnica viscosa</i>	Mt. Shasta arnica	List 4.3	Subalpine coniferous forest, Upper montane coniferous forest/rocky	Aug-Sep	1705	2745	Not expected, out of elevation range.	Not observed.
	<i>Chaenactis suffrutescens</i>	Shasta chaenactis	List 1B.3, USFS_S	Lower montane coniferous forest, Upper montane coniferous forest/sandy, serpentine	May-Sep	760	2800	Moderate. Suitable habitat is present.	Not observed.
	<i>Ericameria ophitidis</i>	serpentine goldenbush	List 4.3	Chaparral, Lower montane coniferous forest/generally serpentine	Jun-Aug	1180	1737	Not expected, out of elevation range.	Not observed.
	<i>Erigeron cervinus</i>	Siskiyou daisy	List 4.3	Lower montane coniferous forest, Meadows and seeps	Jun-Aug	25	1900	Moderate. Suitable habitat is present.	Not observed.
	<i>Erigeron petrophilus</i> var. <i>viscidulus</i>	Klamath rock daisy	List 4.3	Chaparral, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/sometimes serpentine	Jul-Sep	1500	2700	Not expected, out of elevation range.	Not observed.
	<i>Erigeron robustior</i>	robust daisy	List 4.3	Lower montane coniferous forest, Meadows and seeps/sometimes serpentine	Jun-Jul	200	610	Not expected, out of elevation range.	Not observed.
	<i>Eucephalus vialis</i>	wayside aster	List 1B.2, USFS_S	Lower montane coniferous forest, Upper montane coniferous forest/gravelly	Jun-Sep	910	1545	Moderate. Suitable habitat is present.	Not observed.
	<i>Harmonia doris-nilesiae</i>	Niles' harmonia	List 1B.1, BLM_S	Chaparral, Cismontane woodland, Lower montane coniferous forest/usually serpentine, openings, rocky	May-Jul	650	1660	Moderate. Suitable habitat is present.	Not observed.
	<i>Harmonia stebbinsii</i>	Stebbins' harmonia	List 1B.2, BLM_S	Chaparral, Lower montane coniferous forest/serpentine	May-Jun	400	1580	Moderate. Suitable habitat is present.	Not observed.
	<i>Helianthus exilis</i>	serpentine sunflower	List 4.2	Chaparral, Cismontane woodland/serpentine seeps	Jun-Nov	150	1525	High. Suitable habitat is present and nearest occurrence is just over 1 mile.	Not observed.
	<i>Hemizonia congesta</i> ssp. <i>tracyi</i>	Tracy's tarplant	List 4.3	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest/openings, sometimes serpentine	May-Oct	120	1200	Low. Suitable habitat is present but outside of known range.	Not observed.
<i>Pyrocoma racemosa</i> var. <i>pinetorum</i>	pine pyrocoma	List 4.2	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest	Jul-Sep	600	1700	Moderate. Suitable habitat is present.	Not observed.	

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results	
Boraginaceae	<i>Raillardella pringlei</i>	showy raillardella	List 1B.2, USFS_S	Bogs and fens, Meadows and seeps, Upper montane coniferous forest/mesic, serpentinite	Jul-Sep	1200	2290	Not expected, out of elevation range.	Not observed.	
	<i>Wyethia longicaulis</i>	Humboldt County wyethia	List 4.3	Broadleaved upland forest, Coastal prairie, Lower montane coniferous forest/sometimes roadsides	May-Jul	750	1525	Moderate. Suitable habitat is present.	Not observed.	
	<i>Hackelia amethystina</i>	amethyst stickseed	List 4.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/openings, disturbed areas	Jun-Jul (Aug)	1500	2315	Not expected, out of elevation range.	Not observed.	
	<i>Howellianthus dalesianus</i>	Scott Mountain howellianthus	List 4.3	Lower montane coniferous forest, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest/serpentinite	May-Jul (Aug)	1025	2105	Moderate. Suitable habitat is present.	Not observed.	
	<i>Phacelia cookei</i>	Cooke's phacelia	List 1B.1, USFS_S	Great Basin scrub, Lower montane coniferous forest/sandy, volcanic	Jun-Jul	1095	1700	Low. Suitable habitat is present but outside of known range.	Not observed.	
	<i>Phacelia greenei</i>	Scott Valley phacelia	List 1B.2, USFS_S	Closed-cone coniferous forest, Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/serpentinite	Apr-Jun	800	2440	Moderate. Suitable habitat is present.	Not observed.	
	<i>Phacelia leonis</i>	Siskiyou phacelia	List 1B.3	Meadows and seeps, Upper montane coniferous forest (openings)/often serpentinite	Jun-Aug	1200	2000	Not expected, out of elevation range.	Not observed.	
	Brassicaceae	<i>Arabis mcdonaldiana</i>	McDonald's rockcress	List 1B.1, Caltrans	Lower montane coniferous forest, Upper montane coniferous forest/serpentinite	May-Jul	135	1800	Low. Suitable habitat is present but outside of known range.	Not observed.
		<i>Arabis modesta</i>	modest rockcress	List 4.3	Chaparral, Lower montane coniferous forest	Mar-Jul	120	800	Not expected, out of elevation range.	Not observed.
		<i>Arabis oregana</i>	Oregon rockcress	List 4.3	Chaparral, Lower montane coniferous forest/serpentinite	May	600	1830	Moderate. Suitable habitat is present.	Not observed.
		<i>Boechera serpenticola</i>	serpentine rockcress	List 1B.2, BLM_S	Lower montane coniferous forest, Upper montane coniferous forest/Serpentinite ridges and talus	Mar-Jun	790	2100	Moderate. Suitable habitat is present.	Not observed.
		<i>Cardamine pachystigma</i> var. <i>dissectifolia</i>	dissected-leaved toothwort	List 1B.2, Caltrans	Chaparral, Lower montane coniferous forest/usually serpentinite, rocky	Feb-May	255	2100	Low. Suitable habitat is present but outside of known range.	Not observed.
		<i>Draba carnosula</i>	Mt. Eddy draba	List 1B.3, USFS_S	Subalpine coniferous forest, Upper montane coniferous forest/serpentinite, rocky	Jul-Aug	1935	3000	Not expected, out of elevation range.	Not observed.
		<i>Draba howellii</i>	Howell's draba	List 4.3	Subalpine coniferous forest(rocky)	Jun-Jul	1370	3000	Not expected, out of elevation range.	Not observed.
<i>Rorippa columbiana</i>		Columbia yellow cress	List 1B.2, USFS_S	Meadows and seeps, Pinyon and juniper woodland, Playas, Vernal pools/mesic	May-Sep	1200	1800	Not expected to occur; no suitable habitat present and out of elevation range.	Not observed.	
<i>Streptanthus drepanoides</i>		sickle-fruit jewel-flower	List 4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/serpentinite	Apr-Jun	275	1660	Moderate. Suitable habitat is present.	Not observed.	
<i>Streptanthus oblancoelatus</i>		Trinity River jewel-flower	List 1B.2, USFS_S	Cismontane woodland	Apr-Jun	20	420	Not expected, out of elevation range.	Not observed.	
Campanulaceae	<i>Thelypodium brachycarpum</i>	short-podded thelypodium	List 4.2	Chaparral, Lower montane coniferous forest, Meadows and seeps/serpentinite, adobe, alkaline	May-Aug	670	2560	Moderate. Suitable habitat is present.	Not observed.	
	<i>Campanula scabrella</i>	rough harebell	List 4.3	Alpine boulder and rock field (serpentinite or volcanic)	Aug-Sep	2285	2800	Not expected, out of elevation range.	Not observed.	
	<i>Campanula shetteri</i>	Castle Crags harebell	List 1B.3, USFS_S	Lower montane coniferous forest (rocky)	Jun-Sep	1220	1830	Not expected, out of elevation range.	Not observed.	
	<i>Campanula wilkinsiana</i>	Wilkin's harebell	List 1B.2, USFS_S	Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest	Jul-Sep	1270	2600	Not expected, out of elevation range.	Not observed.	
	<i>Minuartia rosei</i>	Peanut sandwort	List 4.2, USFS_S	Lower montane coniferous forest (serpentinite)	May-Jul	750	1525	High. Suitable habitat is present and nearest	Not observed.	

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
	<i>Minuartia stolonifera</i>	Scott Mountain sandwort	List 1B.3, USFS_S	Lower montane coniferous forest (serpentinite)	May-Aug	1250	1400	occurrence is less than 1 mile. Not expected, out of elevation range.	Not observed.
	<i>Silene campanulata</i> ssp. <i>campanulata</i>	Red Mountain catchfly	SE, List 4.2	Chaparral, Lower montane coniferous forest/usually serpentinite, rocky	Apr-Jul	425	2085	Moderate. Suitable habitat is present.	Not observed.
	<i>Silene salmonacea</i>	Klamath Mountain catchfly	List 1B.2, USFS_S	Lower montane coniferous forest/serpentinite, openings	May-Jul	775	1345	Moderate. Suitable habitat is present.	Not observed.
Convolvulaceae	<i>Cuscuta jepsonii</i>	Jepson's dodder	List 1B.2	North Coast coniferous forest/Streambanks	Jul-Sep	1200	2300	Not expected, out of elevation range.	Not observed.
Crassulaceae	<i>Sedum laxum</i> ssp. <i>flavidum</i>	pale yellow stonecrop	List 4.3	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest/ Serpentinite or volcanic	May-Jul	455	2000	High. Suitable habitat is present and nearest occurrence is just over 1 mile.	Not observed.
	<i>Sedum laxum</i> ssp. <i>heckneri</i>	Heckner's stonecrop	List 4.3	Lower montane coniferous forest, Upper montane coniferous forest/serpentinite or gabbroic	Jun-Jul	100	2100	Moderate. Suitable habitat is present.	Not observed.
	<i>Sedum obtusatum</i> ssp. <i>paradisum</i>	Canyon Creek stonecrop	List 1B.3, USFS_S	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, Subalpine coniferous forest/granitic, rocky	May-Jun	300	1900	Moderate. Suitable habitat is present.	Not observed.
Ericaceae	<i>Arctostaphylos malloryi</i>	Mallory's manzanita	List 4.3	Chaparral, Lower montane coniferous forest/volcanic	Apr-Jul	800	1200	Moderate. Suitable habitat is present.	Not observed.
	<i>Pityopus californicus</i>	California pinefoot	List 4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest/mesic	(Mar), (Apr), May- Aug	15	2225	Moderate. Suitable habitat is present.	Not observed.
Fabaceae	<i>Astragalus rattanii</i> var. <i>rattanii</i>	Rattan's milk-vetch	List 4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/gravelly streambanks	Apr-Jul	30	825	Not expected, out of elevation range.	Not observed.
	<i>Hosackia yollabollensis</i>	Yolla Bolly Mtns. bird's-foot trefoil	List 1B.2	Meadows and seeps, Upper montane coniferous forest (openings)/dry barren exposed slopes, often gravelly	Jun-Aug	1645	2135	Not expected, out of elevation range.	Not observed.
	<i>Lupinus croceus</i> var. <i>pilosellus</i>	safron-flowered lupine	List 4.3	Lower montane coniferous forest	(May), Jun- Aug	835	1700	Moderate. Suitable habitat is present.	Not observed.
	<i>Lupinus elmeri</i>	South Fork Mtn. lupine	List 1B.2	Lower montane coniferous forest	Jun-Jul (Aug)	1218	2000	Not expected, out of elevation range.	Not observed.
	<i>Lupinus lapidicola</i>	Heller's Mount Eddy lupine	List 4.3	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/granitic or serpentinite, gravelly	Jul	1500	3000	Not expected, out of elevation range.	Not observed.
	<i>Lupinus tracyi</i>	Tracy's lupine	List 4.3	Upper montane coniferous forest	Jun-Jul	1060	2000	Moderate. Suitable habitat is present.	Not observed.
	<i>Thermopsis gracilis</i>	slender false lupine	List 4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest/sometimes roadsides	Mar-Jul	100	1615	Moderate. Suitable habitat is present.	Not observed.
Gentianaceae	<i>Frasera umpquaensis</i>	Umpqua green-gentian	List 2B.2, USFS_S	Chaparral, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	Jun-Jul	1555	1900	Not expected, out of elevation range.	Not observed.
Grossulariaceae	<i>Ribes laxiflorum</i>	trailing black currant	List 4.3	North Coast coniferous forest/sometimes roadside	Mar-Jul (Aug)	5	1395	Low. Suitable habitat is present but outside of known range.	Not observed.
	<i>Ribes roezlii</i> var. <i>amictum</i>	hoary gooseberry	List 4.3	Broadleafed upland forest, Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest	Mar-Apr	120	2300	Moderate. Suitable habitat is present.	Not observed.
Limnanthaceae	<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	woolly meadowfoam	List 4.2	Chaparral, Cismontane woodland, Valley and foothill grassland, Vernal pools/vernally mesic	Mar-May (Jun)	60	1335	Not expected to occur; no suitable habitat present.	Not observed.
Linaceae	<i>Hesperolinon tehamense</i>	Tehama County western flax	List 1B.3	Chaparral, Cismontane woodland/serpentinite	May-Jul	100	1250	Low. Suitable habitat is present but outside of known range.	Not observed.

