

Weitchpec Slips Project

STATE ROUTE 169 IN HUMBOLDT COUNTY, CALIFORNIA
DISTRICT 1 – HUM – 169 (PM 26.40/29.90)
EA: 01-0B440 / EFIS: 0112000128

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation



August 2014

General Information about This Document

What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts being considered for the proposed project located in Humboldt County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts from the project, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this document.
- Additional copies of this document are available for review at the District 3 Office at 703 B Street, Marysville, CA, at the District 1 Office at 1656 Union Street, Eureka, CA, Eureka Main Library, 1313 3rd Street Eureka, CA and at the Kim Yerton Memorial Library, 370 Loop Road, Hoopa, CA. This document may be downloaded at the following website:
<http://www.dot.ca.gov/dist3/departments/envinternet/envdoc.htm>
- We'd like to hear what you think. If you have any comments about the proposed project, please send your written comments to Caltrans by the deadline.
- Submit comments via postal mail to:
California Department of Transportation
Attn: Adele Pommerenck, Branch Chief
Environmental Management M2 Branch
703 B Street, Marysville, CA 95901
- Send comments via email to: adele.pommerenck@dot.ca.gov
- Be sure to send comments by the deadline: October 6, 2014.

What happens next:

After comments are received from the public and reviewing agencies, Caltrans may: (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, Caltrans could 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 California Department of Transportation, Attn: Adele Pommerenck, Environmental Management M2 Branch, 703 B Street, Marysville, California 95901; (530) 741-4215 Voice, or use the California Relay Service 711.

Repair slipouts at post miles 26.40 through 29.90 on State Route 169 in Humboldt County

INITIAL STUDY with Proposed Mitigated Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

8/29/14
Date of Approval

Adele Pommerenck for
Sandra Rosas, Office Chief
North Region Environmental Services, North (Eureka)
California Department of Transportation

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

Adele Pommerenck- Branch Chief, Environmental Management M2 Branch, California Department of Transportation, 703 B Street, Marysville, CA 95901; (530) 741-4215.

PROPOSED MITIGATED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The Weitchpec Slips Project consists of roadway stabilization and repairs on State Route (SR) 169 in Humboldt County from post mile (PM) 26.4 to 29.9. The repairs are needed due to damage from a series of slipouts and a slide that occurred as a result of the March 2011 storm event. The slide and slipouts are located at PM 26.45, 29.04 and 29.8. Slipouts at PM 26.45 and 29.04 are both located on the downhill side of the roadway. The slide and slipout damage at PM 29.8 is on both the uphill and downhill sides of the roadway.

Determination

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

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

- The proposed project would have no effect on aesthetics, agriculture and forest resources, air quality, cultural resources, geology and soils, hazardous materials, land use and planning, mineral resources, noise, population and housing, public resources, recreation, transportation/traffic, and utilities and service systems.
- In addition, the proposed project would have less than significant effects to biological resources and water quality. Impacts would be mitigated through implementation of avoidance and minimization measures and best management practices as well as compliance with permit requirements.

Sandra Rosas, Office Chief
North Region Environmental Services, North (Eureka)
California Department of Transportation

Date

Section 1 – Proposed Project

Project Title

Weitchpec Slips Project

Lead Agency & Project Sponsor's Name, Address and Contact Person

California Department of Transportation

Attn: Adele Pommerenck

703 B Street

Marysville, California 95901

Project Location

The proposed project is located on State Route (SR) 169 between post miles (PM) 26.40 and 29.90 in Humboldt County. The project location is approximately six miles north of Weitchpec. The project is located within the Yurok Tribe Reservation.

Purpose and Need

The project purpose is to restore the roadway to pre-storm damage conditions. The repairs are needed due to damage from a series of slipouts and a slide that occurred as a result of a March 2011 storm event.

Project Description

The Weitchpec Slipouts Project consists of roadway stabilization and repairs at three locations on SR 169 in Humboldt County from PM 26.40 to PM 29.90. Provided below is a description of the proposed work at all three locations.

Location 1 (PM 26.45): Caltrans proposes to construct a rock buttress (excavate the slide material and rebuild the slope with rock), repair drainage at PM 26.44 and reconstruct the roadway. The work proposed at this location is as follows:

- Repair culvert at PM 26.44.
- Construct rock slope protection (RSP) buttress along the right side of the roadway.
- Reconstruct the excavated roadway.
- Re-grade and repair inboard ditch
- Place hot mix asphalt (HMA) overlay.
- Restripe roadway under one-way reversing traffic control.
- Place erosion control.

Location 2 (PM 29.04): Caltrans proposes to construct a rock buttress to stabilize the downslope roadway, replace a culvert at PM 29.06 to improve drainage and reconstruct the roadway. The rock buttress construction and culvert replacement work is as follows:

- Repair culvert at PM 29.04.
- Construct RSP buttress along the right side of the roadway.
- Replace the culvert at PM 29.06.
- Reconstruct the excavated roadway.
- Re-grade and repair the inboard ditch.
- Place HMA overlay.
- Restripe the roadway.
- Place erosion control.

Location 3 (PM 29.8): Caltrans proposes to construct a buried cast-In drilled hole-pile system with rocked slopes to stabilize the downslope slide, replace a culvert at PM 29.79 and reconstruct the roadway. The work at Location 3 is as follows:

- Repair culvert at PM 29.76.
- Excavate excess slide and slipout material.
- Construct access road during material excavation.
- Drill holes and place 65 to 75 piles for the buried cast-In drilled hole-pile system.
- Place RSP on slopes.
- Repair reconstruct damaged roadway.
- Place HMA overlay.
- Restripe roadway.
- Place erosion control.

Access will be from SR 169 for all three locations. However, at Location 3 a temporary access road will be constructed within the right-of-way to allow access for the drilling and construction equipment for the in-place buried cast-In-drilled hole-pile system. The temporary access road at Location 3 will be constructed near PM 29.83 on the west side of SR 169 beginning at the southern end of the project area. Equipment, materials and excess soils will be staged at existing graveled or paved pullouts within the project locations. All excess soil material will be disposed off-site.

Surrounding Land Uses and Setting

The surrounding land use is limited to low-density residential use east of SR 169 with sporadically distributed homes in the vicinity of Location 2 and Location 3. Location 1 and Location 2 and the eastern side of SR169 within Location 3 are dominated by coniferous forest. The western slope within Location 3 is dominated by scrub. No development is present along the western edge of SR 169 in the vicinity of the project locations due to the steep slopes and shallow soils that characterize the western edge. All project locations are within the Yurok Tribe Reservation.

