

DAMNATION CREEK SAFETY PROJECT

INITIAL STUDY

**With Proposed Negative Declaration
and Draft Section 4(f) Evaluation**



DEL NORTE COUNTY, CALIFORNIA

DISTRICT 1 – DN – 101 Post Miles 15.60 to 16.20

EA 01-0K950 / EFIS 0121000034

**Prepared by the
State of California Department of Transportation**



December 2023



General Information About This Document

What is in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with proposed Negative Declaration (IS/ND) which examines the potential environmental effects of the proposed project on U.S. Highway 101 in Del Norte, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- Please read this document.
- Additional copies of this document and related technical studies are available for review upon request at:

Caltrans North Region Environmental–District 1
Attn: Tyler Brown
1656 Union Street
Eureka, CA 95501

- This document may be downloaded at the following website:
<https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs/d3-del-norte-county>
- Attend a public meeting: January 9, 2024, at 6:00 p.m.
Online at Webex: [tinyurl.com/damnationmeeting](https://www.tinyurl.com/damnationmeeting)
- Please send comments via U.S. mail to:

Caltrans North Region Environmental–District 1
Attention: Tyler Brown
1656 Union Street
Eureka, CA 95501
- Send comments via e-mail to: Tyler.W.Brown@dot.ca.gov
- Be sure to send comments by the deadline: January 29, 2024

What happens after this?

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

For individuals with sensory disabilities, this document 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 write to or call Caltrans, Attention: Myles Cochrane, North Region Environmental-District 1, 1656 Union Street, Eureka, CA 95501; (707) 445-6600 Voice, or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

DAMNATION CREEK SAFETY PROJECT

Widen the lanes on U.S. Highway 101 in Del Norte County,
from Post Miles 15.60 to 16.20 north of Klamath

INITIAL STUDY

With Proposed Negative Declaration and Draft Section 4(f) Evaluation

**Submitted Pursuant to: (State) Division 13, California Public Resources Code
(Federal) 49 U.S.C. 303**

**THE STATE OF CALIFORNIA
Department of Transportation**

12/14/2023

Date of Approval

Liza Walker

Liza Walker, Office Chief
North Region Environmental–District 1
California Department of Transportation
CEQA Lead Agency

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

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Proposed **NEGATIVE DECLARATION**

Pursuant to: **Division 13, California Public Resources Code**

SCH Number: Pending

Project Description

The California Department of Transportation (Caltrans) proposes a safety project which would include roadway grade improvements, road widening, and curve realignment on U.S. Highway 101 in Del Norte County between Post Miles 15.60 and 16.20. Additional project features include installation of approximately 350 feet of new Midwest Guardrail System (MGS) guardrail, installation of approximately 150 feet MGS Special guardrail, replacement of an existing drainage inlet, construction of a new downdrain, and installation of approximately 1,130 feet of hot-mix asphalt dikes.

Determination

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

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

The project would have *No Effect* on:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Cultural Resources
- Energy
- Geology and Soils
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The project would have *Less than Significant Impacts* to:

- Biological Resources
- Greenhouse Gas Emissions

Liza Walker, Office Chief
North Region Environmental–District 1
California Department of Transportation

Date

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Acronyms and Abbreviated Terms

Acronym/Abbreviation	Description
AB	Assembly Bill
ACE	Areas of Conservation Emphasis
BMPs	Best Management Practices
BC	Black carbon
BSA	Biological Study Area
°C	degrees Celsius
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CAL-CET	Caltrans Construction Emissions Tool
CAL EPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAPTI	Climate Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEHC	California Essential Habitat Connectivity Project
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CH ₄	methane
CIA	Cumulative Impact Analysis
CNPS	California Native Plant Society
CNPPA	California Native Plant Protection Act
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CTP	California Transportation Plan
CWA	Clean Water Act
dB	Decibels
DBH	Diameter-at-Breast-Height
DI	Drainage Inlet
Department	Caltrans
DNLTC	Del Norte Local Transportation Commission

Acronym/Abbreviation	Description
DOT	Department of Transportation
DP	Director's Policy
DPP	Design Pollution Prevention
DPS	Distinct Population Segment
ECAs	Essential Connectivity Areas
ECL	Environmental Construction Liaison
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act
EO(s)	Executive Order(s)
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESA(s)	Environmentally Sensitive Area(s)
ESL	Environmental Study Limits
ESU	Evolutionarily Significant Unit
°F	degrees Fahrenheit
FED	Final Environmental Document
FERS	Floodplain Evaluation Report Summary
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FHSZ	Fire Hazard Severity Zone
FP	Fully Protected – listing status
FR	Federal Register
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GWP	Global Warming Potential
H&SC	Health & Safety Code
HFCs	hydrofluorocarbons
HMA	Hot Mix Asphalt
HVF	High-Visibility Fencing
IPaC	Information for Planning and Consultation
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
IS/ND	Initial Study / Negative Declaration
LCFS	low carbon fuel standard
MAMU	Marbled murrelet
MBTA	Migratory Bird Treaty Act
MGS	Midwest Guardrail System
MLD	Most Likely Descendent
MMT	million metric tons
MMTCO ₂ e	million metric tons of carbon dioxide equivalent
MSA	Magnuson-Stevens Fishery Conservation and Management Act

Acronym/Abbreviation	Description
MGS	Midwest Guardrail System
MPO	Metropolitan Planning Organization
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NAHC	Native American Heritage Commission
NCRWQCB	North Coast Regional Water Quality Control Board
NCUAQMD	North Coast Unified Air Quality Management District
ND	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NHTSA	National Highway Traffic and Safety Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
O ₃	ozone
OHWM	Ordinary High Water Mark
OPC	Ocean Protection Council
OPR	Governor's Office of Planning and Research
PDT	Project Development Team
PIR	Project Initiation Report
PLOC	Programmatic Letter of Concurrence
PM(s)	post mile(s)
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
Project	Damnation Creek Safety Project
PRC	Public Resources Code (California)
RCP	Representative Concentration Pathways 8.5 Emissions Scenario
RECP	Rolled Erosion Control Products
RSP	Rock Slope Protection
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SEL	Sound Exposure Level
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	Sea Level Rise

Acronym/Abbreviation	Description
SNC(s)	Sensitive Natural Community(ies)
SO ₂	sulfur dioxide
SPCC Plan	Spill Prevention, Control, and Countermeasures Plan
SR	State Route
SRA	State Responsibility Area
SRZ	Structural Root Zone
SS	Standard Specification
SSC	Species of Special Concern
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
THVF	Temporary High Visibility Fencing
TMP	Transportation Management Plan
U.S. or US	United States
U.S. 101	U.S. (United States) Highway 101
USACE	United States Army Corps of Engineers
USC	United States Code
USCD	U.S. Climate Data
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
VA	Value Analysis
VIA	Visual Impact Assessment
VMT	Vehicle Miles Traveled
WPCP	Water Pollution Control Program

Chapter 1. Proposed Project

1.1 Project History

The California Department of Transportation proposes the Damnation Creek Safety Project in response to collision analysis by Caltrans District 1 Traffic Safety. Approval was initially granted for State Highway Operation and Protection Program (SHOPP) funding to improve superelevation, apply Open Graded Asphalt Concrete and install/extend Midwest Guardrail System (MGS) between Post Miles (PM) 15.70 and 16.20 on U.S. Highway 101 in Del Norte County as this site had a collision rate 6 times higher than average for similar facilities. After reexamination of the site, the post miles were lengthened to PM 15.60 to PM 16.20 and shoulder widening support components were added.

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

1.2 Project Description

As part of a safety project, Caltrans proposes roadway grade improvements, road widening, and curve realignment on U.S. Highway 101 (U.S. 101) in Del Norte County between Post Miles 15.60 and 16.20 (Figures 1 and 2). Additional project features include installation of approximately 350 feet of new Midwest Guardrail System (MGS) guardrail, installation of approximately 150 feet MGS Special guardrail, replacement of an existing drainage inlet (DI), construction of a new downdrain, and installation of approximately 1,130 feet of hot-mix asphalt (HMA) dikes.

Purpose

The purpose of this project is to reduce the frequency and severity of collisions along this segment of the state highway.

Need

This project was initiated by District 1 Traffic Safety in response to collision analysis. The analysis indicates a concentration of collisions mostly northbound approaching PM 16.00. The collisions were mainly due to northbound drivers speeding and attempting to overtake adjacent vehicles in the northbound passing lane.

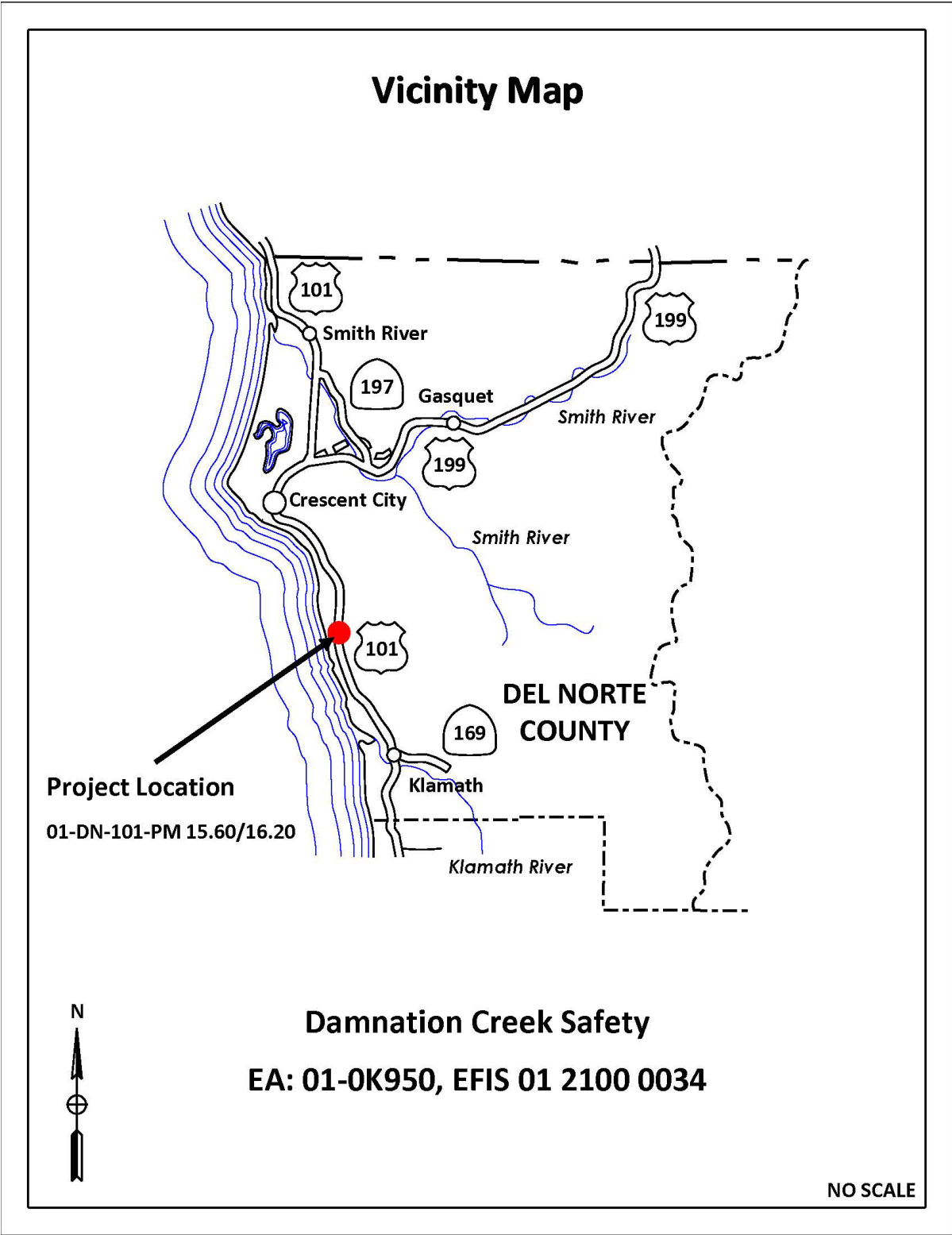


Figure 1. Project Vicinity Map

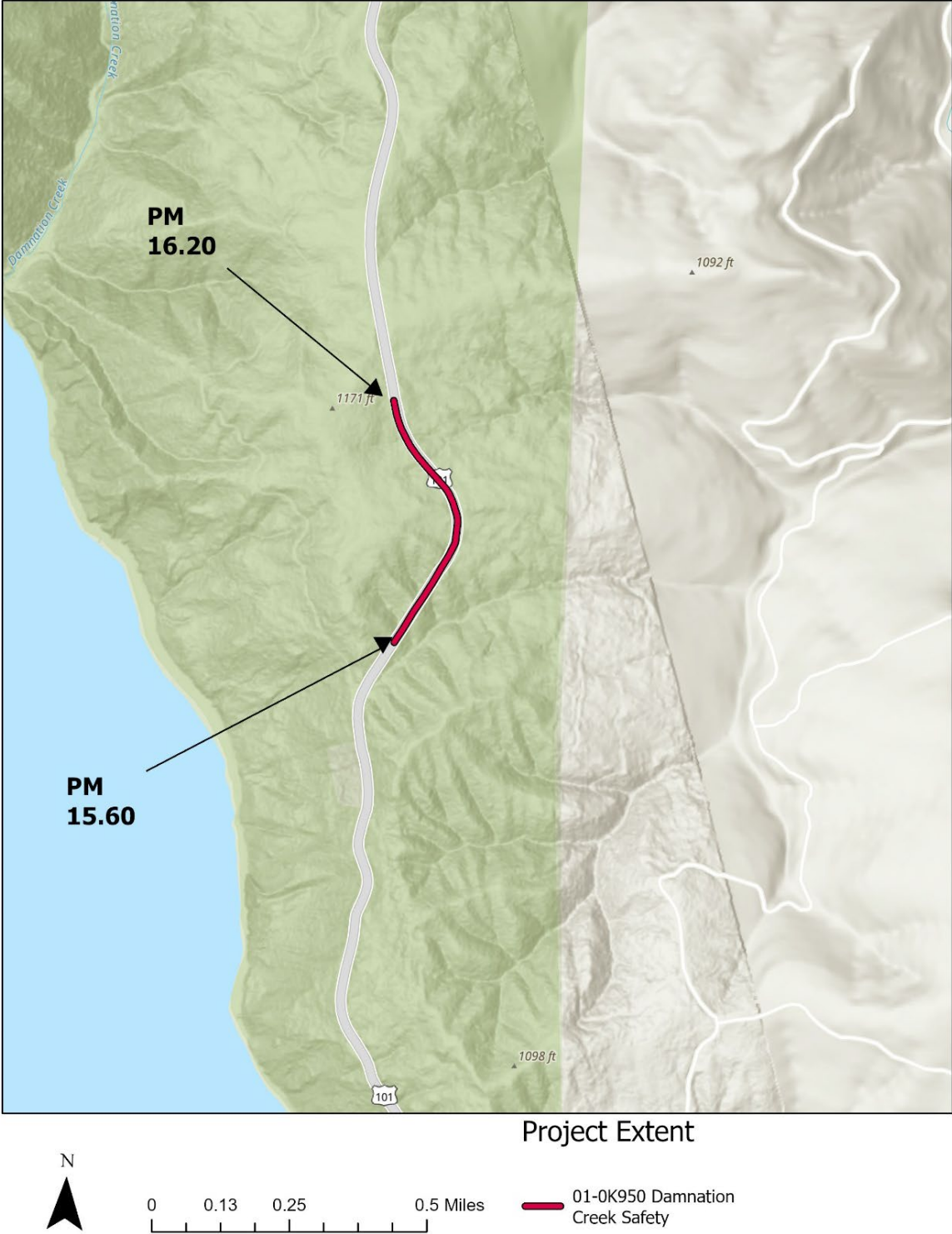


Figure 2. Project Location Map

Proposed Project

In addition to the grade improvements and road widening, the project proposes HMA leveling course and grinding/cold planing existing pavement and importing of fill material to raise the road grade approximately 4 feet, repaving with HMA, and overlaying the paved surface with an open graded friction course pavement. Please see projects plans in Appendix A for more details.

Roadway grade changes and road widening activities would require removal of minor roadside vegetation and one large coast redwood snag. The project would also require shallow excavation under the current road surface along portions of the project footprint.

Construction of the proposed project is anticipated to begin in March 2026 and end in December 2026 and is estimated to take 110 working days. Except for a drainage easement for the new downdrain, the project is entirely within the existing Caltrans right of way. The expected lifespan of the road surface would be approximately 30 years, while downdrains are expected to last 20 years.

No-Build Alternative

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

General Plan Description, Zoning, and Surrounding Land Uses

The proposed project area is entirely surrounded by Del Norte Coast Redwoods State Park. This land is mainly used for hiking and recreation.

1.3 Permits and Approvals Needed

The following table indicates the permitting agency, permits/approvals and status of permits required for the project.

Table 1. Agency, Permit/Approval and Status

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	Programmatic Letter of Concurrence (PLOC)	Obtained September 19, 2023
California State Parks	Section 4(f) <i>de minimis</i> Concurrence	In progress, required prior to project approval.

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

1.4 Standard Measures and Best Management Practices Included in All Alternatives

Under CEQA, “mitigation” is defined as avoiding, minimizing, rectifying, reducing/eliminating, and compensating for an impact. In contrast, Standard Measures and Best Management Practices (BMPs) are prescriptive and sufficiently standardized to be generally applicable, and do not require special tailoring for a project. They are measures that typically result from laws, permits, agreements, guidelines, resource management plans, and resource agency directives and policies. For this reason, the measures and practices are not considered “mitigation” under CEQA; rather, they are included as part of the project description in environmental documents.

The following section provides a list of project features, standard practices (measures), and Best Management Practices (BMPs) that are included as part of the project description. These avoidance and minimization measures are prescriptive and sufficiently standardized to be generally applicable and do not require special tailoring to a project situation. These are

generally measures that result from laws, permits, guidelines, resource management plans, and resource agency directives and policies. They predate the project's proposal and apply to all similar projects. For this reason, these measures and practices do not qualify as project mitigation, and the effects of the project are analyzed with these measures in place.

Standard measures relevant to the protection of natural resources deemed applicable to the proposed project include:

Aesthetics Resources

- AR-1:** Temporary access roads, construction easements, and staging areas that were previously vegetated would be restored to a natural contour and revegetated with regionally-appropriate native vegetation.
- AR-2:** Where feasible, guardrail terminals would be buried; otherwise, an appropriate terminal system would be used, if appropriate.
- AR-3:** Where feasible, construction lighting would be temporary, and directed specifically on the portion of the work area actively under construction.
- AR-4:** Where feasible, the removal of established trees and vegetation would be minimized. Environmentally sensitive areas (ESAs) would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas where vegetation would be preserved and root systems of trees protected.

Biological Resources

BR-1: General

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

BR-2: Animal Species

- A. To protect nesting or roosting northern spotted owl and marbled murrelet, suitable northern spotted owl or marbled murrelet nesting trees would be removed between September 16 and January 31. No construction activities generating sound levels 20 or more decibels (dB) above ambient sound or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 dB (with the exception of backup alarms) would occur between February 1 and August 5. Between August 6 and September 15, work that generates sound levels equal to or greater than 10 dB above ambient sound levels or above 90 dB max would observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Sound-related work windows would be lifted between September 16 and January 31.

No human activities (including use of drones) would occur within a visual line-of-sight of 328 feet (100 meters) or less from a known nest site, or from unsurveyed suitable nesting habitat containing potential murrelet nest trees within 328 feet (100 meters) of proposed activities or, for NSO, from unsurveyed suitable nesting/roosting habitat containing potential owl nest trees. These visual disturbance restrictions would be lifted after September 15; after which the USFWS considers visual disturbance as having “no effect” on nesting adults or dependent young. The 328-foot (100 meters) visual disturbance distance may be reduced or eliminated through technical assistance with the USFWS if site-specific information suggests that ambient visual disturbance within the action area is already high enough to likely preclude species from nesting within 328 feet (100 meters) of the project footprint, or vegetation near the roadway is sufficiently dense to shield the view from habitat farther from the roadway.

- B. No suitable marten denning/resting habitat or potentially suitable marten den or rest trees will be removed or altered (i.e., to the extent the tree or habitat are no longer suitable for denning or resting) during the denning season (i.e., from March 1 through September 15). Suitable marten habitat may be removed or altered outside the denning season (i.e., from September 16 through the following February 28/29) provided the remaining habitat retains suitability for denning and resting after the removal or alteration.

Habitat suitability includes maintenance of the dense, mesic shrub layer at or above 70 percent. Removal or alteration of known natal or maternal den trees (or more rare den structures such as rockpiles, snags, logs) at any time of year is not covered by this consultation.

- C. No human activities (including use of drones) will occur within a visual line-of-sight of 328 feet (100 meters) or less from a known natal or maternal den site (USFWS 2020). The 100-meter visual disturbance distance may be reduced or eliminated through technical assistance with USFWS (the Service) if site-specific information suggests that ambient visual disturbance within the action area is already high enough to likely preclude species from denning within 328 feet (100 meters) of the project footprint, or vegetation near the roadway is sufficiently dense to shield the view from habitat farther from the roadway.
- D. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist five days prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

BR-3: Invasive Species

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

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

- All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species. Project personnel would adhere to the latest version of the *California Department of Fish and Wildlife Aquatic Invasive Species Cleaning/Decontamination Protocol (Northern Region)* (CDFW 2016a) for all field gear and equipment in contact with water.

BR-4: Plant Species, Sensitive Natural Communities, and ESHA

- A. Seasonally appropriate, pre-construction floristic surveys for sensitive plant species would be completed (or updated) by a qualified biologist prior to construction in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018a).
- B. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, rare plant occurrences, intermittent streams and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas.
- C. Where feasible, the structural root zone (SRZ) would be identified around each large-diameter tree (>2-foot diameter-at-breast height [DBH]) directly adjacent to project activities, and work within the zone would be limited.
- D. When possible, excavation of roots of large diameter trees (>2-foot DBH) would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments or chainsaw). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.
- E. Upon completion of construction, all superfluous construction materials would be completely removed from the site. The site would then be restored by regrading and stabilizing with a hydroseed mixture of native species along with fast growing sterile erosion control seed, as required by the Erosion Control Plan.

Cultural Resources

- CR-1:** If unanticipated cultural materials are unearthed during construction, work activity within a 60- foot radius of the discovery would be temporarily halted and the area secured until a qualified archaeologist can assess the nature and significance of the find in consultation with local tribes, Caltrans Cultural Studies Office, and the State Historic Preservation Officer (SHPO).
- CR-2:** If human remains and related items are discovered on private or State land, they would be treated in accordance with State Health and Safety Code (H&SC) § 7050.5. which requires that no further excavation or disturbance occur in the area and that the Del Norte County Coroner would be contacted immediately to confirm the remains are not modern. Pursuant to California Public Resources Code (PRC) § 5097.98, if the remains are thought to be Native American, the coroner will contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC would then appoint a Most Likely Descendent (MLD) who, within 48 hours of being granted access to the site of the late discovery, would provide recommendations for the appropriate and dignified treatment and disposition of the human remains and associated items.

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

Geology, Seismic/Topography, and Paleontology

- GS-1:** The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and Best Management Practices (BMPs). New earthen slopes would be vegetated to reduce erosion potential.
- GS-2:** In the unlikely event that paleontological resources (fossils) are encountered, all work within a 60-foot radius of the discovery would stop, the area would be secured, and the work would not resume until appropriate measures are taken.

Greenhouse Gas Emissions

- GHG-1:** Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality (Caltrans Standard Specification [SS] 14-9).
- GHG-2:** Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.
- GHG-3:** Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB) (Caltrans SS 7-1.02C).
- GHG-4:** Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel times.
- GHG-5:** All areas temporarily disturbed during construction would be revegetated with appropriate native species, as appropriate. Landscaping reduces surface warming and, through photosynthesis, decreases CO₂. This replanting would help offset any potential CO₂ emissions increase.
- GHG-6:** Pedestrian and bicycle access would be maintained on U.S. Highway 101 during project activities.

Hazardous Waste and Material

- HW-1:** Per Caltrans requirements, the contractor(s) would prepare a project-specific *Lead Compliance Plan* (California Code of Regulations [CCR] Title 8, § 1532.1, the “Lead in Construction” standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of materials containing lead.
- HW-2:** When identified as containing hazardous levels of lead, traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision “Remove Yellow Traffic Stripes and Pavement Markings with Hazardous Waste Residue” (SSP 14-11.12).
- HW-3:** If treated wood waste (such as removal of sign posts or guardrail) is generated during this project, it would be disposed of in accordance with Standard Specification “Treated Wood Waste.”

Traffic and Transportation

- TT-1:** Pedestrian and bicycle access would be maintained during construction.
- TT-2:** The contractor would be required to schedule and conduct work to avoid unnecessary inconvenience to the public and to maintain access to driveways, houses, and buildings within the work zones.
- TT-3:** A Transportation Management Plan (TMP) would be applied to the project.

Utilities and Emergency Services

- UE-1:** All emergency response agencies in the project area would be notified of the project construction schedule and would have access to U.S. Highway 101 throughout the construction period.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (2012-0011-DWQ), effective September 19th, 2012. If the project results in a land disturbance of one acre or more, coverage under the Construction General Permit (CGP) (Order 2022-0057-DWQ) is also required.

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2022-0057-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre) that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction. For SWPPP projects (which are governed according to both the Caltrans NPDES permit and the Construction General Permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES and CGP and the corresponding requirements of those permits are adhered to. For WPCP projects (which are governed according to the Caltrans NPDES permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES permit is adhered to.

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

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

The project would comply with the provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (2012-0011-DWQ), effective September 19th, 2012. If the project results in a land disturbance of one acre or more, coverage under the Construction General Permit (CGP) (Order 2022-0057-DWQ) is also required.

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2022-0057-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre) that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction. For SWPPP projects (which are governed according to both the Caltrans NPDES permit and the Construction General Permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES and CGP and the corresponding requirements of those permits are adhered to. For WPCP projects (which are governed according to the Caltrans NPDES permit), soil disturbance is permitted to occur year-round as long as the Caltrans NPDES permit is adhered to.

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

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

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

- Any spills or leaks from construction equipment (e.g., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.

- Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the *2016 Caltrans Storm Water Management Plan*. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2022-0033-DWQ). The project would incorporate pollution prevention and design measures consistent with the *2016 Caltrans Storm Water Management Plan*. This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

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

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

1.5 Discussion of the NEPA Categorical Exclusion

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

Chapter 2. CEQA Environmental Checklist

Environmental Factors Potentially Affected

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

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

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

Project features, which can include both design elements of the project, as well as standardized measures applied to all or most Caltrans projects (such as Best Management Practices [BMPs] and measures included in the Standard Plans and Specifications or as Standard Special Provisions [Section 1.4]), are considered to be an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

Project Impact Analysis Under CEQA

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

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

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

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

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

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar processes may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§ 15126.4(a)(1)(B)).

Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR § 15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA 15370). Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered "mitigation" under CEQA, these measures are often referred to in an Initial Study as "mitigation", Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

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

No-Build Alternative

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

Definitions of Project Parameters

When determining the parameters of a project for potential impacts, the following definitions are provided:

Project Area: This is the general area where the project is located. This term is mainly used in the Environmental Setting section (e.g., watershed, climate type, etc.).

Project Limits: This is the beginning and ending post miles for a project. This is different than the ESL in that it sets the beginning and ending limits of a project along the highway. It is the limits programmed for a project, and every report, memo, etc. associated with a project should use the same post mile limits. In some cases, there may be areas associated with a project that are outside of the project limits, such as staging and disposal locations.

Project Footprint: The area within the Environmental Study Limits (ESL) the project is anticipated to impact, both temporarily and permanently. This includes staging and disposal areas.

Environmental Study Limits (ESL): The project engineer provides the Environmental team the ESL as an anticipated boundary for potential impacts. The ESL is *not* the project footprint. Rather, it is the area encompassing the project footprint where there could *potentially* be direct and indirect disturbance by construction activity. The ESL is larger than the project footprint in order to accommodate any future scope changes. The ESL is also used for identifying the various Biological Study Areas (BSAs) needed for different biological resources.

Biological Study Area (BSA): The BSA encompasses the ESL plus any areas outside of the ESL that could potentially be affected by a project (e.g., noise, visual, Coastal Zone, etc.). Depending on resources in the area, a project could have multiple BSAs. Each BSA should be identified and defined. If the project is within the Coastal Zone, this area would also include the required 100 foot buffer. For this project, two BSAs were defined: one to account for auditory/visual impacts (BSA #1) and the other encompasses waterbodies within the project study area that may have suitable habitat for special status fish species (BSA #2).

2.1 Aesthetics

Except as provided in the Public Resources Code Section 21099:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?				✓
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
Would the project: c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?				✓
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Visual Impact Assessment (VIA)* (Caltrans 2023h). This project is located within Redwood State Park in which the main resource focus is old-growth redwood forest. The section of U.S. 101 between PMs 11.0 and 23.1, which includes the project site, has officially been designated a scenic highway within the California State Scenic Highway System.

Redwood National and State Parks was added to the list of World Heritage Sites and International Biosphere Reserves in 1980.

Changes to visual resources due to the proposed project would be minimal overall. It is anticipated that post-project conditions will be very similar to the existing conditions, resulting in few noticeable changes to the visual environment. The project scope includes superelevation improvements, which are not expected to impact views to or from the roadway. The view distance is constrained on both sides of the highway due to the forest density and the terrain elevation changes.

Temporary visual impacts would be present during construction owing to the presence of construction equipment and alterations to the road surface. Additionally, minor temporary changes would occur to the roadside vegetation post-construction, subsiding once natural vegetation reoccupies the site. Upgrades would overall be compatible with the existing visual quality and character of the project corridor.

This review indicates that the project would have “*no impact*” on any “Designated Scenic Resources” as defined by CEQA statutes or guidelines, or by Caltrans policy. No mitigation is required.

2.2 Agriculture and Forest Resources

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

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>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?</p>				✓
<p>Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>				✓
<p>Would the project: c) Conflict with existing zoning for, or cause rezoning of forest land (as defined by Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?</p>				✓
<p>Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>				✓

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?</p>				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Project locations are predominately within the existing Caltrans right of way or bordered by property zoned for public lands.

Most of the construction is within the existing Caltrans right of way. It is anticipated that one small easement would be needed from State Parks to install the new drainage outlet at PM 16.01. The drainage easement is approximately 10 feet wide by 10 feet long. The location of the easement is not currently easily accessible as forest land because it is on the side of the road on a steep slope with no trail access. The construction of the drainage outlet would occupy a small footprint approximately 10 feet long by 24 inches wide. The anticipated easement will not change the use of the land or the public’s access to it.

Potential impacts to agriculture and forest resources are not anticipated as the improvement of existing roadway and use of the easement area would not cause a change in zoning or land use or result in the loss or conversion of forest or agricultural land. The loss or conversion of farmland to non-agricultural use or forest land to non-forest use is not anticipated.

Given the above, Caltrans anticipates the project would have “no impact” on agriculture and forest resources. No mitigation is required.

2.3 Air Quality

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

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
Would the project: b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?				✓
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?				✓
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Air Quality, GHG and Energy Analyses* (Caltrans 2023a) and *Air Quality Update* (Caltrans 2023b) memorandums. Del Norte County is classified as an “attainment” area for all current National Ambient Air Quality Standards; therefore, transportation conformity requirements do not apply. There are no sensitive receptors in the immediate vicinity of any of the project's construction areas. Potential long-term impacts to air quality are not anticipated because the project would not result in changes to traffic volumes, capacity, vehicle miles traveled (VMT), fleet mix, speed, location of existing facilities, or any other factor that would increase long-term operational emissions.

The project may result in temporary air quality impacts during construction, including fugitive dust and exhaust from construction equipment. Fugitive dust, or PM₁₀, may be generated during excavation, grading, and hauling activities. However, both fugitive dust and pollutants from construction equipment would be temporary in nature. Dust and emissions would be reduced and controlled in conformance with Caltrans standard specifications.

A discussion of greenhouse gas emissions is provided in Section 2.8. Given the above, Caltrans anticipates the project would have “*no impact*” on air quality. No mitigation is required.

2.4 Biological Resources

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?</p>			✓	
<p>Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>			✓	
<p>Would the project: c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p>				✓
<p>Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p>				✓

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>				✓
<p>Would the project: f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</p>				✓

Regulatory Setting

Within this section of the document (Section 2.4. Biological Resources), the topics are separated into Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, and Invasive Species. Plant and animal species listed as “threatened” or “endangered” are covered within the Threatened and Endangered sections. Other special status plant and animal species, including U.S., Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) candidate species, California Department of Fish and Wildlife (CDFW) Fully Protected (FP) species, Species of Special Concern (SSC), and California Native Plant Society (CNPS) rare plants are covered in the respective Plant and Animal sections. This section of the document focuses on the issues covered in Chapter 4 of the Natural Environment Study (NES) (Caltrans 2023e).

Natural Communities

In this section, the focus is on biological communities, not individual plant or animal species. CDFW maintains a list of sensitive natural communities (SNCs). SNCs are those natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status taxa or their habitat. 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.