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
Malvaceae	<i>Iliamna bakeri</i>	Baker's globe mallow	List 4.2	Chaparral, Great Basin scrub, Lower montane coniferous forest (openings), Pinyon and juniper woodland/volcanic, often in burned areas	Jun-Sep	1000	2500	Moderate. Suitable habitat is present.	Not observed.
	<i>Iliamna latibracteata</i>	California globe mallow	List 1B.2, USFS_S	Chaparral (montane), Lower montane coniferous forest, North Coast coniferous forest (mesic), Riparian scrub (streambanks)/Often in burned areas	Jun-Aug	60	2000	Moderate. Suitable habitat is present.	Not observed.
Melanthiaceae	<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	List 1B.2, BLM_S	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest	Jun-Aug	5	1340	Not expected to occur, no suitable habitat present.	Not observed.
	<i>Trillium ovatum</i> ssp. <i>oettingeri</i>	Salmon Mountains wakerobin	List 4.2	Lower montane coniferous forest, Riparian scrub, Upper montane coniferous forest/Mesic	Feb-Jul	855	2024	Moderate. Suitable habitat is present.	Not observed.
	<i>Veratrum insolitum</i>	Siskiyou false-hellebore	List 4.3	Chaparral, Lower montane coniferous forest/clay	Jun-Aug	45	1635	Moderate. Suitable habitat is present.	Not observed.
	<i>Calyptidium quadripetalum</i>	four-petaled pussypaws	List 4.3	Chaparral, Lower montane coniferous forest/sandy or gravelly, usually serpentine	Apr-Jun	315	2040	Low. Suitable habitat is present but outside of known range.	Not observed.
Montiaceae	<i>Lewisia cantelovii</i>	Cantelov's lewisia	List 1B.2, USFS_S	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest/mesic, granitic, sometimes serpentine seeps	May-Oct	330	1370	Low. Suitable habitat is present but outside of known range.	Not observed.
	<i>Lewisia cotyledon</i> var. <i>heckneri</i>	Heckner's lewisia	List 1B.2, Caltrans	Lower montane coniferous forest (rocky)	May-Jul	225	2100	Moderate. Suitable habitat is present.	Not observed.
	<i>Lewisia cotyledon</i> var. <i>howellii</i>	Howell's lewisia	List 3.2, Caltrans	Broadleafed upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest/rocky	Apr-Jul	150	2010	Moderate. Suitable habitat is present.	Not observed.
	<i>Lewisia kelloggii</i> ssp. <i>hutchisonii</i>	Hutchison's lewisia	List 3.2, USFS_S	Upper montane coniferous forest/Openings, ridgetops, often slate, sometimes rhyolite tuff.	May-Aug	765	2365	Low. Suitable habitat is present but outside of known range.	Not observed.
	<i>Clarkia borealis</i> ssp. <i>borealis</i>	northern clarkia	List 1B.3, USFS_S	Chaparral, Cismontane woodland, Lower montane coniferous forest/often roadcuts	Jun-Sep	400	1390	Moderate. Suitable habitat is present.	Not observed.
	<i>Clarkia gracilis</i> ssp. <i>tracyi</i>	Tracy's clarkia	List 4.2	Chaparral (openings, usually serpentine)	Apr-Jul	65	650	Not expected, out of elevation range.	Not observed.
Onagraceae	<i>Epilobium oreganum</i>	Oregon fireweed	List 1B.2, BLM_S	Bogs and fens, Lower montane coniferous forest, Upper montane coniferous forest/mesic	Jun-Sep	500	2240	Not expected to occur, no suitable habitat present	Not observed.
	<i>Epilobium septentrionale</i>	Humboldt County fuchsia	List 4.3	Broadleafed upland forest, North Coast coniferous forest/sandy or rocky	Jul-Sep	45	1800	Not expected to occur, no suitable habitat present	Not observed.
	<i>Cordylanthus tenuis</i> ssp. <i>pallescens</i>	pallid bird's-beak	List 1B.2, USFS_S	Lower montane coniferous forest (gravelly, volcanic alluvium)	Jul-Sep	695	1645	Low. Suitable habitat is present but outside of known range.	Not observed.
Parnassiaceae	<i>Pedicularis bracteosa</i> var. <i>flavida</i>	yellowish lousewort	List 4.3	Upper montane coniferous forest (mesic)	Jul-Aug	1200	2300	Not expected, out of elevation range.	Not observed.
	<i>Pedicularis contorta</i>	curved-beak lousewort	List 4.3	Bogs and fens, Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic	Jul-Aug	1600	2400	Not expected, out of elevation range.	Not observed.
	<i>Parnassia cirrata</i> var. <i>intermedia</i>	Cascade grass-of-Parnassus	List 2B.2, USFS_S	Bogs and fens, Meadows and seeps/Rocky serpentine soil	Aug-Sep	780	1980	Not expected to occur, no suitable habitat present	Not observed.
Plantaginaceae	<i>Penstemon filiformis</i>	thread-leaved beardtongue	List 1B.3, Caltrans	Cismontane woodland, Lower montane coniferous forest/Rocky, often serpentine	May-Aug (Sep)	450	1875	Moderate. Suitable habitat is present.	Not observed.
	<i>Penstemon tracyi</i>	Tracy's beardtongue	List 1B.3, USFS_S	Upper montane coniferous forest (rocky)	Jun-Aug	1980	2210	Not expected, out of elevation range.	Not observed.
	<i>Veronica copelandii</i>	Copeland's speedwell	List 4.3	Meadows and seeps, Subalpine coniferous forest/serpentine	Aug	2225	2590	Not expected, out of elevation range.	Not observed.

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
Polemoniaceae	<i>Collomia larsenii</i>	talus collomia	List 2B.2, USFS_S	Alpine boulder and rock field, Closed-cone coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest/volcanic talus	Jul-Sep (Oct)	2210	3500	Not expected, out of elevation range.	Not observed.
	<i>Collomia tracyi</i>	Tracy's collomia	List 4.3	Lower montane coniferous forest	Jun-Jul	300	2100	Moderate. Suitable habitat is present.	Not observed.
	<i>Eriastrum tracyi</i>	Tracy's eriastrum	SR, List 3.2, USFS_S	Chaparral, Cismontane woodland	May-Jul	315	1645	Moderate. Suitable habitat is present.	Not observed.
	<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	List 4.3	Broadleaved upland forest, Cismontane woodland	Apr-Jun	170	1500	Low. Suitable habitat is present but outside of known range	Not observed.
	<i>Leptosiphon nuttallii</i> ssp. <i>howellii</i>	Mt. Tedoc leptosiphon	List 1B.3, USFS_S	Lower montane coniferous forest (serpentinite)	May-Aug	1220	2800	Not expected, out of elevation range.	Not observed.
	<i>Navarretia heterandra</i>	Tehama navarretia	List 4.3	Valley and foothill grassland(mesic), Vernal pools	Apr-Jun	30	1010	Not expected to occur; no suitable habitat present and out of elevation range	Not observed.
	<i>Navarretia sinistra</i> ssp. <i>pinnatisecta</i>	pinnate-leaved navarretia	List 4.3	Chaparral, Lower montane coniferous forest/serpentinite or volcanic	Jun-Aug	300	2200	Moderate. Suitable habitat is present.	Not observed.
	<i>Polemonium chartaceum</i>	Mason's sky pilot	List 1B.3, USFS_S	Alpine boulder and rock field, Subalpine coniferous forest/rocky, serpentinite, granitic, or volcanic	Jun-Aug	1800	4270	Not expected, out of elevation range.	Not observed.
	<i>Eriogonum alpinum</i>	Trinity buckwheat	SE, List 1B.2, USFS_S	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest/serpentinite, rocky	Jun-Sep	2185	2900	Not expected, out of elevation range.	Not observed.
	<i>Eriogonum congdonii</i>	Congdon's buckwheat	List 4.3	Lower montane coniferous forest (serpentinite)	Jun-Aug	1000	2345	Moderate. Suitable habitat is present.	Not observed.
Polygonaceae	<i>Eriogonum libertini</i>	Dubakella Mountain buckwheat	List 4.2	Chaparral, Lower montane coniferous forest/serpentinite	Jun-Aug	1120	1720	Not expected, out of elevation range.	Not observed.
	<i>Eriogonum siskiyouense</i>	Siskiyou buckwheat	List 4.3	Lower montane coniferous forest (rocky, often serpentinite)	(Jun), Jul-Sep	970	2740	Moderate. Suitable habitat is present.	Not observed.
	<i>Eriogonum strictum</i> var. <i>greenei</i>	Greene's buckwheat	List 4.3	Lower montane coniferous forest (serpentinite, rocky)	Jul-Sep	800	2100	High. Suitable habitat is present and nearest occurrence is less than 1 mile.	Not observed.
	<i>Eriogonum ternatum</i>	ternate buckwheat	List 4.3	Lower montane coniferous forest (serpentinite)	Jun-Aug	305	2225	Moderate. Suitable habitat is present.	Not observed.
	<i>Eriogonum umbellatum</i> var. <i>humistratum</i>	Mt. Eddy buckwheat	List 4.3	Alpine boulder and rock field, Chaparral, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest/rocky, usually serpentinite	May-Oct	1700	2800	Not expected, out of elevation range.	Not observed.
	<i>Eriogonum ursinum</i> var. <i>erubescens</i>	blushing wild buckwheat	List 1B.3, USFS_S	Chaparral (montane), Lower montane coniferous forest/Rocky, scree, talus	Jun-Sep	750	1900	Not expected to occur; no suitable habitat present	Not observed.
	<i>Ivesia longibracteata</i>	Castle Crag's ivesia	List 1B.3, USFS_S	Lower montane coniferous forest (granitic, rocky)	Jun	1200	1400	Not expected, out of elevation range.	Not observed.
	<i>Ivesia pickeringii</i>	Pickering's ivesia	List 1B.2, USFS_S	Lower montane coniferous forest, Meadows and seeps/mesic, clay, usually serpentinite seeps	Jun-Aug (Oct)	800	1510	Not expected to occur; no suitable habitat present	Not observed.
	<i>Neviusia cliffonii</i>	Shasta snow-wreath	List 1B.2, USFS_S	Cismontane woodland, Lower montane coniferous forest, Riparian woodland/often streamsides; sometimes carbonate, volcanic, or metavolcanic	Apr-Jun	300	590	Not expected, out of elevation range.	Not observed.
	<i>Darlingtonia californica</i>	California pitcherplant	List 4.2	Bogs and fens, Meadows and seeps/mesic, generally serpentinite seeps	Apr-Jul	0	2585	Not expected to occur; no suitable habitat present	Not observed.
Rosaceae									
Sarraceniaceae									