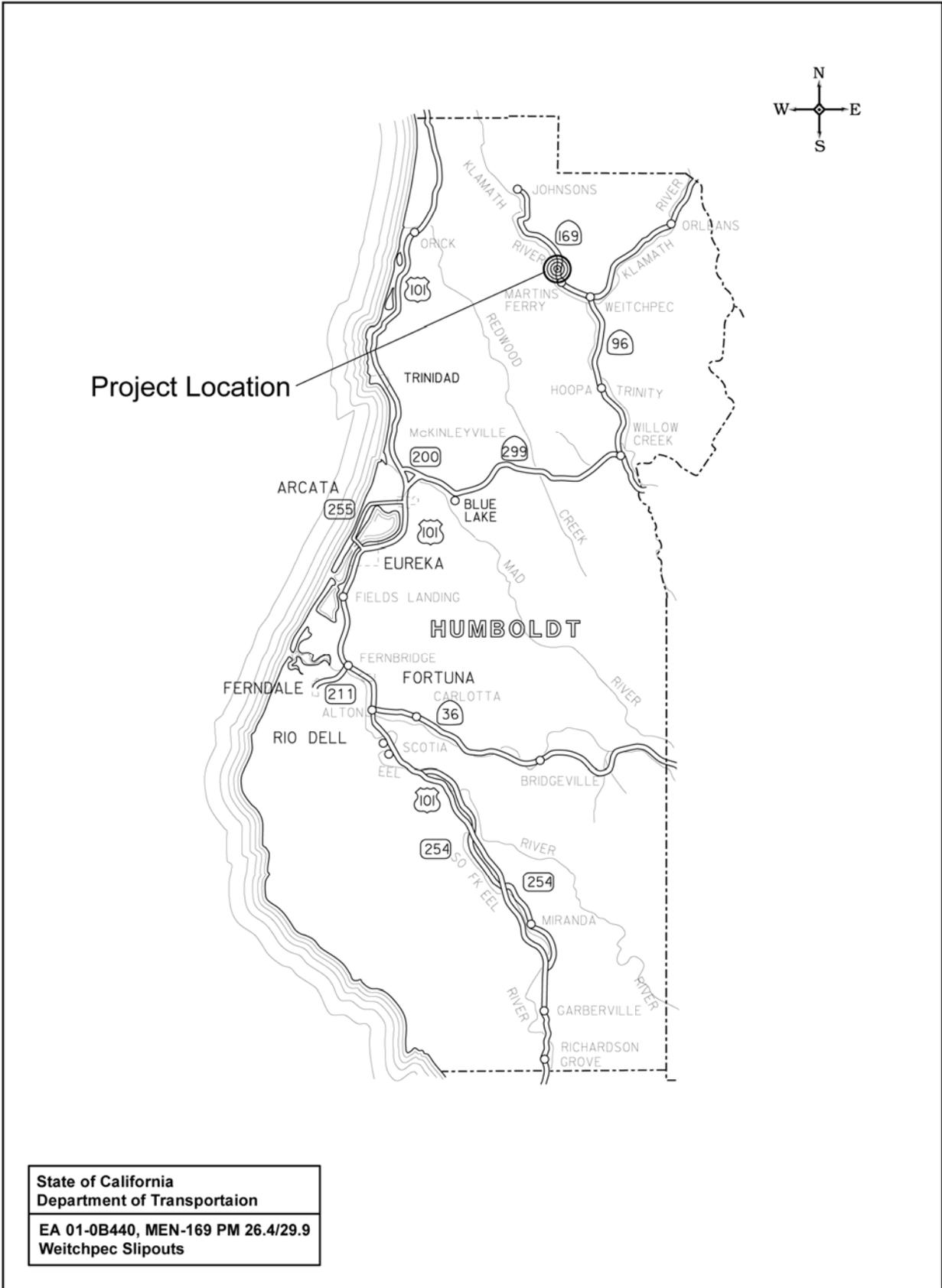
Zoning

The proposed project locations are surrounded by parcels zoned as agriculture, residential and vacant land.

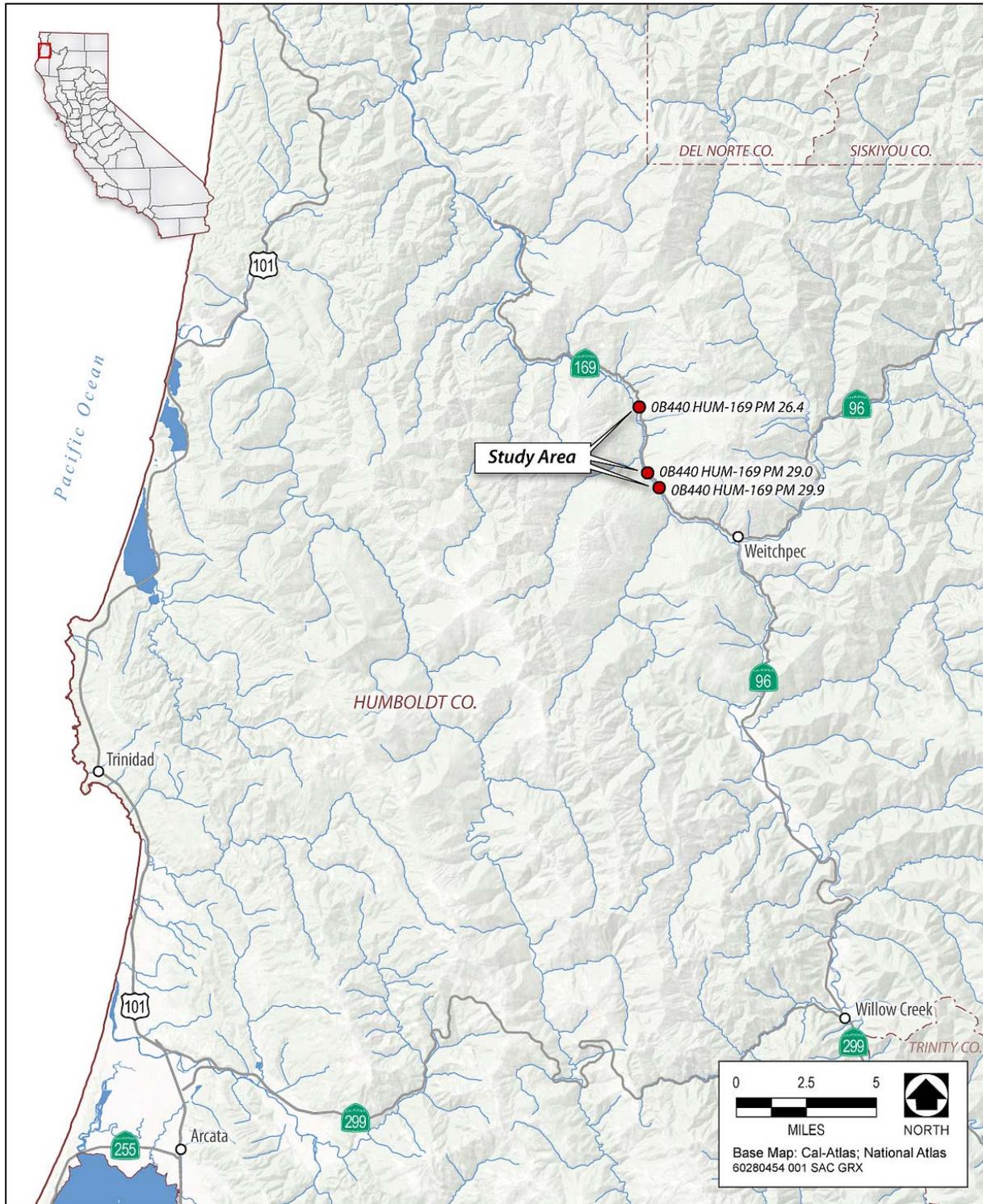
Permits and Approvals Needed

The following environmental permits will be required:

- Section 404 Nationwide Permit from the United States Army Corps of Engineers.
- Water Quality Certification from the Yurok Tribe Environmental Program under Section 401 of the Clean Water Act.
- 1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife.



Project Vicinity Map



Project Location Map

Section 2 – Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project. Please see the CEQA checklist for additional information. Any boxes not checked represent issues that were considered as part of the scoping and environmental analysis for the project, but for which no significant impacts were identified. Therefore, no further discussion of these issues is in this document.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input 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"/>	Paleontology	<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 type="checkbox"/>	Mandatory Findings of Significance				

Section 3 – CEQA Checklist

01-HUM-196

26.40/29.90

01-0B440

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 a clarifying discussion is needed, the discussion either follows the applicable section in the checklist or is placed within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>
Explanation: "No Impact" determinations in this section are based on information provided in the Visual Impact Assessment dated July 2014.				
II. AGRICULTURE AND FOREST RESOURCES: 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The proposed project locations are surrounded by parcels zoned as agriculture, residential and vacant land.

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

Explanation: "No Impact" determinations in this section are based on information provided in the Air Quality Assessment Report dated April 2014.

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Explanation: "No Impact" determinations and "Less Than Significant with Mitigation" determinations in this section are based on information provided in the Natural Environment Study dated May 2014 as well as coordination with the Yurok Tribe. See additional discussion in Section 4.