Wetlands and Other Waters

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

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

Plant Species

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

- Federal Endangered Species Act (FESA)—USC 16 Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402
- California Endangered Species Act (CESA)—California Fish and Game Code Section 2050, et seq.
- Native Plant Protection Act—California Fish and Game Code Sections 1900–1913
- National Environmental Policy Act (NEPA)—40 CFR Sections 1500 through 1508
- California Environmental Quality Act (CEQA)—California Public Resources Code (PRC) Sections 21000–21177

Animal Species

The USFWS, NMFS, and CDFW have regulatory responsibility for the protection of special status animal species. The primary laws governing animal species include:

- NEPA—40 CFR Sections 1500 through 1508
- CEQA—California Public Resources Code Sections 21000–21177
- Migratory Bird Treaty Act—16 USC Sections 703–712

- Fish and Wildlife Coordination Act–16 USC Section 661
- California Fish and Game Code Sections 1600–1603
- California Fish and Game Code Sections 4150 and 4152

Threatened and Endangered Species

The primary laws governing threatened and endangered species include:

- FESA–USC 16 Section 1531, et seq. See also 50 CFR Part 402
- CESA–California Fish and Game Code Section 2050, et seq.
- CESA–California Fish and Game Code Section 2080
- CEQA–California Public Resources Code, Sections 21000–21177
- Magnuson-Stevens Fishery Conservation and Management Act, as amended–16 USC Section 1801

Invasive Species

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

Affected Environment

A Natural Environment Study (NES) (Caltrans 2023e) was prepared for the project. Caltrans coordinated with fisheries biologists and water quality specialists, as well as agency personnel from USFWS, NMFS, CDFW, California Coastal Commission, California State Parks and the County of Del Norte. See Chapter 3 for a summary of these coordination efforts and professional contacts.

The Environmental Study Limits (ESL), provided by the Caltrans Design team at the beginning of the environmental study process, is the area encompassing the project footprint where there could *potentially* be direct and indirect disturbance by construction activity. The Environmental Setting describes the project area’s physical conditions (including climate, topography, geology/soils, habitat, hydrology, watercourses, and level of human or natural disturbance) and biological conditions (including vegetation, special status species, common wildlife, habitat connectivity, dispersal/migration corridors, aquatic resources, and invasive species).

The Biological Study Areas (BSAs) for the proposed project encompass the ESL plus resource-specific areas outside of the ESL that could potentially be affected by the project. These BSAs were determined based on elements of construction that may reach beyond the immediate project footprint, such as elevated noise/hydroacoustic levels, visual disturbances, modifications to surface and subsurface hydrology, and/or downstream water quality impacts.

The following BSAs were identified to assess potential impacts of the proposed project to nearby biological resources:

- **BSA #1 (Auditory/Visual)** – This BSA encompasses the ESL plus a 0.25-mile buffer to account for potential construction-related auditory and/or visual impacts to special status animal species and their habitats.
- **BSA #2 (Waters)** – This BSA encompasses any waterways or waterbodies downstream of the project ESL that may have suitable habitat for special status fish species. This includes a tributary to Wilson Creek, and the portion of Wilson Creek downstream of the project ESL. These waters were assessed for potential indirect impacts as a result of potential sedimentation and/or pollutant contamination from project-related activities.

The project ESL includes U.S. 101 and Del Norte Coast Redwoods State Park, which borders the roadway on both sides, between PM 15.60 and PM 16.20, approximately 7 miles south of Crescent City. The project ESL is entirely within the Childs Hill 7.5-minute U.S. Geological Survey (USGS) quadrangle. Under the Public Land Survey System, the project is within Section 31 in Township 15 North, Range 1 East.



Figure 3. Environmental Study Limits and Biological Study Areas

Physical Conditions

The project ESL is entirely within the *Coast Range* ecoregion that includes an inland coastal mountain range which is dominated by highly productive evergreen forests. The project ESL is along U.S. 101, a north-south trending highway with intermittent passing lanes and occasional paved or graveled pullouts.

Climate

The project ESL is entirely within the warm-summer Mediterranean climate subtype, known for its cool, wet winters and warm, dry summers (U.S. Climate Data 2023). Based on over 100 years of records, monthly average temperatures range from 44 to 60 degrees Fahrenheit (°F). Average annual rainfall in the immediate region is approximately 71.24 inches, with the majority falling between the months of December and March.

Land Use

Land within the project ESL includes U.S. 101, associated Caltrans right of way, and lands managed by Del Norte Coast Redwoods State Park. The California Coastal Trail intersects the far southern end of the project ESL and parking for the Damnation Creek Trailhead is on the western side of U.S. 101 near PM 16.1, within the project ESL.

Topography

The project ESL is on a gradual incline from south to north, with elevations ranging between 800 and 1,000 feet above mean sea level.

Geology/Soils

The project ESL is within the Northern Coast Ranges subset of the Coast Ranges Geomorphic Province. The Coast Ranges are north-west trending mountain ranges (typically 2,000 to 4,000 feet elevation) and valleys that run subparallel to the San Andreas Fault. The province is bordered to the west by the Pacific Ocean, to the east by the Great Valley Geomorphic Province, to the south by the Transverse Ranges of southern California, and to the north by the Klamath Mountain Range.

Natural Resources Conservation Service (NRCS) soil survey data for Del Norte County indicated three soil map unit types mapped in the survey area (NRCS 2023) (Table 2).

Table 2. Soil Map Units within the Biological Study Area

Soil Unit Name	Description
Sasquatch-Yeti-Footstep complex	Parent material consists of colluvium and residuum derived from sandstone and mudstone. Typically found on narrow or broad ridges and upper mountain slopes.
Sasquatch-Sisterrocks-Ladybird complex	Parent material consists of colluvium and residuum derived from sandstone and mudstone. Typically found on mountain slopes.
Sisterrocks-Sasquatch-Footstep complex	Parent material consists of colluvium and residuum derived from sandstone and mudstone. Typically found on mountain slopes.

Source: NRCS 2023

Hydrology/Watershed

The project area is entirely within the Wilson Creek–Frontal Pacific Ocean watershed, which encompasses approximately 26 square miles (17,125 acres) (USGS 2019). Intermittent streams that eventually flow into Wilson Creek to the east intersect the project ESL in several locations. Smaller roadside ditches that convey run-off are also present on either side of U.S. 101 within the project ESL.

Natural Communities and Land Cover Types

Two natural community types were identified within the project ESL: Redwood Forest and Woodland (4.03 acres) and Wild Oats and Annual Brome Grasslands (.49 acres). Additional land cover types include developed land and disturbed areas.

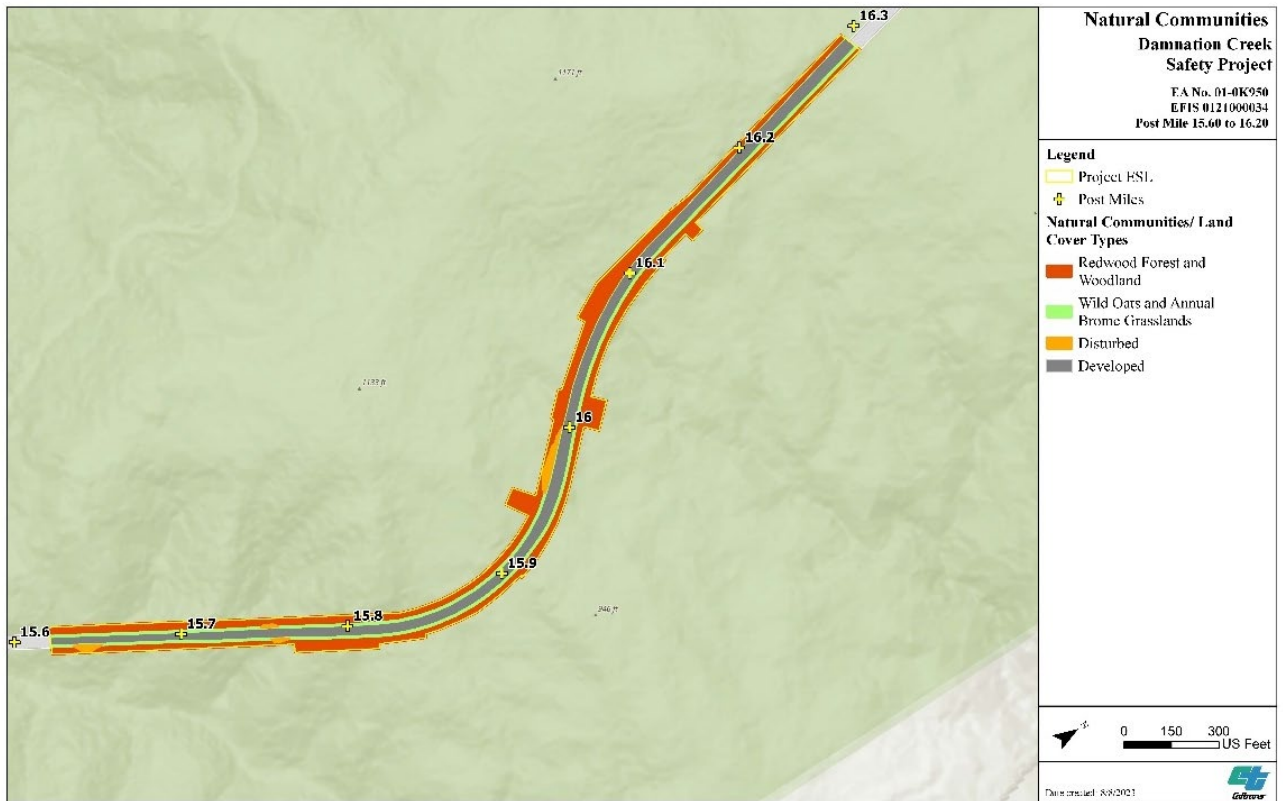


Figure 4. Natural Communities and Land Cover Types

Redwood Forest and Woodland

The Redwood Forest and Woodland natural community (4.03 acres) is found throughout the majority of the project ESL and BSAs. The overstory is dominated by coast redwood (*Sequoia sempervirens*). Other trees may include Douglas-fir (*Pseudotsuga menziesii*), tanoak (*Notholithocarpus densiflorus*), bigleaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), and/or red alder (*Alnus rubra*).

Wild Oats and Annual Brome Grassland

Wild Oats and Annual Brome Grasslands (0.49 acres) are present along the shoulders of U.S. 101, which is primarily dominated by weedy annual grasses and forbs. Species include introduced and native annual grasses such as wild oats (*Avena barbata*, *A. fatua*) and brome grasses (*Bromus* spp.), sweet vernal grass (*Anthoxanthum odoratum*), velvet grass (*Holcus lanatus*), bluegrass (*Poa* spp.), fescue (*Festuca* spp.), orchard grass (*Dactylis glomerata*), and other native and non-native forbs. Wild Oats and Annual Brome Grasslands is not a ranked community and is not considered sensitive by CDFW.

Developed and Disturbed

Developed land includes the paved portions of U.S. 101 (2.97 acres). Disturbed land includes dirt and gravel pullouts adjacent to U.S. 101 (.13 acres). Besides intermittent sparse annual grasses or forbs, the disturbed land area is mostly devoid of vegetation.

Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status taxa or their habitat. High priority SNCs are globally (G), and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively (CDFW 2023c).

Redwood Forest and Woodland is an S3/G3 ranked community and is considered sensitive by CDFW. Within the project ESL, Redwood Forest and Woodland, an S3 ranked SNC, encompasses 4.03 acres.

The proposed project would require minor vegetation removal immediately adjacent to the roadway, including the removal of annual grasses and forbs and one redwood snag.

Wetlands and Other Waters

Wetland delineations were performed to survey for potentially jurisdictional wetland and non-wetland Waters of the U.S. and State within and adjacent to the project construction footprint at each location. No wetlands were found within the project ESL.

Proposed drainage improvements only include modifications to roadside stormwater facilities and would not occur within jurisdictional waterways.

Habitat Connectivity

Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Stream courses and their associated riparian areas are often used as migration corridors by aquatic and terrestrial species. If corridors are degraded, habitat fragmentation can result. Habitat fragmentation is the process by which habitat loss results in the division of large, continuous habitats into smaller, more isolated remnants, thereby lessening its biological value.

The California Essential Habitat Connectivity Project (CEHC) was commissioned by Caltrans and the CDFW to identify and describe wildlife movement corridors in California (CDFW 2023d). The CEHC identifies large parcels of intact habitat or natural landscape that support native biodiversity and areas essential for ecological connectivity between them (Essential Connectivity Areas [ECAs]). Additionally, the CEHC models linkages between the ECAs that need to be maintained for use as wildlife corridors. The goal of the project is to integrate natural resource considerations into transportation and land use planning processes.

The project ESL and BSAs are entirely within the Gold Bluffs–Siskiyou Mountains ECA.

Similarly, the CDFW Areas of Conservation Emphasis (ACE) is a tool that utilizes a compilation of statewide spatial information on items such as biodiversity, rarity, significant habitats, and connectivity to produce a ranking of an area’s connectivity importance. The BSA is within an area that has an ACE ranking of “3” and is not considered an area of known importance for connectivity (CDFW 2023d).

There are no waters within the project ESL suitable for fish passage; project-related impacts to fish passage are not expected.

Special Status Plant Species

Seasonally appropriate botanical surveys were conducted within the ESL to identify any special status plant species that may be impacted by project activities. Botanical surveys were conducted in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities*. Resources used to identify plants included *The Jepson Manual, second edition* and internet resources, such as Calflora.

Caltrans biologists initially conducted floristic surveys in 2022 and 2023. Surveys were timed to coincide with the flowering periods of the special status plant species that could potentially occur within the ESL.

For the purposes of this evaluation, “special status plants” are those species that are legally protected or prioritized under the regulations. For this survey, special status plants include:

- Species listed or proposed for listing as threatened or endangered under FESA
- Species that are candidates for possible future listing as threatened or endangered under the FESA
- Species listed or proposed for listing by the State of California as threatened or endangered under the CESA
- Species that meet the definitions of rare or endangered under CEQA
- Plant species listed as rare under the California Native Plant Protection Act (CNPPA)
- Plants listed by CNPS per the California Rare Plants Ranks (CRPR) (CNPS 2023b)

The project ESL contains suitable habitat for 25 special status plant species described in Appendix C, none of which were observed within the project ESL during botanical surveys.

The USFWS, CDFW-CNDDDB, and CNPS databases list two federal and/or state listed plant species that could occur near the project ESL, including sand dune phacelia (*Phacelia argentea*; federal proposed threatened) and western lily (*Lilium occidentale*; federal endangered and state endangered). The sand dune phacelia grows on coastal dunes with an elevation range between 10–80 feet and the western lily grows between 5–605 feet elevation which are outside of the project elevation range of 800–1,000 feet. While not observed within the project ESL, federal and state listed plant species identified during the records search are discussed briefly below.

Special Status Animal Species

For the purposes of this evaluation, special status wildlife species are those species that are legally protected or prioritized. Special status wildlife species reviewed in this Initial Study include:

- Species listed or proposed for listing as threatened or endangered under FESA
- Species that are candidates for possible future listing under FESA

- Species listed or proposed for listing by the State of California as threatened or endangered under CESA
- Species that meet the definitions of rare or endangered under CEQA
- CDFW Species of Special Concern (SSC) and Fully Protected (FP) Species

The BSAs described in this section were assessed for the potential to support special status wildlife species and/or their habitats via desktop review of aerial imagery and records of occurrences, site visits, and through discussions with agency personnel and species experts. General habitat assessments were conducted for all special status wildlife species provided by the aforementioned records search.

The project BSAs may provide suitable habitat for 17 of the special status animal species described in Appendix C. A background of these species, potential project impacts, and is provided below. Species with similar habitat requirements, behaviors, and/or life histories are combined into one assessment where appropriate.

The project BSAs lack suitable habitat for the remaining 28 species described in Appendix C. As these species are not expected to occur within the project BSAs, they would not be impacted by the proposed project, and no further discussion is included in this assessment.

AMPHIBIANS AND REPTILES

Foothill yellow-legged frog (*Rana boylei*)–Northwest clade, northern red-legged frog (*Rana aurora*), Pacific tailed frog (*Ascaphus truei*), southern torrent salamander (*Rhyacotriton variegatus*), and western pond turtle (*Emys marmorata*) are CDFW Species of Special Concern (SSC) that could occur within the project BSAs. The western pond turtle is also a candidate species to be included in federally threatened species list.

Foothill yellow-legged frogs–Northwest clade are characteristically found very close to water in association with perennial streams and ephemeral creeks that retain perennial pools through the end of summer. This species is associated with partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. During cold weather, individuals seek cover under rocks in the streams or on shore within 6 feet of water. This species is rarely encountered far from permanent water. Eggs are attached to gravel or rocks in moving water near stream margins. Mating and egg-laying occurs exclusively in streams and rivers (not in ponds or lakes).

The northern red-legged frog is a medium to large sized frog that is found in humid forests, woodlands, grasslands, and stream sides with dense riparian cover. It is most common in lowlands or foothills and is frequently found in woods adjacent to streams but can be wide-ranging and highly terrestrial in damp woods and meadows during the non-breeding season. It requires permanent water sources, such as ponds and lakes, for breeding.

Pacific tailed frogs typically occur in mature or late-successional conifer-dominated habitats, including coast redwood and Douglas-fir forests. They can be found in cool, perennial streams with steep banks and dense vegetation. Tailed frogs are usually found in streams with large stones, cobbles, and stable boulders, which can be used for shelter from rapid current. Quieter side pools are also needed so eggs are not washed away.

Southern torrent salamander is found in coastal drainages from Oregon south to Mendocino County. It inhabits cold streams and seeps that are shaded by tree or shrub canopy, typically with moist rock and talus. Suitable cold shaded streams are usually found on north-facing slopes.

Western pond turtles prefer creeks and ponds with quiet water, as well as streams with boulders or fallen trees that provide cover. The species is often associated with areas that provide basking habitat, such as aquatic vegetation and/or logs.

Protocol-level special status amphibian and reptile surveys were not conducted within the project BSAs. However, it is assumed that the intermittent streams (adjacent to the project ESL) and Wilson Creek (BSA #2) may provide suitable aquatic breeding habitat for foothill yellow-legged frog, northern-red legged frog, Pacific tailed frog, southern torrent salamander, and/or western pond turtles. While it is unlikely that these species would occur within the project ESL (which lacks suitable aquatic breeding habitat), these species may use areas within the project ESL as dispersal corridors to and from more suitable aquatic breeding habitats.

BIRDS

Migratory and Non-migratory Bird Species

The occupied nests and eggs of all birds are protected by state law (CFGC § 3503) and those of migratory birds are further protected by federal and state laws, including the Migratory Bird Treaty Act (MBTA) and CFGC Section 3503.5. USFWS is responsible for overseeing compliance with the MBTA, and CDFW is responsible for overseeing compliance with the CFGC and making recommendations about nesting birds.

The Redwood Forest and Woodland communities within the project ESL and BSA #1 provide suitable habitat for a variety of migratory and non-migratory nesting bird species. While an exhaustive survey of all birds within the project ESL was not performed, based on local observations, suitable habitat is present within the project ESL and BSA #1 for migratory and non-migratory bird species that may occur in the vicinity. These include, but are not limited to, winter wren (*Troglodytes hiemalis*), varied thrush (*Ixoreus naevius*), song sparrow (*Melospiza melodia*), Steller's jay (*Cyanocitta stelleri*), and white-crowned sparrow (*Zonotrichia leucophrys*).

FISH

Coastal Cutthroat Trout

Coastal cutthroat trout (*Oncorhynchus clarkii clarkii*), a state species of special concern (SSC), can assume three general life-history strategies: non-migratory, freshwater migratory, and saltwater migratory. Non-migratory coastal cutthroat trout remain in the freshwater habitats in which they were born. Freshwater migratory coastal cutthroat trout migrate entirely within freshwater habitats (including populations that migrate from large tributaries to small tributaries to spawn), populations that inhabit lakes and migrate upstream to spawn in the lake's tributaries, and populations that live in lakes and migrate downstream to spawn in the lake outlet. Finally, saltwater migratory coastal cutthroat trout migrate from freshwater natal areas in the late winter and spring to feed in marine environments and then re-enter fresh water in the winter to feed, seek refuge, or spawn, sometimes returning to seawater in the spring.

The Eel River in Northern California represents the southern extent of the coastal cutthroat trout range. The principal large stream systems the species occupies in California include the Smith, Mad, and Lower Klamath rivers. Self-sustaining populations also occur in many

coastal basins, including Humboldt Bay tributaries and several lagoons and ponds including Big, Stone and Espa lagoons and the Lake Earl-Tolowa complex.

Focused surveys for special status fish were not conducted within the ESL or BSAs. However, it is presumed that within BSA #2 coastal cutthroat trout may occur year-round in Wilson Creek.

Steelhead–Klamath Mountains Province DPS

The steelhead (*Oncorhynchus mykiss irideus*)–Klamath Mountains Province Distinct Population Segment (DPS) (pop. 1), a Species of Special Concern, is a population of steelhead trout (another anadromous fish species) that occurs in the Klamath River basin and coastal streams north to the Elk River in Oregon, including the Smith (California) and Rogue (Oregon) rivers.

Steelhead are born in freshwater streams with newly emerged fry generally occupying shallow waters along stream margins, whereas larger juveniles maintain territories in faster and deeper water in pools or runs. Steelhead typically rear in streams or estuaries for 1 to 2 years before entering the ocean. Smoltification, the physiological process that enables juveniles to survive in the ocean, occurs in early spring. Peak downstream movements typically occur in April or May, although young of the year have been reported to migrate to estuaries as early as February and as late as June.

Surveys

Focused surveys for special status fish were not conducted within the ESL or BSAs. However, it is presumed that within BSA #2 steelhead may occur year-round in Wilson Creek.

Critical Habitat

NMFS-designated critical habitat for coho salmon–Southern Oregon/Northern California Coast ESU is also present within BSA #2 (Wilson Creek). However, critical habitat for Chinook salmon–California Coastal ESU is not present within the project ESL or BSAs. EFH for Chinook and coho salmon is present within BSA #2 (Wilson Creek); however, not within the project ESL.

MAMMALS

Pacific Fisher

The Pacific fisher (*Pekania pennanti*)—West Coast Distinct Population Segment (DPS) is a state Species of Special Concern. The Pacific fisher is a small, carnivorous mammal that occurs in mature, second growth, and old-growth redwood and Douglas-fir forests (Zielinski 2013). The species requires coniferous forest habitats with high canopy closure, multiple canopy layers, and large trees, with snags, cavities, and hollow logs used for resting and natal and maternal dens. Fisher hunt exclusively in forested habitats, generally avoid openings, and likely use corridors with adequate overhead cover to travel between forest patches (Buskirk and Powell, 1999).

Focused surveys for Pacific fisher were not conducted within the project ESL or BSAs. While there are no CNDDDB occurrences of Pacific fisher within five miles of the project ESL (CDFW 2023a), there is suitable denning and resting habitat within BSA #1 and to a lesser extent the project ESL.

Ringtail

Ringtail (*Bassariscus astutus*) is a medium-size mammal in the raccoon family and can be found in a variety of habitat types such as deserts, shrublands, riparian woodlands, oak woodlands, and coniferous forests. This species typically dens in rock crevices, living and dead tree hollows, downed logs, brush piles, buildings, and other manmade structures. Ringtail are nocturnal carnivores that forage at night for a variety of prey, primarily small mammals, invertebrates, birds, and reptiles.

Focused surveys for ringtail were not conducted within the project ESL or BSAs. While ringtail occurrences are not reported in the CNDDDB, this species is fairly widespread throughout California and there is suitable denning and resting habitat present within the ESL and BSA #1.

Bat Species

Two CDFW SSC bat species could potentially occur within BSA #1: pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*).

Pallid bat typically occurs at lower elevations throughout California in a variety of habitats, including grasslands, shrublands, and woodlands, and are most common in open, dry habitats with rocky areas for roosting. This species may roost alone, in small groups, or gregariously

in crevices in rocky outcrops and cliffs, caves, mines, tree hollows, exfoliating tree bark, and various human structures, such as bridges and buildings. Colonies form in early April, generally comprising 12 to 100 individuals. These colonies then disperse between August and October.

Townsend's big-eared bat is known to occur in mesic areas throughout California in coniferous forests, native prairies, riparian communities, active agricultural areas, and coastal areas. This species typically roosts in caves, tunnels, mines, buildings, and other cave-like spaces, including rock crevices and hollow trees. A relatively sedentary species, the bats hibernate near summer maternity roosts and are at their hibernacula from October to April. Townsend's big-eared bat are extremely sensitive to disturbance of roosting sites and a single visit may result in abandonment of the roost site.

Surveys for bats were not conducted within the project ESL or BSA #1. However, suitable roosting habitat for both species is present in the Redwood Forest and Woodland communities within the project ESL and BSA #1. While expected to roost primarily in well-developed wooded riparian areas, tree roosting bats may roost in tree foliage virtually anywhere in forest habitats. Large trees, crevices, space under sloughing bark on trees, and tree hollows within BSA #1 may provide suitable roosting habitat for pallid bat. Due to the lack of nearby caves, bridges, and other structures, the likelihood of Townsend's big-eared bat occurring in BSA #1 is low.

Sonoma Tree Vole

The Sonoma tree vole (*Arborimus pomo*) (CDFW SSC), a species of rodent in the family Cricetidae, is found in Douglas-fir, redwood, and montane hardwood-conifer forest communities. These voles spend the majority of their time in the tree canopy where they nest and feed on fir needles. Male voles have been documented occasionally building nests at the base of trees beneath duff but are primarily arboreal in nature. Their home range is small, often only including one to several trees.

While focused surveys for Sonoma tree vole were not conducted within the project ESL or BSAs, the species could potentially occur within BSA #1. There are 3 CNDDDB occurrences of Sonoma tree vole within 5 miles of the project ESL. Suitable habitat for Sonoma tree vole is present in the Redwood Forest and Woodland communities present within the project ESL.

THREATENED AND ENDANGERED SPECIES

Marbled Murrelet

Marbled murrelet (MAMU) (*Brachyramphus marmoratus*) is a federally threatened and state endangered species. Marbled murrelet is a small, nearshore seabird species that nests on high platforms in mature conifers within 32 miles of the coasts of Washington, Oregon and Northern California. Suitable nest structures typically include large, mossy horizontal branches 4 to 25 inches in diameter and at least 33 feet high in the live crown of tree species including Douglas-fir, coast redwood, western hemlock, western red cedar, yellow cedar, mountain hemlock, and Sitka spruce. MAMU has been found nesting in small areas of suitable habitat even when surrounded by unsuitable habitat. In Northern California, the USFWS official nesting season is March 24 to September 15, with most MAMU fledged by August 5.

Critical habitat for MAMU has been designated. The primary constituent elements of critical habitat for MAMU are individual trees with potential nesting platforms, forested areas within 0.5 mile of individual trees with potential nesting platforms, and a canopy height of at least one-half the site-potential tree height. The project ESL and BSA #1 is entirely within USFWS-designated critical habitat for MAMU.

Protocol-level surveys for MAMU were not conducted within the project ESL or BSA #1 (auditory/visual). However, the presence of MAMU is well documented within BSA #1 and adjacent areas.

There is suitable MAMU nesting and foraging habitat present within BSA #1 in the Redwood Forest and Woodland communities

Northern Spotted Owl

The northern spotted owl (NSO) (*Strix occidentalis caurina*) is federally and state threatened. It is a medium-sized owl that inhabits the forests of the Pacific Coast region from southwestern British Columbia to Marin County in California. In northern California, NSOs can be found in dense old-growth, multi-layered mixed conifer, redwood, and Douglas-fir forests, from sea level to 6,600 feet in elevation. Spotted owls are primarily nocturnal and normally spend their days perched in a protected roost. Foraging typically occurs in forested habitats near a permanent water source.

In northern California, NSO nest sites are often located on broken-top trees and cavities, although individuals will also use existing platforms such as abandoned raptor nests, squirrel nests, mistletoe brooms, and debris piles. Nest sites are frequently sited near streams and creeks and are typically located low to mid-slope rather than near ridge lines. NSOs have strong breeding site fidelity, producing one brood per season. In inland Douglas-fir habitats, the typical home range for NSO is 1.3 miles. Regionally, NSOs nest from approximately February 1 through July 31.

Protocol-level surveys for NSO were not conducted within the project ESL or BSA #1 (auditory/visual). However, the presence of NSO is documented approximately 1.5 miles east and 1.3 miles north of the project ESL.

There is marginal NSO nesting and foraging habitat present within BSA #1 in the Redwood Forest and Woodland communities. However, the documented presence of northern barred owl (*Strix varia*) in these areas likely precludes the presence of NSO within these areas (Personal comm. R. Litzky) as the northern barred owl is an aggressive species that displaces spotted owls, disrupts NSO nesting, and competes with NSO for food. There is no USFWS-designated critical habitat for NSO within the project ESL or BSAs.

Chinook Salmon–California Coastal ESU

The federally threatened Chinook salmon (*Oncorhynchus tshawytscha*)–California Coastal Evolutionarily Significant Unit (ESU) (pop. 17) is a population of Chinook salmon (also an anadromous species) that spawns in rivers and streams south of the Klamath River to the Russian River in Sonoma County. Chinook salmon can exhibit a variety of life history patterns in California’s variable environments, with migration to fresh water occurring at differing times for different spawning runs. The Chinook Salmon–California Coastal ESU (which occurs within BSA #2) consists entirely of fall-run, with adults entering fresh water between August and January and spawning within a few days or weeks (primarily between September and January) (Moyle et al., 2015). After hatching, the fry grow and slowly make their way downstream into deeper and faster waters. After rearing in fresh water anywhere from 3 months to a year, juvenile salmon (smolts) migrate to the ocean between April and July. Focused surveys for Chinook salmon–California Coastal ESU were not conducted within the ESL or BSAs. However, it is presumed that within BSA #2 Chinook salmon may occur year-round in Wilson Creek.

Coho Salmon–Southern Oregon/Northern California Coast ESU

The federal and state threatened coho salmon (*Oncorhynchus kisutch*)–Southern Oregon/Northern California Coast (SONCC) ESU (pop. 2) is a population of coho salmon (another anadromous fish species) that spawns in coastal streams between Cape Blanco, Oregon (Elk River), and Punta Gorda, California (Mattole River).

Coho salmon generally exhibit a 3-year life cycle. After hatching in freshwater streams, the juveniles spend up to 15 months rearing in the lower freshwater reaches before migrating to the ocean where they spend up to 18 months before returning to their nascent freshwater streams (e.g., where they were born) as adults to spawn. In California, the timing of upstream migration varies among tributaries, though it generally occurs from September through January with a peak in November and December, with spawning occurring mainly from November to January (primarily in tributary streams within a gradient of 3% or less) Fry emerge between March and July after 8–12 weeks of incubation, then develop into juveniles which generally rear in their natal streams for one year before returning to the ocean. Focused surveys for Coho salmon–Southern Oregon/Northern California Coast ESU were not conducted within the ESL or BSAs. However, it is presumed that within BSA #2 Coho salmon may occur year-round in Wilson Creek.

Pacific (Humboldt) Marten–Coastal DPS

Pacific (Humboldt) marten (*Martes caurina humboldtensis*)–Coastal DPS (federal threatened and state endangered) is a small, carnivorous mammal also found in old-growth coast redwood and Douglas-fir forest with dense shrub understory. The species requires habitat with ample tree cavities, large snags and logs, and/or rock piles for denning, resting, foraging, and cover. The current range of Humboldt marten in California is a fraction of its former range and is now found in small areas of Del Norte County, northern Humboldt County, and adjacent western Siskiyou County.

Focused surveys for Pacific (Humboldt) marten were not conducted within the project ESL or BSAs. While the project ESL is outside the current known population distribution of Pacific (Humboldt) marten, suitable resting habitat may exist within the ESL and BSA #1.

Invertebrates

The Monarch butterfly – the California overwintering population of Monarch butterfly (*Danaus plexippus*) is an iconic species known for its striking orange and black wings and remarkable migratory patterns. It is a candidate for the federal endangered species list. In particular, the California overwintering population of Monarch butterflies is of significant

ecological and cultural interest. This population, facing numerous challenges, has experienced alarming declines in recent decades, leading to its classification as endangered in some Californian regions. The main threats include habitat loss, climate change, pesticide exposure, and diseases.

Central to the life cycle of the Monarch butterfly is the milkweed plant (*Asclepias* spp.), upon which the butterfly lays its eggs and the caterpillars feed. Beginning in the spring, adult Monarchs mate and lay eggs on milkweed plants. Once hatched, the caterpillars undergo multiple molting stages, eventually forming a chrysalis from which they emerge as butterflies. By late fall, driven by environmental cues, the new generation of Monarchs embarks on a southward migration to specific overwintering sites, primarily along the California coast. These sites provide them with the necessary microclimates to survive the winter, sheltered from extreme weather and predators.

No species-specific surveys were conducted for Monarch butterfly. No Monarch butterfly were observed within the BSA. No suitable overwintering habitat is present within the project ESL or BSAs.