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
Saxifragaceae	<i>Mitella caulescens</i>	leafy-stemmed mitrewort	List 4.2	Broadleaved upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest/mesic, sometimes roadsides	(Mar), Apr- Oct	5	1700	Moderate. Suitable habitat is present.	Not observed.
Monocotyledons									
Alliaceae	<i>Allium hoffmanii</i>	Beegum onion	List 4.3	Lower montane coniferous forest (serpentinite)	Jun-Jul	1100	1800	Moderate. Suitable habitat is present.	Not observed.
	<i>Allium siskiyouense</i>	Siskiyou onion	List 4.3	Lower montane coniferous forest, Upper montane coniferous forest/rocky, sometimes serpentinite	May-Jul	900	2500	Moderate. Suitable habitat is present.	Not observed.
Cyperaceae	<i>Carex geyeri</i>	Geyer's sedge	List 4.2	Great Basin scrub, Lower montane coniferous forest	May-Aug	1155	2100	Not expected, out of elevation range.	Not observed.
	<i>Carex scabriuscula</i>	Siskiyou sedge	List 4.3	Lower montane coniferous forest, Meadows and seeps, Upper montane coniferous forest/mesic, sometimes serpentinite seeps	May-Jul	710	2345	Not expected to occur; no suitable habitat present	Not observed.
	<i>Rhynchospora alba</i>	white beaked-rush	List 2B.2	Bogs and fens, Meadows and seeps, Marshes and swamps (freshwater)	Jul-Aug	60	2040	Not expected to occur; no suitable habitat present	Not observed.
Liliaceae	<i>Calochortus greenei</i>	Greene's mariposa lily	List 1B.2, USFS_S	Cismontane woodland, Meadows and seeps, Pinyon and juniper woodland, Upper montane coniferous forest/volcanic	Jun-Aug	1035	1890	Low. Suitable habitat is present but outside of known range	Not observed.
	<i>Calochortus longebarbatus</i> var. <i>longebarbatus</i>	long-haired star-tulip	List 1B.2, USFS_S	Great Basin scrub, Lower montane coniferous forest (openings and drainages), Meadows and seeps, Vernal pools/clay, mesic	Jun-Aug	1005	1900	Not expected to occur; no suitable habitat present and outside of known range	Not observed.
	<i>Calochortus uniflorus</i>	pink star-tulip	List 4.2	Coastal prairie, Coastal scrub, Meadows and seeps, North Coast coniferous forest	Apr-Jun	10	1070	Not expected, out of elevation range and no suitable habitat.	Not observed.
	<i>Erythronium citrinum</i> var. <i>citrinum</i>	lemon-colored fawn lily	List 4.3	Chaparral, Lower montane coniferous forest/usually serpentinite	Mar-May	150	1300	Moderate. Suitable habitat is present.	Not observed.
	<i>Erythronium revolutum</i>	coast fawn lily	List 2B.2	Bogs and fens, Broadleaved upland forest, North Coast coniferous forest/Mesic, streambanks	Mar-Jul (Aug)	0	1600	High. Suitable habitat is present and nearest occurrence is less than 1 mile.	Not observed.
	<i>Fritillaria eastwoodiae</i>	Butte County fritillary	List 3.2, USFS_S	Chaparral, Cismontane woodland, Lower montane coniferous forest (openings)/sometimes serpentinite	Mar-Jun	50	1500	Low. Suitable habitat is present but outside of known range	Not observed.
	<i>Fritillaria glauca</i>	Siskiyou fritillaria	List 4.2	Alpine boulder and rock field, Subalpine coniferous forest, Upper montane coniferous forest/serpentinite, talus slopes	(Apr), (May), Jun- Jul	1735	2440	Not expected, out of elevation range.	Not observed.
	<i>Fritillaria purdyi</i>	Purdy's fritillary	List 4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest/usually serpentinite	Mar-Jun	175	2255	Moderate. Suitable habitat is present.	A population observed within and adjacent to ESL.
	<i>Lilium pardalinum</i> ssp. <i>vollmeri</i>	Vollmer's lily	List 4.3	Bogs and fens, meadows and seeps (mesic)	Jul-Aug	30	1680	Not expected to occur; no suitable habitat present	Not observed.
	<i>Lilium rubescens</i>	redwood lily	List 4.2	Broadleaved upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest/Sometimes serpentinite, sometimes roadsides	Apr-Aug (Sep)	30	1910	Moderate. Suitable habitat is present.	Not observed.
	<i>Lilium washingtonianum</i> ssp. <i>purpurascens</i>	purple-flowered Washington lily	List 4.3	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest/often serpentinite	Jun-Aug	70	2750	Moderate. Suitable habitat is present.	Not observed.
Orchidaceae	<i>Cypripedium californicum</i>	California lady's-slipper	List 4.2	Bogs and fens, Lower montane coniferous forest/seeps and streambanks, usually serpentinite	Apr-Aug	30	2750	Moderate. Suitable habitat is present.	Not observed.
	<i>Cypripedium fasciculatum</i>	clustered lady's-slipper	List 4.2, USFS_S	Lower montane coniferous forest, North Coast coniferous forest/usually serpentinite seeps and streambanks	Mar-Aug	100	2435	Moderate. Suitable habitat is present.	Not observed.

Family	Scientific Name	Common Name	Status	Habitat	Bloom Period	Elevation L (meters)	Elevation H (meters)	Potential for Occurrence	Survey Results
	<i>Cypripedium montanum</i>	mountain lady's-slipper	List 4.2, USFS_S	Broadleaved upland forest, Cismontane woodland, Lower montane coniferous forest, North Coast coniferous forest	Mar-Aug	185	2225	Moderate. Suitable habitat is present.	Not observed.
	<i>Listera cordata</i>	heart-leaved twayblade	List 4.2	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest	Feb-Jul	5	1370	Moderate. Suitable habitat is present.	Not observed.
	<i>Piperia candida</i>	white-flowered rein orchid	List 1B.2, BLM_S	Broadleaved upland forest, Lower montane coniferous forest, North Coast coniferous forest/sometimes serpentinite	(Mar), May-Sep	30	1310	Moderate. Suitable habitat is present.	Not observed.
	<i>Platanthera stricta</i>	slender bog-orchid	List 4.2	Lower montane coniferous forest, Meadows and seeps/mesic	May-Aug	1000	2300	Moderate. Suitable habitat is present.	Not observed.
Poaceae	<i>Muhlenbergia jonesii</i>	Jones' muhly	List 4.3	Lower montane coniferous forest, Upper montane coniferous forest	Jun-Aug (Sep)	1130	2160	Not expected, out of elevation range.	Not observed.
	<i>Poa rhizomata</i>	timber blue grass	List 4.3	Lower montane coniferous forest (often serpentinite)	Apr-May	150	1000	Not expected, out of elevation range.	Not observed.
	<i>Vahlodea atropurpurea</i>	mountain hair grass	List 4.3	Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest/mesic	Jul-Aug	1710	2300	Not expected, out of elevation range.	Not observed.
Themidaceae	<i>Triteleia crocea</i> var. <i>crocea</i>	yellow triteleia	List 4.3	Lower montane coniferous forest (granitic or serpentinite)	May-Jun	1200	2000	Not expected, out of elevation range.	Not observed.
	<i>Triteleia crocea</i> var. <i>modesta</i>	Trinity Mountains triteleia	List 4.3	Lower montane coniferous forest (serpentinite)	May-Jul	1200	2000	Not expected, out of elevation range.	Not observed.

Notes:

¹ Legal Status Definitions:
U.S. Fish and Wildlife Service: E = endangered

T = threatened

California Department of Fish and Wildlife: E = endangered

T = threatened

R = rare

California Department of Fish and Game California Rare Plant Ranks:

1B = plant species considered rare, threatened, or endangered in California and elsewhere.

2 = plant species considered rare, threatened, or endangered in California but more common elsewhere.

3 = plant species about which we need more information – a review list.

4 = plants of limited distribution – a watch list.

California Rare Plant Rank Extensions:

1 = seriously endangered in California (>80% of occurrences are threatened and/or have high degree and immediacy of threat).

2 = fairly endangered in California (20–80% of occurrences are threatened and/or have moderate degree and immediacy of threat).

3 = not very threatened in California (<20% of occurrences are threatened and/or have low degree and immediacy of threat or no current threats known).

United States Forest Service:

USFS S = sensitive plant species list

Sources: CNDDB 2014; CNPS 2014; USFWS 2013; California Department of Transportation 2016b

Botanical surveys following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009) and CNPS's *Botanical Survey Guidelines* (California Native Plant Society 1983) were conducted in the ESL on March 26 and 27, May 7 and 8, and June 24 and 25, 2014.

Botanical surveys identified a population of Purdy's fritillary (*Fritillaria purdyi*), in the ESL (California Department of Transportation 2016b). Purdy's fritillary is a perennial bulbiferous herb with a California Rare Plant Rank of 4.3 (limited distribution and on a watch list, but not very endangered in California). Although Purdy's fritillary is ranked as 4.3, the population located within the ESL does not meet the definition of rare or endangered under CEQA guidelines §15125 (c) or §15380 because the ESL is within the plant's typical range, the plants at this location exhibit typical morphology, and they occur on typical substrate for this taxon. No other special status plant species were located during the botanical surveys.

3.4.1.2 Impacts

No special-status plants were observed in the ESL during botanical surveys; therefore, the proposed project would not result in impacts to special-status plants. Additionally, Purdy's fritillary would not be affected by the proposed project because it is located outside the area of disturbance on the extreme eastern boundary of the ESL. Therefore, no impacts to special status plant species are anticipated as a result of the proposed project.

3.4.1.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.4.2 Animal Species

3.4.2.1 Environmental Setting

Regulatory Setting

Many state and federal laws regulate impacts to wildlife. The USFWS, National Oceanic and Atmospheric Administration Fisheries (also known as National Marine Fisheries Service) and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the FESA or CESA. Species listed or proposed for listing as threatened or endangered are discussed in the *Threatened and Endangered Species* section below. All other non-listed special-status animal species are discussed here, including CDFW fully protected species and species of special concern, U.S. Forest Service (USFS) sensitive species, and USFWS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- Federal Endangered Species Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Endangered Species Act

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 3503, 3503.5, 3511, 4150, 4152, 4700, and 5050 of the California Fish and Game Code

Existing Conditions

The special status animal species identified during prefield investigations as having the potential to occur in the BSA are listed in Table 2. Pressley hesperian snail (*Vespericola pressleyi*), Trinity shoulderband snail (*Helminthoglypta talmadgei*), western pond turtle (*Actinemys marmorata*), and foothill yellow-legged frog (*Rana boylei*), were identified as having potential habitat present in the BSA (California Department of Transportation 2016b).

Table 2. Special-Status Animal Species Potentially Occurring in the Proposed Project Area

Species Name	Scientific Name	Legal Status ¹ Federal/State/Other	General Habitat Description	Potential to Occur in Project Area
Pressley hesperian snail	<i>Vespericola pressleyi</i>	--/--/SS	Forests of conifers and/or hardwood trees in permanent seeps, springs, or perennial streams	Low. Suitable habitat present. Not observed during focused surveys.
Trinity shoulderband snail	<i>Helminthoglypta talmadgei</i>	--/--/--	Limestone, lower montane coniferous forests, and riparian forests	Low. Suitable habitat present. Not observed during focused surveys.
Foothill yellow-legged frog	<i>Rana boylei</i>	--/SS/SS	Streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands	Low. Suitable habitat present. Not observed during focused surveys.
Western pond turtle	<i>Actinemys marmorata</i>	--/SS/SS	Ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with abundant vegetation.	Low. Suitable habitat present. Not observed during focused surveys.
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT/CT,SSC/--	Dense canopy of mature trees, abundant logs, standing snags, and live trees with broken tops	Low. Marginal suitable habitat. Not observed during focused surveys.
Fisher - West Coast DPS	<i>Pekania pennanti</i>	PT/CT/SS	Mature forests associated with riparian areas	Low. Marginal suitable habitat. Not observed during focused surveys.