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"/>
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"/>

Explanation: "No Impact" determinations in this section are based on information provided in the Archaeological Survey Report and Historical Properties Survey Report, August 2014.

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

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

II. 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 the body of environmental document. 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. These measures are outlined in the body of the environmental document.

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

Explanation: "No Impact" determinations in this section are based on information provided in the Initial Site Assessment dated November 2013.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
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"/>

Explanation: "No Impact" determinations and "Less than Significant with Mitigation" determinations in this section are based on information provided in the Water Quality Assessment Report dated June 2013 and the Floodplain Evaluation Report Summary dated July 2014. See additional discussion in Section 4.

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"/>
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"/>

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project as well as Wild and Scenic River coordination with the Yurok Tribe.

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"/> |

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

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"/> |

Explanation: "No Impact" determinations in this section are based on information provided in the Noise Assessment Report dated April 2014.

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"/> |

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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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"/>

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

XV. RECREATION:

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<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"/>

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

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"/>

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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"/>

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

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"/>

Explanation: "No Impact" determinations in this section are based on the scope, description, and location of the proposed project.

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

Section 4 – Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures

Biological Resources

NATURAL COMMUNITIES

Regulatory Setting

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

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

Wetlands and other waters are also discussed below.

Affected Environment

The project's environmental study area (ESL) and biological study area (BSA) contain a sensitive natural community Douglas fir forest, *Pseudotsuga menziesii* Forest Alliance. This natural community contains Douglas fir as a dominant or co-dominant species, with other hardwoods present. The Douglas fir forest alliance has an intermittent to continuous canopy averaging over 246 feet in height. This community may include infrequent to many shrubs and also may include a sparse or abundant herb layer. Douglas fir forest is found in all topographic positions and aspects and many soils types.

Natural Communities along SR 169 within the biological study area are typical of the Klamath Ranges and North Coast Ranges subregions and include Douglas fir forest, bigleaf maple forest, and coyote brush scrub communities. Descriptions of these communities and information on whether they qualify as Natural Communities of Special Concern (NCSC) as defined by CDFW (CDFW 2010) has been provided below.

Douglas fir Forest

Douglas fir forest, Forest Alliance, is present at all ESL locations and throughout the BSA. This Alliance is dominated by Douglas fir. Other trees present in the canopy include bigleaf maple, tan oak (*Nanolithocarpus densiflorus* var. *densiflorus*), California bay (*Umbellularia californica*), California black oak (*Quercus kelloggii*) and red alder (*Alnus rubra*). Shrubs, ferns, and herbaceous plants in the understory include poison oak (*Toxicodendron diversilobium*), deer brush (*Ceanothus integerrimus*), thimbleberry (*Rubus parviflorus*), twinberry (*Lonicera involucrata*), and wood fern (*Dryopteris arguta*). There are no consistent associations across

significant portions of the project area, though species diagnostics of several associations are present in patchy distribution throughout the BSA.

Bigleaf Maple Forest

Bigleaf maple forest, (*Acer macrophyllum*) Forest Alliance, is present within the BSA. This Alliance is dominated by bigleaf maple. Other trees present in the canopy include Douglas fir, red alder (*Alnus rubra*), and tan oak. Shrubs, ferns, and herbaceous plants in the understory include poison oak, Arroyo willow (*Salix lasiolepis*), salmonberry (*Rubus spectabilis*), wood fern, western sword fern (*Polystichum munitum*), and American brooklime (*Veronica americana*). Bigleaf maple forest is considered a NCSC (CDFG 2010).

Coyote Brush Scrub

Coyote brush scrub, *Baccharis pilularis* Shrubland Alliance, is present at location 3, PM 29.9. This ESL location is dominated by coyote brush. Other shrubs and herbaceous plants include Arroyo willow, common horsetail (*Equisetum arvense*), California blackberry (*Rubus ursinus*), hare barley (*Hordeum murinum* ssp. *leporinum*), and pennyroyal (*Mentha pulegium*). This scrub most closely resembles the *Baccharis pilularis* – *Rubus ursinus*/ *weedy herb* association which is not considered a NCSC.

Environmental Consequences

Combined clearing to provide the work area necessary to install the RSP rock buttresses and culvert replacement at ESL Locations 1 and 2 will affect approximately 0.5 acre of Douglas fir habitat. At Location 3 approximately 0.15 acre of coyote scrub habitat will be removed. Specific tree removal information such as species, diameter and quantities will be provided during the consultation process and within the permit applications.

Impact criteria define the level of direct and indirect impacts on Natural Communities. The purpose of the establishing criteria is to help determine when an impact is significant under CEQA.

Does the project result in:

- Substantial loss of common natural communities that provide habitat for wildlife
- Substantial reduction in habitat for fish, wildlife, or plants?
- Disruption of natural wildlife movement corridors?
- Fragmentation or isolation of wildlife habitats, especially riparian, oak woodland, and wetland habitats?

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to natural communities of special concern:

- The installation of rock buttresses and culvert installation at all three project ESLs will require tree and vegetation removal. The least amount of trees possible were chosen for removal to avoid and minimize impacts to forest habitat.
- Before vegetation and tree removal, a Caltrans biologist will coordinate with the Resident Engineer (RE) and construction crew to confirm the environmentally sensitive area (ESA) fencing placement. ESA fencing will be placed around waters and trees in areas immediately adjacent to construction zones, and no work or staging will be allowed within the ESA.
- In addition, all disturbed areas will be restored and revegetated to pre-construction conditions, using regionally-appropriate California native seed mix and seedlings of plant species found on the site, under the guidance of a Revegetation Specialist and Landscape Architect.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact with on natural communities.

WETLANDS AND OTHER WATERS

Regulatory Setting

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

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

The USACE issues two types of 404 permits: General and Standard 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. 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 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's Section 404(b)(1) Guidelines (U.S. EPA 40 Code of Federal Regulations [CFR] Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

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

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCB) and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or Tahoe Regional Planning Agency) may also be involved. Sections 1600-1607 of the California Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

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

Affected Environment

Waters of The U.S. and State

Waters of the United States and State were identified and mapped based on the Ordinary High Water Mark (OHWM). OHWMs for drainages typically correspond with characteristics such as shelving, scour lines, and other natural linear features which define the bed and bank portion of the channel that floods under normal conditions (USACE 2005). Wetlands and Waters with associated temporary impacts are presented in Table 1 below. It should be noted that a gravel turnout along State Route 169 was identified as non-RPW 3, but removed due lack of hydrology and soils.

Relatively Permanent Waters (RPW)/Intermittent Drainage

Five RPWs are present within the project limits. The ESL contains five RPWs that total approximately 0.012 acre (see Table 1). These features qualify as RPWs because they convey flow for a period of longer than three months. The RPWs within the ESLs have defined OHWMs and channel beds composed of large cobble, boulder, and bedrock. Water was flowing in each RPW at the time of the field survey. Non-vascular moss was prevalent in each RPW identified within the ESLs. All RPWs within the ESL have a direct hydrologic surface connection to the Klamath River approximately 160 feet downslope of each ESL.

Non-Relatively Permanent Waters (non-RPW)/Ephemeral Drainage

Six non-relatively permanent waters are present within the project limits. Non-RPWs are ephemeral drainages and convey flow for a short duration after a precipitation event. The ESL contains six non-RPWs that total approximately 0.051 acre (see Table 1). These non-RPWs are roadside ditches that convey runoff from adjacent impervious surfaces (i.e., State Route 169 and Mitchell Road). The non-RPWs in the ESLs are ultimately a tributary to the Klamath River downstream; therefore, these features are potentially subject to regulation by the USACE pursuant to Sections 401 and 404 of the CWA.