The Oregon silverspot butterfly (*Speyeria zerene hippolyta*) is a distinctive butterfly species native to the coastal regions of Oregon and some parts of the Pacific Northwest. The Oregon silverspot is federally threatened.

The Oregon silverspot butterfly has a unique association with the early blue violet (*Viola adunca*), which serves as the primary host plant for its caterpillars. Adult butterflies emerge in the summer and immediately search for nectar sources, such as goldenrod and seaside daisies, to feed on. After mating, females lay their eggs in the proximity of violet plants. Upon hatching, the caterpillars feed voraciously on violet leaves, undergoing multiple stages before forming a chrysalis and eventually emerging as adults.

No species-specific surveys were conducted for Oregon silverspot butterfly. No Oregon silverspot butterfly were observed within the BSA. No suitable habitat is present within the project ESL or BSAs.

The Western bumble bee (*Bombus occidentalis*), a candidate for state endangered listing status, is a bumble bee native to the Western United States and Canada. It is considered critically imperiled in the state because of extreme rarity (often five or fewer populations) or because of factors such as very steep population declines that make the species especially vulnerable to elimination from the state.

This bumble bee is associated with several plant genera including *Melilotus*, *Cirsium*, *Lupinus*, *Trifolium*, *Centaurea*, and *Eriogonum*. Queens of this bumble bee species emerge from hibernation in late January and select a nest site in an existing hole in the ground, such as an abandoned rodent hole. The queen gathers pollen and nectar and stores them in wax containers. She lays 8 to 16 eggs that hatch into larvae and tends to them until they spin cocoons, pupate, and emerge as workers. Once they emerge, the queen stops foraging and devotes her time to egg laying. The first workers appear in early March and the drones and a new queen emerge by the end of April. The colony dissolves in late October when the old queen, workers, and drones die. A new queen mates and digs a hole where she hibernates through the winter.

No species-specific surveys were conducted for bumble bee species. No Western bumble bees or their nests were observed within the BSA. No suitable overwintering habitat is present within the project ESL or BSAs.

INVASIVE SPECIES

Roads, highways, and related construction projects are some of the principal dispersal pathways for invasive plant species. The introduction and spread of invasive plants adversely affect native plant communities by displacing native plant species that provide shelter and forage for wildlife species. Plants identified within the project ESL as federal noxious weeds by the United States Department of Agriculture, state noxious weed species designated by the California Department of Food and Agriculture, and invasive plants identified by California Invasive Plant Council are noted in Appendix C.

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

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

Plant Species

The project ESL lacks suitable habitat for sand dune phacelia (federal proposed threatened) and western lily (federally endangered and state endangered). Neither species were observed

within the project ESL during field studies. Therefore, the sand dune phacelia and western lily are not expected to occur within the ESL or be impacted by the project.

Per FESA, Caltrans has determined the proposed project would have *no effect* on sand dune phacelia or western lily.

Per CESA, Caltrans has determined the project would not result in “*take*” of western lily.

The project is anticipated to have “*no impact*” on special status plant species. No mitigation is required.

Animal Species

Amphibians and Reptiles

Project-related activities could directly affect special status amphibians and reptiles if present within the project ESL. The following amphibian/reptile species of special concern are present within the ESL: Foothill yellow-legged frog–North Coast clade, northern red-legged frog, Pacific tailed frog, southern torrent salamander, and western pond turtle. Potential direct effects include injury and mortality of individuals due to crushing from construction equipment and vehicle traffic. However, due to higher quality dispersal habitat existing outside of the project ESL, impacts to individuals within the project ESL would be less than significant.

With implementation of the Standard Measures and BMPs identified in Section 1.4 the proposed project would have minimal impact on foothill yellow-legged frog, northern red-legged frog, Pacific tailed frog, southern torrent salamander, and western pond turtle. No additional species-specific avoidance and minimization measures would be implemented. The project is anticipated to have a “*less than significant impact*” on amphibians and reptiles. No mitigation is required.

Migratory and Non-migratory Bird Species

Minor vegetation removal is proposed, including annual grasses and forbs immediately adjacent to the highway and a single coast redwood tree snag. The project could potentially affect nesting migratory birds during ground-disturbing activities and vegetation removal, either through direct injury or mortality or by disrupting normal behaviors (such as nesting).

Though there is a low likelihood that project-related impacts to nesting birds would occur, the temporary nature of the project construction activities and implementation of the Standard Measures and BMPs outlined in Section 1.4. If vegetation removal is necessary during nesting season a pre-construction nesting bird survey would be required to minimize and avoid impacts to nesting birds.

The project would have a “*less than significant impact*” to migratory and non-migratory bird species. No mitigation is required.

Coastal Cutthroat

Suitable habitat for the coastal cutthroat trout is not present within the project ESL but is present within BSA #2. The intermittent streams which intersect the ESL and connect with Wilson Creek over 1 mile downslope of the project have average gradients over 20%. These streams flow intermittently, ephemerally, sub-surface and would not be contiguous. Due to these topographic and hydrologic constraints to fish movement, the streams that intersect the ESL are likely inaccessible to fish and do not provide suitable habitat for coastal cutthroat trout.

Project activities would not occur within any suitable habitat for any of the special status fish species and, as such, would not impact any of those species. Additionally, due to the distance of Wilson Creek from the project area and steep gradient, seasonal nature of the streams within the project footprint, and with implementation of the Standard Measures and BMPs identified in Section 1.4, indirect impacts to any special status fish species or their habitat are also not anticipated.

The Standard Measures and BMPs outlined in Section 1.4 would be implemented to minimize potential indirect impacts to water quality. These include implementation of standard erosion and sediment control measures, pollution prevention measures, and stormwater treatment measures.

As a state Species of Special Concern, there would be “no impact” to coastal cutthroat trout. No mitigation is required.

Steelhead–Klamath Mountains Province DPS

While suitable habitat for special status fish is present within BSA #2, suitable habitat is not present within the project ESL. The intermittent streams which intersect the ESL and connect with Wilson Creek over 1 mile downslope of the project have average gradients over 20%. These streams flow intermittently, ephemerally, sub-surface and would not be contiguous. Therefore, the streams that intersect the ESL are likely inaccessible to fish and do not provide suitable habitat for these species.

As a state Species of Special Concern, there would be “no impact” to Steelhead – Klamath Mountains Province DPS. No mitigation is required.

Pacific Fisher and Ringtail

Due to the similar habitat requirements, behaviors, and life histories, these species are combined into one impact assessment. Marginal foraging and dispersal habitat for Pacific fisher and ringtail exists within the project ESL and BSA #1. The scope of work would not affect foraging and dispersal habitat because the changes to the road footprint are minor. Furthermore, the traffic and noise associated with U.S. 101 likely precludes these species from using these areas consistently.

For those individuals that may be present within the project ESL, potential project-related impacts would be restricted to temporary displacement due to construction noise. However, due to the mobility of these species and availability of higher quality habitat within the project vicinity, project impacts to these species are unlikely.

It is anticipated the project would have “no impact” on Pacific fisher or ringtail. Mitigation is not required.

Bat Species

Project activities, including vegetation removal and noise from construction, have the potential to negatively impact individual bats, potentially resulting in roost abandonment. No known maternity roosts or other colonial night roosts would be removed or altered during project activities. A pre-construction nesting survey is required if vegetation removal takes place during the maternity season, to ensure that there are no impacts on any potentially

unidentified maternity roosts Impacts to bat species are not anticipated given the lack of observation during field reviews, specific vegetation to be removed, seasonal timing, and scope of work. As the project would not have a substantial impact to bat species populations or impact nursery sites, and with implementation of the Standard Measures and BMPs outlined in Section 1.4, impacts to special status bat species are not anticipated. The project is anticipated to have “no impact” on bats. No mitigation is required.

Sonoma Tree Vole

Suitable Sonoma tree vole habitat is not present where project-related vegetation removal and ground disturbing activities would occur; therefore, project-related impacts to the species are not expected. The project is anticipated to have “no impact” on Sonoma tree vole. No mitigation is required.

Threatened and Endangered Species

Marbled Murrelet and Northern Spotted Owl

The project has the potential to impact MAMU and NSO due to noise-related harassment of nesting individuals. Visual disturbance to MAMU and NSO nests is not anticipated as no activities are expected to occur within a visual line-of-sight of 328 feet (100 meters) from any known nest locations. Daytime ambient noise levels within the ESL along U.S. 101 are estimated as *High* (81-90 decibels [dB]). Sound levels for equipment typically used for proposed project activities are estimated as *Moderate* (71-80 dB) to *Very High* (91-100 dB) (Table 3). Any construction noise that exceeds 90 dB (which may include work activities such as jackhammering and pile driving) could result in disturbance or harassment of MAMU and/or NSO individuals. The Standard Measures and BMPs described in Section 1.4 would limit sound disturbance and provide temporary work windows that avoid nesting which would minimize impacts to NSO and MAMU.

Table 3. Relative Sound Level of Anticipated Equipment To Be Used

Measured Sound Source	“Standardized” Value dB at 50 ft	Relative Sound Level
Pickup Truck (driving)	71	Moderate
Dump Truck	85	High
Excavator	81	High
Backhoe (high end)	84	High
Sweeper	80	Moderate

Asphalt paver	77	Moderate
Roller (high end)	80	Moderate
Jackhammer	89	High
Compactor (high end)	82	High
Air compressor	80	Moderate
Concrete mixer (high end)	85	High
Pavement Scarifier	90	High
Pile Driver	95	Very High

Minor vegetation control would include the removal of one coast redwood snag which occurs immediately adjacent to the existing highway, but still within critical habitat for MAMU. The removal of one snag, which does not provide suitable nesting habitat for MAMU, would not significantly impact MAMU critical habitat.

Under FESA, the proposed project *may affect, but is not likely to adversely affect* MAMU. The Programmatic Letter of Concurrence (PLOC) issued by the USFWS (USFWS 2022) would be used to avoid potential effects of the project on MAMU. The project would have no adverse effect to MAMU critical habitat.

Under FESA, the proposed project *may affect, but is not likely to adversely affect* NSO. The PLOC issued by the USFWS would be used for potential effects of the project on NSO.

Under CESA, the project would not result in “*take*” of MAMU or NSO.

Standard protection measures for MAMU and NSO (Section 1.4) would be implemented to avoid and minimize impacts to these species.

As this project is anticipated to have a “*less than significant impact*” to MAMU and NSO, no mitigation is required.

Chinook Salmon and Coho Salmon

The Chinook salmon–California Coastal ESU (pop. 17) is federally threatened, the coho salmon–Southern Oregon/Northern California Coast ESU (pop. 2) is federally and state threatened. These species’ populations are categorized into Evolutionarily Significant Units (ESU) or Distinct Population Segments (DPS). Both ESU and DPS classifications are used to identify specific subsets of species populations that are unique and significant for conservation purposes. In subsequent discussions in this document, the specific units (ESU/DPS) evaluated here will be referred to by their species name for brevity.

Suitable habitat for Chinook salmon and coho salmon is not present within the project ESL; however, is present within BSA #2. The intermittent streams which intersect the ESL and connect with Wilson Creek over 1 mile downslope of the project have average gradients over 20%. These streams flow intermittently, ephemeral, sub-surface and would not be contiguous. Due to these topographic and hydrologic constraints to fish movement, the streams that intersect the ESL are likely inaccessible to fish and do not provide suitable habitat for fish.

Project activities would not occur within any suitable habitat for any of the special status fish species described above and, as such, would not impact any of those species. Additionally, due to the distance of Wilson Creek from the project area and the steep gradient, seasonal nature of the streams within the project footprint, and with implementation of the Standard Measures and BMPs identified in Section 1.4, indirect impacts to any special status fish species or their habitat are also not anticipated.

The Standard Measures and BMPs outlined in Section 1.4 would be implemented to minimize potential indirect impacts to water quality. These include implementation of standard erosion and sediment control measures, pollution prevention measures, and stormwater treatment measures.

Under FESA, the project would have *no effect* on Chinook salmon–California Coastal ESU, coho salmon–SONCC ESU, or their critical habitat.

Under CESA, the proposed project would not result in “*take*” of coho salmon–SONCC ESU or their critical habitat.

The Standard Measures and BMPs outlined in Section 1.4 would be implemented to minimize potential impacts to water quality. These include implementation of standard erosion and sediment control measures, pollution prevention measures, and stormwater treatment measures.

As there would be “*no impacts*” to Chinook salmon and coho salmon, no mitigation is required.

Pacific (Humboldt) marten – Coastal DPS

Marginal foraging and dispersal habitat for Pacific (Humboldt) marten exists within the ESL and BSA #1. Traffic and noise associated with the highway likely precludes martens from using the area consistently. The project is outside the current known population distribution of Pacific (Humboldt) marten–Coastal DPS. For these reasons the Pacific (Humboldt) marten is unlikely to be present within the project ESL; therefore, project-related impacts to the species is unlikely.

If individuals are present in the ESL during construction, potential project-related impacts would be restricted to temporary displacement due to construction noise. However, due to the mobility of these species and availability of higher quality habitat nearby, project impacts to these species are unlikely.

Under FESA, the project ***may affect, but is not likely to adversely affect*** Pacific (Humboldt) marten–Coastal DPS. The PLOC issued by the USFWS will be used for potential effects of the project on Pacific (Humboldt) marten–Coastal DPS.

Under CESA, the project would not result in “***take***” of Pacific (Humboldt) marten–Coastal DPS.

The project would have a “*less than significant*” impact to Pacific marten. No mitigation is required.

Regarding Environmental Checklist Question 2.4a, Caltrans anticipates the project would have a *less than significant impact* to special status animal species and no mitigation is required.

Invertebrates

The Monarch butterfly–California overwintering population, Oregon silverspot butterfly, and the Western bumble bee do not have any suitable habitat within the project ESL or BSA.

Caltrans anticipates this project would have “no impacts” on invertebrates. No mitigation is required.

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

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

Sensitive Natural Communities

Approximately 4 acres of Redwood Forest and Woodland, an S3 ranked SNC, occurs within the project ESL. Minor vegetation removal is proposed, including the removal of annual grasses and forbs from areas immediately adjacent to the highway in preparation for earthwork and the installation of new guardrail, and the removal of one coast redwood snag during the installation of new guardrail. The disturbance of existing vegetation increases the potential to introduce and/or spread invasive non-native plants into the SNC.

No tree removal is proposed; however, construction activities could impact the health of adjacent trees due to potential damage to root systems. The most critical roots for tree health are the structural root zone (SRZ). The SRZ is a circular area with the tree trunk at the center and a radius equal to three times the tree Diameter at Breast Height (DBH) (Smiley et al., 2002). The SRZ represents the area where roots can be found that are responsible for keeping the tree upright. Damage to roots in this root zone could affect the structural integrity of the tree, increasing the likelihood of potential tree failure.

Mature redwood trees have been shown to overcome the loss of a large portion of its root system by rapidly regenerating a new root system without noticeable reduction in tree vigor (Stone and Vasey, 1962b:2–3). It has been documented that no significant loss of tree vigor has been observed in redwoods bordering highways, and paving does not have a significant effect on tree health as long as it covers less than half of the root zone (Sturgeon 1964).

The area of root zones affected by this project are anticipated to be below the threshold that would require loss of any trees (Caltrans 2023g). The amount of disturbance tolerated by the tree varies by tree species, size, age, tree health, tree crown position, and soil type, among other variables, and were evaluated by an arborist. The certified arborist that evaluated the trees proposed to be impacted by the project noted that one tree appears to be in decline and should be monitored post-construction.

The project scope includes invasive species control measures to minimize this potential to impact the adjacent SNC. Due to the limited (negligible) amount of vegetation to be removed coupled with measures to minimize impacts from invasive species encroachment into the SNC, Caltrans anticipates the project will have a *less than significant impact* on the SNC. No mitigation is required.

Riparian Habitat

Following site surveys, jurisdictional aquatic resources were identified and mapped within the project ESL. The aquatic resources mapped are summarized below.

Four intermittent streams were identified and mapped within the project ESL, all of which run perpendicular under the highway via existing drainage systems. Intermittent streams typically only flow for part of the year, generally during the wet season, and dry up over the summer months. Groundwater is the primary source of water for stream flow, with precipitation providing a supplemental source. All intermittent streams within the project ESL are potential Waters of the United States (WOTUS) and Waters of the State.

One ephemeral stream was identified and mapped within the project ESL. Ephemeral streams flow only for short durations in response to precipitation, which is the only source of stream flow. The one ephemeral stream within the project ESL is a potential WOTUS and Waters of the State.

Proposed drainage improvements only include modifications to roadside stormwater facilities and would not occur within jurisdictional waterways.

There is no riparian habitat within the ESL; therefore, “*no impacts*” to riparian habitat are anticipated. No mitigation is required.

Invasive Species

Invasive species may be introduced to new areas or spread through the work sites by the tires and tracks of construction equipment. They may also recruit naturally and robustly, outcompeting native species, following soil disturbance. Bull thistle, ripgut grass, and poison hemlock were observed within the project limits.

To reduce the spread of invasive species, Caltrans endeavors to eradicate newly introduced invasive species ranked as having high ecological impact by the California Invasive Plant Council (Cal-IPC). Caltrans Standard Measures and Best Management Practices would be implemented to minimize the colonization of invasive species that could adversely impact natural communities (Section 1.4). Such measures include the inspection and cleaning of construction equipment to remove invasive species and/or pathogens during construction, seeding disturbed areas with native herbaceous species post-construction, and applying weed-free mulch.

Given the above, the project is anticipated to have a *less than significant impact* to invasive species proliferation. No mitigation is required.

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

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

There are no wetlands within the project ESL; therefore, “*no impacts*” to wetlands are anticipated. No mitigation is required.

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

- d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Migratory Wildlife Corridors/Fish Passage

The BSA is within an area that is not considered an area of known importance for connectivity. There are no waters within the project ESL suitable for fish passage; therefore, - “no impacts” are anticipated. No mitigation is required.

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

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Based on the scope, description, and location of the proposed project, the project would not conflict with local policies or ordinances protecting biological resources; therefore – “no impacts” are anticipated. No mitigation is required.

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

- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

Based on the scope, description, and location of the proposed project, the project would not conflict with an approved local, regional, or state habitat conservation plan; therefore – “no impacts” are anticipated. No mitigation is required.

Based on the determinations made in the CEQA Environmental Checklist, no mitigation measures are proposed for this project.

2.5 Cultural Resources

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Archaeological Survey Report* (Caltrans 2023c), *Historic Property Survey Report* (Caltrans 2023d), and consultation with the Native American Heritage Commission and local tribes.

Efforts to locate cultural resources resulted in the conclusion that there are no cultural resources within the Area of Direct Impact. Based on the findings of the archaeological survey, it has been determined that *No Historic Properties Will Be Affected* as a result of this proposed undertaking. Consultation with Native American tribes will continue throughout the life of this project in order to manage concerns and address work within/adjacent to Reservation lands.

If previously unidentified cultural materials are unearthed during construction, it is Caltrans policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. *An additional archaeological survey would be required if the scope of the project changes to include areas not previously surveyed.*

Standard measures CR-1 and CR-2 in Section 1.4 would protect cultural resources should they be discovered during construction activities.

Caltrans anticipates the project would have “*no impact*” on cultural resources. No mitigation is required.

2.6 Energy

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Air Quality, GHG, and Energy Analyses Memorandum* (Caltrans 2023a) and *Air Quality Update Memorandum* (Caltrans 2023b). The project would not increase capacity or provide congestion relief when compared to the No-Build Alternative; therefore, potential impacts to direct energy (mobile sources) are not anticipated. The project does not include maintenance activities which would result in long-term indirect energy consumption by equipment required to operate and maintain the roadway; thus, is unlikely to increase indirect energy consumption through increased fuel usage. Potential impacts to indirect energy (construction) are therefore not anticipated.

Project construction would primarily consume diesel and gasoline through operation of construction equipment, material deliveries, and debris hauling. Energy use associated with project construction is estimated to result in the short-term consumption of diesel and gasoline powered equipment, which represents a small and temporary demand on local and regional fuel supplies. This temporary demand for fuel would have no noticeable effect on peak or baseline demands for energy. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy. This project would have no effect on any plans for renewable energy or energy efficiency.

Caltrans anticipates the project would have “no impact” on energy. No mitigation is required.

2.7 Geology and Soils

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project:</p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p style="padding-left: 20px;">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.</p>				✓
<p>ii) Strong seismic ground shaking?</p>				✓
<p>iii) Seismic-related ground failure, including liquefaction?</p>				✓
<p>iv) Landslides?</p>				✓
<p>Would the project:</p> <p>b) Result in substantial soil erosion or the loss of topsoil?</p>				✓
<p>Would the project:</p> <p>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?</p>				✓
<p>Would the project:</p> <p>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?</p>				✓

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?</p>				✓
<p>Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the California Geological Survey (CGS) Regulatory Maps. There is no landslide activity mapped throughout the project area. Project locations are not within or adjacent to Earthquake Fault Hazard Zones. Potential impacts to paleontological resources are not anticipated because the project work primarily would occur within previously disturbed materials (constructed roadway) and largely be constructed using fill material, thus minimizing the likelihood of impacting intact or undisturbed paleontological resources or geologic features.

The project anticipates using approximately 2,500 cubic yards of imported fill material to raise the road elevation. This material would be placed primarily within the existing footprint of the road. Erosion management practices outlined in Section 1.4 would be used to prevent any soil erosion or loss of topsoil.

The project would have minor fill excavation associated with guardrail installation and curve realignment. The excavation of fill would be managed using the Standard Measures and Best Management Practices discussed in Section 1.4 to ensure no soil erosion occurs.

Caltrans anticipates the project would have “no impact” on geology and soils. No mitigation is required.

2.8 Greenhouse Gas Emissions

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

Climate Change

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

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

The impacts of climate change are already being observed in the form of sea level rise, drought, more intense heat, extended and severe fire seasons, and historic flooding from changing storm patterns. The most important strategy in addressing climate change is to reduce GHG emissions. Additional strategies are necessary to reduce and adapt to these impacts. “Reductions” involve actions to decrease GHG emissions to lessen adverse impacts that are likely to occur. “Adaptations” plan for and respond to impacts to decrease vulnerability and increase resilience, such as adjusting transportation design standards to withstand more intense storms and higher sea levels. This analysis will include a discussion of both in the context of this transportation project.

Regulatory Setting

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

FEDERAL

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2022). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values— “the triple bottom line of sustainability” (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

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

U.S. EPA published a final rulemaking on December 30, 2021, that raised federal GHG emissions standards for passenger cars and light trucks for model years 2023 through 2026, increasing in stringency each year. The updated GHG emissions standards will avoid more than 3 billion tons of GHG emissions through 2050. In April 2022 NHTSA announced corresponding new fuel economy standards for model years 2024 through 2026, which will reduce fuel use by more than 200 billion gallons through 2050 compared to the old standards and reduce fuel costs for drivers (U.S. EPA 2022a; NHTSA 2022).

STATE

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

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

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

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

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

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

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including the CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs the CARB to update the *Climate Change Scoping*

Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO₂e). (GHGs differ in how much heat each trap in the atmosphere, called global warming potential, or GWP. CO₂ is the most important GHG, so amounts of other gases are expressed relative to CO₂ using a metric called “carbon dioxide equivalent” or CO₂e. The global warming potential of CO₂ is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO₂.) Finally, it requires the Natural Resources Agency to update the state’s climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

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

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

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

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires the CARB to prepare a report that assesses progress made by each Metropolitan Planning Organization in meeting their established regional greenhouse gas emission reduction targets.

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

AB 1279, Chapter 337, 2022, The California Climate Crisis Act: This bill mandates carbon neutrality by 2045 and establishes an emissions reduction target of 85% below 1990 level as part of that goal. This bill solidifies a goal included in EO B-55-18. It requires the CARB to work with relevant state agencies to ensure that updates to the scoping plan identify and recommend measures to achieve these policy goals and to identify and implement a variety

of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies in California, as specified.

Environmental Setting

The proposed project is in a rural area, with a primarily natural-resources-based and tourism economy centered on the Redwood National and State Parks, a UNESCO World Heritage Site. U.S. 101, a designated scenic highway also known as the “Redwood Highway,” is the only transportation route to and through the area for both passenger and commercial vehicles. It is also part of the Pacific Coast Bike Route.

Other than U.S. 101 and associated features, the project limits are uninhabited and largely undeveloped, with no residences or other facilities present within the project limits. The route is rarely congested, but there can be seasonal fluctuations, mainly increasing during the summer months. The only alternate route would require a 449-mile, 8-hour detour between Klamath and Crescent City.

The Del Norte Local Transportation Commission (DNLTC) guides transportation development in the project region. Neither the Del Norte County General Plan nor the North Coast Unified Air Quality Management District (NCUAQMD) have established thresholds or guidance for transportation GHG emissions (Del Norte County 2003; NCUAQMD 2015).

GHG INVENTORIES

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

NATIONAL GHG INVENTORY

The annual GHG inventory submitted by the U.S. EPA to the United Nations provides a comprehensive accounting of all human-produced sources of GHGs in the United States. Total GHG emissions from all sectors in 2021 were 5,586 million metric tons (MMT), factoring in deductions for carbon sequestration in the land sector. Of these, 79.4% were CO₂, 11.5% were CH₄, and 6.2% were N₂O; the balance consisted of fluorinated gases. Total GHGs in 2021 decreased by 17% from 2005 levels and increased 7% from 2020.

The change from 2020 resulted primarily changes in economic activity and travel due to the COVID-19 pandemic and the subsequent recovery have had significant impacts on energy use and fossil fuel combustion emissions. The transportation sector was responsible for 28% of total U.S. GHG emissions in 2021, more than any other sector (Figure 5), and for 37.9% of all CO₂ emissions from fossil fuel combustion in 2021. Transportation CO₂ emissions for 2021 increased 11.4% from 2020 to 2021 largely from increased demand for travel.

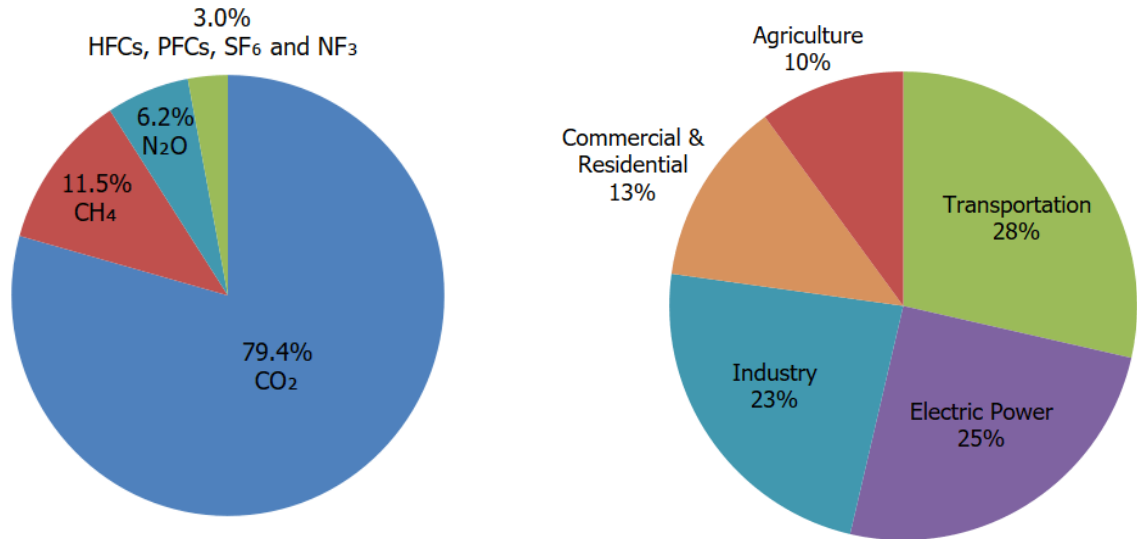


Figure 5. U.S. 2022 Greenhouse Gas Emissions

(Source: U.S. EPA 2022b)

STATE GHG INVENTORY

The CARB collects GHG emissions data for transportation, electricity, commercial and residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state’s progress in meeting its GHG reduction goals. The 2022 edition of the GHG emissions inventory reported emissions trends from 2000 to 2020. Total California GHG emissions in 2020 were 369.2 MMTCO₂e, a reduction of 35.3 MMTCO₂e from 2019 and 61.8 MMTCO₂e below the 2020 statewide limit of 431 MMTCO₂e. Much of the decrease from 2019 to 2020, however, is likely due to the effects of the COVID-19 pandemic on the transportation sector, during which vehicle miles traveled declined under stay-at-home orders and reductions in goods movement. Nevertheless, transportation remained the largest source

of GHG emissions, accounting for 38% of statewide emissions (Figure 6). (When upstream emissions from oil extraction, petroleum refining, and oil pipelines in California are included, transportation was responsible for about 47% of statewide emissions in 2020; however, those emissions are accounted for in the industrial sector.) California’s gross domestic product (GDP) and GHG intensity (GHG emissions per unit of GDP) both declined from 2019 to 2020 (Figure 7). It is expected that total GHG emissions will increase as the economy recovers over the next few years (CARB 2022a).

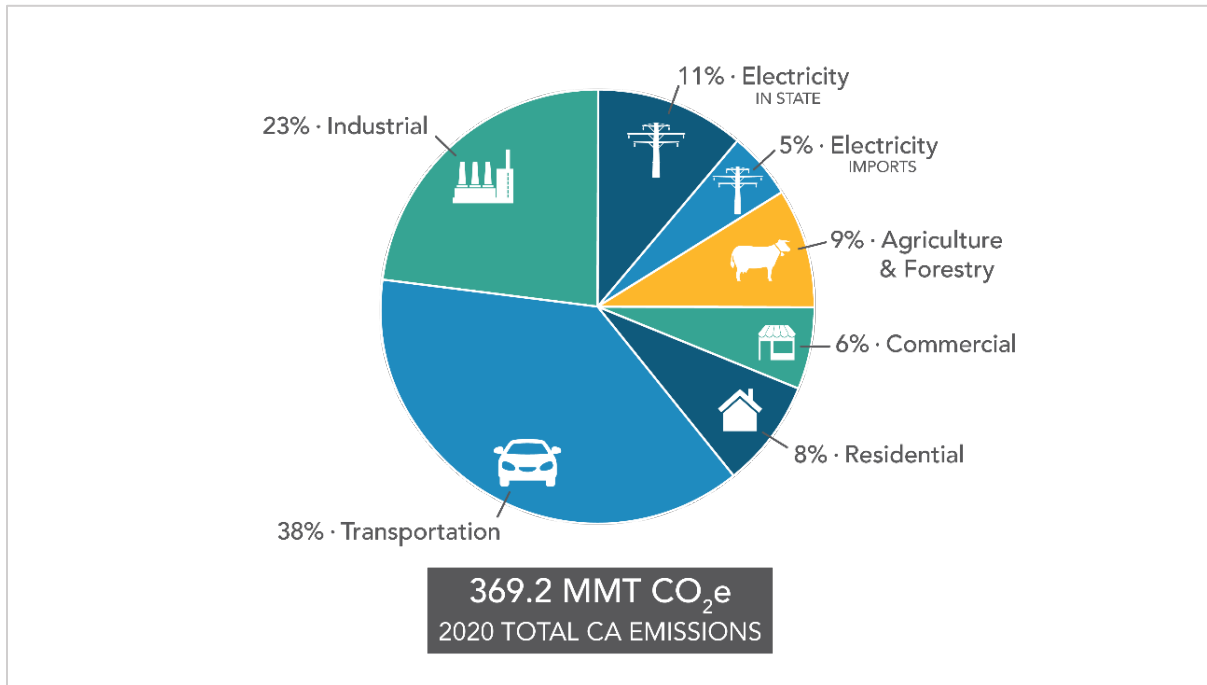


Figure 6. California 2020 Greenhouse Gas Emissions by Scoping Plan Category

(Source: CARB 2022a)

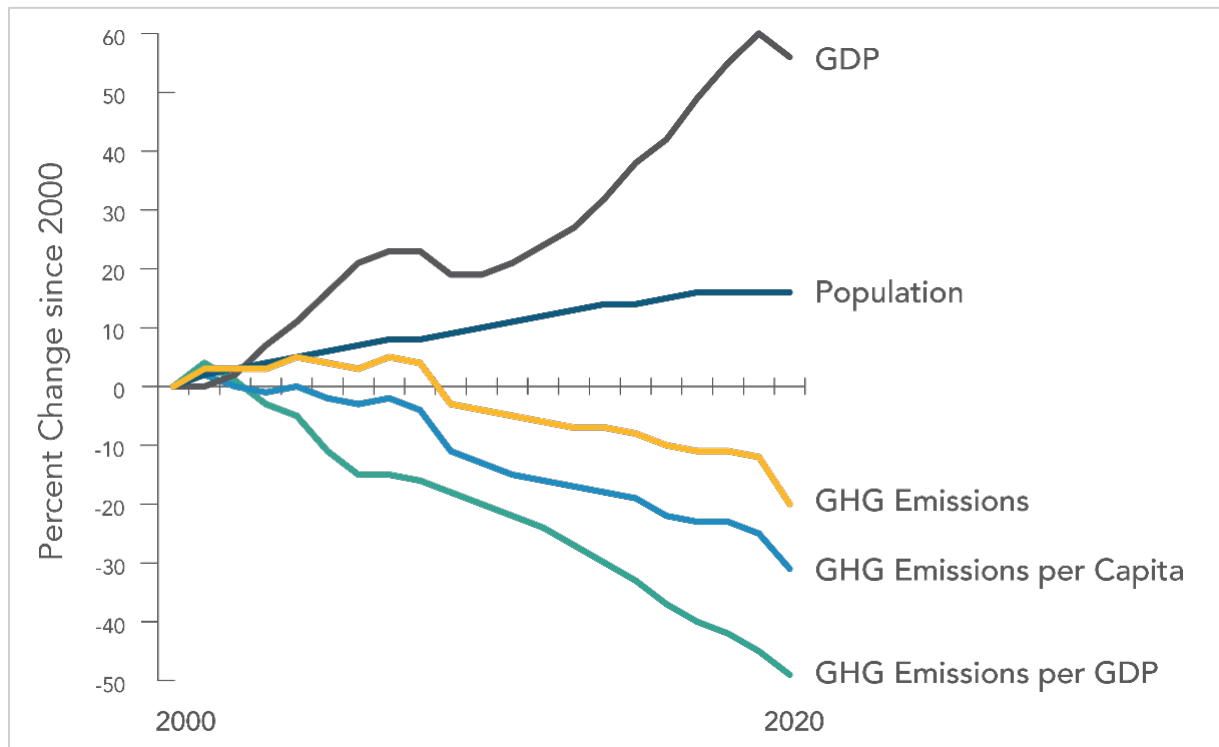


Figure 7. Change in California GDP, Population, and GHG Emissions since 2000

(Source: CARB 2022a)

AB 32 required the CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. The CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The draft *2022 Scoping Plan Update* additionally lays out a path to achieving carbon neutrality by 2045 (CARB 2022b).