¹ Special-status is defined as Federally Endangered, Threatened or Proposed Threatened (FE, FT, PT), State Endangered, Threatened or Candidate Threatened (SE, ST, CT), CDFW Species of Special Concern (SSC) and Forest Service Sensitive (FSS) and species that would be considered rare under CEQA (i.e., Trinity shoulderband snail).

Mollusks

According to the CNDDDB, Trinity shoulderband have been observed within a 10-mile buffer of the ESL. Trinity shoulderband would be considered rare under CEQA and is a Bureau of Land Management Sensitive Species, although this project does not occur on Bureau of Land Management ownership. Additionally, the ESL contains suitable habitat for Pressley hesperian snails, which inhabit conifer or hardwood forest habitat in permanently damp areas near seeps, springs, and stable streams.

Protocol-level surveys (U.S. Forest Service 2001; Duncan et al 2003) were conducted for terrestrial mollusks within the ESL on October 14, 2013, and January 31, 2014. During the October 14, 2013 survey, Klamath/Church's sideband (*Monadenia churchi*) and scaly chaparral (*Trilobopsis loricata*) were observed. Neither of these mollusks species are considered a special-status species. No mollusks were observed during the second survey (California Department of Transportation 2016b). No Pressley hesperian snails, Trinity shoulderband snails or other special-status mollusk species were observed during the course of the mollusk surveys of the ESL.

Western Pond Turtle and Foothill Yellow-Legged Frog

Ditch Gulch provides suitable aquatic habitat for western pond turtle and foothill yellow-legged frog. There are eight CNDDDB occurrences of western pond turtle and 21 CNDDDB occurrences of foothill yellow-legged frog within 10 miles of the ESL. The nearest occurrence of foothill yellow-legged frog was in Ditch Gulch, between Bule Gulch and Green Gulch, approximately 1.2 miles from the ESL. This record is from 2000 and included observations of both adults and juveniles. The nearest occurrence of western pond turtle was in 1969 in Salt Creek, approximately 3.2 miles from the ESL.

No western pond turtles, foothill yellow-legged frogs, or other special-status reptiles or amphibian species were observed during the field surveys. However, multiple pacific giant salamander (*Dicamptodon ensatus*) neonates and resident trout were observed during surveys in a plunge pool at the existing culvert outlet. These species are predators of foothill yellow-legged frog, which may prevent a foothill yellow-legged frog population from establishing within the ESL.

Habitat Connectivity

Habitat connectivity is the degree to which the landscape facilitates wildlife movement and other ecological flows. Wildlife movement corridors in California are identified and described for the California Essential Habitat Connectivity (CEHC) Project. The CEHC Project was commissioned by Caltrans and CDFW to identify a functional network of connected wildlands, which are essential for maintaining California's native biodiversity. The CEHC Project was also intended to make transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010).

The CEHC Project identified large, relatively natural blocks of habitat (Natural Landscape Blocks) across California and Essential Connectivity Areas (ECAs) that provide essential connectivity between the habitat blocks. ECAs are identified as lands likely to be important to wildlife movement between large, mostly natural areas at the statewide level. The ECAs form a functional network of wildlands that are considered important to the continued support of California's diverse habitat types. ECAs were not developed for the needs of particular species but were based primarily on the concept of ecological integrity, which considers the degree of land conversion, residential housing impacts, road impacts, and status of forest

structure (for forested areas). In addition, consideration was given to the degree of conservation protection and areas known to support high biological values, such as mapped critical habitat and areas of high species endemism. The ECAs are intended as placeholder polygons that can inform land-planning efforts, but eventually they should be replaced by more detailed linkage designs, developed at finer resolution at the regional and, ultimately, local scale based on the needs of particular species and ecological processes (Spencer et al. 2010).

According to the CEHC Model, there are no Natural Landscape Blocks for terrestrial species near the project area. The existing culvert at Ditch Gulch is perched and prevents passage of aquatic species; the culvert also does not provide habitat connectivity for terrestrial species. However, wildlife movement corridors often follow natural drainages and waterways; therefore, it is highly likely that wildlife travel along Ditch Gulch (California Department of Transportation 2016b).

3.4.2.2 Impacts

Mollusks

Caltrans has determined that Pressley hesperian and Trinity shoulderband snails are absent from the ESL, based on lack of observations during protocol surveys and all field visits. It was determined to be highly unlikely that special status mollusks are present within the ESL. No impacts would occur as result of the proposed project.

Western Pond Turtle and Foothill Yellow-Legged Frog

Western pond turtle and foothill yellow-legged frog are also likely absent within the ESL. Even though suitable habitat is present, there were no observations of these species during the surveys and the presence of predators suggests that they are absent. However, because these species are mobile and have been recorded in Ditch Gulch 1.2 miles downstream of the project area, they may be present within the ESL at the time of construction. The proposed project has the potential to result in significant impacts to western pond turtles and/or foothill yellow-legged frogs if present during the temporary clear water diversion activities. However, with the implementation of the proposed avoidance and minimization measures, the project would have a less-than-significant impact to western pond turtle and foothill yellow-legged frog.

Habitat Connectivity

Habitat connectivity would be improved by the proposed project. The new open span bridge would create a wildlife undercrossing, facilitating safe wildlife movement below SR 36. Wildlife would be able to use Ditch Gulch as a migration corridor without having to cross SR 36 (California Department of Transportation 2016b).

3.4.2.3 Avoidance, Minimization, and/or Mitigation Measures

A qualified biologist will be present during the temporary clear water diversion activities. Any foothill yellow-legged frogs and/or western pond turtles encountered will be relocated outside of the clear water diversion area.

3.4.3 Natural Communities

3.4.3.1 Environmental Setting

Regulatory Setting

Lake or Streambed Alteration Agreement

Sections 1600 et al. of the California Fish and Game Code require Caltrans to enter into a Lake or Streambed Alteration Agreement (LSAA) prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. CDFW may also take jurisdiction over riparian natural communities adjacent to affected streams.

Existing Conditions

The natural communities in the BSA include Douglas-fir forest, red alder riparian forest, buck brush chaparral shrubland, and riverine habitat (California Department of Transportation 2016b). Red alder riparian forest and riverine habitat are natural communities of concern. Red alder riparian forest is discussed below, and riverine habitat (i.e., Ditch Gulch creek) is described in the *Wetlands and Other Waters* subsection. The BSA also contains disturbed/developed areas (e.g., SR 36, turnouts) that are sparsely vegetated but are not considered natural communities.

Red Alder Riparian Forest

Approximately 0.84 acre of red alder riparian forest occurs in a narrow band along the creek channel of Ditch Gulch in the ESL and approximately 7,467 acres exists within the Salt Creek watershed (California Department of Transportation 2016b). Red alder (*Alnus rubra*) is the dominant overstory species with big-leaf maple (*Acer macrophyllum*), box elder (*Acer negundo*), California hazel (*Corylus cornuta* ssp. *californica*), and Pacific plum (*Prunus subcordata*) also present. Herbaceous species in red alder riparian forest include western sweet coltsfoot (*Petasites frigidus*), mugwort (*Artemisia douglasiana*), and Shasta lily (*Lilium pardalinum* ssp. *shastense*). Red alder riparian forest may be considered a locally significant vegetation type; although it is not rare from a statewide perspective, it would be considered rare in a local context such as a within a county or region (CEQA §15125 [c]). The occurrence of red alder as far inland as the BSA is unusual. The red alder riparian habitat within the ESL and Salt Creek watershed is considered to have high function and value. Due to the rural nature of the project area the riparian habitat has experienced relatively little disturbance. The riparian habitat provides a source of food, cover from weather and predators, nesting habitat, favorable microclimates, and travel corridors for a wide variety of wildlife.

3.4.3.2 Impacts

The proposed project would result in approximately .10 acre of temporary impacts to riparian habitat. Temporary impacts would occur both up and downstream of the existing Ditch Gulch culvert where construction activities would require access in order to remove the culvert. Impacts at these locations are considered temporary as these areas would be replanted post construction. The proposed project would temporarily impact approximately 12% of riparian habitat within the ESL and approximately 0.001% of riparian habitat within the Salt Creek watershed.

Approximately .11 acre of permanent impacts to riparian habitat would occur below the proposed bridge where larger trees which provide riparian function would be trimmed to accommodate construction activities and in order to ensure trees do not interfere with the operation of the proposed transportation facility. The proposed project would permanently impact approximately 13% of riparian habitat found within the ESL and approximately 0.001% of riparian habitat within the Salt Creek watershed. These impacts represent a total impact to approximately 25% of riparian habitat within the ESL and approximately 0.003% within the Salt Creek watershed.

In order to evaluate the level of project effects on riparian habitat, the acres impacted by the proposed project were compared with the total amount of acres of riparian habitat found within the Salt Creek watershed. The Salt Creek watershed represents a suitable home range for various wildlife species and serves as the critical range for regional wildlife population stability. Project-related impacts to riparian habitat are considered negligible as a large quantity would remain within the Salt Creek watershed. Additionally, the proposed project would not affect the overall function and value of the remaining habitat within the immediate area nor within the Salt Creek watershed. The proposed project would not have a substantial adverse effect on riparian habitat. Project-related impacts to red alder riparian forest are considered less than significant.

Table 3. Riparian Impacts

	Temporary (acres)	Permanent (acres)
NE Culvert	0.01	
NW Culvert	0.02	
SW Culvert	0.03	
SE Culvert	0.04	
Bridge		0.11
Total	0.10	0.11

3.4.3.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures are required. However, the CDFW Streambed Alteration Agreement will require compensation for impacts to riparian habitat. Riparian trees and vegetation will be planted onsite along the newly exposed channel of Ditch Gulch at a 1:1 ratio.



Figure 4. Riparian Impacts

3.4.4 Wetlands and Other Waters

3.4.4.1 Environmental Setting

Regulatory Setting

Federal

Waters of the United States (including wetlands) 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 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 United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. 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). Positive indicators of 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 United States Environmental Protection Agency (U.S. EPA).

USACE issues two types of 404 permits: Standard and General permits. There are two types of General permits, Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. There are also two types of Standard permits: Individual permits and Letters of Permission.

Ordinarily, projects that do not meet the criteria for a Nationwide permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA's Section 404(b)(1) Guidelines (U.S. EPA, 40 CFR Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that 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.

State

At the state level, wetlands and waters are regulated primarily by CDFW, the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs).

As discussed above in the regulatory setting for natural communities, Sections 1600 et al. of the California Fish and Game Code (CFGCC) 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 LSAA 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.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications for impacts to wetlands and waters in compliance with Section 401 of the CWA.

Existing Conditions

A delineation of wetlands and other waters (e.g. streams, rivers) was conducted in October 2014 to identify features in the ESL that qualify as potential waters of the United States. The delineation results indicated that Ditch Gulch is the only feature in the ESL that falls within the jurisdiction of the USACE. Ditch Gulch, a perennial tributary to Salt Creek, has a defined OHWM and a channel bed composed of cobble, boulder, and bedrock. The segment of Ditch Gulch in the ESL encompasses approximately 0.16 acre (585 linear feet).

The delineation also identified two segments of roadside ditch that were characterized as non-jurisdictional, non-relatively permanent waters. The delineation did not identify any areas that met all three federal criteria (i.e., hydrophytic vegetation, hydric soils, wetland hydrology) to qualify as wetlands (California Department of Transportation 2016b).

3.4.4.2 Impacts

The new bridge is a clear span and no piers or abutments would be placed below the OHWM of Ditch Gulch creek. The culvert proposed for removal is 7 feet in diameter and 140 feet in length, equating to approximately 980 square feet of permanent fill removal. The cross culvert would be excavated to bedrock or original stream grade and Ditch Gulch creek channel would be re-established. To re-establish the channel, the Ditch Gulch creek would be temporarily diverted around the construction site to facilitate work below the OHWM, and the use of clear water diversion would be required. Once the channel is re-established, water flows would be restored, providing a net increase of 980-square feet (0.022 acre) of open perennial creek channel. Therefore, the proposed project would result in a benefit to the aquatic function and value of the Ditch Gulch creek.