Wetland/Freshwater Seep

The freshwater seep within ESL Location 3, PM 29.8, occupies 0.019 acre of the eastern slope bank (see Table 1). The slope around the seep and a large area to either side of the seep is covered with large RSP and vegetation development is limited to the toe of the slope and cracks within the rocks. Vegetation is well-developed along the base of the seep area where surface water collects in a shallow swale. The seep area is dominated by umbrella sedge (*Cyperis eragrostis*) and tall fescue (*Festuca arundinacea*), with spreading rush (*Juncus patens*) and small-flowered lotus (*Acmispon parviflorus*). This association most closely represents the common velvet grass (*Holcus lanatus*)-sweet vernal grass (*Anthoxanthum odoratum*) meadow, which has no NCSC designation. However, freshwater seep is considered a NCSC and may be jurisdictional.

Because of the RSP and the seeps location on a steep slope, the size and location of the seep was estimated by the following observations 1) the presence and extent of surface flow 2)

saturation in rock crevices 3) the sound of seeping water at the toe of the slope, and 4) the buckling of the adjacent road top. It appears from the road damage that aside from pooling at the base of the seep, water also moves in sheet flow below the road and down the western slope toward the Klamath River. It is assumed that the seep's apparent sheet flow toward, and close proximity to the Klamath River provide a significant nexus to waters of the State, and warrants consideration as a potential jurisdictional wetland.

Environmental Consequences

Construction of the proposed project, including the replacement of RSP on the bank, would result in a temporary impact of 0.019 acres to a freshwater seep wetland. It is anticipated that up to 0.0033 acres of RPW and 0.0233 acres of non-RPW of the United States will be temporarily affected by construction of the inboard ditch, placement of RSP and culvert repairs.

Final impact acreage for waters of the United States will be calculated once final plans have been developed. Coordination with the USACE, Yurok Tribe, and CDFW will also be required. A summary of impacts to waters of the United States and State within the project limits can be found in Table 1.

Table 1: Potentially Jurisdictional Features

Feature	ESL	Acreage*	Temporary Impacts ≈ Acreage
Relatively Permanent Waters (RPW)/Intermittent Drainage			
RPW 1	PM 26.40	0.001	None
RPW 2	PM 29.04	0.005	0.002
RPW 3	PM 29.04	0.004	0.0003
RPW 4	PM 29.80	0.0001	None
RPW 5	PM 29.80	0.002	0.001
Total Relatively Permanent Waters (RPW) Acreage		0.012	
Total Relatively Permanent Water (RPW) Acreage Impacts			0.0033
Non-Relatively Permanent Waters (non-RPW)/Ephemeral Drainage			
Non-RPW 1	PM 26.40	0.02	0.013
Non-RPW 2	PM 26.40	0.01	0.006
Non-RPW 4	PM 29.04	0.004	0.0036
Non-RPW 5	PM 29.80	0.003	None
Non-RPW 6	PM 29.80	0.006	0.0007
Total Non-Relatively Permanent Waters (non-RPW) Acreage		0.051	
Total Non-Relatively Permanent Waters (non-RPW) Acreage Impacts			0.0233
Wetlands			
Seep	PM 29.8	0.019	0.019
Total Other Waters Acreage		0.063	
TOTAL POTENTIALLY JURISDICTIONAL FEATURES		0.082	
TOTAL POTENTIAL TEMPORARY IMPACTS			0.0456

Note:* Acreage beyond the thousandth decimal place is summed before rounding, therefore feature acreage in this column may not sum to the total acreages. Data compiled by AECOM 2013

Impact criteria define the level of direct and indirect impacts on Wetlands and Other Waters. The purpose of the establishing criteria is to help determine when an impact is significant under CEQA.

Does the project:

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to prevent impacts to wetlands and reduce impacts to other waters of the United States and State.

- During final design the project biologist will work with the project engineer and hydrologist to avoid and minimize impacts to the freshwater seep wetland by installing new RSP in a manner that limits disturbance to the sites hydrological regime. The proposed RSP design-will be chosen to best avoid the removal of trees and other vegetation.
- Environmentally sensitive area (ESA) fencing will be placed around wetlands, natural communities of special concern, and trees in areas immediately adjacent to construction zones, and no work or staging will be allowed within the ESAs.

Minimize Disturbance to Jurisdictional Waters

- Soil stabilization and sediment control (e.g. silt fences, fiber rolls, straw bale, temporary sedimentation barriers, hydraulic mulching, hydroseeding, and straw mulch).
- Waste management and materials pollution control (material delivery and storage, material use, stockpile management, spill prevention and control, solid waste management, hazardous waste management, concrete waste management, and liquid waste management).
- Specific construction site BMPs to address potential discharges of water with a high pH from contact with wet concrete will be specified by the Project Engineer, with concurrence by the Construction Storm Water Coordinator, for inclusion in the contract.
- The disturbed areas within the ESLs will be restored and revegetated to pre-construction conditions, using regionally-appropriate California native seed mix and seedlings of plant species found on the site, under the guidance of a Revegetation Specialist and Landscape Architect.
- The portion of the RPWs and non-RPWs that will be affected by the project will be surveyed by a biologist immediately prior to the onset of construction activities in order to find and relocate any wildlife, such as amphibians, that may be using the stream.

Restrict Timing of In-Stream Activities

- Impacts to the RPWs and non-RPWs within ESL Locations 1, 2 and 3 will be minimized as much as is practicable. Construction activities at all locations will be confined to the period of June 15 to October 15. If flow is occurring during construction, all surface flow present shall be clearly diverted around the work area by gravity flow pipe or pumping and returned to the stream below the work site. Any temporary, artificial obstruction shall be built from material which will cause little or no siltation.

Revegetation of Disturbed Habitats

- Caltrans is developing a plan to address the effects of wetland disturbance. The plan will be developed in coordination with USACE, Yurok Tribe and CDFW, and will likely involve eradication of invasive species within and near the project area.
- Combined clearing to provide the work area necessary to install the RSP rock buttresses and culvert replacement at ESL Locations 1 and 2 will affect approximately 0.5 acre of Douglas fir habitat. At Location 3 approximately 0.15 acre of coyote scrub habitat will be removed. Specific tree removal information such as species, diameter and quantities will be provided during the consultation process and within the permit applications.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact on wetlands and other waters.

ANIMAL SPECIES

Regulatory Setting

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

Federal laws and regulations relevant to wildlife include the following:

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

State laws and regulations relevant to wildlife include the following:

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

Amphibians and Reptiles

Affected Environment

Amphibians can be particularly sensitive to erosion, pollution, and habitat loss. There is habitat in the biological study area to support five species of special concern amphibian and one reptile species: pacific tailed frog, foothill yellow-legged frog, northern red-legged frog, Del Norte salamander, southern torrent salamander and western pond turtle. However, due to lack of suitable habitat, there is little likelihood of the foothill yellow-legged frog occurring in the three ESL locations.

The western tailed frog has a more restricted habitat preference than either the northern red-legged frog or foothill yellow-legged frog in that it is usually found in a more riparian setting and is restricted to perennial montane streams. The other two frog species can be found in more varied habitat such as woodlands, grasslands, and rocky substrates.

Both the Del Norte salamander and the southern torrent salamander prefer old-growth forests. The Del Norte salamander is often found in talus and rock rubble of closed, multi-storied canopy forests while the southern torrent salamander prefers well-shaded permanent streams and seepages.

Environmental Consequences

All special-status amphibians or reptiles are considered present within the three ESL locations. All of the general avoidance and minimization measures will apply in the protection of these special-status amphibian species. In addition, pre-construction surveys for the presence of amphibians will be conducted in all areas where vegetation removal and soil disturbance is proposed immediately prior to construction activities. If special-status amphibians are found, a qualified biologist, in coordination with CDFW will relocate them to a safe species-specific appropriate habitat nearby, but outside the project ESL.

Impact criteria define the level of direct and indirect impacts on Animal Species. The purpose of the establishing criteria is to help determine when an impact is significant under CEQA.

Does the project:

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

- 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?