REGIONAL PLANS

The CARB sets regional GHG reduction targets for California's 18 MPOs by planning future projects that will cumulatively achieve those goals and reporting how they will be met in the RTP/SCS (CARB 2022c). The project area is not within the jurisdiction of an MPO and therefore not subject to CARB GHG reduction targets. However, the DNLTC is the Regional Transportation Planning Agency (RTPA) for the project area. The 2020 Del Norte County Regional Transportation Plan (RTP) commits to County actions that will help Del Norte

County proportionally contribute to statewide GHG reduction goals. RTP goals, objectives, and policies aimed at addressing climate change and reducing GHG emissions include the following objectives:

- Reduce or maintain GHG emissions from transportation related sources in the Del Norte region”.
- Emphasize transportation investments in areas where desired land uses, as indicated in the City or County General Plan, may result in vehicle miles traveled (VMT) reduction or other lower impact use.
- Recognize the rural contribution towards GHG reduction for counties that have policies that support development within their cities and protect agricultural and resource lands.
- Consider transportation projects that increase connectivity or provide other means to reduce VMT (DNLTC).

Neither Del Norte County nor the NCUAQMD currently have climate change or GHG reduction plans.

Project Analysis

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

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code § 21083(b)(2)). As the California Supreme Court explained, “because of the global scale of climate change, any one project’s contribution is unlikely to be significant by itself.” (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal. 5th 497, 512). In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is

ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to improve safety along an existing stretch of U.S. 101 and would not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on U.S. 101, no increase in vehicle miles traveled (VMT) would occur. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

Construction is expected to last approximately 110 working days. The proposed project would result in generation of short-term, construction related GHG emissions. Construction GHG emissions consist of emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays and detours due to construction. These emissions would be generated at different levels throughout the construction phase. The CAL-CET 2021 v1.0.2 was used to estimate average carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), Black Carbon (BC), and hydrofluorocarbon-134a (HFC-134a) emissions from construction activities. The total CO₂e produced during construction is estimated to be 181 US tons.

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

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

CEQA Conclusion

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

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

Greenhouse Gas Reduction Strategies

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

Major sectors of the California economy, including transportation, will need to reduce emissions to meet 2030 and 2050 GHG emissions targets. The California Governor's Office of Planning and Research (OPR) identified five sustainability pillars in a 2015 report: (1) increasing the share of renewable energy in the State's energy mix to at least 50 percent by 2030; (2) reducing petroleum use by up to 50 percent by 2030; (3) increasing the energy efficiency of existing buildings by 50 percent by 2030; (4) reducing emissions of short-lived climate pollutants; and (5) stewarding natural resources, including forests, working lands, and wetlands, to ensure they store carbon, are resilient, and enhance other environmental benefits (California Governor's OPR 2015). OPR later added strategies related to achieving statewide carbon neutrality by 2045 in accordance with EO B-55-18 and AB 1279 (California Governor's OPR 2022).

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). Reducing today's petroleum use in cars and trucks by 50% is a key state goal for reducing greenhouse gas emissions by 2030 (California Environmental Protection Agency 2015).

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

Subsequently, Governor Gavin Newsom issued Executive Order N-82-20 to combat the crises in climate change and biodiversity. It instructs state agencies to use existing authorities and resources to identify and implement near- and long-term actions to accelerate natural removal of carbon and build climate resilience in our forests, wetlands, urban greenspaces, agricultural soils, and land conservation activities in ways that serve all communities and in particular low-income, disadvantaged, and vulnerable communities. To support this order, the California Natural Resources Agency (2022a) released *Natural and Working Lands Climate Smart Strategy*, with a focus on nature-based solutions.

CALTRANS ACTIVITIES

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016) set an interim target to cut GHG emissions to 40% below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

Climate Action Plan For Transportation Infrastructure

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

California Transportation Plan

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

Caltrans Strategic Plan

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

Caltrans Policy Directives And Other Initiates

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) established a Department policy to ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. *Caltrans Greenhouse Gas Emissions and Mitigation Report* (Caltrans 2020) provides a comprehensive overview of Caltrans' emissions. The report documents and evaluates current Caltrans procedures and activities that track and reduce GHG emissions and identifies additional opportunities for further reducing GHG emissions from Department-controlled emission sources, in support of Departmental and State goals.

Project-Level Greenhouse Gas Reduction Strategies

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

- Caltrans Standard Specification "Air Quality" requires compliance by the contractor with all applicable laws and regulations related to air quality.
- Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of diesel-fueled commercial motor vehicles and equipment with gross weight ratings of greater than 10,000 pounds to no more than 5 minutes.
- Caltrans Standard Specification "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resources Board (CARB).
- Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions. As part of this, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along the highway during peak travel time.
- All areas temporarily disturbed during construction would be revegetated with appropriate native species. Landscaping reduces surface warming and, through photosynthesis, decreases CO₂. This replanting would help offset any potential CO₂ emissions increase.
- Pedestrian and bicycle access will be maintained on U.S. Highway 101.
- Where feasible, the removal of established trees and vegetation would be minimized.
- If necessary, environmentally sensitive areas would have Temporary High Visibility Fencing (THVF) installed before start of construction to demarcate areas that will be protected. Such areas can include, but are not limited to, wetlands and vegetation, including trees and their root systems.
- If previously vegetated, temporary access roads, construction easements, and staging areas would be restored to a natural contour and revegetated with regionally appropriate native vegetation.

- For improved fuel efficiency from construction equipment:
 - Maintain equipment in proper tune and working condition.
 - Use right sized equipment for the job.
 - Use equipment with new technologies.
- Earthwork Balance: Reduce the need for transport of earthen materials by balancing cut and fill quantities.
- Maximize use of recycled materials (e.g., tire rubber), as feasible.
- Where feasible, salvage large, removed trees for lumber or similar on-site beneficial uses other than standard wood-chipping (e.g., use in roadside landscape projects or green infrastructure components).
- Use recycled water or reduce consumption of potable water for construction.

Adaptation Strategies

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

FEDERAL EFFORTS

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

The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the “human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways.”

The *United States Department of Transportation (USDOT) Policy Statement on Climate Adaptation* in June 2011 committed the federal Department of Transportation to “integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions” (USDOT 2011). The *USDOT Climate Action Plan of August 2021* followed up with a statement of policy to “accelerate reductions in greenhouse gas emissions from the transportation sector and make our transportation infrastructure more climate change resilient now and in the future,” following this set of guiding principles (USDOT 2021):

- Use best-available science
- Prioritize the most vulnerable
- Preserve ecosystems
- Build community relationships
- Engage globally

USDOT developed its climate action plan pursuant to the federal EO 14008, *Tackling the Climate Crisis at Home and Abroad* (January 27, 2021). EO 14008 recognized the threats of climate change to national security and ordered federal government agencies to prioritize actions on climate adaptation and resilience in their programs and investments (The White House 2021).

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

STATE EFFORTS

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

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

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

In 2008, then-governor Arnold Schwarzenegger recognized the need when he issued EO S-13-08, focused on sea level rise. Technical reports on the latest sea level rise science were first published in 2010 and updated in 2013 and 2017. The 2017 projections of sea level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018. This EO also gave rise to the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan), which addressed the full range of climate change impacts and recommended adaptation strategies. The Safeguarding California Plan was updated in 2018 and again in 2021 as the *California Climate Adaptation Strategy*, incorporating key elements of the latest sector-specific plans such as the *Natural*

and Working Lands Climate Smart Strategy, Wildfire and Forest Resilience Action Plan, Water Resilience Portfolio, and the CAPTI (described above). Priorities in the 2021 California Climate Adaptation Strategy include acting in partnership with California Native American Tribes, strengthening protections for climate-vulnerable communities that lack capacity and resources, nature-based climate solutions, use of best available climate science, and partnering and collaboration to best leverage resources (California Natural Resources Agency 2022b).

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

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

CALTRANS ADAPTATION EFFORTS

Caltrans Vulnerability Assessments

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

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

Project Adaptation Efforts

The impacts of climate change and extreme weather events may impact the State Highway System (SHS) and other transportation infrastructure in the state. As the climate continues to change at an increasingly rapid pace, Caltrans must ensure climate change adaptation measures are identified and implemented when appropriate and feasible. The project would not exacerbate the effects of climate change related to CEQA topics. However, the proposed project would include certain elements to prepare for increased precipitation, increased risk of wildfire, and hazards that may result from climate change, such as flooding, landslides, and road closures (Caltrans 2019). The intended design life of road surfaces are 30 years.

Sea Level Rise

The *Caltrans Climate Change Vulnerability Assessment for District 1* (Caltrans 2019) includes an analysis using data from the Ocean Protection Council (OPC) and the National Oceanic and Atmospheric Administration (NOAA). The OPC developed a new set of sea level rise projections and scenarios for the state, which were chosen for consideration in this analysis to follow state guidance on sea level rise planning and use the best available sea level rise projections. These projections were paired with a NOAA sea level rise model, which was used to identify potential impacts to the SHS in District 1.

A sea level risk assessment has been conducted to determine the project's potential exposure to sea level rise utilizing the *State of California Sea Level Rise Guidance, 2018 Update* (California Ocean Protection Council 2018). Steps taken to determine the project's potential exposure to sea level rise included selecting the closest tide gauge location and referring to sea level rise projections for that location. Table 4 below provides projected sea level rise (in feet) for the project area. Data collected at the Crescent City tide gauge was used to document sea level rise in the proximity. Risk aversion is defined as "the strong inclination to avoid taking risks in the face of uncertainty." The *State of California Sea Level Rise Guidance, 2018 Update* describes low risk aversion is the most likely of all projections, with a 66% probability sea level rise to occur. Medium-High risk aversion is considered to be a 1-in-200 chance, a 0.5% probability to occur. The extreme risk aversion is a single scenario which, according to the *State of California Sea Level Rise Guidance, 2018 Update*, includes unknown probability of occurring. However, it is important, particularly for high stakes, long-term decisions.

Considering the lifespan of the road surface being rehabilitated and or replaced, projected changes in the coastal Ordinary High-Water Mark (OHWM) were reviewed using the

National Oceanic and Atmospheric Administration’s (NOAA) sea level rise viewer. This tool is a mapping tool to visualize community-level impacts from coastal flooding or sea level rise (up to 10 feet above average high tides).

This project will not be affected by sea level rise. Evaluating for the most extreme risk averse scenario of an increase of 9.3 feet above current levels by 2100, the project will be more than 700 feet above sea level. The project is also more than one-quarter mile from the coastline; therefore, the projected 5.74 feet of coastal erosion by 2100 would not be relevant to this project (Caltrans 2021b). See Figure 8 below.

Table 4. Projected Sea Level Rise (in feet) for Project Area

	Low Risk Aversion (feet)	Medium-High Risk Aversion (feet)	Extreme Risk Aversion (H++) (feet)
2030	0.3	0.5	0.8
2040	0.4	0.9	1.4
2050	0.7	1.5	2.3
2060	0.9	2.1	3.3
2070	1.2	2.8	4.5
2080	1.6	3.7	5.9
2090	2.0	4.7	7.4
2100	2.5	5.9	9.3

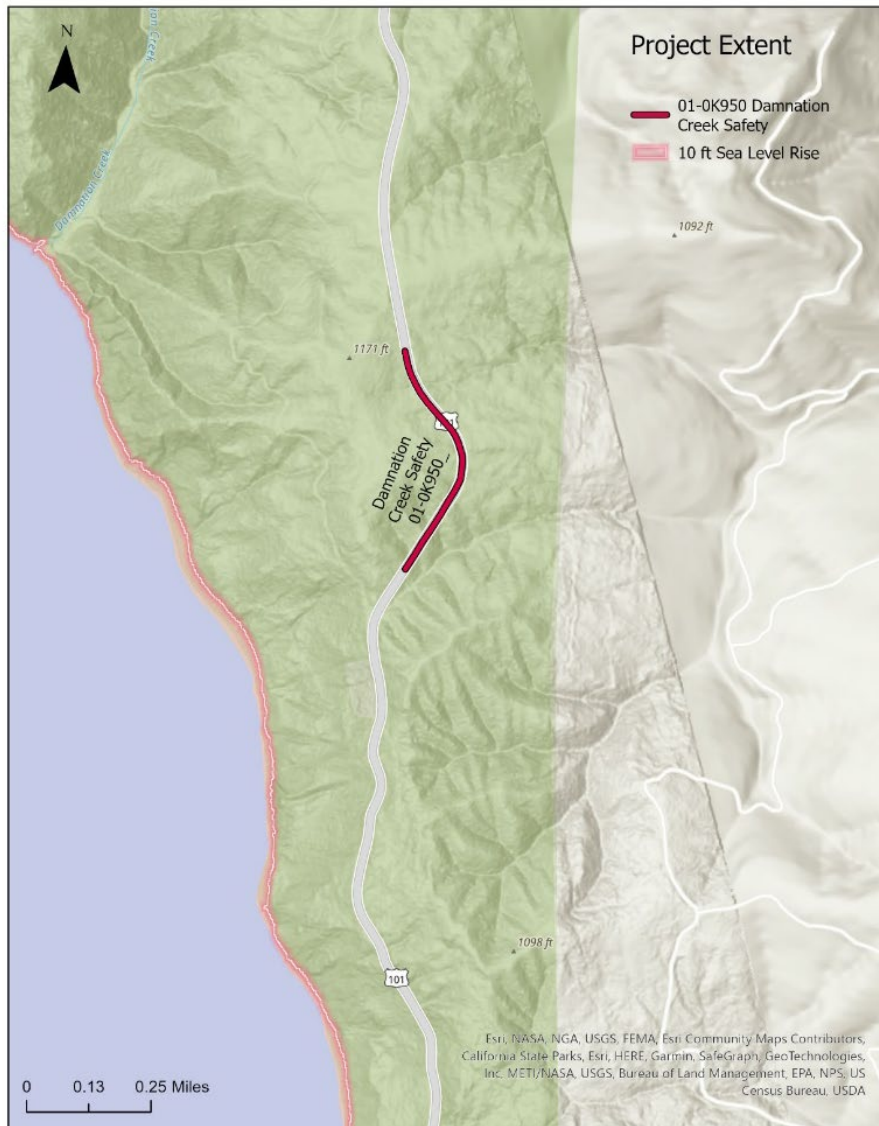


Figure 8. Sea Level Rise Impact Map

Precipitation and Flooding

Historically, the project region has received on average more than 70 inches of rainfall per year; however, mean annual precipitation over the last 21 years has been observed to be only about 55% of the long-term average, indicating gradually drying conditions as the climate changes. In general, climate change in this region is expected to result in less total precipitation, however coming in heavier individual events. The 100-year storm rainfall event in the project region is expected to increase by 5–9% through 2085, according to mapping in the *Caltrans District 1 Climate Change Vulnerability Assessment* (Caltrans

2019). The anticipated increase in extreme precipitation events potentially heightens risk to slope stability driven by the interaction of severe weather events. Flooding and extreme weather events may disrupt construction activities and damage equipment and facilities used during the construction period. Changes in the frequency or intensity of these events are uncertain during the construction period. However, these events are typical for the region and are expected to be managed through existing construction management procedures, including appropriate construction scheduling, contingency budgeting, and emergency management protocols. Project limits are outside the 100-year floodplain and above risk of SLR and storm surge (see Sea Level Rise, above) (Caltrans 2023b).

Wildfire

The *Caltrans Climate Change Vulnerability Assessment for District 1* (Caltrans 2019) indicates most of the project consists of coastal areas that experience mild, dry, and frequently foggy summers, and wet, cool winters. However, climate change on the California coast will exacerbate existing coastal hazards, such as wildfire severity. Currently, most of the project locations are classified as having a *Medium* level of concern for wildfire exposure with no highway miles considered having a *Very High* wildfire concern. By 2085, U.S. 101 within Del Norte is projected to be classified predominately as *High* wildfire concern (Caltrans 2019). Such projections are based on the Representative Concentration Pathways (RCP) 8.5 Emissions Scenario (Caltrans 2019).

The project limits are entirely within State Responsibility Areas (SRAs) served by CAL FIRE. Locations within the SRA are within the *High* Fire Hazard Severity Zone (FHSZ). According to the FHSZ maps for SRAs, adopted by CAL FIRE in November 2007, there is no work proposed in a *Very High* FHSZ (Figure 9).

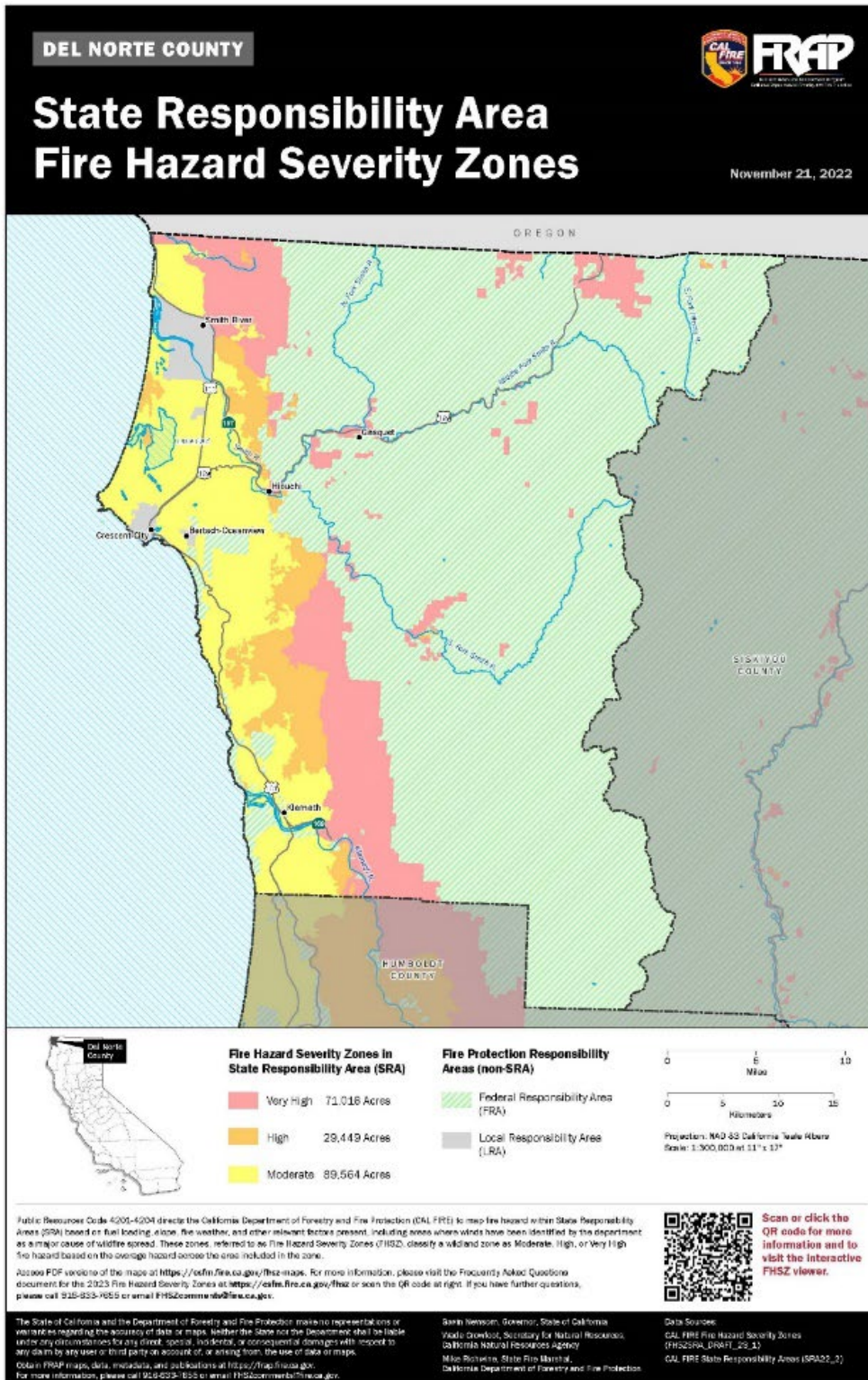


Figure 9. State Responsibility Area Fire Hazard Severity Zones

Standard fire prevention measures would be implemented during construction, including:

- The names and emergency telephone numbers of the nearest fire suppression agencies would be posted at a prominent place at the job site.
- A Fire Prevention Plan would be required from the contractor to identify measures taken to reduce the risk of fire.
- Fires occurring within and near the project limits would be immediately reported to the nearest fire suppression agency by using the emergency phone numbers retained at the job site and by dialing 911. Performance of the work would be in cooperation with fire prevention authorities.
- Fires caused directly or indirectly by job site activities would be extinguished and escape of fires would be prevented.
- Materials resulting from clearing and grubbing would be disposed of or managed to prevent accumulation of flammable material.
- All emergency response agencies in the project area would be notified of the project construction schedule and would have access to U.S. Highway 101 throughout the construction period.
- Standard Special Provision 7-1.02M(2) includes a list of fire prevention procedures that would be required by the contractor during construction.

Temperature

Average annual temperatures in the region that includes Del Norte County are anticipated to rise by 5 to 9°F through the end of the 21st century, with interior regions experiencing the greatest warming. The District Climate Change Vulnerability Assessment mapping of change in average absolute maximum temperatures over 7 days in the project area shows a potential increase of 2 to 3.9°F by 2025 (the midpoint of the 30-year period from 2010 to 2039); 4.0 to 5.9°F by 2055 (midpoint of years 2040 to 2069) and 8 to 9.9°F by 2085 (midpoint of years 2070 to 2099) (Caltrans 2019). No projections beyond 2099 are provided. Given the relatively low baseline temperatures in the region (41 to 63°F), this range of temperature changes during the project's lifetime would not be likely to require adaptive changes in pavement design or maintenance practices.

2.9 Hazards and Hazardous Materials

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p>				✓
<p>Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</p>				✓
<p>Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>				✓
<p>Would the project: d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</p>				✓
<p>Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?</p>				✓

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Initial Site Assessment (Update)* dated October 28, 2022 (Caltrans 2022a). Potential hazards and impacts from hazardous materials are not anticipated because the project would not create a significant hazard to the public or environment, is not located near a school or airport, and is not on a list of hazardous sites compiled pursuant to Government Code Section 65962.5.

Emergency vehicles would be accommodated through any lane closures. If a wildland fire affected the area, work would stop and evacuation routes would be accessible.

Caltrans specifications require the management of hazardous materials to comply with applicable laws, rules, and regulations. If encountered, Aerially Deposited Lead, commonly found in unpaved areas around the highway, and treated wood waste from potential guardrail replacement, would be handled and disposed of in accordance with Caltrans standard specifications for these materials.

The Standard Measures and Best Management Practices described in Section 1.4 would be used on-site to contain hazardous materials should they be encountered and avoid exposure to workers, the public, and surrounding environment.

Caltrans anticipates the project would have “no impact” on hazards and hazardous materials. No mitigation is required.

2.10 Hydrology and Water Quality

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?</p>				✓
<p>Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</p>				✓
<p>Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:</p> <p>(i) result in substantial erosion or siltation on- or off-site;</p>				✓
<p>(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;</p>				✓
<p>(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or</p>				✓
<p>(iv) impede or redirect flood flows?</p>				✓

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Water Quality Assessment Memorandum for Damnation Creek* (Caltrans 2023i).

Disturbed Soil Area

The amount of disturbed soil area (DSA) during construction is currently estimated to be 0.419 acre. As currently scoped, the project would not require post-construction stormwater treatment BMPs since the new impervious surface area of 0.635 acre is less than the treatment requirement threshold of 1 acre under the 2012 Caltrans NPDES permit.

Hydromodification resulting from an alteration of flow patterns from changing the hydraulic line, grade, or capacity of culverts included within the project is not anticipated.

Impact Evaluation

The project includes replacement of an existing drainage inlet, construction of a new down drain, and installation of approximately 1,130 feet of hot-mix asphalt dikes. These roadway drainage elements may reduce the occurrence of heavy, concentrated flow and decrease water velocity at the outlets of culverts. This may decrease erosion of the bed, bank, and channel both upstream and downstream of the culverts.

The potential for turbidity impacts from erosion is specifically of concern from construction-related activities. Potential temporary impacts due to construction activities would be minimized through implementation of the Standard Measures and BMPs described in Section 1.4.

Temporary Impacts to Water Quality

Temporary impacts to water quality could occur during the construction phase of the project. Soil disturbing work within and adjacent to drainage systems could result in the transport of sediment and other pollutants to adjacent waterways, wetlands, and/or riparian areas.

The following BMPs from the *Caltrans Construction Site BMP Manual* (Caltrans 2017) are anticipated to be incorporated into the approved project specific WPCP:

- Construction sequencing will be scheduled to minimize land disturbance during the wetter months (SS-1).
- Existing vegetation will be removed to the minimum extent necessary to facilitate the proposed work (SS-2).
- Disturbed slopes will be stabilized with a combination of seed, biodegradable rolled erosion control products (RECP) such as fiber rolls, coir blankets, and geotextile fabrics (SS-7).
- Perimeter control devices such as fiber rolls, compost socks, and silt fences will be utilized to prevent sediment transport from the project site (SC-1, SC-5, SC-6, SC-9).
- Temporary check dams constructed of rock, gravel bags, compost socks, fiber rolls, or other proprietary product will be used to reduce scour and channel erosion by reducing flow velocity and encouraging sediment settlement (SC-4).
- Slope sediment runoff control devices such as fiber rolls, gravel bags, and compost socks will be used to filter runoff, retain sediment, and reduce sheet flow (SC-5, SC-6, SC-11).
- Drainage inlet protection methods, such as gravel bags and fiber rolls, will be deployed to prevent sediment and other pollutants from entering drainage systems (SC-10).
- Temporary construction roadways will be stabilized and maintained to prevent sediment erosion and transport from the work area.
- Water conservation practices will be used to minimize the use of water onsite or use water in a manner that avoids causing runoff, erosion, and/or the discharge of pollutants into receiving waters.
- Dewatering operations will be implemented to manage the discharge of pollutants from the accumulation of groundwater associated with excavations, temporary stream crossings and clear water diversions.

- Paving and sealing operations will be conducted to avoid and minimize the discharge of pollutants to receiving waters.
- Illegal connection and illicit discharge detection and reporting is applicable anytime an illegal connection or illicit discharge is discovered, or illegally dumped material is found on the construction site.
- Vehicle and equipment cleaning, fueling, and maintenance procedures and practices will be used to minimize or eliminate the discharge of pollutants to storm drain systems or to watercourses.
- Proper concrete curing and finishing procedures will be used to minimize any potential for runoff.
- Material delivery, storage, and use procedures and practices will be used to minimize or eliminate the discharge of these materials to the storm drain system or receiving waters.
- Concrete washout facilities, re-fueling areas, as well as equipment and storage areas, should be covered and located away from drainage inlets and waterways to prevent both stormwater and non-stormwater discharges.
- Spill prevention and control practices and hazardous waste management.
- Concrete waste management procedures and practices should be used to minimize or eliminate the discharge of concrete waste materials to the storm drain systems or watercourses.

Additional BMPs will also likely be incorporated in the approved project-specific WPCP during the construction phase of the project to address BMPs for specific items of work.

Permanent Impacts to Water Quality and Potential Treatment Areas

It is anticipated that permanent impacts to water quality would be prevented by adhering to the required permits, and the incorporation of Design Pollution Prevention (DPP) BMP strategies. Any stabilized pervious area within the project limits that receives runoff from the impervious areas and promotes infiltration of the runoff may be designated as a DPP infiltration area.

DPP Infiltration areas can be vegetated or non-vegetated. DPP BMPs include:

1. Prevention of downstream erosion
2. Stabilization of disturbed soil areas
3. Maximization of vegetated surfaces
4. Consideration of downstream effects related to potentially increased flow

Inclusion of appropriate temporary and permanent BMPs would avoid potential impacts to water quality and meet the requirements of the Caltrans NPDES Permit, the CGP, and the Basin Plan. Based on standard practices during construction, Caltrans anticipates the project would have “*no impact*” to water quality. No mitigation is required.

2.11 Land Use and Planning

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				✓
Would the project: b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to land use and planning are not anticipated as the proposed project would not divide an established community or conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. The proposed project is consistent with statewide, regional, and local planning goals. Caltrans anticipates the project would have “no impact” on land use and community planning. No mitigation is required.

2.12 Mineral Resources

Question:	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project: a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
Would the project: b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the California Department of Conservation Division of Mine Reclamation–Mines Online web application (California Department of Conservation Division of Mine Reclamation 2022). There is no mining activity near U.S. 101 within the project limits.

There are no designated mineral resource areas of state or regional importance in the project area, and the project would not reduce the availability of a locally-important mineral resource recovery site. Caltrans anticipates the project would have “no impact” on mineral resources. No mitigation is required.

2.13 Noise

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</p>				✓
<p>Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?</p>				✓
<p>Would the project result in: c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</p>				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Noise analysis for the Damnation Creek Safety Project* dated January 5, 2023 (Caltrans 2023f). The project would improve existing road superelevation and would not involve the construction of a new highway or expansion of an existing highway. Traffic volumes, composition, and speeds would remain the same. Based on the scope of work, the project is considered a Type III project, which does not require a noise analysis. Permanent traffic noise impacts are not anticipated, and noise abatement is not considered.

The project would have a temporary increase in noise generated by project construction. Construction noise would primarily result from the operation of heavy construction equipment and arrival and departure of heavy-duty trucks. Construction noise levels will vary on a day-to-day basis during each phase of construction depending on the specific task being completed. The closest receptors to the construction noise would be hikers on the Damnation Creek Trail. The Standard Measures and BMPs discussed in Section 1.4 would minimize or eliminate the impact of construction-related noise.

Construction noise and vibration impacts on wildlife are addressed in the Biological Resources section.

Caltrans anticipates the project would have “*no impact*” on noise. No mitigation is required.

2.14 Population and Housing

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</p>				✓
<p>Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?</p>				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to population and housing are not anticipated because the project does not involve the construction of homes, businesses, road extensions or infrastructure that could induce population growth. The project would not provide new access or open a new area to development. The project would not involve acquisition of land occupied by homes or residences and would not result in displacement of people or housing.

Caltrans anticipates the project would have “no impact” on population and housing. No mitigation is required.

2.15 Public Services

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>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:</p> <p>Fire protection?</p>				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

No Impact” determinations in this section are based on the scope, description, and location of the proposed project. This safety project would not result in an increased demand for fire or police protection or increased demand for space in schools, parks, or other public facilities in the area. Although there would be temporary, short-term lane closures during construction, all emergency response agencies in the project area would be notified of the project construction schedule and would have access to U.S. 101 throughout the construction period.

Caltrans anticipates the project is anticipated to have “no impact” on public services. No mitigation is required.

2.16 Recreation

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to recreational facilities due to deterioration, construction, or expansion of new facilities are not anticipated. Construction of the safety project would not result in an increased demand for park resources that would cause deterioration of existing parks or recreational facilities.

The project does not include the construction of park resources or recreational facilities or the expansion of such facilities. The project would not increase the use of existing recreational facilities. There would be temporary impacts to the Damnation Creek Trailhead parking as it would need to be closed during construction activities. However, there is an alternate trailhead 1,500 feet to the south along U.S. 101 that connects to the Damnation Creek Trail (Figure 10). This alternate trailhead would be open during construction. The Damnation Creek Trail is connected to the California Coastal Trail and is also accessible from the Last Chance Trailhead 5 miles to the north. There would be no long-term impacts to recreational facilities.