There are two roadside ditches comprising a total of 0.06 acre of potential Waters of the State that would be permanently filled when the existing roadway segment is abandoned. No wetlands were identified in the ESL; therefore, wetlands would not be affected by the proposed project.

As described in Section 3.8, Hydrology and Water Quality, all project construction activities would be subject to existing regulatory requirements. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and construction and treatment measures implemented to ensure the project would comply with NPDES, Construction General Permit, and the Caltrans Statewide NPDES Permit requirements. The proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Basin Plan. Accordingly, the project would not violate water quality standards or waste discharge requirements, or otherwise degrade water quality. The impact would be less than significant.

3.4.4.3 Avoidance, Minimization, and/or Mitigation Measures

No avoidance, minimization, and/or mitigation measures would be required.

3.4.5 Threatened and Endangered Species

3.4.5.1 Environmental Setting

Regulatory Setting

The primary federal law protecting threatened and endangered species is FESA: 16 USC Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent 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 FHWA are required to consult with the USFWS and NMFS 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, a Letter of Concurrence and/or documentation of a no effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the CESA, CFGC Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. CDFW is the agency responsible for implementing CESA. Section 2081 of the CFGC prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW.

Existing Conditions

Northern Spotted Owl

The entire ESL area is within a designated critical habitat unit for northern spotted owl (*Strix occidentalis caurina*) (NSO). However, only 8.09 acres of the 15.11 acres within the ESL is mapped as suitable habitat for foraging and/or dispersal. No suitable nesting and/or roosting habitat is present in the ESL; however, nesting/roosting habitat is located approximately 86 feet south of the proposed culvert work outside the ESL. Ground-truthing habitat surveys confirmed the mapping is accurate. The remaining 7.02 acres within the ESL are not suitable habitat, including SR 36 and the overhead utility lines (California Department of Transportation 2016b).

Approximately 5.45 acres of foraging habitat is present within the ESL. The foraging habitat within the ESL consists of small trees (11–23.9 inches in diameter at breast height [dbh]) with a dense canopy (60% or greater) along Ditch Gulch (California Department of Transportation 2016b).

Approximately 2.64 acres of the northern spotted owl habitat is classified as dispersal. The dispersal habitat within the ESL consists of medium trees (20–29.9 inches dbh) with an open canopy (40–59.9%) at the borrow site (California Department of Transportation 2016b).

The ESL is not within a known home range of a NSO nesting pair nor are any known activity centers (nest stands, stands used by roosting pairs or territorial singles, or concentrated nighttime detections) located within 1.3 miles of the ESL. Because nesting/roosting habitat is located within 0.25 mile of the ESL, protocol-level NSO surveys for disturbance were conducted in 2014, and NSO were not detected (California Department of Transportation 2016b). It is anticipated that NSO are absent from the project area, however, since there is potential that NSO could move into the project area prior to the commencement of construction, NSO are assumed present. Additional protocol level disturbance only surveys will be conducted March 15 through August 30, 2018, prior to the commencement of construction. If construction activities are not continuous through winter 2018/2019 protocol level spot check surveys for NSO will be completed in March 2019.

Fisher (West Coast DPS)

The West Coast Distinct Population Segment (DPS) of fisher is proposed for listing as threatened under FESA and is a candidate for listing as threatened under CESA. It is also a USFS sensitive species and a state species of special concern. Fishers are often associated with late successional and old growth conifer forests throughout their range, with California populations showing a preference for riparian areas.

There are 11 CNDDDB occurrences for fisher within 10 miles of the ESL. The nearest occurrence to the project was in 1985 near the headwaters of Bule Gulch and Cold Creek, approximately 1 mile away. No denning sites, sign, or individuals were observed during focused surveys for fisher within the ESL. Although suitable denning/resting sites are present within 0.25 mile of ESL, the habitat is considered marginal due to the proximity of the highway. If fishers are present, they are most likely only migrating along Ditch Gulch (California Department of Transportation 2016b).

3.4.5.2 Impacts

Northern Spotted Owl

If NSO are present during construction activities, the proposed project has the potential to result in significant impacts. However, with the implementation of the proposed avoidance and minimization measure, impacts would be reduced to less than significant. Caltrans determined that the proposed project may affect, but is not likely to adversely affect, NSO. This determination is covered under the Caltrans Programmatic Letter of Concurrence (PLOC) with the USFWS Arcata Office.

If NSO are determined to not be present during the 2018 disturbance only surveys, the proposed project would result in a less than significant impact.

Northern Spotted Owl Critical Habitat

Approximately 2.29 acres of critical habitat in the ESL would be affected as a result of the proposed project. In Table 4, the amount of each habitat type (dispersal or foraging) and the type of impact (temporary or permanent) is quantified.

To determine if the project-related impacts to critical habitat would be an adverse effect to NSO critical habitat, the USFWS was provided project information, including project-related impact quantities, via email on May 12, 2016. On May 13, 2016, Greg Schmidt from USFWS concurred with Caltrans' determination that the proposed project would not adversely affect designated critical habitat. The project would have a less-than-significant impact to NSO critical habitat.

Table 4. Northern Spotted Owl Habitat Impacts

Feature	Habitat	Impact	Acres
Access	Foraging	Temporary	1.16
New Alignment	Foraging	Permanent	0.44
	Foraging	Total Impacts	1.6
<hr/>			
Borrow Site	Dispersal	Temporary	0.53
Culvert	Dispersal	Temporary	0.16
	Dispersal	Total Impacts	0.69
<hr/>			
All	Critical	Permanent	0.44
All	Critical	Temporary	1.85
All	Critical	Total Impacts	2.29

Fisher (West Coast DPS)

Given the absence of denning sites, sign, individuals, or CNDDDB occurrences in the ESL, and the small acreage of habitat impacts, the project would have a less-than-significant impact to fisher.

The proposed project is expected to benefit migrating fishers. The new open span bridge would create a wildlife undercrossing, facilitating safe wildlife movement below SR 36. Fishers and other wildlife species would be able to use Ditch Gulch as a migration corridor without having to cross SR 36 (California Department of Transportation 2016b).

3.4.5.3 Avoidance, Minimization, and/or Mitigation Measures

Avoid and Minimize Impacts to Northern Spotted Owl

According to the avoidance and minimization measure by the PLOC, if NSO are present within the BSA:

- No construction activity generating sound levels 20 or more decibels above ambient sound levels or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 decibels (excluding vehicle back-up alarms) will occur within 0.25 mile (1320 feet) of suitable spotted owl nesting/roosting habitat during the majority of the nesting season (February 1 to July 9).

If the 2018 survey and 2019 spot check surveys (if needed) determine the NSO are not present, no avoidance and minimization measures would be required.

Avoid and Minimize Impacts to West Coast DPS Fisher

No avoidance, minimization, and or mitigation measures are required.

3.4.6 Invasive Species

3.4.6.1 Environmental Setting

Regulatory Setting

Executive Order 13112 Control of Invasive Species

This executive order directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The order requires consideration of invasive species, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

Existing Conditions

Yellow starthistle (*Centaurea solstitialis*) and false brome (*Brachypodium distachyon*) were found in disturbed areas within the BSA. A population of yellow starthistle is located along the road shoulder on the north side of SR 36 at the sharpest part of the curve. Scattered false brome individuals occur within the BSA in the powerline right-of-way east of SR 36. Maps depicting these invasive species populations are in the NES. Additionally, the list of plant species observed in the ESL includes species identified as invasive plants by the California Invasive Plant Council (California Department of Transportation 2016b).

3.4.6.2 Impacts

The proposed project would create additional disturbed areas for a temporary period. Areas where temporary disturbance occurs would be more susceptible to colonization or spread by invasive plants. Caltrans 2015 Standard Specifications (Division III, Earthwork and Landscape) incorporate practices to manage invasive plants. Impacts related to invasive species would be less than significant.

3.4.6.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.4.7 Natural Environment Related Plans, Policies, and Ordinances

3.4.7.1 Environmental Setting

The natural environment related plans, policies, and ordinances that are relevant to the proposed project consists of the Shasta-Trinity Land Management Plan, USFS Management Indicator Assemblage (MIA), and USFS Northwest Forest Plan Aquatic Conservation Strategy.

Shasta Trinity Land Management Plan

The proposed project requires a special use permit (SUP), a legal document, for occupancy, use, rights, or privileges of USFS land. Each SUP application must be consistent with the standards and guidelines in the applicable Forest Land and Resource Management Plan. The forest plan is a guiding strategy that consists of the Northwest Forest Plan (NWFP) including the Aquatic Conservation Strategy, Survey and Manage Species (S&M) Program, and MIA Reports.

Survey and Manage Species

The proposed project is exempt from S&M surveys because under a 2011 Consent Decree that established new exemption categories, bridge projects are exempt. Even though this project is exempt, many S&M species including mollusks were surveyed and no observations occurred (California Department of Transportation 2016b).

Forest Service Sensitive Species

There is marginal suitable habitat present for branched collybia (*Dendrocollybia racemose*), a USFS sensitive fungus species. However, surveys were conducted outside of this species' fruiting period. Caltrans assumes branched collybia is present within the BSA (California Department of Transportation 2016b).

USFS Management Indicator Assemblage Habitat (MIA)

The only USFS MIA that would be directly affected by the proposed project is Openings and Early Seral, which consists of young forests and woodlands with openings (California Department of Transportation 2016b).

USFS Northwest Forest Plan Aquatic Conservation Strategy

The Northwest Forest Plan Aquatic Conservation Strategy (ACS) was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands within the range of the Northern Spotted Owl. The ACS is comprised of four management components: 1) Riparian Reserves (RR), 2) Key watersheds, 3) Watershed Analysis, and 4) Watershed Restoration.

Riparian Reserves are portions of watersheds where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply in order to meet ACS objectives. Riparian reserves include those portions of a watershed directly coupled to streams and rivers in order to maintain hydrologic, geomorphic, and ecological processes that directly affect standing and flowing water bodies. Ditch Gulch creek falls within the category of "fish-bearing streams" under the ACS, which dictates a Riparian Reserve width of 300 feet upslope from each bank.

The following ACS Standard and Guidelines for new bridges within a Riparian Reserve will be met:

- New culverts, bridges and other stream crossings shall be constructed to accommodate a 100-year flood, including associated bedload and debris. Crossings will be constructed and maintained to prevent diversion of stream flow out of the channel and down the road in the event of crossing failure.

3.4.7.2 Impacts

- The proposed project will be consistent with the standards and guidelines in the Forest Land and Resource Management Plan. Therefore, there would be no impact.
- Construction activities would not occur within 25-feet of Ditch Gulch where optimal suitable habitat for branched collybia is located. Therefore, it was determined that the proposed project would not result in impacts to branched collybia.
- It is anticipated that removal of approximately 2.4 acres of Openings and Early Seral MIA would be required for the proposed project. However, the proposed project would

not influence forest-level trends for this MIA habitat. Therefore, this would be less than significant.

- As stated above the proposed project will comply with the ACS standards and guidelines for new bridges within a riparian reserve. The proposed project will not retard or prevent attainment of ACS objects. The new bridge will be constructed to accommodate a 100-year flood, including associated bedload and debris. Additionally the Ditch Gulch stream channel will not be diverted and flows will remain equal to those of existing conditions. Project-related impacts would be less than significant.

3.4.7.3 Avoidance, Minimization, and/or Mitigation

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

3.5 Geology and Soils

3.5.1 Environmental Setting

3.5.1.1 Regulatory Setting

For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under CEQA.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. Caltrans’ Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using Caltrans’ Seismic Design Criteria. The Seismic Design Criteria provide the minimum seismic requirements for highway bridges designed in California. A bridge’s category and classification will determine its seismic performance level and which methods are used for estimating the seismic demands and structural capabilities. For more information, please see Caltrans’ Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

The Trinity County Safety Element contains policies relevant to seismic safety. The following policies are relevant to the project.