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the amphibians and reptiles:

- All of the general avoidance and minimization measures will apply in the protection of these special-status amphibian species.
- Pre-construction surveys for the presence of amphibians will be conducted in all areas where vegetation is removed and soil is disturbed immediately prior to construction activities.
- If special-status amphibians are found, a qualified biologist, in coordination with CDFW will relocate them to a safe species-specific appropriate habitat nearby, but outside the project ESL.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to amphibians and reptiles.

Humboldt Marten

Affected Environment

The Humboldt marten, a species of special concern, is a subspecies of the American marten (*M. americana*), which once occurred throughout northern California, Oregon, Washington, British Columbia, and Alaska. Humboldt martens are associated with late successional coniferous forests and prefer forest types with low overhead cover (CNDDDB 2014). They are known to occur in the coastal redwood zone from the Oregon border to Sonoma County.

There is a very low potential for Humboldt marten to occur within the biological study area due to the moderately suitable Douglas fir habitat and no current occurrences within approximately 13 miles of the BSA. The closest occurrence is in Six Rivers National Forest in Slide Gulch off the Go-Road in 1972 (CNDDDB 2014).

Environmental Consequences

The Humboldt marten is unlikely to be within the BSA. There will be no project impacts to the Humboldt marten, if avoidance and minimization efforts are followed.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the Humboldt marten:

- An assessment of potential resting and denning habitat will be conducted within the ESL Locations 1 and 2 and 165 feet of all ESL boundaries before vegetation removal.
- Coordination with CDFW and USFWS will occur if trees are identified to meet resting or denning habitat criteria. Habitat within the ESL vegetation removal areas and 165 feet buffer will be assessed using the Wildlife Tree Assessment form. General criteria for potential resting or denning trees are: conifers greater than 22 inches diameter at breast height (DBH), hardwoods greater than 18 inches DBH, snags greater than 22 inches DBH or downed logs greater than 22 inches DBH. Conifers and hardwoods that meet the DBH criteria will be assessed for structural features such as cavities, basal hollows, large limbs, broken tops, mistletoe or broom clusters. These features will be recorded on the Wildlife Tree Assessment form.
- If a marten is observed at any time, construction operations will stop until coordination with CDFW or USFWS has occurred.
- If trees that meet resting or denning criteria are identified within the vegetation removal areas the following measures will be implemented (Cal Fire 2013):
 - No potential Humboldt marten den habitat trees will be removed during the critical denning period (March 1st through July 31st).
 - Outside of the critical denning period, trees less than 12 inches DBH shall be felled one day and the following day resting trees may be felled.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the Humboldt marten.

Osprey

Affected Environment

The osprey (*Pandion haliaetus*) is listed by the California Board of Forestry as a “Listed Species” and “Sensitive Species.” It is also designated as a Sensitive Species by the U.S Forest Service and inhabits temperate coastal and lake habitats. In California, the species’ breeding grounds are found along the coast and by shore, with nest sites associated with lakes and large streams. All but the southernmost populations are migratory, leaving their breeding grounds in late summer for coastal areas and lakes of Central and South America.

Osprey nests in Humboldt County are almost always built either in flat- or broken-topped live conifers or in conifer snags adjacent or near rivers or large water bodies (Hunter et. al. 2005). The critical breeding period is from March 15 through August 15. Eggs are generally laid in late April and the incubation period is 38 days, which is the best time to survey.

Environmental Consequences

Focused surveys for ospreys were not conducted; however, the species was observed during surveys from another project in April 2014 at PM 13.6 to 23.39. Osprey nesting along the Klamath River is considered likely within 0.25 mile of the project ESL locations.

Avoidance, Minimization, and/or Mitigation Measures

If construction work is proposed between March 1 and September 1 the following avoidance and minimization measures will be followed:

- Before construction begins a ground-based nest search and survey will occur. Surveys of nest sites and territories shall consist of three visits lasting at least two hours and separated by at least seven days. The first survey will occur after April 1 and at least one survey shall occur after May 1. If occupancy is observed and confirmed no additional surveys are required. Results of nest surveys need to be provided to CDFW prior to beginning project activities.
- For construction activities within 0.25 miles of an occupied nest, a qualified biologist shall conduct monitoring between March 1 and August 31 to determine if encroaching operations adversely affect nesting ospreys or their young.
- If the nesting ospreys appear disturbed by construction activities at any time, operations shall be immediately suspended and CDFW consulted before the operations causing the disturbance can continue.
- Except use of the existing State Route 169, no project construction work, tree felling, or other project-related work shall occur within 500 feet of a nest tree until the nest, perch, screen and replacement trees are marked and retained to maintain the viability of the nest and nesting territory. A description of the retained trees and rationale for their retention shall be provided to CDFW for review and written concurrence before construction can commence or re-commence.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the osprey.

Sonoma Tree Vole

Affected Environment

Sonoma tree vole is a State species of special concern; it is a small rodent, endemic to California. These voles live in the north coast fog belt from the Oregon border to Sonoma County in Douglas-fir, redwood and montane hardwood-conifer forests. Sonoma tree voles nest in trees and feed almost exclusively on Douglas fir needles. Threats include forest fragmentation and habitat loss (including timber harvesting and clearing land for agriculture and development). There is some potential for the Sonoma tree vole to nest in the Douglas fir habitat within the biological study area and within Locations 1 and 2.

Environmental Consequences

Locations 1 and 2 have suitable habitat for the Sonoma Tree vole. Location 3 does not have suitable habitat. There are no expected impacts to the Sonoma tree vole. However, if nests or signs of tree voles (resin duct clumps) are observed during the Wildlife Tree Assessment, a consultation with CDFW will occur.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the Sonoma tree vole:

- An assessment of potential resting and denning habitat will be conducted within the ESL Locations 1 and 2 and 165 feet of all ESL boundaries before vegetation removal.
- Coordination with CDFW and USFWS will occur if trees are identified to meet resting or denning habitat criteria. Habitat within the ESL vegetation removal areas and 165 feet buffer will be assessed using the Wildlife Tree Assessment form. If a Sonoma tree vole is observed at any time, construction operations will stop until coordination with CDFW or USFWS has occurred.
- A Wildlife Tree Assessment within the ESL Locations 1 and 2 will be conducted before trees are felled.
- If trees that meet resting or denning criteria are identified within the vegetation removal areas the following measures will be implemented:
 - No potential fisher den habitat trees will be removed during the critical denning period (March 1st through July 31st).
 - Outside of the critical denning period, trees less than 12 inches DBH shall be felled one day and the following day resting trees may be felled.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the Sonoma tree vole.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA)(15 USC 703-711), Title 50 Code of Federal Regulations (CFR) Part 21 and 50 CFR Part 10, and the CDFG Game Code Sections 3503, 3513, and 3800, protect migratory birds, their occupied nests, and their eggs from disturbance or destruction. Bird nests that are occupied or that contain migratory bird eggs are protected from possession, sale, purchase, barter, transport, import, export, and take. The MBTA provides protection in part by restricting the disturbing of nests during bird nesting season.

Affected Environment

Numerous trees and shrubs were identified within and adjacent to the project limits which have the potential to provide suitable habitat for birds protected under the Migratory Bird Treaty Act.

Environmental Consequences

Direct impacts to migratory birds are unlikely, due to their mobility. Impacts to active nests are not expected since vegetation removal will occur outside of the nesting season. The project will result in some temporary impacts from the removal of nesting vegetation.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to prevent impacts to migratory birds:

- Vegetation will be removed outside of the bird breeding, and northern spotted owl breeding seasons (September 15 and February 1). If vegetation has not been cleared outside of the breeding season (if cleared between February 1 and August 31), and construction is to begin after March 1, the following guidelines will be observed:
- Migratory bird surveys will be conducted (no earlier than two weeks prior to construction) within the ESL(s) and a 300 foot buffer by a qualified biologist to identify nesting birds.
- If active bird nests are found during pre-construction surveys:
 - A qualified biologist will coordinate with CDFW to establish the appropriate species specific buffer.
 - A buffer will be delineated around each active nest, and construction activities within the buffer area will not occur.
 - A qualified biologist will monitor the active nest for disturbance during construction and nesting chronology.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to migratory birds.