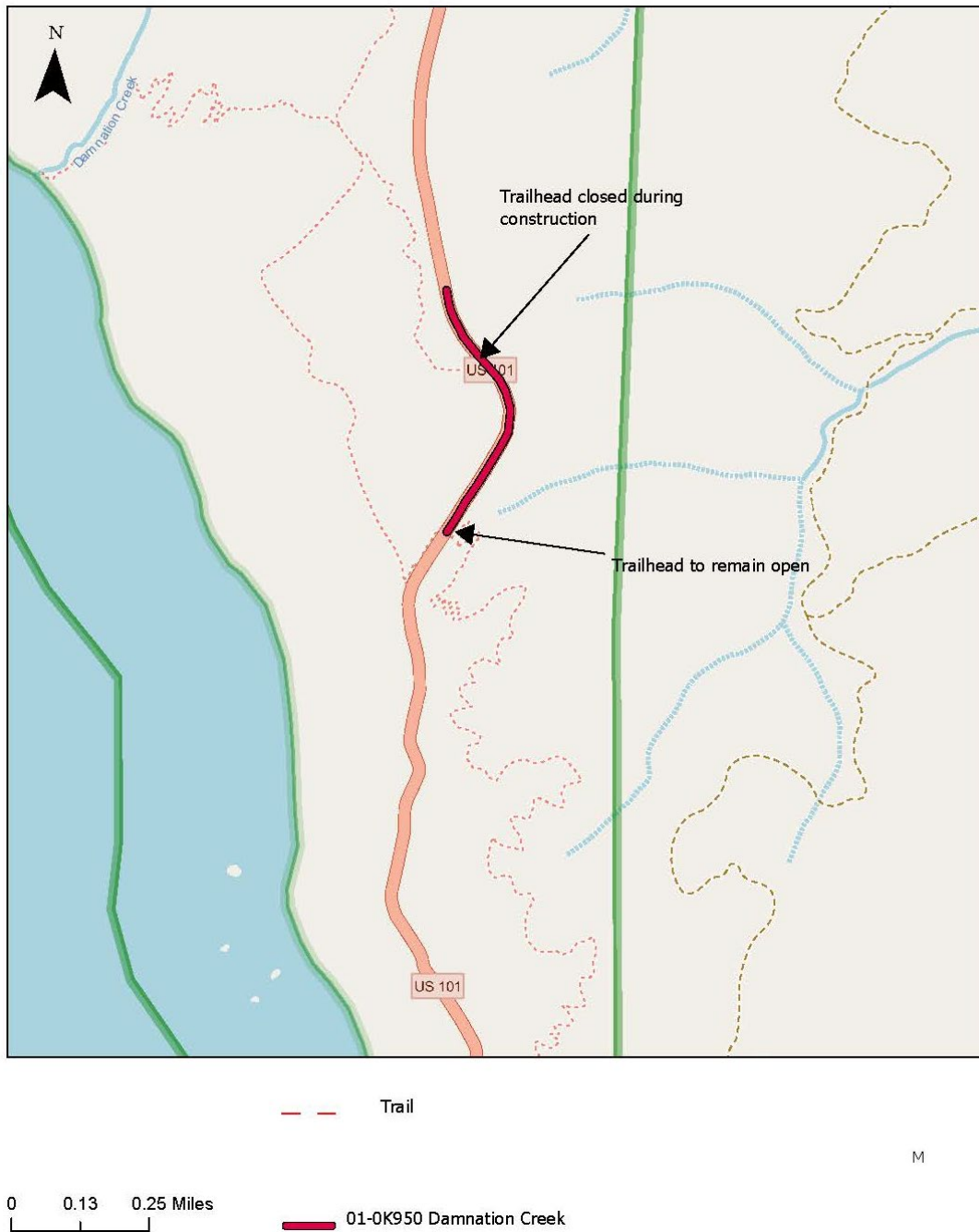


Figure 10. Trailhead Map

Caltrans anticipates the project would have “no impacts” on recreation. No mitigation is required.

2.17 Transportation

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Transportation Management Plan* dated September 14, 2022 (Caltrans 2022b).

Emergency vehicles, public transit, bicyclists, and pedestrians would be accommodated through the project area. The project does not propose to add a vehicle lane and would not increase vehicle miles traveled (VMT). The project is anticipated to improve the safety of transportation through the project area with improvements to road geometry. Emergency service providers would receive prior notification of lane closures. Potential adverse impacts to transportation are not anticipated because temporary construction delays are expected to be 20 minutes or less in each direction during the construction period.

There would be only minor impacts to Transportation during the period of construction. No permanent impacts are anticipated. Due to the planned traffic control measures, Caltrans anticipates “no impact” to Transportation. No mitigation is required.

2.18 Tribal Cultural Resources

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the *Archaeological Survey Report* dated October 2023 (Caltrans 2023c). The Native American Heritage Commission (NAHC) was contacted in 2023 by the project archaeologist with a request for a consultation list of tribes, groups, and individuals who have expressed an interest in the project vicinity and for a review of the Sacred Lands File for any potential sacred sites within the project vicinity.

The NAHC responded with a negative result for sacred lands, which indicates sacred sites were not identified within the project vicinity. The NAHC also provided a list of Native American tribes, groups, and individuals pursuant to Section 106 consultation requirements. Outreach and consultation efforts included the Elk River Rancheria, Tolowa Dee-ni' Nation, Resighini Rancheria, and the Yurok Tribe. No concerns have been raised to date. Caltrans will continue to consult with interested tribes throughout the life of the project as required.

Given the above, the project is anticipated to have “*no impact*” on tribal cultural resources. No mitigation is required.

2.19 Utilities and Service Systems

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?</p>				✓
<p>Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?</p>				✓
<p>Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?</p>				✓
<p>Would the project: d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?</p>				✓
<p>Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</p>				✓

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. There would be “*no impact*” to Utilities and Service Systems because the project would not construct new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. There are no existing utilities in the project area. No mitigation is required.

2.20 Wildfire

Question	Significant and Unavoidable Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>If located in or near State Responsibility Areas (SRAs) or lands classified as <i>very high</i> Fire Hazard Severity Zones, would the project:</p> <p>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</p>				✓
<p>b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</p>				✓
<p>c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or may result in temporary or ongoing impacts to the environment?</p>				✓
<p>d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?</p>				✓

Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection (CAL FIRE) to develop amendments to the “CEQA Environmental Checklist” for the inclusion of questions related to fire hazard impacts for projects located on lands classified as *Very High* Fire Hazard Severity Zones. The 2018 updates to the CEQA Guidelines expanded this to include projects “near” these *Very High* Fire Hazard Severity Zones.

Affected Environment

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. The entire project is within a “Moderate Severity” Fire Hazard Severity Zone within the project’s State Responsibility Area.



Figure 11. Map of Fire Hazard Severity Zones Near Project Area

According to the Fire Hazard Severity Zone maps for SRAs, adopted by CAL FIRE in November 2007, there is no work proposed in a *Very High* FHSZ. Within the LRA, the project is entirely within the *Moderate* Fire Hazard Severity Zone (CALFIRE 2022).

The proposed work will not impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risks, or expose people or structures to significant risks. Emergency response agencies in the project area will be notified of the project construction schedule and will have access to U.S. 101 throughout the construction period. Emergency vehicles will be accommodated through any temporary ramp or lane closures. If a wildland fire were to affect the area, work will stop and evacuation routes will be accessible.

Based on the determinations made in the CEQA Environmental Checklist, the project is anticipated to have “*no impact*” to wildfire. Thus, no mitigation measures are proposed for this project.

2.21 Mandatory Findings of Significance

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

Discussion of CEQA Environmental Checklist Question 2.21—Mandatory Findings of Significance

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

The analysis indicates that the construction of this project would not have the potential to significantly impact any resource. Given this, an EIR and CIA were not required for this project.

2.22 Cumulative Impacts

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

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

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "...situations where the cumulative effects are found to be significant." Based on the scope and scale of the potential effects and the inclusion of standard best management practices the proposed project would not be expected to have any cumulative impacts. Given this, an EIR and CIA were not required for this project.

Chapter 3. Agency and Public Coordination

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

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

Coordination with Resource Agencies

Official species lists were received from USFWS, NMFS, CDFW and CNPS in July 2023, and updated in December 2023 (Appendix C). In addition, the following agencies, organizations and individuals were consulted in the preparation of this environmental document.

Table 5. Agency Coordination and Professional Contacts

Coordination Effort	Date	Personnel
State Parks Coordination	July 17, 2023	Felicia Zimmerman, Caltrans Tyler Brown, Caltrans Eric Shada, Caltrans Nguyen Pham, Caltrans Ben Lardiere, Caltrans Laurie Harvey, California State Parks Rosalind Litzky, California State Parks Saylor Moss, U.S. National Parks
U.S. Fish and Wildlife Coordination – PLOC	September 25, 2023	Ben Lardiere, Caltrans Greg Schmidt, USFWS
California Coastal Commission (CCC)	September 13, 2023	Abigail Strickland, CCC Tyler Brown, Caltrans

Coordination Effort	Date	Personnel
Del Norte Local Coastal Program	September 27, 2023	Heidi Kunstal, County of Del Norte Tyler Brown, Caltrans
4(f) Coordination	August 9, 2023 August 18, 2023 August 30, 2023 September 27, 2023	Tyler Brown, Caltrans Rosalind Litzky, California State Parks

Coordination with Native American Tribes

A list of Native American contacts was compiled from the Caltrans District 1 Native American Coordination Database and from consultation on the Caltrans Last Chance Grade Project, a project that overlaps completely with the area of this project. The consultation record resulted in furthering consultation with the following tribes, in alphabetical order:

- Elk Valley Rancheria
- Tolowa Dee-ni' Nation
- Resighini Rancheria
- Yurok Tribe

An initial project notification email with project mapping, a description of work, and request for comments and concerns was sent on July 18, 2022. A follow up letter and email were sent in August 2023, providing information on the new preferred alignment.

Consultation is ongoing with the tribes for the duration of this project, and an electronic copy of this report will be emailed to the consulted tribes listed above.

Chapter 4. List of Preparers

The following individuals performed the environmental work and contributed to the preparation of the Initial Study/Proposed Negative Declaration for this project:

California Department of Transportation, North Region

Aaron Bali	Transportation Engineer (Air Quality, Noise Specialist)
Alexander McKay	Transportation Engineer (Design)
Angel Aguilar	Engineering Geologist (Water Quality)
Ben Lardiere	Environmental Scientist (Biologist)
Eric Shada	Senior Transportation Engineer (Design)
Erin Ponte	Landscape Associate (Aesthetics)
Felicia Zimmerman	Environmental Scientist (Coordinator)
Jason Meyer	Senior Environmental Scientist (Branch Chief)
Julie Price	Environmental Scientist (Coordinator)
Karen Radford	Associate Environmental Planner (Technical Editor)
Liza Walker	Environmental Program Manager (Office Chief)
Nguyen Pham	Transportation Engineer (Design)
Stephen Umbertis	Environmental Scientist (Coordinator)
Tim Keefe	Senior Environmental Scientist (Archaeology)
Tina Fulton	Associate Environmental Planner (Archaeology)
Tyler Brown	Environmental Scientist (Coordinator)

Stantec Consulting Services, Inc.

Julie McNamara Certified Consulting Arborist

Adam Fuentes Arborist Assistant

Chapter 5. Distribution List

Federal and State Agencies

United States Fish and Wildlife Service (USFWS)
1655 Heindon Road
Arcata, CA 95521

Del Norte Coast Redwoods State Parks
P.O. Box 2006
Eureka, CA 95502-2006

Redwood National Parks
1111 Second Street
Crescent City, CA 95531

Regional/County/Local Agencies

County of Del Norte Planning Department
981 H Street, Suite 110
Crescent City, CA 95531



Chapter 6. References

- Buskirk, S. W. & Powell, Roger. 1999. Habitat ecology of fishers and American martens. Martens, Sables, and Fishers: Biology and Conservation. 283-296.
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PERSONAL COMMUNICATIONS

R. Litzky, California State Parks, July 17, 2023



Appendix A. Project Layouts

INDEX OF PLANS


SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
X-X	TYPICAL CROSS SECTIONS
X	KEY MAP AND LINE INDEX
XX-XX	LAYOUTS
XX-XX	PROFILES AND SUPERELEVATION DIAGRAMS
XX-XX	CONSTRUCTION DETAILS
XX-XX	TEMPORARY WATER POLLUTION CONTROL PLANS
XX-XX	CONTOUR GRADING PLANS
XX-XX	DRAINAGE PLANS, PROFILES, DETAILS AND QUANTITIES
XX-XX	UTILITY PLANS
XX	CONSTRUCTION AREA SIGNS
XX-XX	MOTORIST INFORMATION PLANS
XX-XX	STAGE CONSTRUCTION PLANS
XX-XX	TRAFFIC HANDLING PLANS AND QUANTITIES
XX-XX	PAVEMENT DELINEATION PLANS, DETAILS AND QUANTITIES
XX-XX	SIGN PLANS, DETAILS AND QUANTITIES
XX-XX	SUMMARY OF QUANTITIES
XX-XX	SOUND WALL PLANS
XX-XX	LANDSCAPE PLANS
XX-XX	ELECTRICAL PLANS
XX-XX	REVISED STANDARD PLANS


THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN DEL NORTE COUNTY
ABOUT 10 MILES SOUTH OF CRESCENT CITY
FROM 3 MILES NORTH TO 3.6 MILES NORTH
OF WILSON CREEK BRIDGE

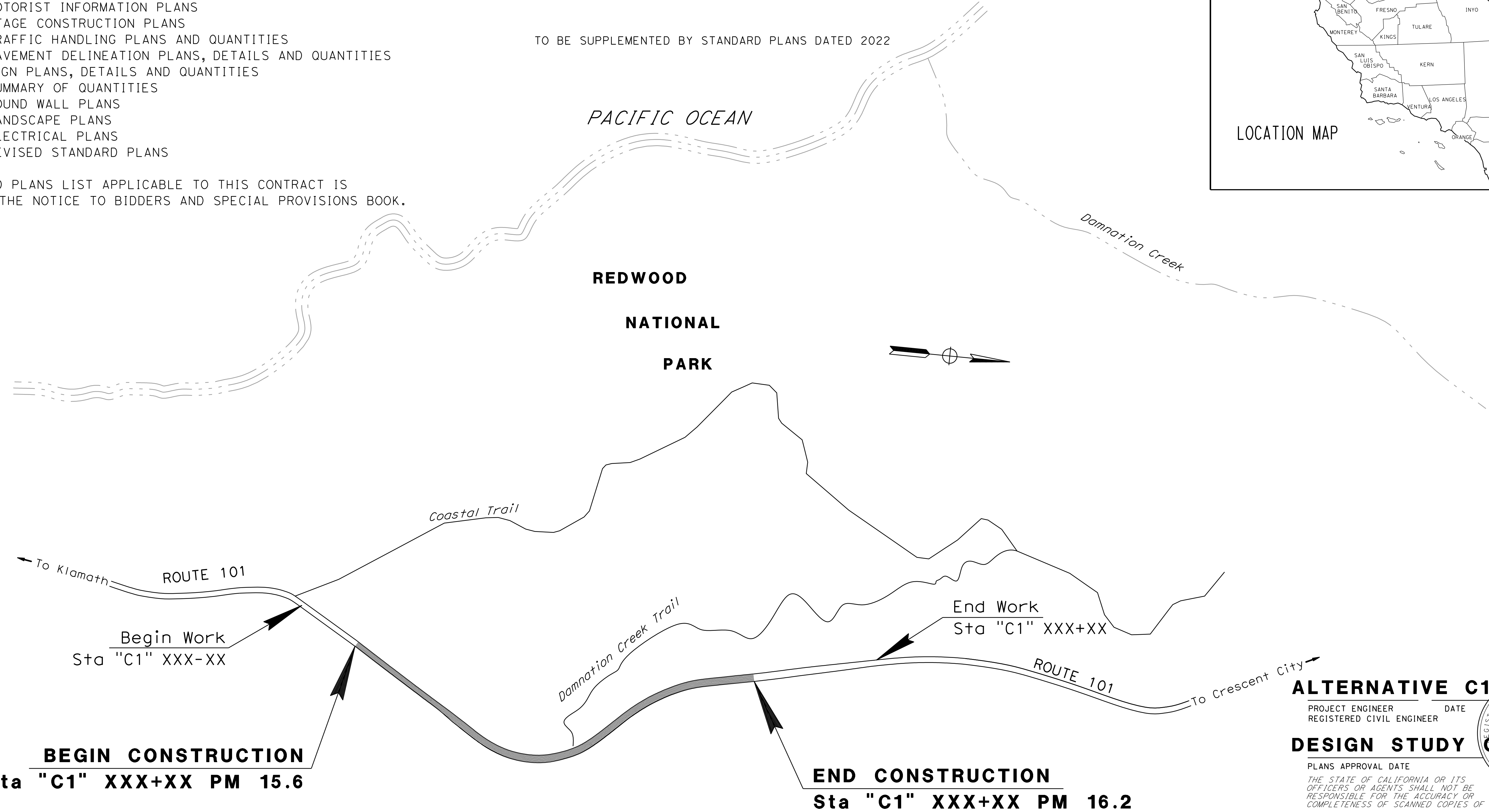
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2022

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01	DN	101	15.6/16.2	1	XX





LOCATION MAP



PROJECT MANAGER
GRANT WILCOX
 DESIGN ENGINEER
NGUYEN PHAM

ALTERNATIVE C1

PROJECT ENGINEER _____ DATE _____
 REGISTERED CIVIL ENGINEER

DESIGN STUDY ONLY

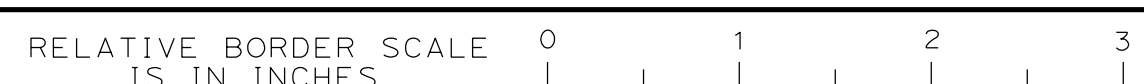
PLANS APPROVAL DATE _____

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THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

NO SCALE



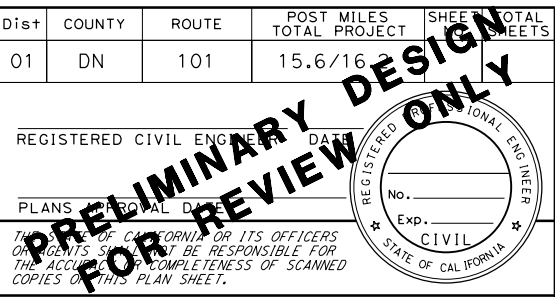
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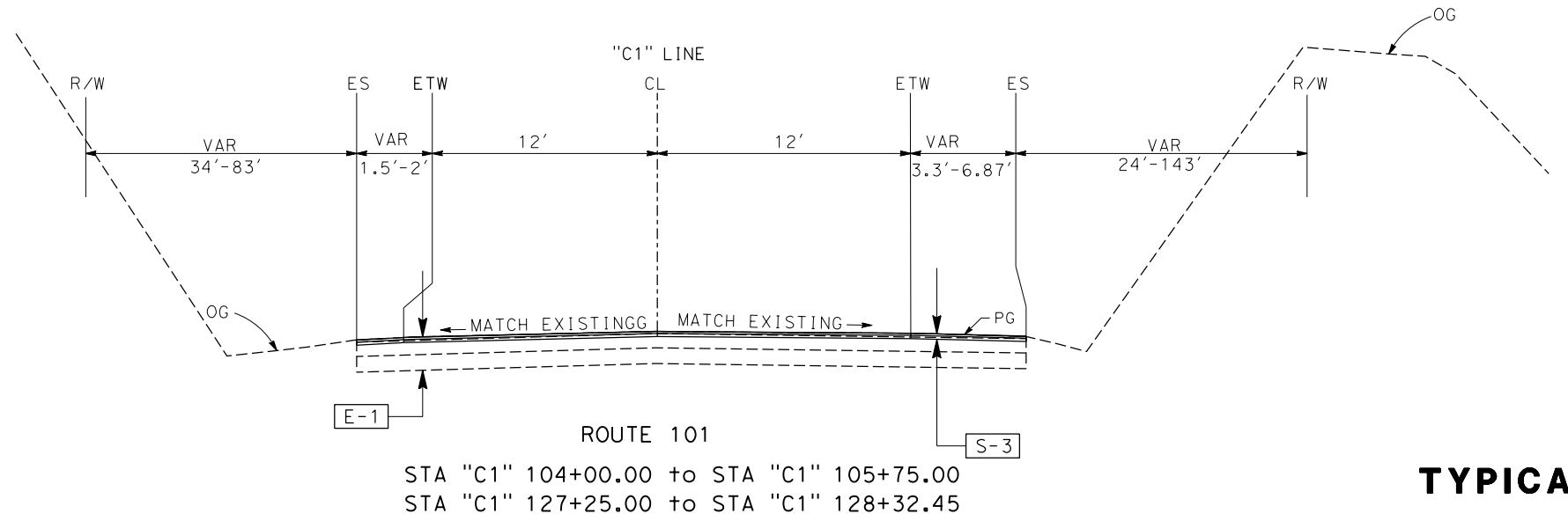
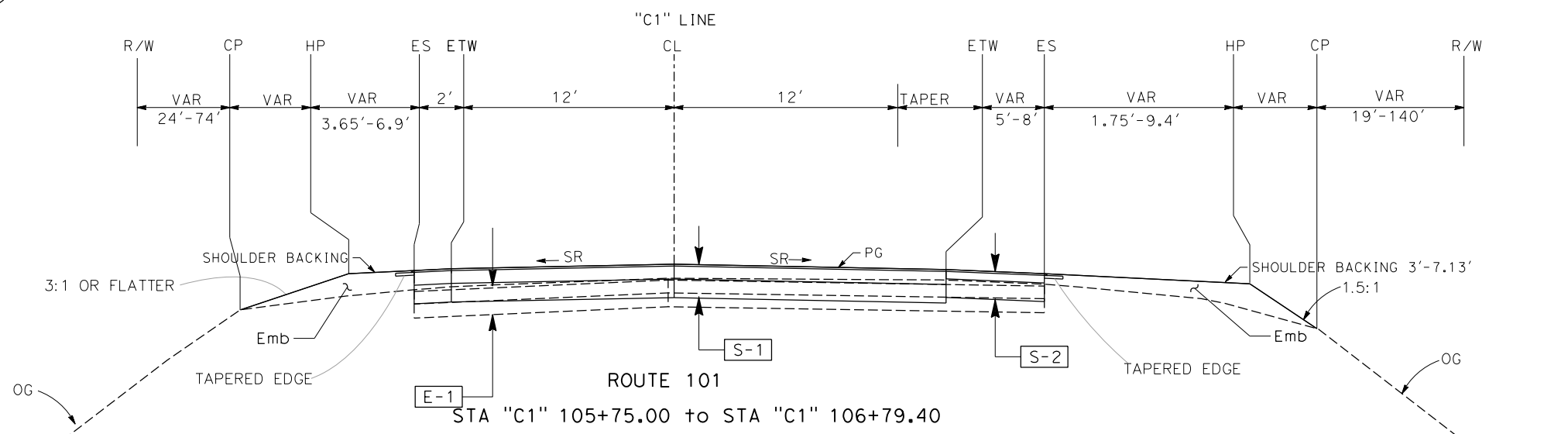
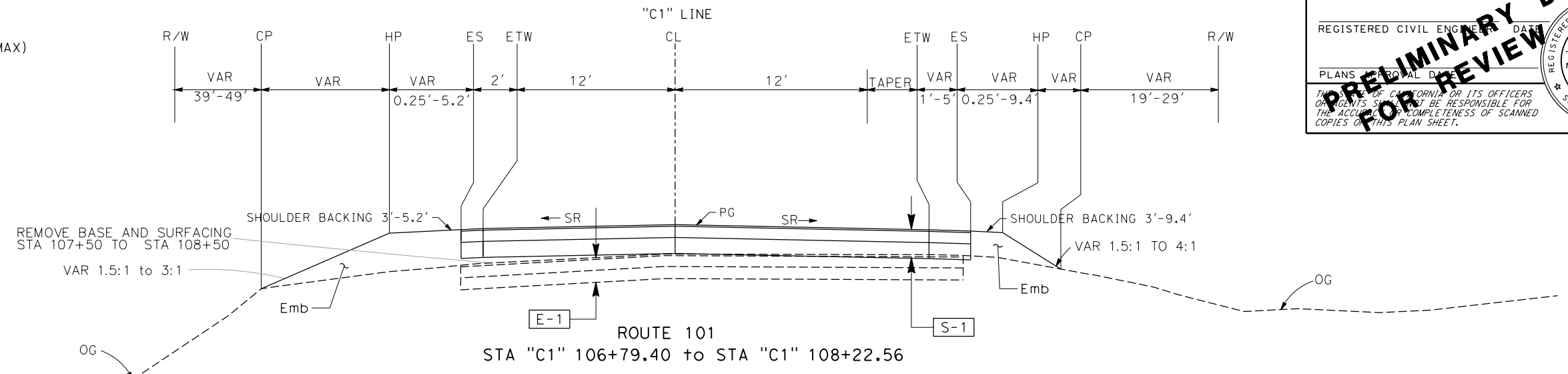
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 PLANS APPROVAL DATE
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ABBREVIATIONS

SR = SUPERELEVATION RATE (12% MAX)
 CP = CATCH POINT

- E-1 Exist STRUCTURAL SECTION
 VAR 0.42'-1.27' HMA
 VAR 0.50'-1.17' AB
- S-1 0.10' RHMA-0 (BWC)
 0.70' HMA-A
 1.00' AB (CL-2)
- S-2 0.10' RHMA-0 (BWC)
 0.40' HMA-A
 1.00' AB (CL-2)
- S-3 0.10' RHMA-0 (BWC)
 VAR HMA
- S-4 0.10' RHMA-0 (BWC)
 0.85' HMA



TYPICAL CROSS SECTION

NO SCALE

X-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et-Catrans

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
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REGISTERED CIVIL ENGINEER DATA

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

No. _____

Exp. _____

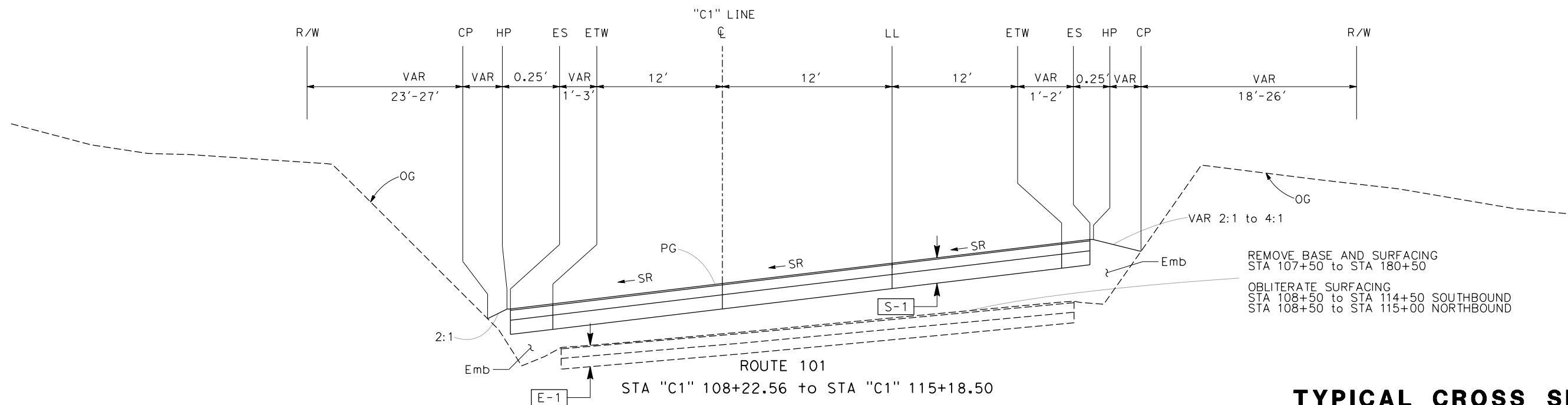
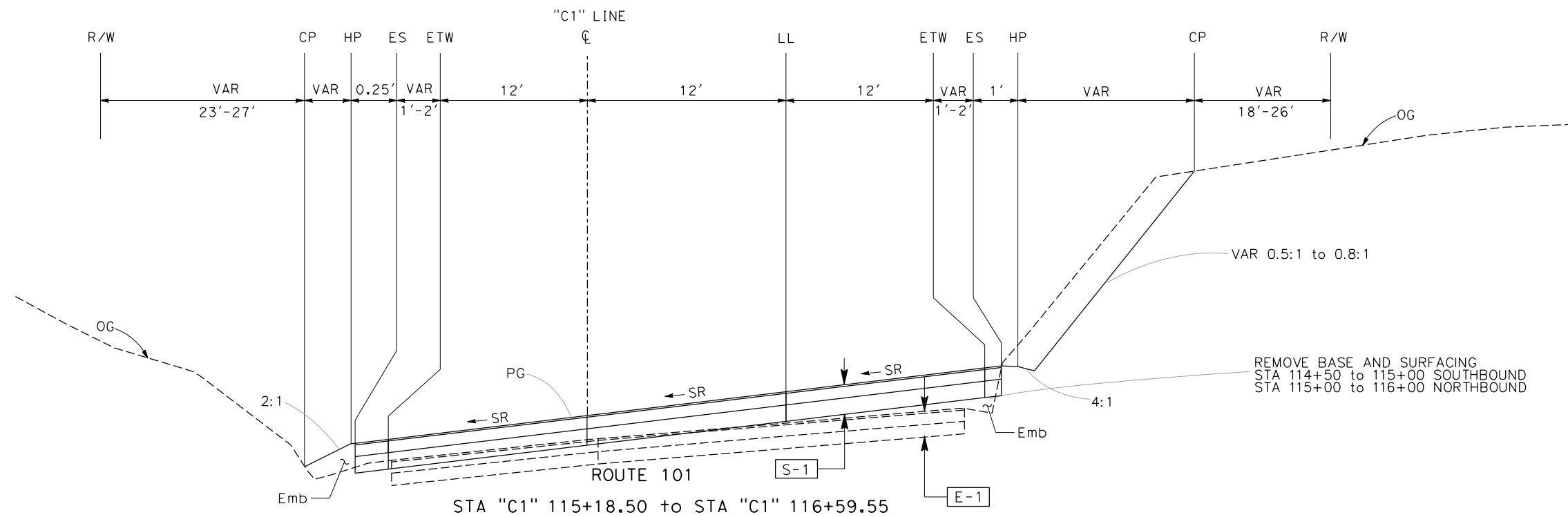
CIVIL

STATE OF CALIFORNIA

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ABBREVIATIONS

SR = SUPERELEVATION RATE (12% MAX)
 CP = CATCH POINT



TYPICAL CROSS SECTION

NO SCALE

X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FUNCTIONAL SUPERVISOR

CHECKED BY

DESIGNED BY

REVISOR

DATE

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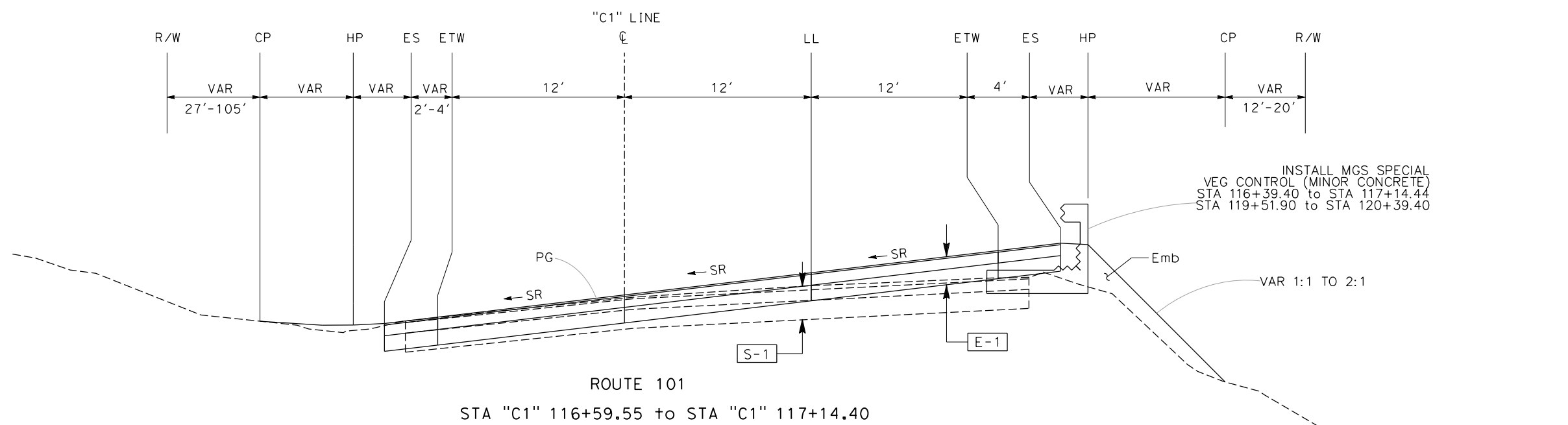
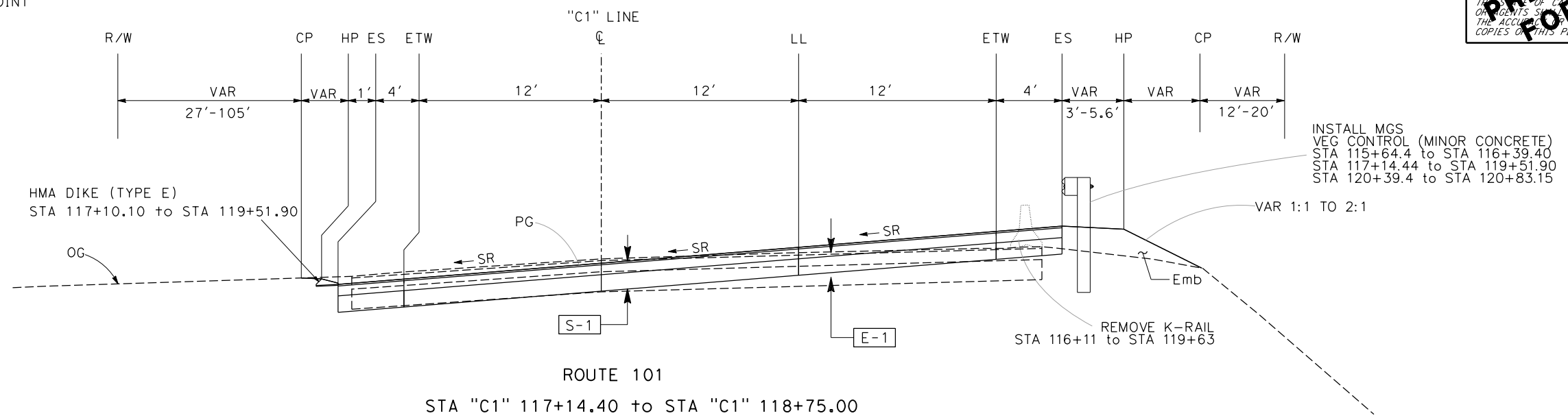
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PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. _____
Exp. _____
CIVIL
STATE OF CALIFORNIA