S.4 (B) Geologic hazards and seismic safety shall be considered in the preparation of environmental documents as required by the California Environmental Quality Act.

S.4. (D) Areas in excess of 30 percent slope shall require submittal of engineered plans for all construction and grading, at the discretion of the Trinity County Planning Department. These plans shall address roads, utility corridors, and similar off-site improvements, as well as erosion control.

S.4 (E) Geotechnical studies by a California Registered Geologist, Civil Engineer or Soils Engineer shall be required prior to issuance of a building permit in all identified landslide areas.

S.4 (F) Construction and grading activities shall be done in a manner that minimizes adverse effects on the stability of any slope.

S.4 (H) Building design and construction shall consider soil conditions prior to development.

Trinity County has adopted the California Building Standards Code as its building code.

3.5.1.2 Existing Conditions

The project site is located in the Klamath Mountain geomorphic province (Trinity County 2014; California Geological Survey 2002). The project setting is Paleozoic/Triassic in age and consists of metamorphosed shale, sandstone, chert, greenstone, and limestone (Trinity County 2014; California Geological Survey 2010).

No earthquake faults are located within the project area (U.S. Geological Survey 2016). The project site is approximately 50 miles east of the San Andreas fault. Other active faults are slightly more distant, and faults that have not been active in the past 10,000 years lie within approximately 40 miles of the project site. Seismic activity can also originate from nearby volcanoes; the project site is approximately 80 miles from Mount Shasta and Mount Lassen, both active volcanoes (U.S. Geological Survey 2016; Trinity County 2014).

There is no report of the project area being subject to liquefaction. While parts of Trinity County are susceptible to landslide, including nearby areas, the project site is not in a mapped landslide area (Trinity County 2014; Irwin et al. 2011). However, slopes are steep (see Table 5). Soils at the project site are rated as low to moderately susceptible to erosion and as moderately to highly expansive (Table 5) (Natural Resources Conservation Service 2016).

Table 5. Soils at the Project Site

Soil Map Unit Name	Susceptibility to Water Erosion	Susceptibility to Wind Erosion	Susceptibility to Expansiveness	Drainage Class
Beaughton-Weitchpec families complex, 20 to 40 percent slopes	Moderate	Low	High	Well-drained
Marpa-Holland, deep families complex, 20 to 40 percent slopes	Moderate	Low	Moderate	Well-drained
Neuns-Deadwood families complex, 40 to 60 percent slopes	Low	Moderate	Low	Well-drained

Source: Natural Resources Conservation Service 2016.

3.5.2 Impacts

- b. Soils at the project site are susceptible to water erosion. Construction in areas such as the project area with steep slopes involves increased risk of erosion related to grading and other construction activities. Site preparation and grading associated with project construction activities would potentially expose bare soil to erosive forces. However, as Caltrans' standard practice, the proposed project would incorporate BMPs which include but are not limited to; stabilizing soil through mulching, hydroseeding, use of soil binders, or other means, temporary sediment control measures, and wind erosion control measures. Impacts related to soil erosion would be less than significant.
- d. Soils at the project site are moderately to highly expansive. Construction on these soils could result in damage to foundations and surfaces as a result of soil expansion and contraction during wet and dry periods. However, potential impacts related to expansive

soils would not create substantial risks to life or property. Impacts related to construction on expansive soils would be less than significant.

3.5.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.6 Greenhouse Gas Emissions

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

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)¹.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower GHG-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.²

3.6.1 Regulatory Setting

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

¹ http://climatechange.transportation.org/ghg_mitigation/

² http://www.fhwa.dot.gov/environment/climate_change/mitigation/

3.6.1.1 State

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year.

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

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

Senate Bill 391 (SB 391) Chapter 585, 2009 California Transportation Plan: This bill requires the State's long-range transportation plan to meet California's climate change goals under AB 32.

3.6.1.2 Federal

Although climate change and GHG reduction are a concern at the federal level, currently no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the U.S. EPA nor the Federal Highway Administration (FHWA) has issued explicit guidance or methods to conduct project-level GHG

analysis.³ FHWA supports the approach that climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Addressing climate change mitigation and adaptation up front in the planning process will assist in decision-making and improve efficiency at the program level, and will inform the analysis and stewardship needs of project-level decision-making. Climate change considerations can be integrated into many planning factors, such as supporting economic vitality and global efficiency, increasing safety and mobility, enhancing the environment, promoting energy conservation, and improving the quality of life.

The four strategies outlined by FHWA to lessen climate change impacts correlate with efforts that the state is undertaking to deal with transportation and climate change; these strategies include improved transportation system efficiency, cleaner fuels, cleaner vehicles, and a reduction in travel activity.

Climate change and its associated effects are also being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the “National Clean Car Program” and EO 13514, Federal Leadership in Environmental, Energy and Economic Performance.

Executive Order 13514 (October 5, 2009): This order is focused on reducing greenhouse gases internally in federal agency missions, programs and operations, but also directs federal agencies to participate in the Interagency Climate Change Adaptation Task Force, which is engaged in developing a national strategy for adaptation to climate change.

U.S. EPA’s authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court’s ruling, U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six greenhouse gases constitute a threat to public health and welfare. Thus, it is the Supreme Court’s interpretation of the existing Act and EPA’s assessment of the scientific evidence that form the basis for EPA’s regulatory actions. U.S. EPA in conjunction with NHTSA issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010.⁴

The U.S. EPA and the National Highway Traffic Safety Administration (NHTSA) are taking coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. These next steps include developing the first-ever GHG regulations for heavy-duty engines and vehicles, as well as additional light-duty vehicle GHG regulations.

The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

On August 28, 2012, U.S. EPA and NHTSA issued a joint Final Rulemaking to extend the National Program for fuel economy standards to model year 2017 through 2025 passenger

³ To date, no national standards have been established regarding mobile source GHGs, nor has U.S. EPA established any ambient standards, criteria or thresholds for GHGs resulting from mobile sources.

⁴ <http://www.c2es.org/federal/executive/epa/greenhouse-gas-regulation-faq>

vehicles. Over the lifetime of the model year 2017-2025 standards this program is projected to save approximately four billion barrels of oil and two billion metric tons of GHG emissions.

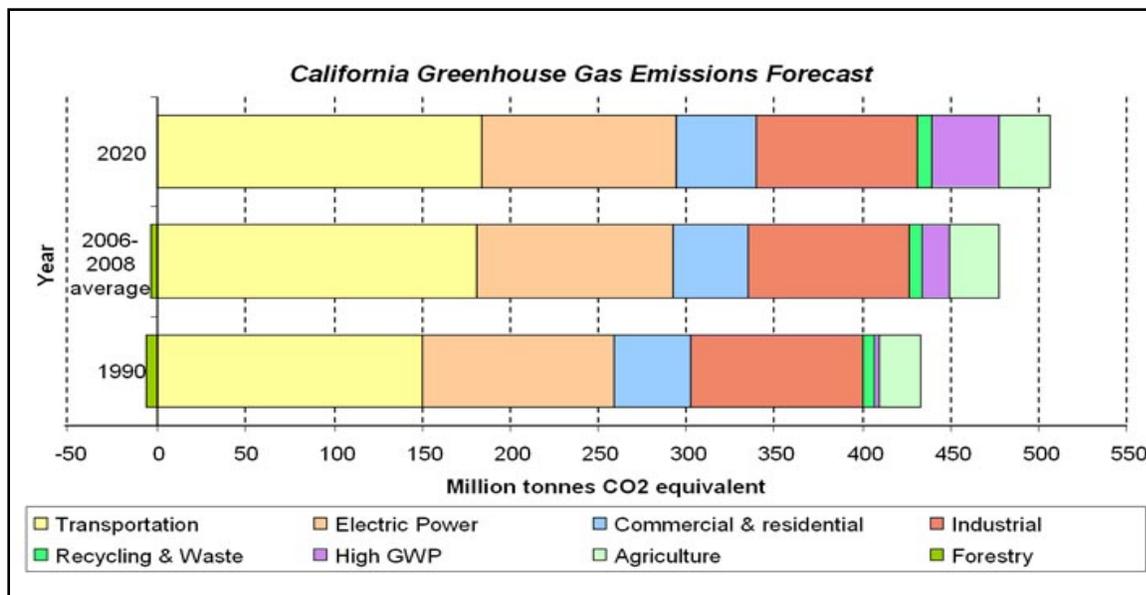
The complementary U.S. EPA and NHTSA standards that make up the Heavy-Duty National Program apply to combination tractors (semi trucks), heavy-duty pickup trucks and vans, and vocational vehicles (including buses and refuse or utility trucks). Together, these standards will cut greenhouse gas emissions and domestic oil use significantly. This program responds to President Barack Obama's 2010 request to jointly establish greenhouse gas emissions and fuel efficiency standards for the medium- and heavy-duty highway vehicle sector. The agencies estimate that the combined standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of model year 2014 to 2018 heavy duty vehicles.

3.6.2 Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined with the contributions of all other sources of GHG.⁵ In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130). To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 includes the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, the ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

⁵ This approach is supported by the Association of Environmental Professionals' Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the Sacramento Metropolitan Air Quality Management District's Chapter 6: The CEQA Guide, April 2011, and the U.S. Forest Service's Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009.



Source: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Figure 5. California Greenhouse Gas Forecast

Caltrans and its parent agency, the Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.⁶

The purpose of the project is to reduce the frequency and severity of accidents occurs along the affected portion of SR 36 in Trinity County by installing a bridge and changing roadway geometry. The proposed project would not increase capacity or vehicle miles traveled; therefore, no increases in operational GHG emissions are anticipated.

3.6.3 Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

⁶ Caltrans Climate Action Program is located at the following web address:
http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf

3.6.4 CEQA Conclusion

While construction would result in a slight increase in GHG emissions during construction, it is anticipated that the project would not result in any increase in operational GHG emissions. It is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination with regard to the project's direct impact and its contribution on the cumulative scale related to climate change. However, Caltrans is firmly committed to implementing measures to help reduce GHG emissions, as discussed below.

3.6.4.1 Greenhouse Gas Reduction Strategies

AB 32

Caltrans continues to be involved on the Governor's Climate Action Team as the ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from then-Governor Arnold Schwarzenegger's Strategic Growth Plan for California, which is updated each year. The following measures will also be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. According to Caltrans Standard Specifications, the contractor must comply with all North Coast Unified Air Quality Management District rules, ordinances, and regulations regarding to air quality restrictions.
2. Caltrans Standard Specifications, a required part of all construction contracts, should effectively reduce and control emission impacts during construction under the provisions of Section 7-1.02C "Emission Reduction" and Section 14-9.03 "Dust Control". Furthermore, Provision 14-9.02 "Air Pollution Control" requires the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district.

3.6.5 Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

In 2010, interim guidance was released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise. Subsequently, CO-CAT updated the Sea Level Rise guidance to include information presented in the National Academies Study.

All state agencies that are planning to construct projects in areas vulnerable to future sea level rise are directed to consider a range of sea level rise scenarios for the years 2050 and 2100 to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. Sea level rise estimates should also be used in conjunction with information on local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data

All projects that have filed a Notice of Preparation as of the date of EO S-13-08, and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

3.7 Hydrology and Water Quality

3.7.1 Environmental Setting

3.7.1.1 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 from any point source⁷ unlawful unless the discharge is in compliance with an NPDES permit. This act and its amendments are known today as the CWA. The goal of the CWA is to provide guidance for the restoration and maintenance of “the chemical, physical, and biological integrity of the Nation’s waters.” Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater 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 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the application of state water quality standards.
- Section 401 requires an applicant pursuing a federal license or permit to conduct an activity that may result in a discharge of a pollutant to waters of the U.S. to obtain a Water Quality Certification from the state. The certification requires that the discharge comply with other provisions of the act, including the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the U.S. This is most frequently required in tandem with a Section 404 permit request (see below).