THREATENED AND ENDANGERED SPECIES

Regulatory Setting

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC) Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) 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 California Endangered Species Act (CESA), California Fish and Game Code 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. The California Department of Fish and Wildlife (CDFW) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code 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 the CDFW. For species listed under both the FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the California Fish and Game Code.

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

Bald Eagle

Affected Environment

Bald eagles are federally delisted as threatened, state listed as endangered, and a fully protected species in California. The bald eagle is a permanent resident and uncommon winter migrant in California. This species breeds in Butte, Modoc, Humboldt, Lake, Trinity, Shasta, Siskiyou, Plumas, and Lassen Counties. Bald eagles in Humboldt County are strongly tied to open water and undisturbed shorelines (Hunter et. al. 2005). Multiple bald eagle nest site locations along the Klamath River have been documented since 1995. Bald eagles have been observed flying and perched within the biological study area. There are nests located several miles upstream and downstream of the project area on the Klamath River.

Environmental Consequences

No nests or potential nesting habitats (large diameter trees or snags) occur within the ESL, but do occur within the BSA.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the bald eagle:

- Impacts to potentially nesting or foraging bald eagles will be reduced if avoidance and minimization measures for the osprey are followed below. If any bald eagles are observed during construction, the project biologist or Environmental Construction Liaison will be contacted and a site visit will occur to assess if the bald eagle is potentially nesting in the area.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the bald eagle.

Pacific Fisher

Affected Environment

Pacific fisher inhabits intermediate-to-large tree stages of coniferous forests and deciduous riparian areas with a high percentage of canopy closure. The home range size has been estimated from 10-78 square miles, depending on habitat quality. Fishers are generally solitary animals, except during the breeding season (Biological Diversity 2014). They mate between February and May (usually late March), giving birth the following March.

The USFWS and the CDFW have both classified the Pacific fisher as a candidate species. There are numerous reports of Pacific fisher within the nearby Hoopa Indian Reservation, along the Klamath and Trinity River systems. The California Natural Diversity Database (CNDDDB) records indicate the closest recorded Pacific fisher sighting is approximately 0.32 miles south of Location 3. Due to suitable habitat within the biological study area and occurrence records from the CNDDDB, there is potential for this species to occur inside or move through the biological study area.

Environmental Consequences

There will be no impacts to the Pacific fisher if avoidance and minimization efforts are followed.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the Pacific fisher:

- An assessment of potential resting and denning habitat will be conducted within the ESL Locations 1 and 2 and 165 feet of all ESL boundaries before vegetation removal.

- Habitat within the vegetation removal areas and the 165 feet buffer will be assessed using the Wildlife Tree Assessment form. If a fisher is observed at any time, construction operations will stop until coordination with CDFW or USFWS has occurred.
- The following measures will be implemented if trees that meet resting or denning criteria are identified within the vegetation removal areas:
 - No potential fisher den habitat trees will be removed during the critical denning period (March 1st through July 31st).
 - Outside of the critical denning period, trees less than 12 inches DBH shall be felled one day and the following day resting trees may be felled.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the Pacific fisher.

Marbled Murrelet

Affected Environment

The marbled murrelet is a federally threatened and state endangered species. In North America, marbled murrelets range from Alaska to central California, typically feeding in ocean waters within one mile of shore. Marbled murrelets nest from southeast Alaska to central California in mixed stands of mature, old-growth coniferous forests within 50 miles of ocean waters.

Focused surveys were not conducted for the marbled murrelet. An assessment for suitable nesting habitat within a 1-mile radius of each of the project locations was conducted through direct observations of habitat (stand search), and/or aerial photography (21012 NAIP Imagery and Google Earth). Potential nesting habitat is sparse and fragmented on the east side of State Route 169. There is potential nesting tree habitat for the marbled murrelet on the west bank of the Klamath River. Location 1 was determined to have suitable nesting habitat within a 1-mile radius. Locations 2 and 3 have the lowest probability for nesting marbled murrelet due to timber harvest operations and residential properties. The nearest documented occurrence of marbled murrelet is approximately 8.38 miles from the project area. Marbled murrelet observations were recorded in 1992 in the coniferous forests northwest near Johnson's Creek, and approximately 13 miles east of the project area near the town of Orleans.

Suitable nesting habitat in these areas is dominated by scattered old growth Douglas fir trees within a mixed coniferous forest. From what was visible via direct observation, the number of trees with large enough limbs to support marbled murrelet was few, with none having moss or lichen. For these reasons, the habitat described above is not considered prime marbled murrelet nesting habitat.

The nearest potential suitable marbled murrelet habitat is west across the Klamath River approximately 435 feet from Location 2. Because potential habitat lies more than 330 feet away

from all project locations, harassment of marbled murrelet is not anticipated. The Klamath River provides a potential morning and evening nest migration route; however, due to the limited time a murrelet would be exposed to any project noise during breeding migration there is a very low potential for noise impact. Nesting habitat does not occur within the project study limits, but occurs within the BSA; however, no marbled murrelet have been recorded within the BSA. No potential marbled murrelet habitat will be removed; vegetation will be removed outside of the breeding season (between March 24 and September 15).

Environmental Consequences

Human activities within a visual line-of-sight distance of 131 feet or less from a marbled murrelet nest may cause disturbance that reaches the level of harassment (USFWS 2006). Visual proximity of human activities for this project will be approximately 613 feet (0.116 mi) away from the nearest potential marbled murrelet nesting habitat. Thus, no visual disturbance to marbled murrelet is expected from project activities.

The BSA and ESL locations are adjacent to the Klamath River, which provides a migration corridor to nesting habitat for marbled murrelet. There could be possible auditory impacts from the project activities due to the proposed early morning and nighttime construction. To evaluate the possible impacts to marbled murrelet, the USFWS (2006) Guidance – *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owl and Marbled Murrelets in Northwestern California* – and USFWS and USACE (2014) *Programmatic informal consultation for the California Department of Transportation’s Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*, were used to assess the potential for project-related auditory and visual impacts to the marbled murrelet.

The ambient noise was estimated by determining current conditions, traffic use, road gradient and time of day for SR 169. The daytime ambient level of the project area on SR 169 is estimated at Moderate (~71-80 dB).

The work associated with this project would occur for two construction seasons on SR 169. Construction noise impacts are expected to be consistent during each season.

The following noise levels associated with the project fall within the Moderate (71-80 db), *High* (81-90 dB) to *Very High* (91-100dB) categories. Thus, harassment distance for the marbled murrelet during the breeding seasons for noise emitted by project construction is estimated to take place at the following distances:

- 0 feet for all *Moderate* (~71-80 dB) project actions such as preparation work
- 165 to 330 feet for *High* (~81-90 dB) and *Very High* (~90-100 dB) project actions such as grinding

All work estimated at *Very High* levels (~91-100dB) of sound (anticipated for grinding), would occur for short durations and infrequently. Most work would have potential noise impacts out to 0-165 feet.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the marbled murrelet.

- Vegetation will be removed outside of the bird breeding, and marbled murrelet seasons (September 15 and February 1).
- To avoid noise disturbance to the marbled murrelet during the breeding season, no equipment that generates a Very High (above 90 db) will be used from February 1st through July 9th).

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the marbled murrelet.

Northern Spotted Owl

Affected Environment

The northern spotted owl is a federally listed threatened species and a state candidate, and is a permanent resident throughout its range (northwest coast, Klamath, and western Cascade Range from Del Norte County to Marin County). Focused surveys were not conducted for the northern spotted owl. Suitable nesting habitat for the northern spotted owl does occur within the ESL at Locations 1 and 2, and the biological study area, but not in the ESL at Location 3. The nearest documented northern spotted owl activity site is identified as 0.76 mile east from the ESL at Location 3. Records indicate surveys were conducted in 2007 to locate the associated owls without success. However, coordination with Yurok Wildlife staff to acquire current 2014 northern spotted owl survey information is ongoing.