ABBREVIATIONS
 SR = SUPERELEVATION RATE (12% MAX)
 CP = CATCH POINT



TYPICAL CROSS SECTION

NO SCALE

X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

REVISED BY
DATE REVISED

CALCULATED-DESIGNED BY
CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

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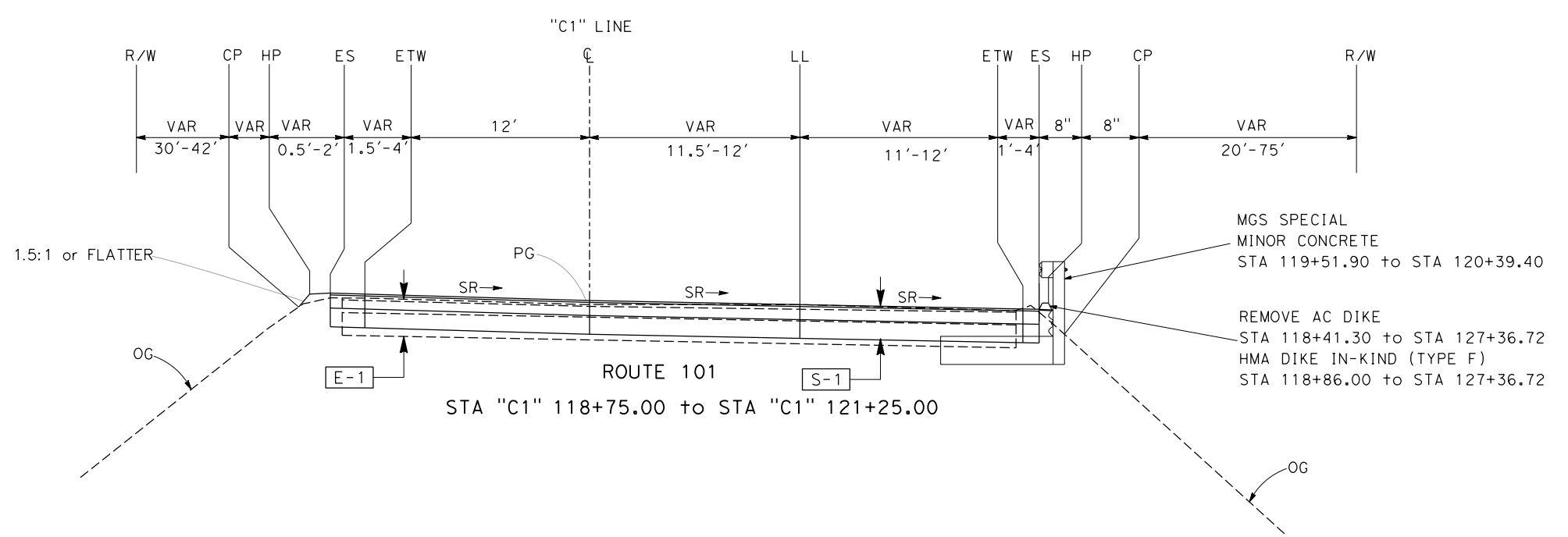
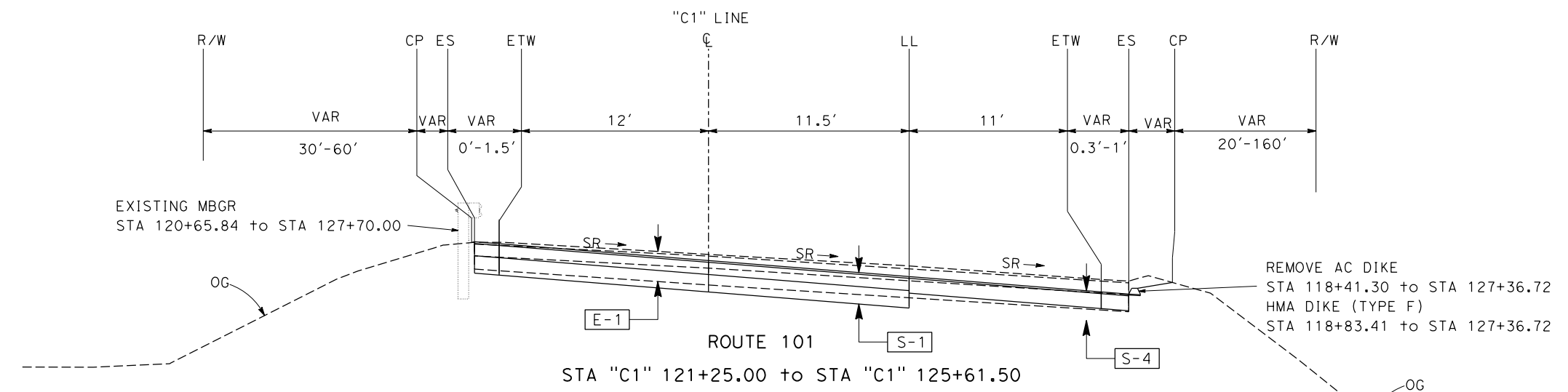
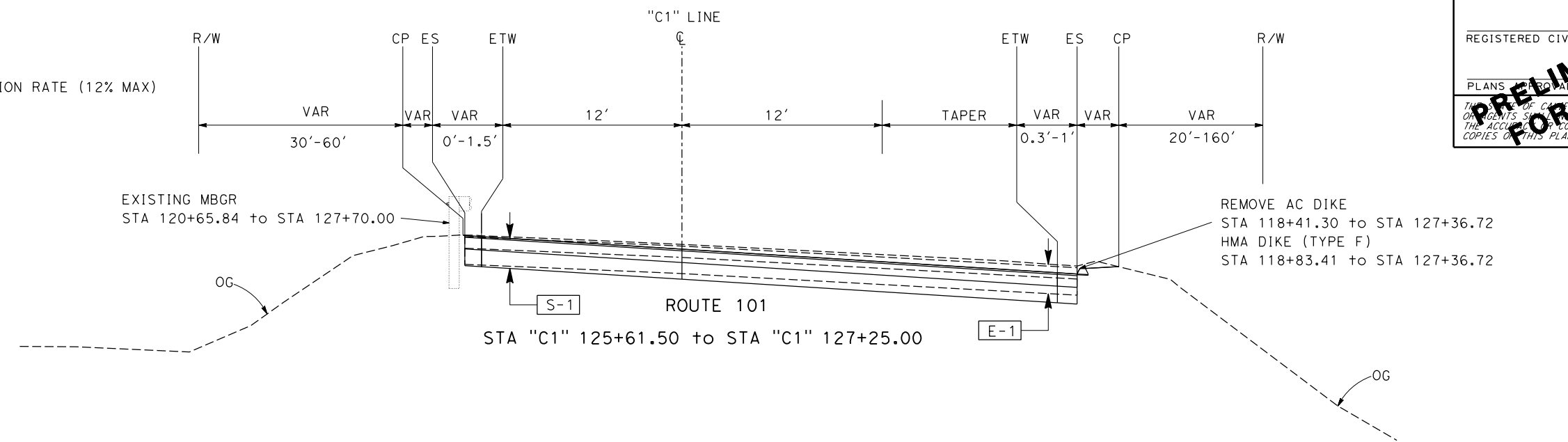
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PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. _____
Exp. _____
CIVIL
STATE OF CALIFORNIA

ABBREVIATIONS
 SR = SUPERELEVATION RATE (12% MAX)
 CP = CATCH POINT



TYPICAL CROSS SECTION

NO SCALE

X-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Et-Catrans

x
x
x
x
x
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REGISTERED CIVIL ENGINEER DATE

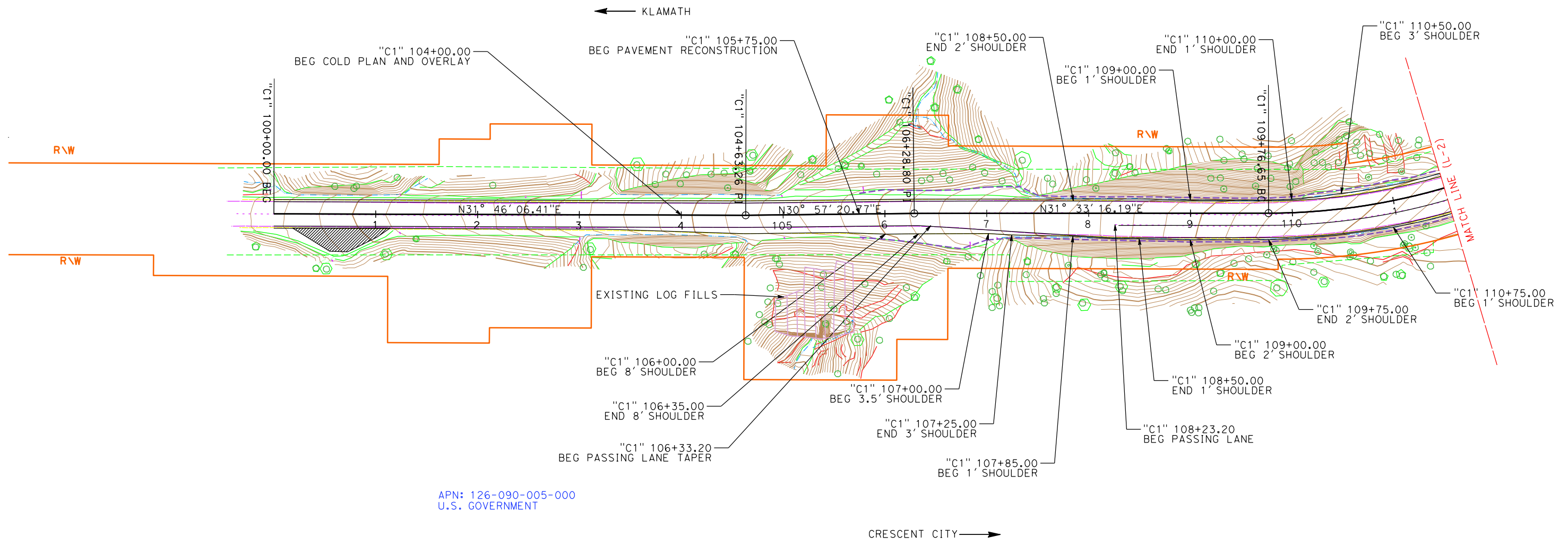
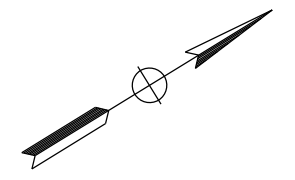
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NOTES:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

- ENVIRONMENTAL STUDY LIMITS
- FILL
- CUT
- RIGHT OF WAY
- TREES
- FLOWLINE
- MGS
- EXISTING MBGR
- DIKE
- EXISTING DIKE
- K-RAIL
- EXISTING K-RAIL
- EXISTING EDGE OF PAVEMENT
- EXISTING ETW
- EXISTING LANE LINE



APN: 126-090-005-000
U.S. GOVERNMENT

CURVE DATA				
Curve #	R	Δ	T	L
1	618.00'	074° 53' 34"	473.29'	807.80'

CRESCENT CITY →

LAYOUT
L-1

SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans

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CALCULATED-DESIGNED BY CHECKED BY

FUNCTIONAL SUPERVISOR

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UNIT 0312

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR
 CALCULATED-DESIGNED BY
 CHECKED BY
 REVISED BY
 DATE REVISED

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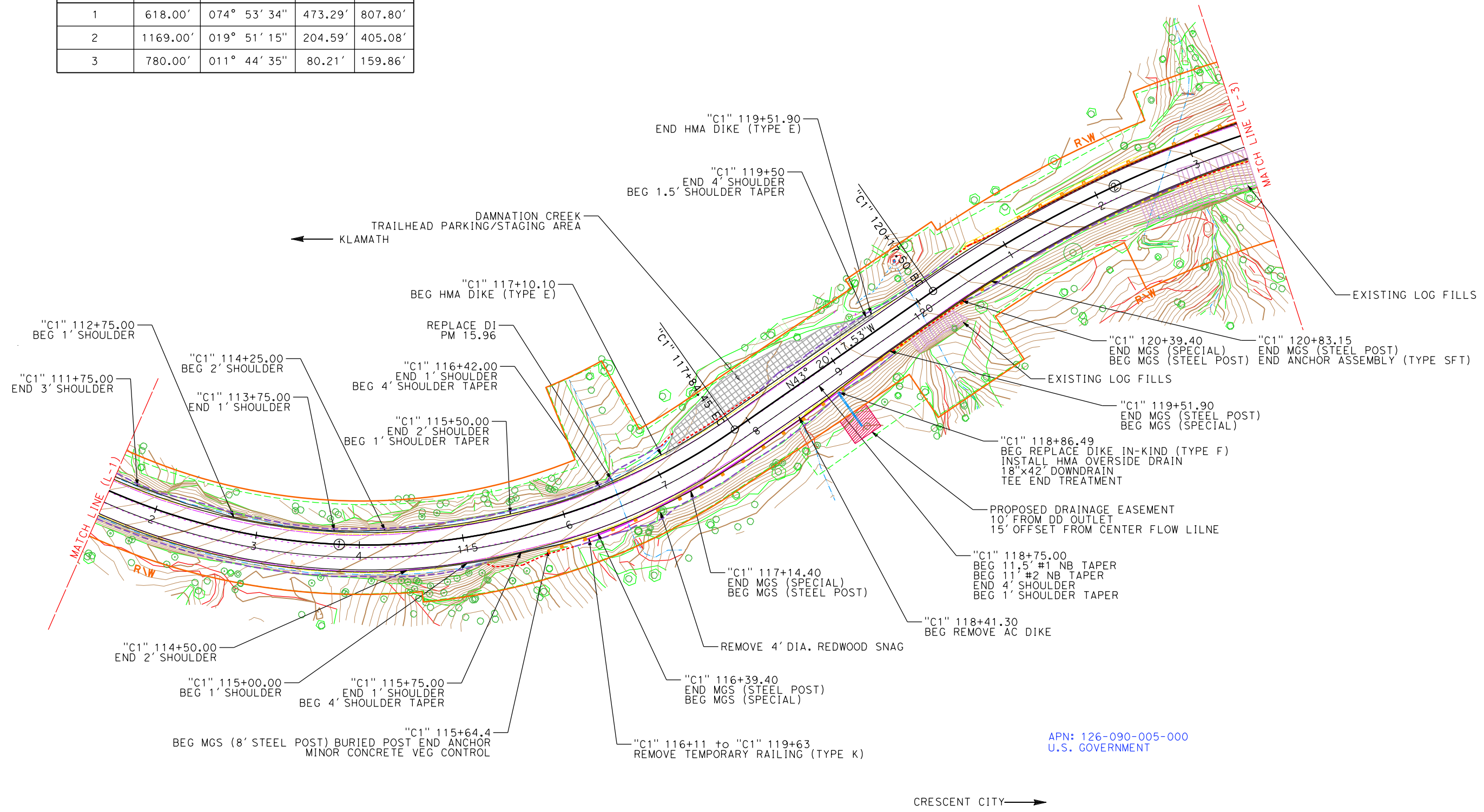
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 No. _____
 Exp. _____
 CIVIL
 STATE OF CALIFORNIA

PRELIMINARY DESIGN FOR REVIEW ONLY

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NOTES:
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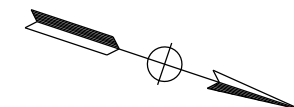
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3	780.00'	011° 44' 35"	80.21'	159.86'



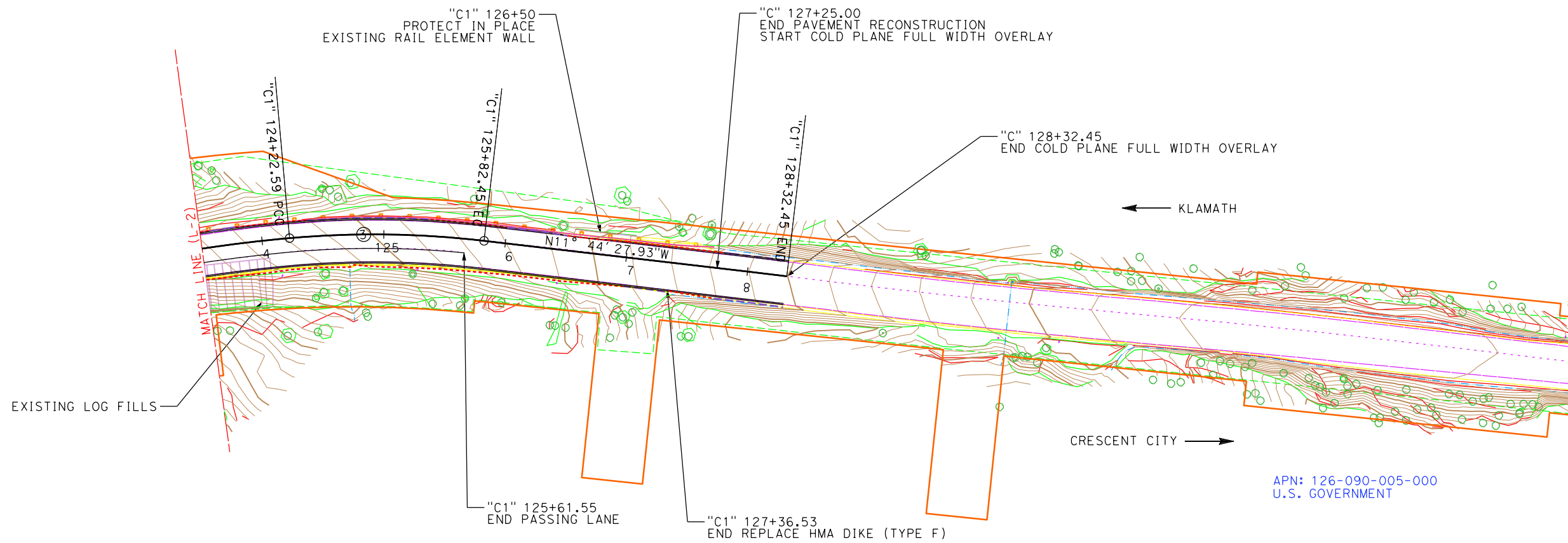
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 U.S. GOVERNMENT

LAYOUT
 SCALE: 1" = 50'
L-2

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NOTES:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



CURVE DATA				
Curve #	R	Δ	T	L
1	618.00'	074° 53' 34"	473.29'	807.80'
2	1169.00'	019° 51' 15"	204.59'	405.08'
3	780.00'	011° 44' 35"	80.21'	159.86'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

FUNCTIONAL SUPERVISOR

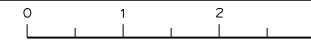
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DATE REVISED

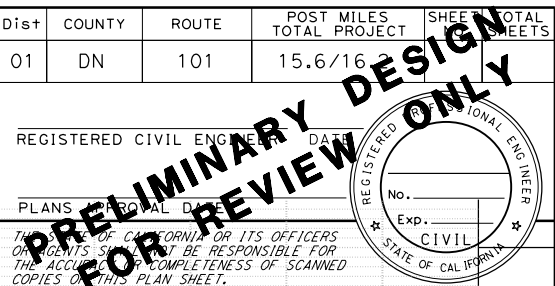
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CHECKED BY

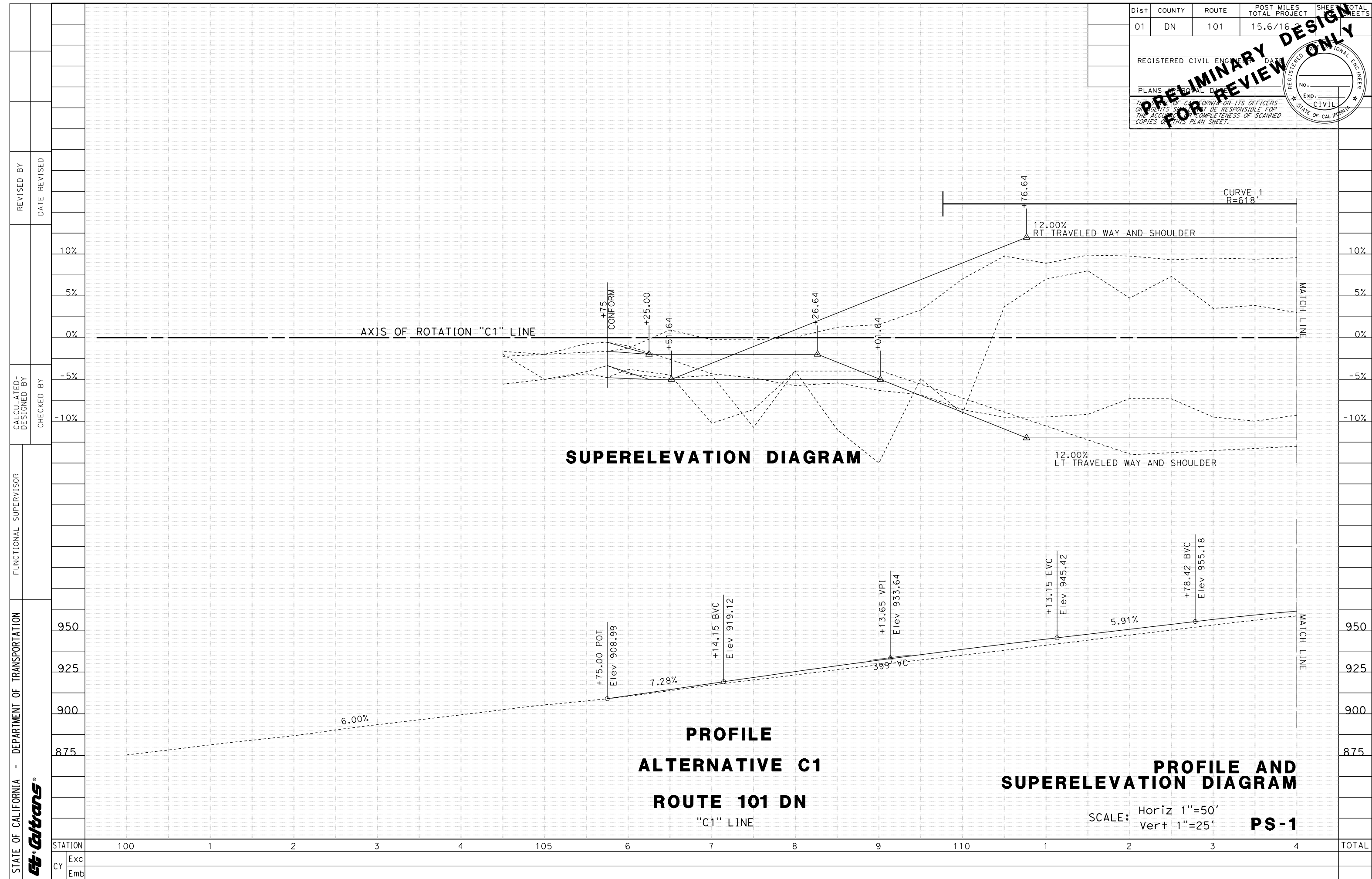
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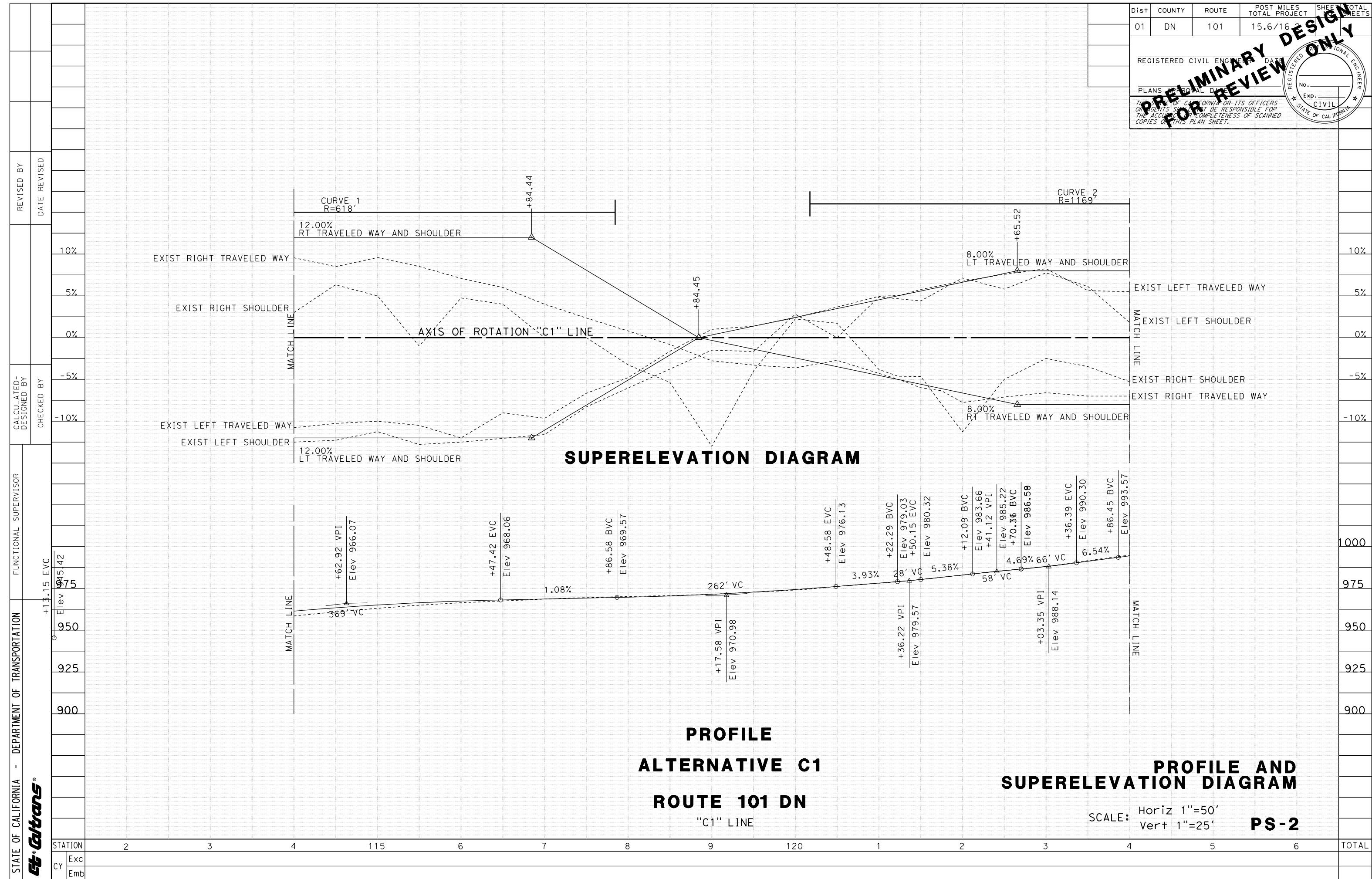


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
01	DN	101	15.6/16	
REGISTERED CIVIL ENGINEER				
PLANS - PARALLEL DATA				
<small>THE ENGINEER OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>				

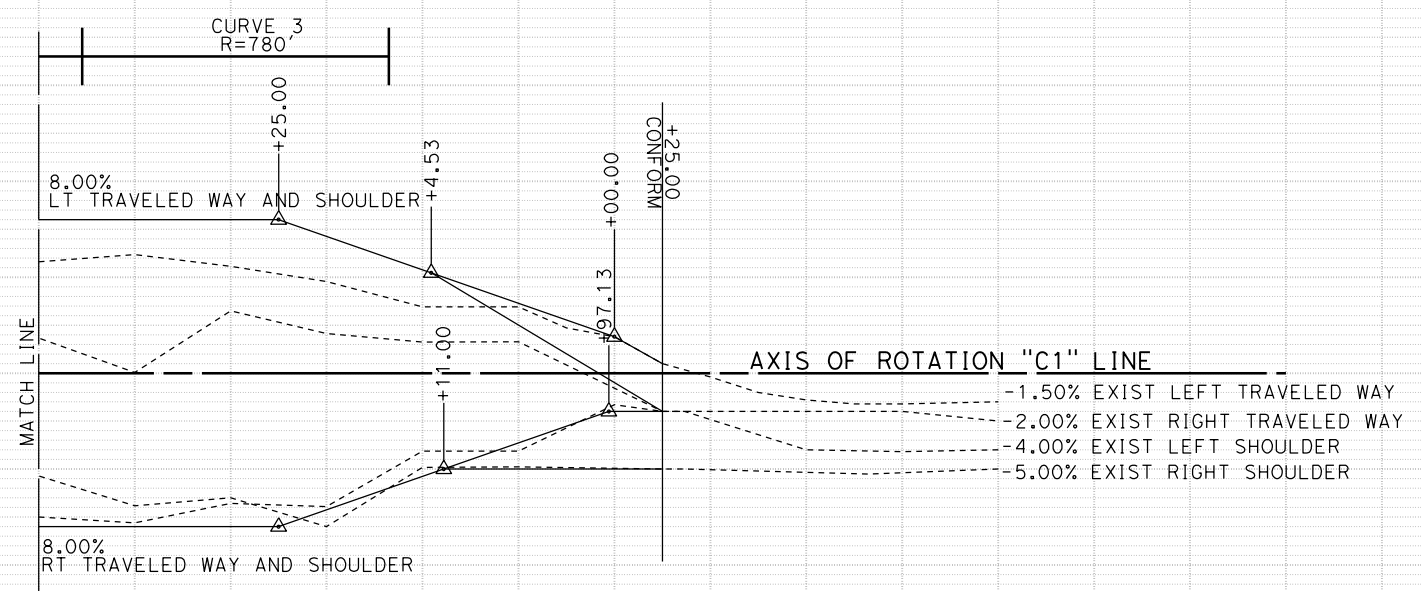
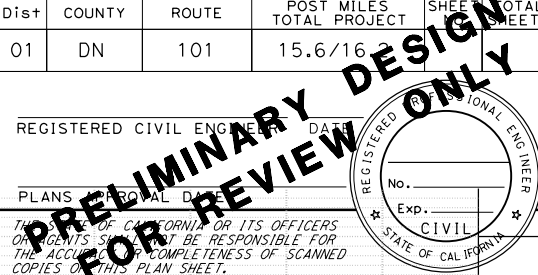


PRELIMINARY DESIGN
FOR REVIEW ONLY

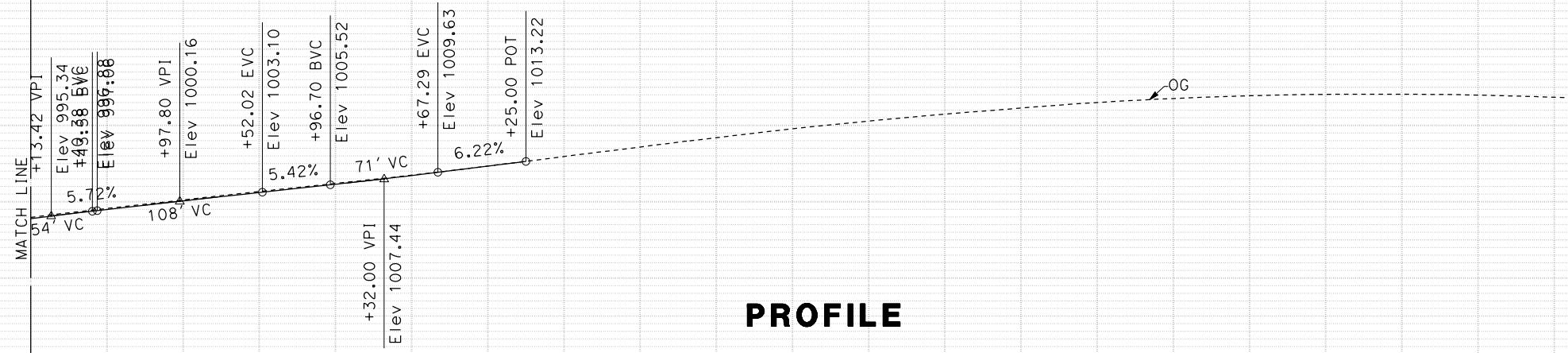




Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET TOTAL SHEETS
01	DN	101	15.6/16	
REGISTERED CIVIL ENGINEER				
PLANS - PARALLEL DATA				
<small>THE ENGINEER OR ARCHITECT SHALL BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>				



SUPERELEVATION DIAGRAM



PROFILE ALTERNATIVE C1 ROUTE 101 DN "C1" LINE

PROFILE AND SUPERELEVATION DIAGRAM

SCALE: Horiz 1"=50'
Vert 1"=25' **PS-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR BY
Caltrans		CHECKED BY	DATE REVISED
STATION	Exc		
CY	Emb		

2	3	4	125	6	7	8	9	130	1	2	3	4	TOTAL
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Appendix B. Title VI Policy Statement



California Department of Transportation

OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49 | SACRAMENTO, CA 94273-0001
(916) 654-6130 | FAX (916) 653-5776 TTY 711
www.dot.ca.gov



September 2022

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures *"No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."*

Caltrans will make every effort to ensure nondiscrimination in all of its services, programs and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin. In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 639-6392 or visit the following web page: <https://dot.ca.gov/programs/civil-rights/title-vi>.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Civil Rights, at PO Box 942874, MS-79, Sacramento, CA 94274-0001; (916) 879-6768 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in black ink, appearing to read 'Tony Tavares'.