⁷ A point source is any discrete conveyance such as a pipe or a man-made ditch.

- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) into waters of the U.S. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s). The North Coast Regional Water Quality Control Board (North Coast Water Board) is responsible for protecting the quality of surface and ground waters of the state in the project vicinity. Caltrans holds a General NPDES Permit that covers statewide Caltrans municipal stormwater discharges; the project would comply with that permit during construction and operation activities.
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

The USACE issues two types of 404 permits: General and Standard. Further, 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 effects. 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 Nationwide Permit may be permitted under one of the USACE's Standard permits. There are two types of Standard permits: Individual permits and Letters of Permission. For Standard permits, the USACE decision to approve is based on compliance with U.S. EPA Section 404 (b)(1) Guidelines (CFR 40 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 that would not have as many adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative 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 effluent⁸ 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 (33 CFR 320.4).

State Requirements

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., such as groundwater and surface waters that are 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

⁸ The U.S. EPA defines *effluent* as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The SWRCB and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for 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, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these 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 nonpoint source controls (NPDES permits or WDRs), the CWA requires the establishment of TMDLs. TMDLs specify allowable pollutant loads from all sources (point, nonpoint, 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 Program

Municipal Separate Storm Sewer Systems

Section 402(p) of the CWA requires that NPDES permits be issued for five categories of stormwater discharges, including 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 stormwater, that is designed or used for collecting or conveying stormwater.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 permit covers all Department rights-of-way, properties, facilities, and activities in California. The SWRCB or the RWQCB issues NPDES permits for 5 years, and permit requirements remain active until a new permit has been adopted.

Caltrans’s MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. It contains three basic requirements:

1. Caltrans must comply with the requirements of the Construction General Permit (see below).
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges.
3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Stormwater Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California (California Department of Transportation 2003). The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices, and for training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices that Caltrans uses to reduce pollutants in stormwater and non-stormwater 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 stormwater runoff.

Construction General Permit

Construction General Permit (Order 2009-009-DWQ as amended by 2012-0006-DWG) regulates stormwater discharges from construction sites that result in a Disturbed Soil Area (DSA) of 1 acre or greater, and/or are smaller sites that are part of a larger common plan of development. All stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Construction activity that results in soil disturbances of less than 1 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.

The 2009 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 stormwater 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 Storm Water Pollution Prevention Plans (SWPPP). In accordance with Caltrans' Standard Specifications, a Water Pollution Control Plan is necessary for projects with DSA of less than 1 acre.

Section 401 Certification

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 for 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 WDRs under the State Water Code (Porter-Cologne Act) that specify actions, 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.

California Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement

Under Chapter 6 of the California Fish and Game Code, CDFW is responsible for the protection and conservation of the state's fish and wildlife resources. Section 1602 et seq. of the code defines the responsibilities of CDFW and requires that public and private applicants obtain an agreement to "divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake designated by the CDFW in which there is at any time an existing fish or wildlife resource or from which those resources derive benefit, or will use material from the streambeds designated by the department." Section 1602 of the California Fish and Game Code requires a streambed alteration agreement for all activities that involve temporary or permanent activities within state jurisdictional waters. The proposed project would require a 1602 Streambed Alteration Agreement from CDFW.

Regional and Local Requirements

Dewatering and Other Low Threat Discharges

The North Coast Water Board has adopted a general permit to address construction dewatering with discharges to waters of the state. The Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region Permit (NPDES Order R1-2015-0003, General NPDES Permit No. CAG 0024902) regulates discharges of low-threat wastewaters from a discrete point source to surface waters of the North Coast Region. A *low-threat discharge* is defined as a planned, short-term and/or minimized volume of discharge from a definable project that results in a point source discharge to surface waters. Low-threat discharges can cause, or threaten to cause, adverse effects on existing or potential beneficial uses of the receiving water if they are not properly managed through BMPs that remove pollutants and minimize the volume, rate, and duration of discharge. Discharges that may receive authorization for coverage under this General Permit shall not contain pollutants in concentrations in excess of applicable water quality objectives or criteria and must be consistent with applicable State and federal anti-degradation policies. To obtain coverage under this order, the discharger must submit a complete Notice of Intent to the North Coast Water Board.

3.7.1.2 Existing Conditions

The analysis in this section is based primarily on the following:

- *Delineation of Wetlands and Other Waters of the U.S. Ditch Gulch Realignment Project* (California Department of Transportation 2014)
- *Water Quality Assessment Report Ditch Gulch Curve Improvement* (California Department of Transportation 2016c)
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels (Map # 06105C1400E) (FEMA 2010)
- *Floodplain Evaluation Report Summary* (California Department of Transportation 2016d)

Surface Hydrology

The project is located within the South Fork Trinity Watershed (USGS Hydrologic Unit Code 18010212). The project site is situated along SR 36 in Trinity County and covers 14.18 acres, primarily on north-facing slopes with an approximately 20 percent average gradient across the site. All drainages within the project site flow into Ditch Gulch, then into Salt Creek, ultimately

draining to the Pacific Ocean via Hayfork Creek and the Trinity and Klamath Rivers. The only relatively permanent water within the project area is Ditch Gulch, a perennial tributary; however, two ephemeral water features, both discontinuous roadside ditches, occur within the project site (California Department of Transportation 2014). Hydrology on the site is dominated by direct precipitation and associated runoff into streams. The average annual precipitation for the project area is 33.33 inches, occurring mostly between November and March (California Department of Transportation 2014; Western Regional Climate Center 2016).

Groundwater

The project contains moderate to steeply sloped areas and is underlain by soil types typical of mountain slopes. Elevations within the project area range from approximately 3,500 to 3,650 feet above sea level. As such, the project area is not located within a recognized groundwater basin. Groundwater is expected to occur deep below the surface within bedrock. The site contains six different soil types, all of which contain well-drained gravelly loam (California Department of Transportation 2014). The closest recognized groundwater basin, the Hayfork Valley groundwater basin (Department of Water Resources Basin Number 1-6), lies approximately 2 miles east of the project area. The subbasin is irregularly shaped, with the main segment aligned east-west along Hayfork Creek, and includes the alluvial valleys of Salt Creek and Big Creek. Recharge in the area occurs through infiltration of precipitation into mountain streambeds and bedrock.

Water Quality

Water quality in a typical surface water body is influenced by past and current land uses that take place within the watershed, and by the composition of local geologic materials. The project area is relatively undeveloped, surrounded by the Shasta-Trinity National Forest. Water quality is affected primarily by discharges from both point and nonpoint sources, including winter storms, overland flow, exposed soil, roadside ditches, and roads.

Water quality in surface and groundwater bodies is regulated by the SWRCB and the RWQCBs. The project site is under the jurisdiction of the North Coast Water Board, which is responsible for implementing state and federal water quality protection statutes, regulations, and policies in the vicinity of the project site. The North Coast Water Board implements the North Coast Regional Water Quality Control Plan (Basin Plan), a master policy document for managing water quality in the region. The Basin Plan specifies the beneficial uses that apply to the project area. Once beneficial uses are designated, appropriate water quality objectives can be established, and programs that maintain or enhance water quality can be implemented to ensure the protection of beneficial uses.

The Central Valley Region Basin Plan describes the beneficial uses of the Hayfork Valley hydrologic sub area (within the larger South Fork Trinity River hydrologic sub area) as providing the following beneficial uses (North Coast Regional Water Quality Control Board 2011):

- Municipal and domestic supply
- Agriculture supply
- Industrial service supply
- Industrial process supply
- Groundwater recharge

- Freshwater replenishment
- Hydropower generation
- Water contact and non-contact recreation
- Commercial and sport fishing
- Cold freshwater habitat
- Wildlife habitat
- Rare, threatened, or endangered species
- Migration of aquatic organisms
- Spawning, reproductive, and/or early development
- aquaculture (potential benefit)

All waters within the South Fork Trinity River hydrologic area are on the CWA 303(d) list as impaired for sedimentation/siltation and temperature. The 303(d) listed impairments are based on the *2012 California Integrated Report* (State Water Resources Control Board 2015). The U.S. EPA established a TMDL for sedimentation/siltation on December 20, 2001. In March 2014, the North Coast RWQCB adopted Resolution Number R1-2014-0006, *Implementation of Water Quality Objectives for Temperature*, to address potential impacts on temperature from projects. A TMDL for temperature is expected in 2019.

Flooding

The project site is within FEMA Zone D, areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. The project site is not located within a FEMA 100-year floodplain and is outside of the FEMA Special Flood Hazard Area (FIRM Panel 06105C1400E; FEMA 2010).

3.7.2 Impacts

a, f. Project construction activities, such as excavation, site clearing and grading, paving, and landscaping could temporarily affect water quality by introducing sediments, turbidity, and pollutants associated with sediments into storm drains or other water bodies. The removal of an existing 140-foot long culvert in Ditch Gulch may result in short term impacts on water temperature.

Construction of the new bridge and new road alignment will result in a reduction of 0.04 acre of impervious area. Runoff from impervious surfaces could contain nonpoint pollution sources associated with automobiles and landscaped areas. The abandoned roadway area on the east side of Ditch Gulch would be used to treat roadside runoff from the new bridge. The existing roadway will be removed. The reduction in impervious area will not result in significant changes in stormwater volume and flow rates, and will not increase the potential for erosion at the new bridge.

All project construction activities would be subject to existing regulatory requirements. The proposed project would be required to meet all applicable water quality objectives for surface waters and groundwater contained in the Basin Plan. Accordingly, the project would not violate

water quality standards or waste discharge requirements, or otherwise degrade water quality. The impact would be less than significant.

c. Project construction activities would alter existing drainage patterns and could result in local (on-site) and temporary erosion and siltation. Although drainage patterns on the project site would be altered, drainage would ultimately be improved because project implementation would remove 0.04 acre of impervious area, compared to existing conditions (California Department of Transportation 2016a). The impact of erosion and siltation would be less than significant.

Three cross culverts and their embankments will be removed, including a 140-foot long cross culvert in Ditch Gulch. The cross culvert would be excavated to bedrock or original stream grade and Ditch Gulch creek channel would be re-established. To re-establish the channel, Ditch Gulch would be temporarily diverted around the construction site to facilitate work below the ordinary high-water mark of the creek, and the use of clear water diversion would be required. Once the channel is re-established water flows would be restored.

3.7.3 Avoidance, Minimization, and/or Mitigation Measures

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

3.8 Mandatory Findings of Significance

3.8.1 Environmental Setting

3.8.1.1 Regulatory Setting

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

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

CEQA Guidelines Section 15130 describes when a cumulative impact analysis is necessary and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts under CEQA can be found in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts under the National Environmental Policy Act (NEPA) can be found in 40 CFR, Section 1508.7 of the Council on Environmental Quality (CEQ) Regulations.

3.8.2 Impacts

- a. The proposed project has the potential to result in significant impacts to western pond turtle, foothill yellow-legged frog, and northern spotted owl (see Section 3.4, Biological

Resources). However, the project would not substantially reduce the habitat or threaten the continuation of any plant or animal species, nor would it restrict the range of any rare or endangered plant or animal. There are no known cultural resources within the project area, so none would be eliminated.

- b. The project has potential to affect several resources, and mitigation measures would reduce these impacts to a less-than-significant level; however, less-than-significant impacts can result in contributions to cumulative impacts.

The project would result in a less-than-significant aesthetic impact. The cumulative study area for visual resources is the area within sight of the highway and the immediate project vicinity. The project is located in a remote area and there are no other road or development projects in the immediate vicinity. There is a potential that projects related to timber harvesting could occur, but USFS incorporates BMPs to reduce visual impacts from state highways and public roads. Therefore, although the proposed project would result in a less-than-significant visual impact, there is no cumulative impact to which it could contribute.