Environmental Consequences

If vegetation removal occurs outside of the northern spotted owl breeding season (February 1 through September 15) within the project ESL, the project will not result in direct impacts to northern spotted owl habitat. The combined clearing to provide the work area to install the RSP rock buttresses and culvert replacement at Locations 1 and 2 will affect approximately 0.5 acre of Douglas fir habitat. At Location 3 approximately 0.15 acre of coyote scrub habitat will be removed with some tree removal. Only Douglas fir habitat is considered suitable for the northern spotted owl and the combined 0.5 acre amount proposed for removal within the ESL at Locations 1 and 2 will not impact the habitat stand characteristics or quality with any known or unknown spotted owl activity site.

The nearest potentially suitable northern spotted owl habitat (roosting and nesting) occurs within ESL Locations 1 and 2, but not within ESL Location 3. Potential habitat (nesting, roosting, foraging) is present east, upslope approximately 350-foot from ESL Location 3. Because suitable habitat lies within 165 feet of ESL Locations 1 and 2 there is potential for harassment to the northern spotted owl during the nesting season, as per the 2014 USFWS and USACE Programmatic Agreement. However, noise disturbance is not anticipated due to historical northern spotted owl activity site locations ranging from 0.6-1 mile from ESL locations. An assessment of noise will be re-evaluated if the Yurok Wildlife Department's 2014 northern spotted owl surveys identify an activity site closer to these project locations.

Human activities within a visual line-of-sight distance of 131 feet or less from a northern spotted owl nest may cause disturbance that reaches the level of harassment. Visual proximity of human activities for this project will be approximately 3,664 feet (0.694 mi) away from the nearest northern spotted owl activity site. Thus, no visual disturbance to nesting spotted owls is expected from project activities.

The BSA and ESL locations are adjacent to the Klamath River, which provides a migration corridor to nesting habitat for marbled murrelet. There could be possible auditory impacts from the project activities due to the proposed early morning and nighttime construction. To evaluate the possible impacts to marbled murrelet, the USFWS (2006) Guidance – *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owl and Marbled Murrelets in Northwestern California* – and USFWS and USACE (2014) *Programmatic informal consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*, were used to assess the potential for project-related auditory and visual impacts to the northern spotted owl. Please refer to the environmental consequences section of the marbled murrelet for a detailed discussion of noise impacts.

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to reduce impacts to the northern spotted owl:

- No removal of suitable northern spotted owl habitat will occur during the nesting season (February 1 to September 15)
- Vegetation will be removed outside of the bird breeding and northern spotted owl breeding seasons (September 15 to February 1).
- To avoid noise disturbance to the northern spotted owl during the breeding season, no equipment that generates a Very High (above 90 db) will be used from February 1st through July 9th).
- Suitable habitat may be removed or altered outside the nesting season provided “no take” guidelines are adhered to for all known spotted owl home ranges within 0.7 mile of the project action area.

- Must follow ‘No Take’ guidelines as per Attachment B of the April 9, 2014 USFWS and ACOE Programmatic Informal Consultation.
- Northern spotted owl surveys will be conducted as per USFWS and USACE April 2014 Programmatic Agreement.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact to the northern spotted owl.

HYDROLOGY AND WATER QUALITY

Regulatory Setting

Federal Requirements: Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source¹ unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. The following are important CWA sections:

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

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

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

The USACE issues two types of 404 permits: General and Standard 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. 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. Environmental Protection Agency's Section 404 (b)(1) Guidelines (U.S. EPA Code of Federal Regulations [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 which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent² standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the Section 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4. A discussion of the LEDPA determination, if any, for the document is included in the Wetlands and Other Waters section.

State Requirements: Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined, and this definition is broader than the CWA definition of "pollutant." Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

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

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, 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 non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

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

Caltrans MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has 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 storm water and non-storm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

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

Construction General Permit

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective on July 1, 2010. The permit regulates storm water discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least one acre must comply with the provisions of the General Construction Permit. Construction activity that results in soil disturbances of less than one acre is subject to this Construction General Permit if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

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 storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective Storm Water Pollution Prevention

Plan (SWPPP). In accordance with the Caltrans Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

Section 401 Permitting

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

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

In lieu of a 401 Certification from the North Coast Regional Water Quality Control Board, a Yurok Tribe Water Quality Certification application will need to be submitted and approved by the Yurok Tribe Environmental Program. This certification will also need approval from the Environmental Protection Agency (EPA).

Affected Environment

The project is located north of Six Rivers National Forest. The area has complex geology that is characterized by metasedimentary rocks that are susceptible to land-sliding. The area is also characterized by active tectonic and seismic activities. The project is located in Tectah Creek-Klamath River Watershed. Regional land use activities are private timber production, ranching, National and State Parks. These activities have produced widespread landslides and high sediment input to streams.

All three locations are situated in the Klamath Glen Hydrologic Sub-Area (HSA) No. 105.11 in Klamath River Hydrologic Unit of Tully Creek-Klamath River Sub-watershed.

The major water body in the proximity of the project is the Klamath River. The Klamath River is listed as impaired pursuant to Section 303(d) of Clean Water Act. The constituents of concern are sedimentation/siltation, temperature, nutrients and low dissolved oxygen. These constituents are normally associated with stormwater run-off from highways. Total Daily Maximum Loads (TMDLs) for Sedimentation/Siltation are required to be developed by the North Coast Regional Water Quality Control Board (NCRWQCB) by 2019.

Environmental Consequences

The disturbed soil area is presently unknown but is expected to be more than 1.0 acre. The amount of disturbed area that may be created for staging by the contractor will contribute largely to the amount of disturbed soil area. Water quality impacts may occur since the nature of the work requires a large amount of soil disturbance, including tree removal. The use of construction site BMPs will avoid/minimize impacts.

Impact criteria define the level of direct and indirect impacts on Hydrology and Water Quality. The purpose of the establishing criteria is to help determine when an impact is significant under CEQA.

Does the project:

- Violate any water quality standards or waste discharge requirements?
- 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)?
- 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?
- 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?
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?
- Otherwise substantially degrade water quality?

Avoidance, Minimization, and/or Mitigation Measures

The following avoidance and minimization measures will be implemented to prevent and/or reduce impacts to hydrology and water quality:

- The project shall comply with the requirements prescribed in Caltrans Statewide NPDES Permit CAS No. 000003 (Order No. 99-06-DWQ).
- The requirements of NPDES General Permit CAS No. 000002 (Order No. 2009-0009-DWQ, as amended) for General Construction Activities are applicable to the project since the total disturbed soil area (DSA) is equal to or greater than 1.0 acre.
- A Caltrans approved SWPPP will be required. The SWPPP specifies the level of temporary pollution control measures for the project. Applicable provisions of Section 13 of Caltrans 2010 Standard Specifications shall be included in the Plans, Specifications and Estimates (PS&E) to address construction's temporary water pollution control measures. These measures must address soil stabilization, re-vegetation of riparian

areas around intermittent streams, sediment control, tracking control and wind erosion control practices. In addition, at a minimum, the project plans must include non-storm water controls, waste management and material pollution controls.