TONY TAVARES
Director

"Provide a safe and reliable transportation network that serves all people and respects the environment"



Appendix C. USFWS, NMFS, CNDDDB, CNPS Species Lists



United States Department of the Interior



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

In Reply Refer To:
Project Code: 2022-0032273
Project Name: 0K950

December 12, 2023

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

To Whom It May Concern:

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

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

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

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

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see [Migratory Bird Permit | What We Do | U.S. Fish & Wildlife Service \(fws.gov\)](#).

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see <https://www.fws.gov/library/collections/threats-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/partner/council-conservation-migratory-birds>.

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

Attachment(s):

- Official Species List
-

OFFICIAL SPECIES LIST

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

This species list is provided by:

Arcata Fish And Wildlife Office

1655 Heindon Road

Arcata, CA 95521-4573

(707) 822-7201

PROJECT SUMMARY

Project Code: 2022-0032273

Project Name: 0K950

Project Type: Road/Hwy - Maintenance/Modification

Project Description: Transportation Safety Project

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.646307199999995,-124.11250244286893,14z>



Counties: Del Norte County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

MAMMALS

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment <i>Martes caurina</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened

BIRDS

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

REPTILES

NAME	STATUS
Northwestern Pond Turtle <i>Actinemys marmorata</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

FISHES

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

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

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

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 1
Name: Benjamin Lardiere
Address: 1656 Union Street
City: Eureka
State: CA
Zip: 95501
Email: benjamin.lardiere@dot.ca.gov
Phone: 7078156361

Quad Name **Crescent City**

Quad Number **41124-G2**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Hiouchi**

Quad Number **41124-G1**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Sister Rocks**

Quad Number **41124-F2**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Childs Hill**

Quad Number **41124-F1**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Requa**

Quad Number **41124-E1**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

- MMPA Cetaceans - **X**
- MMPA Pinnipeds - **X**

Quad Name **Cant Hook Mountain**

Quad Number **41123-F8**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

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

MMPA Cetaceans -
MMPA Pinnipeds -



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS > (Crescent City (4112472)< OR > Hiouchi (4112471)< OR > Sister Rocks (4112462)< OR > Childs Hill (4112461)< OR > Requa (4112451)< OR > Cant Hook Mtn. (4112368))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Abronia umbellata</i> var. <i>breviflora</i> pink sand-verbena	G4G5T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5 10	61 S:6	0	1	2	3	0	0	4	2	6	0	0
<i>Anthoxanthum nitens</i> ssp. <i>nitens</i> vanilla-grass	G5T5 S2	None None	Rare Plant Rank - 2B.3	10 10	6 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Aplodontia rufa</i> <i>humboldtiana</i> Humboldt mountain beaver	G5TNR SNR	None None		5 30	28 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Arborimus pomo</i> Sonoma tree vole	G3 S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	300 800	222 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Ardea herodias</i> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	20 20	156 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Ascaphus truei</i> Pacific tailed frog	G4 S3S4	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	60 2,100	491 S:33	1	0	0	0	0	32	19	14	33	0	0
<i>Asplenium trichomanes</i> ssp. <i>trichomanes</i> maidenhair spleenwort	G5T5 S1	None None	Rare Plant Rank - 2B.1	600 600	1 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Atractelmis wawona</i> Wawona riffle beetle	G3 S1S2	None None		45 257	80 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Boechera koehleri</i> Koehler's stipitate rockcress	G3G4 S3	None None	Rare Plant Rank - 1B.3 USFS_S-Sensitive	400 400	29 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	1 500	181 S:7	0	0	0	0	0	7	6	1	7	0	0
<i>Bombus occidentalis</i> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	25 50	306 S:3	0	0	0	0	0	3	3	0	3	0	0



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<i>Brachyramphus marmoratus</i> marbled murrelet	G3 S2	Threatened Endangered	CDF_S-Sensitive IUCN_EN-Endangered	200 1,000	110 S:17	0	0	0	0	0	17	17	0	17	0	0
<i>Branta hutchinsii leucopareia</i> cackling (=Aleutian Canada) goose	G5T3 S3	Delisted None	CDFW_WL-Watch List	20 200	19 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Calamagrostis crassiglumis</i> Thurber's reed grass	G3Q S2	None None	Rare Plant Rank - 2B.1		15 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Calicium adpersum</i> spiral-spored gilded-head pin lichen	G3G4 S1	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	650 650	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Calystegia atriplicifolia ssp. buttensis</i> Butte County morning-glory	G5T3 S3	None None	Rare Plant Rank - 4.2	350 1,960	121 S:3	1	1	0	0	0	1	2	1	3	0	0
<i>Cardamine angulata</i> seaside bittercress	G4G5 S3	None None	Rare Plant Rank - 2B.1	40 755	38 S:8	1	4	0	0	0	3	1	7	8	0	0
<i>Cardamine nuttallii var. gemmata</i> yellow-tubered toothwort	G5T3Q S2	None None	Rare Plant Rank - 3.3	70 1,840	17 S:2	0	1	0	0	0	1	2	0	2	0	0
<i>Carex arcta</i> northern clustered sedge	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern		13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex lenticularis var. limnophila</i> lagoon sedge	G5T5 S1	None None	Rare Plant Rank - 2B.2		4 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex leptalea</i> bristle-stalked sedge	G5 S1	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	1,450 1,450	8 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Carex lyngbyei</i> Lyngbye's sedge	G5 S3	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern	4 15	37 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Carex praticola</i> northern meadow sedge	G5 S2	None None	Rare Plant Rank - 2B.2	50 50	14 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex serpenticola</i> serpentine sedge	G4 S3	None None	Rare Plant Rank - 2B.3	2,280 2,280	17 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Carex viridula ssp. viridula</i> green yellow sedge	G5T5 S2	None None	Rare Plant Rank - 2B.3	10 10	8 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cascadia nuttallii</i> Nuttall's saxifrage	G4? S1	None None	Rare Plant Rank - 2B.1	125 250	2 S:2	0	0	0	0	0	2	1	1	2	0	0



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<i>Castilleja elata</i> Siskiyou paintbrush	G3 S2S3	None None	Rare Plant Rank - 2B.2	200 540	36 S:4	0	1	0	0	0	3	4	0	4	0	0
<i>Castilleja litoralis</i> Oregon coast paintbrush	G3 S3	None None	Rare Plant Rank - 2B.2	14 280	44 S:5	0	0	2	0	0	3	2	3	5	0	0
<i>Cerorhinca monocerata</i> rhinoceros auklet	G5 S3	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	235 235	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Charadrius nivosus nivosus</i> western snowy plover	G3T3 S3	Threatened None	CDFW_SSC-Species of Special Concern	10 10	138 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Circus hudsonius</i> northern harrier	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	15 55	54 S:3	0	1	2	0	0	0	0	3	3	0	0
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	G3 S2.1	None None		10 10	60 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	G2 S2.1	None None			30 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cochlearia groenlandica</i> Greenland cochlearia	G4 S1	None None	Rare Plant Rank - 2B.3	5 5	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Coenonympha tullia yontockett</i> Yontockett satyr	G5T1T2 S1S2	None None		10 10	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Coptis laciniata</i> Oregon goldthread	G4? S3?	None None	Rare Plant Rank - 4.2	340 1,780	122 S:5	0	0	0	0	0	5	3	2	5	0	0
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	170 170	635 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Cypseloides niger</i> black swift	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFWS_BCC-Birds of Conservation Concern	160 160	46 S:1	0	0	0	0	0	1	1	0	1	0	0



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<i>Discelium nudum</i> naked flag moss	G4G5 S1	None None	Rare Plant Rank - 2B.2		2 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Downingia willamettensis</i> Cascade downingia	G4 S2	None None	Rare Plant Rank - 2B.2	191 191	8 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Elanus leucurus</i> white-tailed kite	G5 S3S4	None None	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern	10 10	184 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Empetrum nigrum</i> black crowberry	G5 S1?	None None	Rare Plant Rank - 2B.2	10 45	4 S:3	0	0	0	0	1	2	3	0	2	0	1
<i>Emys marmorata</i> western pond turtle	G3G4 S3	Proposed Threatened None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	38 65	1522 S:2	1	1	0	0	0	0	0	2	2	0	0
<i>Erethizon dorsatum</i> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	14 1,347	523 S:28	0	0	0	0	0	28	4	24	28	0	0
<i>Eriogonum nudum var. paralinum</i> Del Norte buckwheat	G5T2 S1	None None	Rare Plant Rank - 2B.2	5 178	4 S:4	0	0	0	0	0	4	1	3	4	0	0
<i>Erysimum concinnum</i> bluff wallflower	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 50	30 S:5	0	1	0	1	0	3	3	2	5	0	0
<i>Erythronium hendersonii</i> Henderson's fawn lily	G4 S2	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	200 200	7 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Erythronium howellii</i> Howell's fawn lily	G3G4 S2	None None	Rare Plant Rank - 1B.3	400 2,300	11 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Erythronium oregonum</i> giant fawn lily	G5 S2	None None	Rare Plant Rank - 2B.2 SB_UCSC-UC Santa Cruz	1,700 1,780	37 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Erythronium revolutum</i> coast fawn lily	G4G5 S3	None None	Rare Plant Rank - 2B.2 SB_UCSC-UC Santa Cruz	400 1,445	172 S:4	0	4	0	0	0	0	0	4	4	0	0
<i>Eucyclogobius newberryi</i> tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered IUCN_NT-Near Threatened	4 4	127 S:1	1	0	0	0	0	0	0	1	1	0	0



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<i>Eumetopias jubatus</i> Steller sea lion	G3 S2	Delisted None	IUCN_NT-Near Threatened MMC_SSC-Species of Special Concern	10 10	38 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Fissidens pauperculus</i> minute pocket moss	G3? S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive		22 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Fratercula cirrhata</i> tufted puffin	G5 S1S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	235 235	17 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Gilia capitata ssp. pacifica</i> Pacific gilia	G5T3 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	16 1,900	91 S:11	0	1	1	0	0	9	6	5	11	0	0
<i>Gilia millefoliata</i> dark-eyed gilia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	10 75	54 S:8	0	0	7	0	0	1	5	3	8	0	0
<i>Gonidea angulata</i> western ridged mussel	G3 S2	None None	IUCN_VU-Vulnerable	5 5	158 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Haliaeetus leucocephalus</i> bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive	292 292	333 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Hesperovax sparsiflora var. brevifolia</i> short-leaved evax	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	13 54	72 S:5	1	2	1	0	0	1	0	5	5	0	0
<i>Hydrobates furcatus</i> fork-tailed storm-petrel	G5 S1	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	12 235	8 S:3	0	0	0	0	1	2	3	0	2	0	1



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<i>Juga chacei</i> Chace juga	G1 S1	None None	USFS_S-Sensitive	13 988	11 S:8	0	0	0	0	0	8	7	1	8	0	0
<i>Kopsiopsis hookeri</i> small groundcone	G4? S1S2	None None	Rare Plant Rank - 2B.3	1,750 1,980	21 S:3	0	1	1	0	0	1	1	2	3	0	0
<i>Lanx alta</i> highcap lanx	G2G3 S3	None None		116 157	13 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Lasionycteris noctivagans</i> silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern	170 370	139 S:2	1	0	0	0	0	1	0	2	2	0	0
<i>Lasthenia californica ssp. macrantha</i> perennial goldfields	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	100 100	59 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lathyrus japonicus</i> seaside pea	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	0 20	24 S:6	0	3	0	0	0	3	2	4	6	0	0
<i>Lathyrus palustris</i> marsh pea	G5 S2	None None	Rare Plant Rank - 2B.2	8 40	13 S:5	1	2	0	0	0	2	2	3	5	0	0
<i>Lewisia oppositifolia</i> opposite-leaved lewisia	G3 S2	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	1,800 1,800	14 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Lilium occidentale</i> western lily	G1G2 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank	10 40	16 S:7	0	1	4	2	0	0	4	3	7	0	0
<i>Limnephilus atercus</i> Fort Dick limnephilus caddisfly	G3G4 S1S2	None None		50 70	2 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lysimachia europaea</i> arctic starflower	G5 S1	None None	Rare Plant Rank - 2B.2	10 50	4 S:4	1	0	0	1	0	2	4	0	4	0	0
<i>Margaritifera falcata</i> western pearlshell	G5 S1S2	None None	IUCN_NT-Near Threatened	130 130	78 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Martes caurina humboldtensis</i> Humboldt marten	G4G5T1 S1	Threatened Endangered	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	50 3,600	44 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Mitellastra caulescens</i> leafy-stemmed mitrewort	G5 S4	None None	Rare Plant Rank - 4.2	1,000 1,000	21 S:1	0	0	0	0	0	1	1	0	1	0	0



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<i>Monadenia fidelis pronotis</i> rocky coast Pacific sideband	G4G5T1 S1	None None	IUCN_DD-Data Deficient	40 40	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Moneses uniflora</i> woodnymph	G5 S2	None None	Rare Plant Rank - 2B.2		7 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Monotropa uniflora</i> ghost-pipe	G5 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	50 1,665	115 S:56	1	13	30	5	0	7	2	54	56	0	0
<i>Myotis evotis</i> long-eared myotis	G5 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern	122 979	139 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Myotis thysanodes</i> fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive	940 940	86 S:1	0	0	1	0	0	0	1	0	1	0	0
<i>Myotis yumanensis</i> Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern	60 380	265 S:4	1	2	0	0	0	1	0	4	4	0	0
<i>Nannopterum auritum</i> double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	5 9	39 S:5	0	0	0	0	0	5	5	0	5	0	0
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	G3 S3.2	None None		4 4	53 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	22 22	37 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Oenothera wolfii</i> Wolf's evening-primrose	G2 S1	None None	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank	0 100	29 S:13	0	5	3	2	0	3	7	6	13	0	0
<i>Oncorhynchus clarkii clarkii</i> coast cutthroat trout	G5T4 S3	None None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern USFS_S-Sensitive	4 200	45 S:7	0	1	0	0	0	6	6	1	7	0	0
<i>Packera bolanderi var. bolanderi</i> seacoast ragwort	G4T4 S2S3	None None	Rare Plant Rank - 2B.2	105 1,940	72 S:15	1	2	0	0	0	12	5	10	15	0	0
<i>Pandion haliaetus</i> osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	17 650	504 S:14	6	5	1	0	0	2	12	2	14	0	0



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<i>Pekania pennanti</i> Fisher	G5 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	1,080 1,080	555 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Phacelia argentea</i> sand dune phacelia	G2 S1	Threatened None	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank	10 80	16 S:11	0	10	0	0	0	1	2	9	11	0	0
<i>Pinguicula macroceras</i> horned butterwort	G4 S2	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	80 450	26 S:8	0	0	0	0	0	8	7	1	8	0	0
<i>Piperia candida</i> white-flowered rein orchid	G3? S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	470 2,200	222 S:5	0	2	2	0	0	1	1	4	5	0	0
<i>Platismatia lacunosa</i> crinkled rag lichen	G4 S2?	None None	Rare Plant Rank - 2B.3	213 213	4 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Plethodon elongatus</i> Del Norte salamander	G4 S3	None None	CDFW_WL-Watch List IUCN_NT-Near Threatened	80 2,100	151 S:23	1	0	0	0	0	22	23	0	23	0	0
<i>Polemonium carneum</i> Oregon polemonium	G3G4 S2	None None	Rare Plant Rank - 2B.2	1,000 1,000	16 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Polites mardon</i> mardon skipper	G2 S1	None None	USFS_S-Sensitive	1,720 1,720	2 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pomatiopsis chacei</i> marsh walker	G1 S2	None None		38 168	6 S:4	0	0	0	0	1	3	4	0	3	1	0
<i>Potamogeton foliosus ssp. fibrillosus</i> fibrous pondweed	G5T2T4 S1S2	None None	Rare Plant Rank - 2B.3	50 50	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Prosartes parvifolia</i> Siskiyou bells	G2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	2,740 2,740	14 S:1	0	0	0	0	0	1	0	1	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Pyrrocoma racemosa var. congesta</i> Del Norte pyrrocoma	G5T4 S2	None None	Rare Plant Rank - 2B.3	1,949 1,949	13 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Ramalina thrausta</i> angel's hair lichen	G5? S2S3	None None	Rare Plant Rank - 2B.1	160 1,250	21 S:7	0	0	1	0	0	6	1	6	7	0	0
<i>Rana aurora</i> northern red-legged frog	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	10 800	292 S:48	0	2	2	1	0	43	23	25	48	0	0
<i>Rana boylei pop. 1</i> foothill yellow-legged frog - north coast DPS	G3T4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	25 1,300	1608 S:22	0	0	0	0	0	22	9	13	22	0	0
<i>Rhyacotriton variegatus</i> southern torrent salamander	G3? S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	100 1,800	416 S:38	0	0	2	0	0	36	21	17	38	0	0
<i>Romanzoffia tracyi</i> Tracy's romanzoffia	G4 S2	None None	Rare Plant Rank - 2B.3	235 235	9 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Sabulina howellii</i> Howell's sandwort	G4 S3	None None	Rare Plant Rank - 1B.3	125 1,960	24 S:4	1	0	0	0	0	3	3	1	4	0	0
<i>Sagittaria sanfordii</i> Sanford's arrowhead	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 10	143 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Sanguisorba officinalis</i> great burnet	G5? S2	None None	Rare Plant Rank - 2B.2	15 15	22 S:3	1	0	0	0	0	2	2	1	3	0	0
<i>Scaphinotus behrensi</i> Behrens' snail-eating beetle	G2G4 S2S4	None None		114 114	4 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Sedum patens</i> Smith River stonecrop	G2 S2	None None	Rare Plant Rank - 1B.2	350 611	6 S:6	0	0	0	0	0	6	0	6	6	0	0
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	G3 S3	None None	Rare Plant Rank - 4.2	100 300	136 S:2	0	0	1	0	0	1	2	0	2	0	0
<i>Sidalcea malviflora ssp. patula</i> Siskiyou checkerbloom	G4G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	18 87	60 S:2	0	0	0	0	0	2	0	2	2	0	0



Summary Table Report

California Department of Fish and Wildlife California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Sidalcea oregana ssp. eximia</i> coast checkerbloom	G5T1 S1	None None	Rare Plant Rank - 1B.2	20 35	19 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Silene hookeri</i> Hooker's catchfly	G4 S2	None None	Rare Plant Rank - 2B.2	2,296 2,296	31 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2	1,000 1,000	23 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Silene serpentinicola</i> serpentine catchfly	G3 S3	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz USFS_S-Sensitive	158 2,241	55 S:12	0	4	0	0	0	8	2	10	12	0	0
<i>Speyeria zerene hippolyta</i> Oregon silverspot butterfly	G5T1 S1	Threatened None		20 50	3 S:2	0	2	0	0	0	0	2	0	2	0	0
<i>Spirinchus thaleichthys</i> longfin smelt	G5 S1	Candidate Threatened	IUCN_LC-Least Concern	0 0	46 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Sulcaria spiralifera</i> twisted horsehair lichen	G3G4 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	45 45	18 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Thaleichthys pacificus</i> eulachon	G5 S1	Threatened None	IUCN_LC-Least Concern		10 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Triquetrella californica</i> coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	80 80	13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Usnea longissima</i> Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	160 1,000	206 S:5	0	1	2	0	0	2	5	0	5	0	0
<i>Vaccinium scoparium</i> little-leaved huckleberry	G5 S3	None None	Rare Plant Rank - 2B.2		27 S:1	0	0	0	0	0	1	0	1	1	0	0
<i>Viola langsdorffii</i> Langsdorf's violet	G4 S1	None None	Rare Plant Rank - 2B.1	0 35	2 S:2	1	0	0	0	0	1	2	0	2	0	0
<i>Viola palustris</i> alpine marsh violet	G5 S1S2	None None	Rare Plant Rank - 2B.2	10 15	10 S:3	1	0	0	0	0	2	3	0	3	0	0
<i>Viola primulifolia ssp. occidentalis</i> western white bog violet	G5T2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,300 1,300	19 S:1	0	0	0	0	0	1	1	0	1	0	0



CNPS Rare Plant Inventory

Search Results

122 matches found. Click on scientific name for details

Search Criteria: Quad is one of [4112462:4112461:4112368:4112471:4112451:4112472]

▲ SCIENTIFIC NAME	COMMON NAME	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
<u><i>Abronia umbellata</i> var. <i>breviflora</i></u>	pink sand-verbena	None	None	G4G5T2	S2	1B.1
<u><i>Angelica lucida</i></u>	sea-watch	None	None	G5	S3	4.2
<u><i>Antennaria suffrutescens</i></u>	evergreen everlasting	None	None	G4	S3	4.3
<u><i>Anthoxanthum nitens</i> ssp. <i>nitens</i></u>	vanilla-grass	None	None	G5T5	S2	2B.3
<u><i>Arctostaphylos hispidula</i></u>	Howell's manzanita	None	None	G4	S3	4.2
<u><i>Arctostaphylos nortensis</i></u>	Del Norte manzanita	None	None	G2	S2	4.3
<u><i>Arnica cernua</i></u>	serpentine arnica	None	None	G5	S4	4.3
<u><i>Arnica spathulata</i></u>	Klamath arnica	None	None	G3?	S3	4.3
<u><i>Asplenium trichomanes</i> ssp. <i>trichomanes</i></u>	maidenhair spleenwort	None	None	G5T5	S1	2B.1
<u><i>Boechera koehleri</i></u>	Koehler's stipitate rockcress	None	None	G3G4	S3	1B.3
<u><i>Calamagrostis crassiglumis</i></u>	Thurber's reed grass	None	None	G3Q	S2	2B.1
<u><i>Calicium adpersum</i></u>	spiral-spored gilded-head pin lichen	None	None	G3G4	S1	2B.2
<u><i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i></u>	Butte County morning-glory	None	None	G5T3	S3	4.2
<u><i>Cardamine angulata</i></u>	seaside bittercress	None	None	G4G5	S3	2B.2
<u><i>Cardamine nuttallii</i> var. <i>gemmata</i></u>	yellow-tubered toothwort	None	None	G5T3Q	S2	3.3
<u><i>Carex arcta</i></u>	northern clustered sedge	None	None	G5	S1	2B.2
<u><i>Carex lenticularis</i> var. <i>limnophila</i></u>	lagoon sedge	None	None	G5T5	S1	2B.2
<u><i>Carex leptalea</i></u>	bristle-stalked sedge	None	None	G5	S1	2B.2
<u><i>Carex lyngbyei</i></u>	Lyngbye's sedge	None	None	G5	S3	2B.2
<u><i>Carex praticola</i></u>	northern meadow sedge	None	None	G5	S2	2B.2
<u><i>Carex scabriuscula</i></u>	Siskiyou sedge	None	None	G3G4	S4	4.3
<u><i>Carex serpenticola</i></u>	serpentine sedge	None	None	G4	S3	2B.3
<u><i>Carex sheldonii</i></u>	Sheldon's sedge	None	None	G4	S2	2B.2
<u><i>Carex viridula</i> ssp. <i>viridula</i></u>	green yellow sedge	None	None	G5T5	S2	2B.3
<u><i>Cascadia nuttallii</i></u>	Nuttall's saxifrage	None	None	G4?	S1	2B.1
<u><i>Castilleja ambigua</i> var. <i>ambigua</i></u>	johnny-nip	None	None	G4T4	S3S4	4.2
<u><i>Castilleja brevilobata</i></u>	short-lobed paintbrush	None	None	G4	S3	4.2
<u><i>Castilleja elata</i></u>	Siskiyou paintbrush	None	None	G3	S2S3	2B.2
<u><i>Castilleja litoralis</i></u>	Oregon coast paintbrush	None	None	G3	S3	2B.2

<u><i>Chrysosplenium glechomifolium</i></u>	Pacific golden saxifrage	None	None	G5?	S3	4.3
<u><i>Cochlearia groenlandica</i></u>	Greenland cochlearia	None	None	G4	S1	2B.3
<u><i>Coptis laciniata</i></u>	Oregon goldthread	None	None	G4?	S3?	4.2
<u><i>Cypripedium californicum</i></u>	California lady's-slipper	None	None	G3	S4	4.2
<u><i>Cypripedium montanum</i></u>	mountain lady's-slipper	None	None	G4G5	S4	4.2
<u><i>Darlingtonia californica</i></u>	California pitcherplant	None	None	G4	S4	4.2
<u><i>Dicentra formosa ssp. oregana</i></u>	Oregon bleeding heart	None	None	G5T4	S3	4.2
<u><i>Discelium nudum</i></u>	naked flag moss	None	None	G4G5	S1	2B.2
<u><i>Doellingeria glabrata</i></u>	Siskiyou aster	None	None	G4	S3	4.3
<u><i>Downingia willamettensis</i></u>	Cascade downingia	None	None	G4	S2	2B.2
<u><i>Empetrum nigrum</i></u>	black crowberry	None	None	G5	S1?	2B.2
<u><i>Epilobium rigidum</i></u>	Siskiyou Mountains willowherb	None	None	G3G4	S3	4.3
<u><i>Erigeron cervinus</i></u>	Siskiyou daisy	None	None	G4	S4	4.3
<u><i>Eriogonum nudum var. paralinum</i></u>	Del Norte buckwheat	None	None	G5T2	S1	2B.2
<u><i>Eriogonum ternatum</i></u>	ternate buckwheat	None	None	G4	S4	4.3
<u><i>Erysimum concinnum</i></u>	bluff wallflower	None	None	G3	S2	1B.2
<u><i>Erythronium hendersonii</i></u>	Henderson's fawn lily	None	None	G4	S2	2B.3
<u><i>Erythronium howellii</i></u>	Howell's fawn lily	None	None	G3G4	S2	1B.3
<u><i>Erythronium oregonum</i></u>	giant fawn lily	None	None	G5	S2	2B.2
<u><i>Erythronium revolutum</i></u>	coast fawn lily	None	None	G4G5	S3	2B.2
<u><i>Fissidens pauperculus</i></u>	minute pocket moss	None	None	G3?	S2	1B.2
<u><i>Gilia capitata ssp. pacifica</i></u>	Pacific gilia	None	None	G5T3	S2	1B.2
<u><i>Gilia millefoliata</i></u>	dark-eyed gilia	None	None	G2	S2	1B.2
<u><i>Glehnia littoralis ssp. leiocarpa</i></u>	American glehnia	None	None	G5T5	S2S3	4.2
<u><i>Hesperevax sparsiflora var. brevifolia</i></u>	short-leaved evax	None	None	G4T3	S3	1B.2
<u><i>Horkelia howellii</i></u>	Howell's horkelia	None	None	G4	S3	4.3
<u><i>Horkelia sericata</i></u>	silky horkelia	None	None	G3G4	S3	4.3
<u><i>Hosackia gracilis</i></u>	harlequin lotus	None	None	G3G4	S3	4.2
<u><i>Iris innominata</i></u>	Del Norte County iris	None	None	G4G5	S3	4.3
<u><i>Iris tenax ssp. klamathensis</i></u>	Orleans iris	None	None	G4G5T4	S4	4.3
<u><i>Iris thompsonii</i></u>	Thompson's iris	None	None	G3	S3	4.3
<u><i>Kopsiopsis hookeri</i></u>	small groundcone	None	None	G4?	S1S2	2B.3
<u><i>Lasthenia californica ssp. macrantha</i></u>	perennial goldfields	None	None	G3T2	S2	1B.2
<u><i>Lathyrus delnorticus</i></u>	Del Norte pea	None	None	G4	S3	4.3
<u><i>Lathyrus japonicus</i></u>	seaside pea	None	None	G5	S2	2B.1
<u><i>Lathyrus palustris</i></u>	marsh pea	None	None	G5	S2	2B.2
<u><i>Leptosiphon latisectus</i></u>	broad-lobed leptosiphon	None	None	G4	S4	4.3
<u><i>Lewisia oppositifolia</i></u>	opposite-leaved lewisia	None	None	G3	S2	2B.2
<u><i>Lilium bolanderi</i></u>	Bolander's lily	None	None	G4	S3S4	4.2
<u><i>Lilium occidentale</i></u>	western lily	FE	CE	G1G2	S1	1B.1
<u><i>Lilium pardalinum ssp. vollmeri</i></u>	Vollmer's lily	None	None	G5T4	S3	4.3

<u><i>Listera cordata</i></u>	heart-leaved twayblade	None	None	G5	S4	4.2
<u><i>Lomatium howellii</i></u>	Howell's lomatium	None	None	G4G5	S4	4.3
<u><i>Lomatium martindalei</i></u>	Coast Range lomatium	None	None	G5	S2	2B.3
<u><i>Lycopodium clavatum</i></u>	running-pine	None	None	G5	S3	4.1
<u><i>Lysimachia europaea</i></u>	arctic starflower	None	None	G5	S1	2B.2
<u><i>Micranthes marshallii</i></u>	Marshall's saxifrage	None	None	G5	S3	4.3
<u><i>Mitellastra caulescens</i></u>	leafy-stemmed mitrewort	None	None	G5	S4	4.2
<u><i>Moneses uniflora</i></u>	woodnymph	None	None	G5	S2	2B.2
<u><i>Monotropa uniflora</i></u>	ghost-pipe	None	None	G5	S2	2B.2
<u><i>Oenothera wolfii</i></u>	Wolf's evening-primrose	None	None	G2	S1	1B.1
<u><i>Oxalis suksdorfii</i></u>	Suksdorf's wood-sorrel	None	None	G4	S3	4.3
<u><i>Packera bolanderi</i> var. <i>bolanderi</i></u>	seacoast ragwort	None	None	G4T4	S2S3	2B.2
<u><i>Packera macounii</i></u>	Siskiyou Mountains ragwort	None	None	G5?	S3	4.3
<u><i>Perideridia gairdneri</i> ssp. <i>gairdneri</i></u>	Gairdner's yampah	None	None	G5T3T4	S3S4	4.2
<u><i>Phacelia argentea</i></u>	sand dune phacelia	FT	None	G2	S1	1B.1
<u><i>Pinguicula macroceras</i></u>	horned butterwort	None	None	G4	S2	2B.2
<u><i>Piperia candida</i></u>	white-flowered rein orchid	None	None	G3?	S3	1B.2
<u><i>Pityopus californicus</i></u>	California pinefoot	None	None	G4G5	S4	4.2
<u><i>Platismatia lacunosa</i></u>	crinkled rag lichen	None	None	G4	S1	2B.3
<u><i>Pleuropogon refractus</i></u>	nodding semaphore grass	None	None	G4	S4	4.2
<u><i>Poa piperi</i></u>	Piper's blue grass	None	None	G4	S3	4.3
<u><i>Polemonium carneum</i></u>	Oregon polemonium	None	None	G3G4	S2	2B.2
<u><i>Potamogeton foliosus</i> ssp. <i>fibrillosus</i></u>	fibrous pondweed	None	None	G5T2T4	S1S2	2B.3
<u><i>Prosartes parvifolia</i></u>	Siskiyou bells	None	None	G2	S2	1B.2
<u><i>Pyrocoma racemosa</i> var. <i>congesta</i></u>	Del Norte pyrocoma	None	None	G5T4	S2	2B.3
<u><i>Ramalina thrausta</i></u>	angel's hair lichen	None	None	G5?	S2S3	2B.1
<u><i>Ribes laxiflorum</i></u>	trailing black currant	None	None	G5?	S3	4.3
<u><i>Romanzoffia tracyi</i></u>	Tracy's romanzoffia	None	None	G4	S2	2B.3
<u><i>Sabulina howellii</i></u>	Howell's sandwort	None	None	G4	S3	1B.3
<u><i>Sagittaria sanfordii</i></u>	Sanford's arrowhead	None	None	G3	S3	1B.2
<u><i>Salix delnortensis</i></u>	Del Norte willow	None	None	G4	S4	4.3
<u><i>Sanguisorba officinalis</i></u>	great burnet	None	None	G5?	S2	2B.2
<u><i>Sanicula peckiana</i></u>	Peck's sanicle	None	None	G4	S3	4.3
<u><i>Sedum patens</i></u>	Smith River stonecrop	None	None	G2	S2	1B.2
<u><i>Sidalcea elegans</i></u>	Del Norte checkerbloom	None	None	G4?	S2?	3.3
<u><i>Sidalcea malachroides</i></u>	maple-leaved checkerbloom	None	None	G3	S3	4.2
<u><i>Sidalcea malviflora</i> ssp. <i>patula</i></u>	Siskiyou checkerbloom	None	None	G4G5T2	S2	1B.2
<u><i>Sidalcea oregana</i> ssp. <i>eximia</i></u>	coast checkerbloom	None	None	G5T1	S1	1B.2
<u><i>Silene hookeri</i></u>	Hooker's catchfly	None	None	G4	S2	2B.2
<u><i>Silene scouleri</i> ssp. <i>scouleri</i></u>	Scouler's catchfly	None	None	G5T4T5	S2S3	2B.2
<u><i>Silene serpentinicola</i></u>	serpentine catchfly	None	None	G3	S3	1B.2

<u><i>Sulcaria spiralifera</i></u>	twisted horsehair lichen	None	None	G3G4	S2	1B.2
<u><i>Tauschia glauca</i></u>	glaucous tauschia	None	None	G4	S4	4.3
<u><i>Tiarella trifoliata</i> var. <i>trifoliata</i></u>	trifoliolate laceflower	None	None	G5T5	S2S3	3.2
<u><i>Triquetrella californica</i></u>	coastal triquetrella	None	None	G2	S2	1B.2
<u><i>Usnea longissima</i></u>	Methuselah's beard lichen	None	None	G4	S4	4.2
<u><i>Vaccinium scoparium</i></u>	little-leaved huckleberry	None	None	G5	S3	2B.2
<u><i>Vancouveria chrysantha</i></u>	Siskiyou inside-out-flower	None	None	G4	S3	4.3
<u><i>Veratrum insolitum</i></u>	Siskiyou false-hellebore	None	None	G3	S4	4.3
<u><i>Viola langsdorffii</i></u>	Langsdorf's violet	None	None	G4	S1	2B.1
<u><i>Viola palustris</i></u>	alpine marsh violet	None	None	G5	S1S2	2B.2
<u><i>Viola primulifolia</i> ssp. <i>occidentalis</i></u>	western white bog violet	None	None	G5T2	S2	1B.2

Showing 1 to 122 of 122 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 12 December 2023].