The project would result in impacts (0.21 acre) to riparian habitat and permanent impacts to less than 0.1 acre (0.06 acre) of waters of the state. These impacts are considered minimal and would be fully offset through implementation of the proposed project and regulatory permit requirements. The project as designed would have a net benefit to the environment due to the restoration of the natural contours of the creek channel, removal of the old road cut and embankments, and reduced length and road footprint in the watershed overall. Therefore, the project would result in a positive effect to the project area in general, and as such would not contribute to any cumulative effects on riparian or riverine habitat of projects that have occurred or could occur in the area.

The project would result in impacts to foraging and dispersal habitat for northern spotted owl. However, the project as designed would have a net benefit to the environment due to the restoration of the natural contours of the creek channel, removal of the old road cut and embankments, native plant and tree replanting in the project footprint in general, and reduced length and road footprint in the watershed overall. Therefore, the project would result in a positive effect to the project area in general. Specifically, the project is anticipated to result in long-term benefits to northern spotted owl as the new highway alignment would move vehicles further from the suitable nesting and roosting habitat. The project is also anticipated to benefit migrating fishers by creating a new wildlife undercrossing via the new open span bridge, facilitating safe wildlife movement without having to cross the highway. As such, the project would not contribute to any cumulative effects on these species.

- c. Based on the description of the project and consideration of potential effects, there is no evidence to support a finding that the project would have environmental effects that would cause adverse effects on human beings, either directly or indirectly.

Chapter 4. Consultation and Coordination

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

- Bernie Aguilar, CDFW Fisheries Biologist, Redding office
- Mark Goldsmith, USFS Biologist, Shasta-Trinity National Forest
- Patricia Johnson, USFS Biologist, VMS Enterprise Unit
- Becky Rogers, USFS Biologist, Shasta-Trinity National Forest
- Greg Schmidt, USFWS Biologist, Arcata office
- Eric Wiseman, USFS Fisheries Biologist, Shasta-Trinity National Forest

A Shasta-Trinity National Forest botanist familiar with the region was consulted regarding current conditions and timing of surveys for special-status species (Nelson pers. comm. 2014).

The Native American Heritage Commission (NAHC) was contacted on October 16, 2013 and a Sacred Lands Search and list of local Native American representatives was requested. On June 16, 2014, and December 23, 2014, letters with project information and mapping were sent to the following individuals, who were recommended by the NAHC.

- Tracy Edwards, Chief Executive Officer, Redding Rancheria
- Jason Hart, Chairperson, Redding Rancheria
- James Hayward, Sr., Cultural Resources Program, Redding Rancheria
- Kelli Hayward, Wintu Tribe of Northern California
- Robert Burns, Wintu Educational and Cultural Council
- Marilyn Delgado, Chairperson, Nor-Rel-Muk Nation
- Kenneth Wright, President, Round Valley Reservation/Covelo Indian Community

Letters requesting any pertinent information regarding historical resources in the project area were sent to Jim French, President of the Trinity County Historical Society, on October 8, 2013, and January 14, 2015.

Project archaeologists also contacted the Northeast Information Center of the California Historical Resources Information System at California State University, Chico, and Mark Arnold, the Shasta-Trinity National Forest, Hayfork and Yolla Bolla Ranger District Archaeologist, regarding previous studies and known cultural resources sites.

Chapter 5. List of Preparers

The Initial Study was prepared by the California Department of Transportation, District 2, Office of Environmental Management and ICF International, with input from the following staff:

5.1 Caltrans

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Dale Pooley, Environmental Compliance Specialist/Project Manager
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Contribution: Quality control, document writer: cultural resources/archaeological resources

Katie Haley, Senior Historical Resources Specialist
Contribution: Document writer: Cultural resources, historical resources

Pablo Herrera, Wildlife Biologist
Contribution: Document writer: biological resources

Eric Link, GIS Analyst
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Diana Roberts, Environmental Planner
Contribution: Document writer: Forestry resources, geology and soils, hazards and hazardous materials, land use, mineral resources, recreation

Jennifer Stock, PLA, Visual Resource Specialist
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Barbara Wolf, Technical Editor
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Jessica Hughes, Editor
Contribution: Technical editor

Christine McCrory, Editor/Publications Specialist
Contribution: Publications Specialist

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6.1 Personal Communications

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Appendix A. Agricultural Lands Protection and Zoning Relevant to the Project

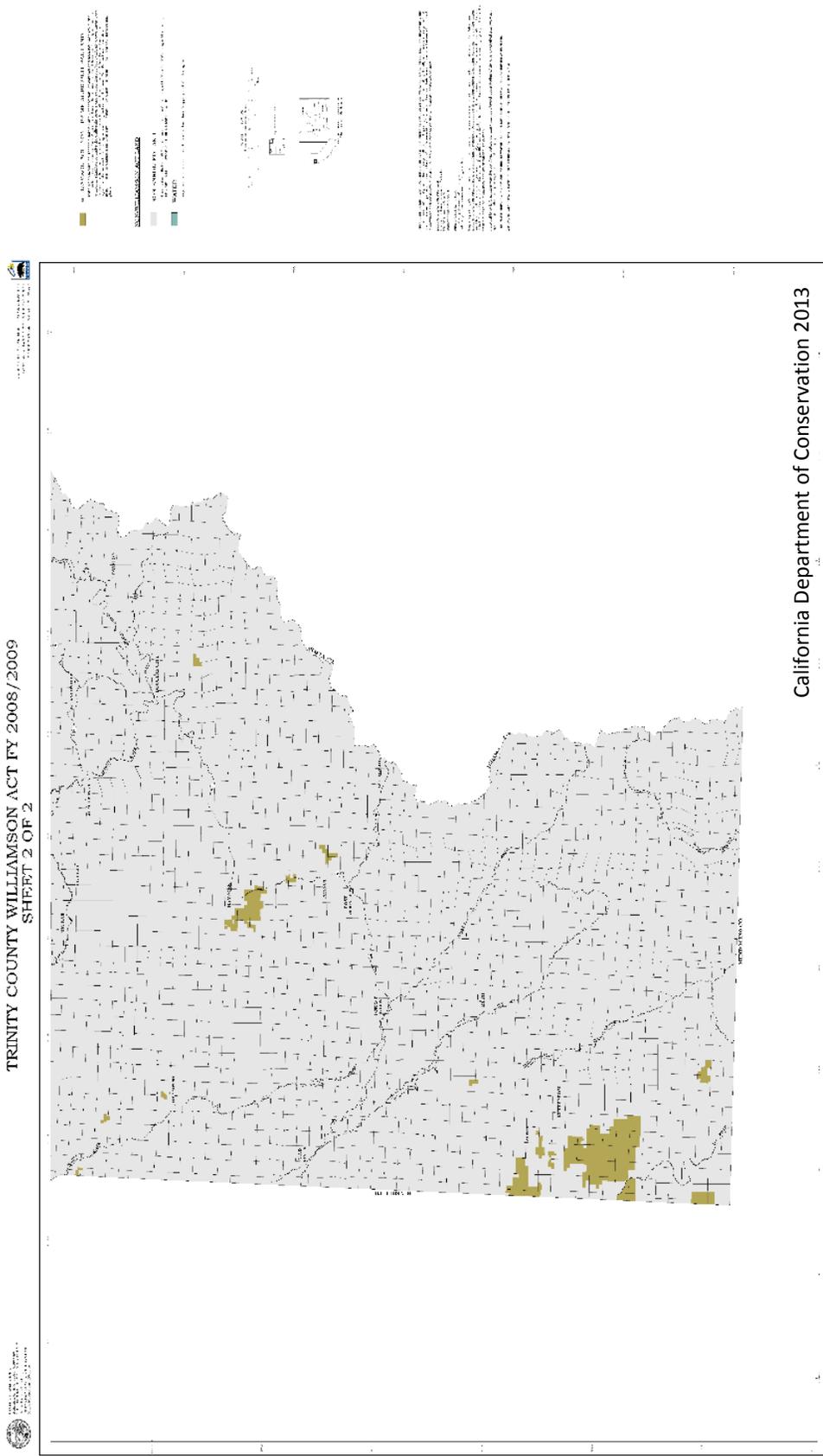


Figure A-1. Williamson Act Land in Trinity County

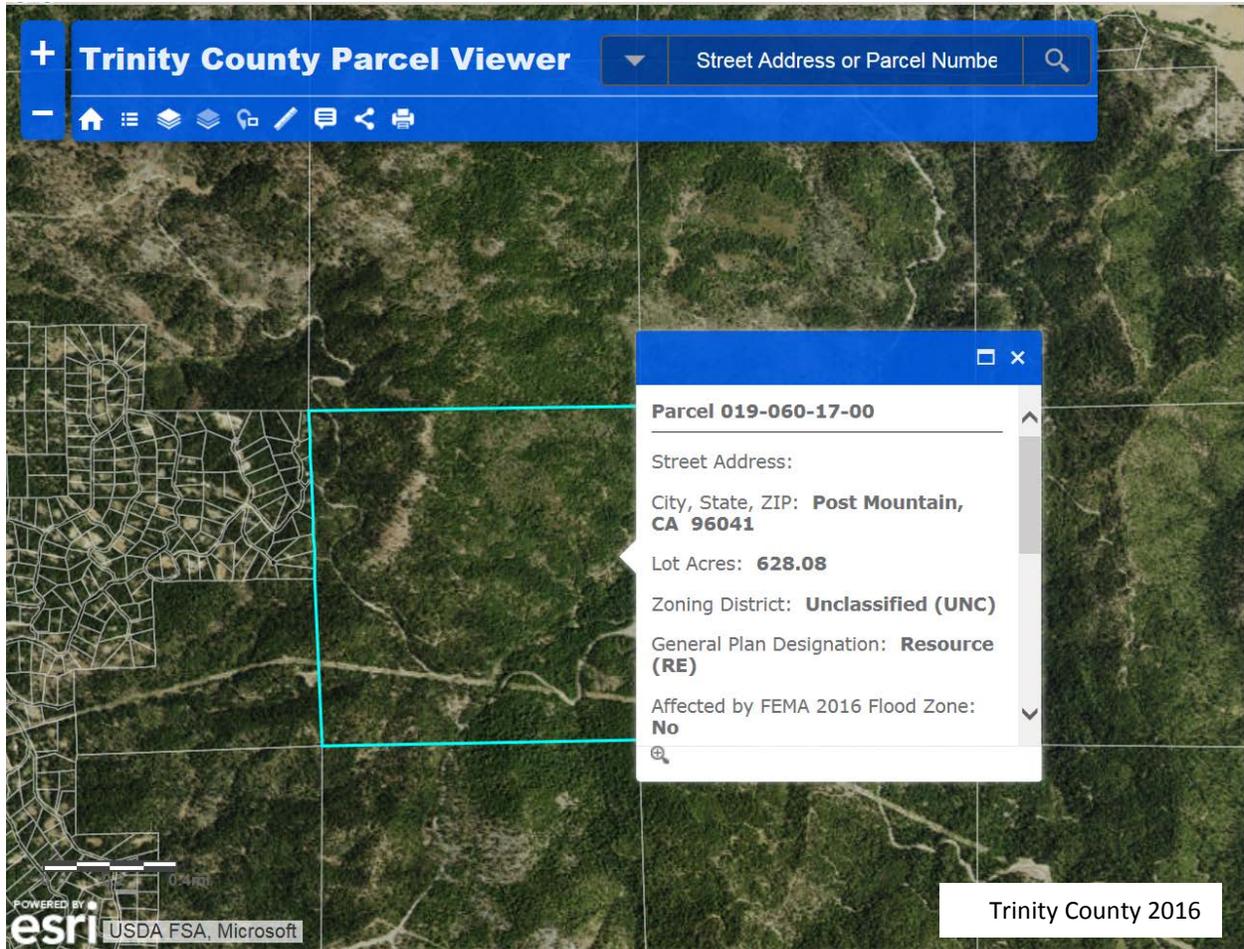


Figure A-2. Agricultural Land Use Designation of Project Parcel