- a) Management of storm water runoff from the construction site shall be addressed during PS&E to control potential sources of water pollution before it encounters any storm water drainage system or watercourse. The Contractor is required to control material pollution, manage waste and non-storm water at the construction site. A Contractor prepared SWPPP shall incorporate appropriate temporary construction site BMPs to implement effective handling, storage, use and disposal practices during construction activities.
 - b) Existing drainage facilities shall be identified and protected by the application of appropriate construction site BMPs.
 - c) Caltrans' Storm Water Management Plan (SWMP), Project Planning and Design Guide (PPDG) Section 4, and Evaluation Documentation Form (EDF) provide detailed guidance in determining if a specific project requires the consideration of permanent Treatment BMPs. Line Item BMPs may be required to be incorporated into the PS&E.
- The project will be regulated by NCRWQCB through Caltrans Statewide NPDES Permit (Board Order 99-06-DWQ). Caltrans shall implement the programs specified in its approved Storm Water Management Plan. Caltrans NPDES office will participate in early project design consultation with the Regional Board. Caltrans shall solicit Regional Board staff review during the project's project initiation document (PID), project approval and environmental document (PA&ED) and PS&E Milestones. Coordination with Regional Board staff shall be conducted through the District NPDES Coordinator.
 - a. Any storm water/urban runoff collection, treatment, and/or infiltration disposal facilities shall be designed, installed, and maintained for the discharge of storm water runoff from all impervious surfaces generated by the 20-year, one-hour design storm within the appropriate watersheds. Runoff in excess of the design storm generated within the project site shall only be discharged to storm drain or stabilized drainage system capable of conveying flow from 100-year, 24-hour storm. If site conditions do not allow for adequate onsite disposal, all site runoff must be treated to meet applicable Effluent Limits and/or Receiving Water Limitations specified in the Basin Plan. The NCRWQCB Executive officer may approve alternative mitigation measures.
 - b. In accordance with the Basin Plan of NCRWQCB (Implementation Plans, Section 4-10), discharges of storm water from permitted storm water conveyance systems (such as Caltrans storm water conveyance facilities) shall not be subject to the Basin Plan's point source waste discharge prohibitions if the following conditions are met:

- i. The discharge and the activities which affect the discharge are managed in conformance with the provisions of the applicable NPDES permit.
 - ii. The discharge does not cause adverse effects on the beneficial uses of the receiving water.
 - iii. The permittee shall implement a general management program to eliminate or minimize non-storm water discharges into surface waters. The program shall be submitted to the Regional Water Board for approval and include and include implementation of BMPs, outreach and education, inspections, monitoring, reporting and enforcement provisions. The approved Caltrans SWMP has satisfied the condition.
- c. The inclusion of appropriate treatment BMPs in the project will satisfy the requirements of Basin Plan prohibitions and adopted TMDLs.

With the incorporation of these avoidance and minimization measures there will be a less than significant impact on hydrology and water quality.

Greenhouse Gas Emissions

CLIMATE CHANGE

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels. Research from such establishments as the Intergovernmental Panel on Climate Change (IPCC) 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 (second to electricity generation) of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing growth of vehicle miles traveled (VMT), 3) transitioning to lower GHG emitting fuels, and 4) improving vehicle technologies. To be most effective, all four strategies should be pursued collectively. The following Regulatory Setting section outlines state and federal efforts to comprehensively reduce GHG emissions from transportation sources.

Regulatory Setting

State Requirements

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and pro-active approach to dealing with GHG emissions and climate change. Relevant legislation includes the following policies:

- Assembly Bill 1493 (AB 1493), Pavley.
- Executive Order (EO) S-3-05 (signed on June 1, 2005, by former Governor Arnold Schwarzenegger).
- Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006, Núñez and Pavley.
- Executive Order (EO) S-20-06 (signed on October 18, 2006, by former Governor Arnold Schwarzenegger).
- Executive Order (EO) S-01-07 (signed on January 18, 2007 by former Governor Arnold Schwarzenegger).
- Senate Bill 97 (SB 97) Chapter 185, 2007.
- Caltrans Director's Policy 30 (DP-30) Climate Change (approved June 22, 2012): is intended to establish a Caltrans policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. This policy contributes to Caltrans stewardship goal to preserve and enhance California's resources and assets.

Federal Requirements

Although climate change and GHG reduction are a concern at the federal level, currently there are no regulations or legislation have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Neither the United States Environmental Protection Agency (U.S. EPA) nor the Federal Highway Administration (FHWA) has promulgated explicit guidance or methodology to conduct project-level GHG analysis. As stated on FHWA's climate change website (<http://www.fhwa.dot.gov/hep/climate/index.htm>), climate change considerations should be integrated throughout the transportation decision-making process—from planning through project development and delivery. Despite the lack of Federal GHG regulations and legislation, FHWA as well as the National Highway Traffic Safety Administration (NHTSA) and U.S. EPA are taking steps to lessen climate change impacts by improving transportation system efficiency, creating cleaner fuels, reducing the growth of vehicle hours travelled, and enabling the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

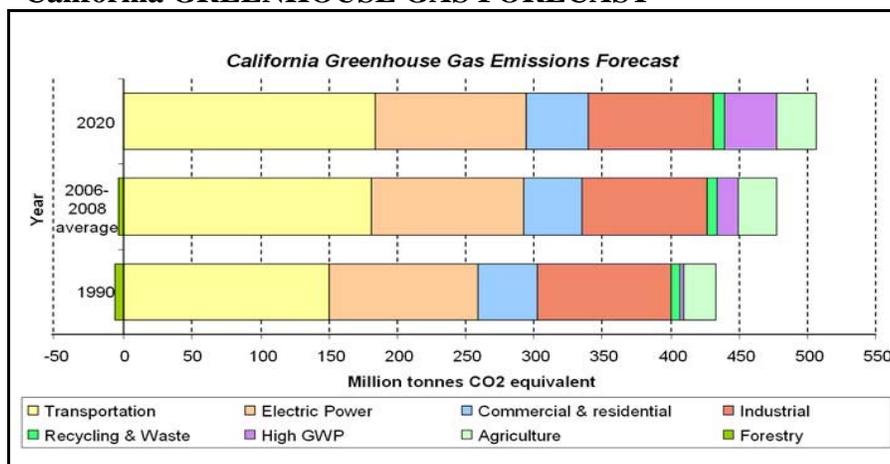
Project Analysis

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.³ 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 in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Drafeet Scoping Plan, 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 the year 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.

Figure 1 California GREENHOUSE GAS FORECAST



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

Caltrans and its parent agency, the California State 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 2006.⁴

³ This approach is supported by the AEP: *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 South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the U.S. Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

⁴ 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

The operation of this project would result in low-to-no potential for an increase in GHG emissions. This project is a storm damage repair project. The roadway will be restored to its original condition prior to a federally-declared storm event. The project is not anticipated to increase capacity or change long-term traffic. Therefore, an increase in operational GHG emissions is not expected. Temporary construction emissions of GHG will be unavoidable. However, these GHG emissions have the potential to be offset over time by improved operation of the roadway.

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.

CEQA Conclusion

Although construction emissions are unavoidable and are expected to be minimal, the proposed project will not increase capacity and is not expected to result in additional operational CO₂ emissions. However, 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 determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Climate Change Strategies

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order 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)⁵.

⁵ http://climatechange.transportation.org/ghg_mitigation/

Greenhouse Gas Reduction Measures

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as California Air Resources Board 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 the California Strategic Growth Plan, 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 of the 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". 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.

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.

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.

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.

Section 5 – List of Preparers

The following Caltrans staff contributed to the preparation of this Initial Study:

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Chiea, Larry, Associate Environmental Planner (Coordinator). Contribution: Initial Study.

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Hodgson, Talitha, Project Manager. Contribution: Project Coordination.

Igbinedion, Chris, Water Quality Specialist. Contribution: Water Quality Assessment Report.

Kuzak, Chris, Associate Environmental Planner (Architectural History). Contribution: Historical Research for Archaeological Survey Report and Historical Properties Survey Report.

Manzanera, Fernando, Hydraulic Engineer. Contribution: Floodplain Evaluation Report Summary.

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Rasmussen, Jim, Project Engineer. Contribution: Project Design.

Tang, Sharon, Air and Noise Specialist. Contribution: Air and Noise Assessment Report.

Walker-Brown, Denise, Associate Environmental Planner (Natural Sciences). Contribution: Natural Environment Study.

Werner, Steve, Hazardous Waste Specialist. Contribution: Initial Site Assessment.