OK950 Botanical Inventory

Scientific Name	Common Name	Family	Origin
FORBS			
<i>Achillea millefolium</i>	Common yarrow	Asteraceae	native
<i>Actaea rubra</i>	Red baneberry	Ranunculaceae	native
<i>Asarum caudatum</i>	Longtail wild ginger	Aristolochiaceae	native
<i>Athyrium filix-femina</i> var. <i>cyclosorum</i>	Lady fern	Woodsiaceae	native
<i>Barbarea vulgaris</i>	Yellow rocket	Brassicaceae	introduced
<i>Brassica nigra</i>	Black mustard	Brassicaceae	invasive
<i>Cardamine californica</i>	Milk maids	Brassicaceae	native
<i>Cirsium</i> sp.	Thistle	Asteraceae	
<i>Cirsium vulgare</i>	Bull thistle	Asteraceae	invasive
<i>Claytonia perfoliata</i>	Miner's lettuce	Montiaceae	native
<i>Claytonia sibirica</i>	Candy flower	Montiaceae	native
<i>Conium maculatum</i>	Poison hemlock	Apiaceae	invasive
<i>Daucus carota</i>	Queen Anne's lace	Apiaceae	introduced
<i>Dicentra formosa</i>	Pacific bleeding heart	Papaveraceae	native
<i>Epilobium ciliatum</i>	Northern willow herb	Onagraceae	native
<i>Erodium</i> sp.	Storksbill or filaree	Geraniaceae	
<i>Galium aparine</i>	Goose grass	Rubiaceae	native
<i>Geranium lucidum</i>	Shining geranium	Geraniaceae	introduced
<i>Helminthotheca echioides</i>	Bristly ox-tongue	Asteraceae	invasive
<i>Heracleum maximum</i>	Cow parsnip	Apiaceae	native
<i>Lysichiton americanus</i>	Yellow skunk-cabbage	Araceae	native
<i>Maianthemum dilatatum</i>	False lily-of-the-valley	Ruscaceae	native
<i>Marah oregana</i>	Coast man-root	Cucurbitaceae	native
<i>Oenanthe sarmentosa</i>	Pacific water-parsley	Apiaceae	native
<i>Osmorhiza berteroi</i>	Sweet-cicely	Apiaceae	native
<i>Oxalis oregana</i>	Redwood sorrel	Oxalidaceae	native
<i>Petasites frigidus</i> var. <i>palmatus</i>	Western sweet coltsfoot	Asteraceae	native
<i>Plantago lanceolata</i>	English plantain	Plantaginaceae	invasive
<i>Plantago major</i>	Common plantain	Plantaginaceae	introduced
<i>Polypodium glycyrrhiza</i>	Licorice fern	Polypodiaceae	native
<i>Polypodium scolieri</i>	Leather-leaf fern	Polypodiaceae	native
<i>Polystichum munitum</i>	Western sword fern	Dryopteridaceae	native
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	Western bracken fern	Dennstaedtiaceae	native
<i>Ranunculus repens</i>	Creeping buttercup	Ranunculaceae	invasive
<i>Rubus ursinus</i>	California blackberry	Rosaceae	native
<i>Sanicula crassicaulis</i>	Pacific snakeroot	Apiaceae	native
<i>Sonchus</i> sp.	Sow thistle	Asteraceae	
<i>Stachys</i> sp.	Hedge-nettle	Lamiaceae	
<i>Struthiopteris spicant</i>	Deer fern	Blechnaceae	native
<i>Tellima grandiflora</i>	Fringe cups	Saxifragaceae	native
<i>Tolmiea diplomenziesii</i>	Pig-a-back plant	Saxifragaceae	native
<i>Trientalis latifolia</i>	Western starflower	Myrsinaceae	native

Scientific Name	Common Name	Family	Origin
<i>Trifolium</i> sp.	Clover	Fabaceae	
<i>Trillium ovatum</i>	Western trillium	Melanthiaceae	native
<i>Urtica dioica</i> subsp. <i>gracilis</i>	American stinging nettle	Urticaceae	native
<i>Vancouveria planipetala</i>	Redwood ivy	Berberidaceae	native
<i>Vicia gigantea</i>	Giant vetch	Fabaceae	native
<i>Vicia</i> sp.	Vetch	Fabaceae	
<i>Viola sempervirens</i>	Evergreen violet	Violaceae	native
<i>Carex hendersonii</i>	Henderson's sedge	Cyperaceae	native
<i>Carex leptopoda</i>	Slender-footed sedge	Cyperaceae	native
<i>Luzula parviflora</i>	small-flowered wood rush	Juncaceae	native
<i>Lilium columbianum</i>	Columbia lily	Liliaceae	native
<i>Prosartes hookeri</i>	Drops of gold	Liliaceae	native
<i>Prosartes smithi</i>	Largeflower fairybells	Liliaceae	native
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	Poaceae	invasive
<i>Arrhenatherum elatius</i>	Tall oat grass	Poaceae	introduced
<i>Avena fatua</i>	Wild oat grass	Poaceae	invasive
<i>Bromus carinatus</i>	California brome	Poaceae	native
<i>Bromus diandrus</i>	Ripgut grass	Poaceae	invasive
<i>Dactylis glomerata</i>	Orchard grass	Poaceae	invasive
<i>Festuca arundinacea</i>	Tall fescue	Poaceae	invasive
<i>Festuca perennis</i>	Perennial rye grass	Poaceae	invasive
<i>Holcus lanatus</i>	Common velvet grass	Poaceae	invasive
SHRUBS			
<i>Baccharis pilularis</i>	Coyote brush	Asteraceae	native
<i>Berberis aquifolium</i> var. <i>aquifolium</i>	Oregon-grape	Berberidaceae	native
<i>Gaultheria shallon</i>	Salal	Ericaceae	native
<i>Menziesia ferruginea</i>	Mock azalea	Ericaceae	native
<i>Rubus parviflorus</i>	Thimbleberry	Rosaceae	native
<i>Rubus spectabilis</i>	Salmonberry	Rosaceae	native
<i>Rubus ursinus</i>	California blackberry	Rosaceae	native
<i>Sambucus racemosa</i> var. <i>racemosa</i>	Red elderberry	Adoxaceae	native
<i>Vaccinium ovatum</i>	California huckleberry	Ericaceae	native
<i>Vaccinium parvifolium</i>	Red huckleberry	Ericaceae	native
TREES			
<i>Alnus rubra</i>	Red alder	Betulaceae	native
<i>Sequoia sempervirens</i>	Coast redwood	Cupressaceae	native
<i>Notholithocarpus densiflorus</i> var. <i>densiflorus</i>	Tanoak	Fagaceae	native
<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas-fir	Pinaceae	native
<i>Frangula purshiana</i>	Cascara	Rhamnaceae	native
<i>Acer macrophyllum</i>	Bigleaf maple	Sapindaceae	native



Appendix D. Section 4(f)

DEPARTMENT OF TRANSPORTATION

NORTH REGION ENVIRONMENTAL
DISTRICT 01
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*Making Conservation
a California Way of Life.*

Description of Section 4(f)

Section 4(f) refers to the original section within the U.S. Department of Transportation Act of 1966 that established the requirement for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. The law, now codified in 49 U.S.C. Section 303 and 23 U.S.C. Section 138, applies only to the U.S. Department of Transportation (U.S. DOT) and is implemented by the Federal Highway Administration (FHWA) through the regulation 23 Code of Federal Regulations (CFR) 774. Section 4(f) applies to projects that receive funding from or require approval by an agency of the U.S. DOT. Responsibility for compliance with Section 4(f) has been assigned to Caltrans pursuant to 23 USC 326 and 327, including *de minimis* impact determinations.

There are three types of “use” under Section 4(f):

- 1) Permanent Incorporation—when a Section 4(f) resource is acquired outright for a transportation project.
- 2) Temporary Occupancy—when there is temporary use of resource that is adverse in terms of Section 4(f)'s preservationist purpose. Temporary occupancy is not a Section 4(f) use if all the following conditions exist:
 - a. The land use is of short duration (defined as less than the time needed for the construction of the project)
 - b. There is no change in ownership of the land
 - c. The scope of the work must be minor
 - d. There are no temporary or permanent adverse changes to the activities, features, or attributes of the resource
 - e. The land must be fully restored to a condition at least as good as prior to the project
 - f. There must be documented agreement from the official(s) with jurisdiction over the resource with the above conditions

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- 3) Constructive Use—when the proximity impacts of a transportation project on a Section 4(f) resource, even without acquisition of the resource, are so great that the activities, features, and attributes of the resource are substantially impaired.

Before approving a project that uses a Section 4(f) resource, a determination must be made that either:

- 1) There is no feasible and prudent alternative that avoids the resource, and that the project includes all possible planning to minimize harm to the resource, or
- 2) The project would have a *de minimis* impact on the resource.

A *de minimis* impact is one that would not adversely affect the activities, features, or attributes of the Section 4(f) resource, and, subsequently, would not require an analysis of feasible and prudent avoidance alternatives. A determination of *de minimis* impact may be made when all three of the following criteria are satisfied:

- 1) The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
- 2) The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource; and
- 3) The official(s) with jurisdiction over the resource are informed of Caltrans' intent to make the *de minimis* impact determination based on their written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

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Project Description

01-0K950, PMs 15.6-16.2

Project Description

The California Department of Transportation (Caltrans) proposes roadway grade improvements, road widening, and curve realignment on U.S. Highway 101 in Del Norte County between post miles (PM) 15.60 and 16.20 as part of a safety project. Additional project features include installation of approximately 350 feet of new Midwest Guardrail System (MGS) guardrails, installation of approximately 150 feet MGS Special guardrail, replacement of an existing drainage inlet (DI), construction of a new down drain, and installation of approximately 1130 feet of hot-mix asphalt (HMA) dikes.

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Vicinity Map

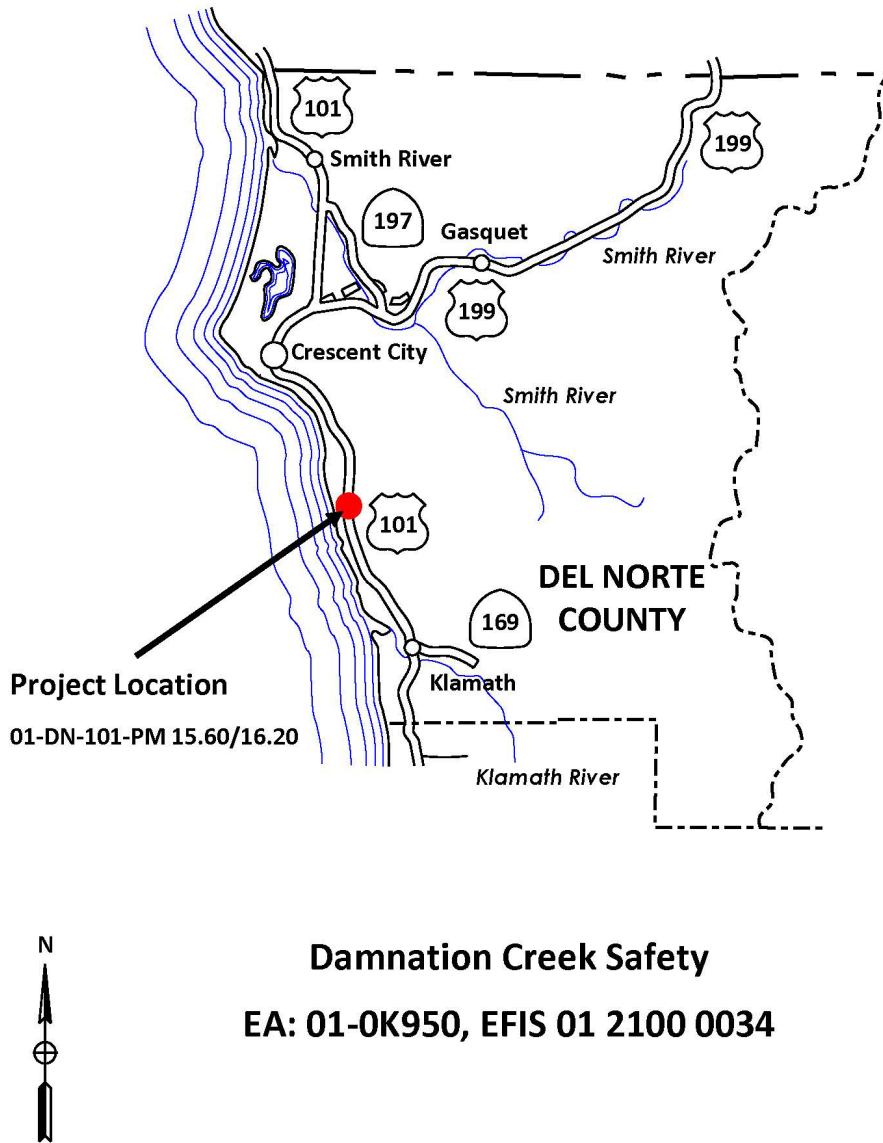


Figure 1. Project Location

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Description of the 4(f) Resource

The National Park Service and California State Parks jointly manage Redwood National and State Parks, which totals 133,000 acres of land and Del Norte Coast Redwoods State Park (DNCRSP), Jedediah Smith Redwoods State Park, and Prairie Creek Redwoods State Park. These four parks are recognized by the United Nations as a World Heritage Site and an International Biosphere Reserve. The parks are home to coast redwoods and many other tree species including tanoak, madrone, red alder, big leaf maple, Douglas-fir, western hemlock, grand fir, California bay, and Sitka spruce. Redwood National and State Parks offer various recreational activities such as fishing, hiking, and camping and beach access. Various trails provide bike, equestrian, and pedestrian access. Many wildflower species, such as azalea, lupine, rhododendron, Columbia lily, and trillium, can be viewed from park trails. There are picnic areas, scenic drives and overlooks, wildlife watching locations, and tide pools. The coastal overlooks, such as Crescent Beach Overlook and Wilson Creek, provide opportunities to view marine mammals, such as gray whales. Roosevelt elk can be seen throughout the parks at Prairie Creek Redwoods State Park, Gold Bluffs Beach, along the Bald Hills Road, and in the Orick area. In the project vicinity, DNCRSP is accessible from U.S. 101 and is open every day and year-round.

DNCRSP was established in 1927. The park extends from the Pacific Ocean to the west, through old-growth redwood forests and into Mill Creek Basin and the west fork of Mill Creek. In the project vicinity, the closest developed campground is the Mill Creek Campground which is approximately 4.1 miles north of the project limits and within DNCRSP. This campground is accessed further north on US 101. The campground offers 143 sites and is open from May through September each year. The closest undeveloped backcountry campground is the DeMartin Campground, which is within Redwood National Park approximately 2.5 miles south of the project limits. The campground has 10 campsites and can be accessed from DNCRSP by foot along the California Coastal Trail. DNCRSP hosts a section of the California Coastal Trail, a network of trails that will span California, from Oregon to Mexico. The Pacific Coast Bike Route, which is a continuous bike route that spans the California coastline from Mexico to Oregon, extends through the entire north-south length of the park on U.S. 101. For recreational

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bicyclists traveling along the Del Norte coastline, U.S. 101 is the only continuous public road available through the park and to north and south destinations beyond the park.

The project area is bounded by the Del Norte Coast Redwoods State Park along U.S. Highway 101. Although the park is home to special status plant species, none were detected in the project area during floristic surveys. Significant natural resources in the park in the vicinity of the project area include stands of old-growth redwood forest and other forest habitat for federally and state-listed threatened and endangered northern spotted owls (*Strix occidentalis caurina*) and marbled murrelets (*Brachyramphus marmoratus*).

The project site is situated on the Redwood Highway, constructed to link Humboldt and Del Norte Counties. In 1933, the State of California Department of Public Works (now Caltrans) secured the title to the land encompassing the project area from the State Parks Commission with the stipulation that the land be utilized for highway construction and that such construction minimally impact the landscape's beauty.

While the project is within Caltrans right of way, the surrounding redwoods are a global heritage

Use of the 4(f) Resource

Land Use

Most of the use of State Park resources by the project are temporary, indirect, and minimal. There will be one small permanent easement of Park resources through the proposed Caltrans small drainage easement from State Parks. The temporary uses include temporary impact to trail access, temporary construction related noise increases, minor roadside vegetation removal, and minor change to the view during construction. The permanent use of State Park Resources involves a drainage feature that would conduct water flow through State Park Property.

The drainage easement would allow Caltrans to maintain the improved facilities, such as removing debris from drainage systems before the rainy season, which would help protect

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downstream resources. Other than U.S. 101, the easement is not adjacent to a known trail, campground, or other Park facilities, and there is no evidence of use by recreationists at this location.

The uses of State Park land by this project do not adversely affect the activities, features, and attributes of the State Park resource because the activities are temporary, and minimal. For these reasons, the *de minimis* finding can be made.

Project use of Forest Resources

Potential use of forest resources through impacting views enjoyed by park visitors will be minimized. No living trees are proposed for removal in this project. Only one standing dead (snag) redwood tree approximately 15 feet tall with a 9-foot Diameter at Breast height (DBH) foot and minor roadside vegetation will be removed. No tree removal is proposed; however, construction activities could impact the health of adjacent trees due to possible damage to root systems.

Impacts to tree roots are often evaluated based on potential damage to four critical areas of roots called root zones, three of which are discussed below. The structural root zone (SRZ) is a circular area with the tree trunk at the center and a radius equal to three times the tree DBH (Smiley et al. 2002). The SRZ represents the area where roots can be found that are responsible for keeping the tree upright. Damage to roots in this root zone would affect the structural integrity of the tree, increasing the likelihood of potential tree failure.

The absorber root zone (AHZ) is a circular area with the tree trunk at the center and a radius equal to five times the DBH (Smiley et al. 2002). This root zone represents the area where roots are found that are critical to the absorption of water and nutrients for the tree. Damage to roots in this root zone would affect the overall health and vitality of the tree but are not as critical to structural stability.

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The third root zone is the largest and encompasses both the SRZ and the ARZ, the critical root zone (CRZ) is a circular area with the tree trunk at the center and a radius equal to twelve times the DBH (International Society of Arboriculture (ISA) 2017). This is commonly labeled as the minimum volume of roots necessary for tree health and stability (American National Standard Institute 2012).

Impacts to tree roots are often evaluated as percentages of the SRZ and ARZ that could be affected. Trees can withstand disturbance to some fraction of these root zones with little long-term effect to health and vitality. Mature redwood trees have been shown to overcome the loss of a large portion of its root system by rapidly regenerating a new root system, without noticeable reduction in tree vigor. (Stone and Vasey 1968 b:2–3). It has been documented that no significant loss of tree vigor has been observed in redwoods bordering highways, and paving does not have a significant effect on tree health as long as it covers less than half of the root zone." (Sturgeon 1964)

The area of root zones effected by this project are anticipated to be below the threshold that would require loss of any trees. The amount of disturbance tolerated by the tree varies by tree species, size, age, tree health, tree crown position, soil type among other variables and are best evaluated by an arborist.

A Certified Arborist with expertise in tree risk assessment was contracted to evaluate potential impacts to trees from construction. The arborist evaluated impacts to eighteen trees based on their evaluation of potential impacts from construction. The arborist was provided with specific construction activities that will be occurring within the vicinity of trees adjacent to the project.

The arborist recommended a variety of Best Management Practices (BMPs) to help minimize or avoid any new impacts to trees in the project site. The spectrum of practices include:

- Having a Certified Arborist on site for specific construction activities that involve excavation near adjacent trees.

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- Wrapping trees with from the base of the trunk up 8 feet to prevent potential damage from nearby equipment
- Installation of either drain rock or mulch to a depth of 3 inches or 6” inches respectively at a minimum 5 feet from the base of trees to prevent soil compaction where road structural elements will not be installed
- Where practicable, soil within the SRZ of large-diameter redwoods should be removed using hand tools such as picks and shovels, using hand-held pneumatic devices such as the air spade, or a combination of the two.
- Appropriate techniques to prevent fluids from running from the construction activities to any part of the tree dripline should be employed. Such materials include silt fencing or straw waddle installation.
- Appropriate techniques would be used when severing any roots over 2 inches in diameter to minimize the potential for post-construction root decay. Roots should be excavated to the extent practicable for them to be cleanly severed with a sharp-bladed cutting instrument, leaving no frayed edges. If frayed or jagged roots result from excavating with heavy equipment, they should be replaced with clean cuts.
- The removal of road base within 15 feet of the base of several trees shall be removed using hand tools, such as a digging bar, to prevent potential damage to roots located beneath the surface= If roots larger than 2 inches in diameter are located beneath the paved surface, the use of an air spade or shovels will be used to excavate the root for the arborist to provide guidance.
- Where practicable, consider erecting temporary high visibility fencing around the work area as far away from tree trunks as feasible to help reduce the impacts of accidental damage from construction equipment, vehicles, and staging materials

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- A post construction tree inspection will be required for some trees to determine the extent of tree impacts and if there were additional impacts not anticipated. The results of the post construction inspection will determine if long-term monitoring would be required.

By adhering to these recommended practices, the Arborist concludes that impacts to trees in the project zone are anticipated to be minimal to moderate, with no impacts to tree health resulting in tree loss.

Areas where plants are removed during the project will be subject to erosion control treatments and replanting upon the completion of construction activities.

Trees were also evaluated for potential nesting platforms, structures, or cavities that could be used by listed species marbled murrelet (*Brachyramphus marmoratus*), northern spotted owl (*Strix occidentalis caurina*), fisher (*Pekania pennanti*), and Pacific marten (*Martes caurina humboldtensis*), and none were detected. In addition, it is unlikely these trees would provide suitable habitat for these species due to their proximity to the highway.

The impacts of construction from the project are not anticipated to adversely affect the use of resources by park visitors, including the old-growth redwood forest and its associated ecological resources. For these reasons, the *de minimis* finding can be made.

Use of Recreation Resources

This park offers a variety of recreational activities designed to help visitors explore and understand the natural environment. There are numerous hiking trails available, providing access to diverse landscapes, including waterfalls and ocean views

Two trailheads are located within the project limits on Caltrans right of way, the California Coastal Trail access at PM 15.61 and the Damnation Creek Trailhead at PM 15.90. A pullout on the northbound side of US 101 at PM 15.61 providing access to the California Coastal Trail, will remain open for trail access during project construction. The Damnation Creek Trailhead pullout at PM 15.9 leads to the 1.4-mile Damnation Creek Trail. The Damnation Creek Trailhead would

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be closed for approximately 110 working days due to construction activities and public safety concerns related to one-way traffic.

Alternative routes via the California Coastal Trail and the Last Chance Trailhead on Enderts Beach Rd will maintain accessibility to the Damnation Creek Trail accessible during the project construction. The California Coastal Trail intersects with the Damnation Creek Trail approximately $\frac{3}{4}$ of a mile from U.S. 101. This alternate route allows the Damnation Creek Trail to be fully accessible for the duration of the project. The Damnation Creek Trail is also accessible via the Last Chance Trailhead on Enderts Beach Rd approximately 5 miles to the north via trail.

The project, while causing short-term impacts, will not permanently alter access to any recreational areas. The project aims to enhance safety, addressing past accidents involving vehicles and pedestrians at the Damnation Creek Trailhead, and sustain the Pacific Coast Bike Route segment.

Occasional heavy equipment back-up alarms and drilling for guardrail installation are the only construction-related noise that would exceed the ambient traffic noise levels. This may result in minor short-term disruption to the quiet surroundings of the park; however, no long-term noise impacts would result from the project.

Caltrans recognizes that the Damnation Creek Trailhead is a popular destination for access to DNCRSP. A public outreach campaign would help to inform park visitors of the trailhead closure. Caltrans will work with DNCRSP to increase public outreach to inform the public of the Trailhead closure.

The uses of this project do not adversely affect the activities, features and attributes of the State Park resources because the activities are temporary and would improve the safety of Park visitors. For these reasons, the *de minimis* finding can be made.

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Use of Habitat

Marbled Murrelet

The marbled murrelet (MAMU) is federally listed as threatened and state listed as endangered.

The project area does not provide suitable MAMU nesting habitat due to its proximity to the highway. Structurally there is potentially suitable nesting habitat in the general vicinity; therefore, presence of MAMU is assumed within the Biological Study Area (BSA). The BSA is within MAMU critical habitat.

Anticipated project-related impacts are limited to noise-related harassment to nesting MAMU and NSO individuals. Visual disturbance to MAMU and NSO nests is not anticipated as no activities are expected to occur within a visual line-of-sight of 328 feet (100 meters) from any known nest locations (CNDDDB 2023a).

Daytime ambient noise levels within the ESL along US 101 are estimated as High (81-90 decibels [dB]). Any construction noise that exceeds 90 dB (which may include work activities such as jackhammering and pile driving) could result in disturbance or harassment of MAMU and/or NSO individuals.

Minor vegetation control would include the removal of one coast redwood snag which occur immediately adjacent to the existing highway, but still within critical habitat for MAMU. The removal of one snag (which do not provide suitable nesting habitat for MAMU) would not significantly impact MAMU critical habitat.

Under FESA, the proposed project may affect, is not likely to adversely affect MAMU. The Programmatic Letter of Concurrence (PLOC) issued by the USFWS (USFWS 2022) will be used for potential effects of the project on MAMU. BMPs related to construction noise would be implemented to minimize any impacts to MAMU. The project is not expected to affect MAMU

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critical habitat because no potentially suitable nest trees were removed or disturbed. Caltrans anticipates the project may affect but is not likely to adversely affect MAMU critical habitat. Caltrans has initiated consultation with the U.S. Fish and Wildlife Service (USFWS) under Section 7 of FESA for the potential effects of this project on MAMU and MAMU critical habitat and is seeking a Letter of Concurrence.

Northern Spotted Owl

The northern spotted owl (NSO) is federally and state threatened.

The ESL does not likely provide suitable nesting or roosting habitat due to its proximity to the highway. The trees within the BSA may contain suitable foraging habitat for NSO and could contain suitable nesting or roosting habitat; therefore, this species may be present. There is no NSO critical habitat within the BSA. There is marginal NSO nesting and foraging habitat present within BSA #1 in the Redwood Forest and Woodland Communities. However, the documented presence of northern barred owl (*Strix varia*) in these areas likely precludes the presence of NSO within these areas (Personal comm. R. Litzky) as the northern barred owl is an aggressive species that displaces spotted owls, disrupts NSO nesting, and competes with NSO for food (Wiens et al., 2014). There is no USFWS-designated critical habitat for NSO within the project ESL or BSAs.

Daytime ambient noise levels within the ESL along US 101 are estimated as High (81-90 decibels [dB]). Sound levels for equipment typically used for proposed project activities are estimated as Moderate (71-80 dB) to Very High (91-100 dB) (Table 9). Any construction noise that exceeds 90 dB (which may include work activities such as jackhammering and pile driving) could result in disturbance or harassment of NSO individuals. BMPs related to construction noise would be implemented to minimize any impacts to NSO.

Under FESA, the proposed project may affect, but is not likely to adversely affect NSO. The Programmatic Letter of Concurrence (PLOC) issued by the USFWS (USFWS 2022) will be used for potential effects of the project on NSO.

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Under CESA, the project would not result in take of NSO.

The uses of the project do not adversely affect the activities, features, and attributes of the State Park habitat because the project activities are temporary and have been designed to minimize the impacts to resources. For these reasons, the *de minimis* finding can be made.

Use of the viewshed

Within the project boundary, the views are primarily composed of the surrounding redwood forest, with a glimpse of the Pacific Ocean visible near the project's southern edge. The viewshed is constrained on both sides of the highway due to the forest density and terrain elevation changes.

The project scope would not substantially alter the scenic vistas of the area. A maximum increase of four feet in road elevation would not significantly impact the viewshed.

Temporary visual impacts would be present during construction, owing to the presence of construction equipment and alterations to the road surface. Additionally, minor temporary changes will occur to the roadside vegetation post-construction, subsiding once natural vegetation reoccupies the site.

The scenic views would not be significantly affected by the project. The uses of this project do not adversely affect the viewshed use of the State Park resources because the activities are temporary and minimal. For these reasons, the *de minimis* finding can be made.

Avoidance and Minimization Measures

The following measures will be included as part of the minimization measures:

1. No suitable northern spotted owl or marbled murrelet nest trees would be removed or altered.

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2. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.
3. Before any ground-disturbing activities, the contractor would prepare a stormwater plan that includes erosion control measures and construction waste containment measures to protect Waters of the State during project construction. Construction may require one or more of the following temporary construction site BMPs:
 - Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.
 - Temporary sediment control and soil stabilization devices would be installed.
 - Existing vegetated areas would be maintained to the maximum extent practicable.
 - Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
 - Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
4. To prevent the spread of invasive species, straw, straw bales, seed, mulch, or other material used for erosion control or landscaping would be free of noxious weed seed and propagules.
5. In order to not attract corvids (crows, ravens, jays) or other nest predators to threatened and endangered birds, food scraps and trash would be regularly removed from the site. Construction crews would be directed to not feed and/or attract wildlife. Food scraps and trash from the general traveling public would also be removed from the site and properly disposed of.
6. Access for bicyclists would be maintained during project construction.

De minimis Finding

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There is no Permanent Incorporation of park land and no Constructive Use associated with these Damnation Creek Safety Project. The project work requires a small permeant easement, temporarily inhibited trailhead access, a snag and minor vegetation removal along U.S. Highway 101, and temporary noise impacts with potential disturbance to NSO, MAMU and park visitors.

The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f); therefore, the Damnation Creek Safety Project would constitute *de minimis* impacts under Section 4(f).

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Public Input and Concurrence

As part of the Section 4(f) process, the public was afforded the opportunity to comment on this evaluation and Caltrans' intent to make a *de minimis* finding for the proposed emergency project activities within Del Norte Coast Redwoods State Park. This letter serves as the Section 4(f) evaluation and is being circulated to the public from December 22, 2023 – January 29, 2024

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PERSONAL COMMUNICATIONS

R. Litzky, California State Parks, July 17, 2023

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