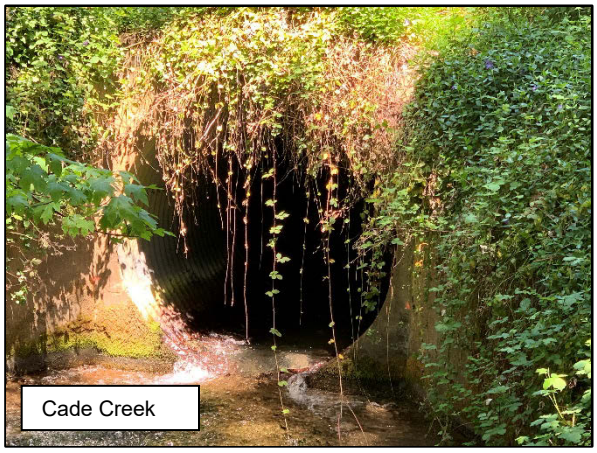
Portuguese Creek and Cade Creek Fish Passage Project

SISKIYOU COUNTY, CALIFORNIA
02–SIS–96–PM 43.5 and 57.0
EA 02-1H590
EFIS 0216000025

Initial Study with Proposed Negative Declaration



Prepared by the
State of California, Department of Transportation
Caltrans District 2
1657 Riverside Drive, MS-30
Redding, CA 96001

January 19, 2021

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General Information about this Document

What's in this document?

This Initial Study with proposed Negative Declaration (IS/ND) examines the potential environmental effects of a proposed fish passage improvement project on State Route 96 near Happy Camp in Siskiyou County. This Initial Study was prepared to comply with the California Environmental Quality Act (CEQA). This document describes the purpose and need for the project, project alternatives, existing conditions, and potential effects from the proposed project.

What should you do?

- Please read this Initial Study
- You are invited to review the environmental document and technical studies. 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
- We welcome your comments. If you have any information or concerns regarding the project, please send your written comments to Caltrans by the deadline. Submit comments via regular mail to:

  California Department of Transportation
  Attention: Keith Pelfrey
  North Region Office of Environmental Management, MS-30
  1657 Riverside Drive
  Redding, CA 96001

- You may also submit comments via e-mail to keith.pelfrey@dot.ca.gov
- Submit comments by the deadline: June 19, 2021.

What happens after this?

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Keith Pelfrey, North Region Office of Environmental Management, 1657 Riverside Drive, Redding, CA 96001; (530) 941-3340 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

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Portuguese Creek and Cade Creek Fish Passage Project

Initial Study with Proposed Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

STATE OF CALIFORNIA
Department of Transportation

Approved By: Wesley Stroud Date: 1/19/21

Wesley Stroud, Office Chief
North Region Office of Environmental Management
California Department of Transportation
(530) 356-3004

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NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

State Clearinghouse Number:

DIST-CO-RTE-PM: 2–SIS–96–PM 43.5 and 57.0

EA: 02-1H590

Project Description

The California Department of Transportation, using state and federal funding, proposes to replace existing culverts with new bridges at Cade Creek and Portuguese Creek and restore/reconstruct the stream channels upstream and downstream of the new bridges. The project is located on State Route 96 in Siskiyou County at post mile (PM) 43.5 (Cade Creek) and at PM 57.0 (Portuguese Creek).

Determination

An Initial Study has been prepared by the California Department of Transportation (Caltrans), District 2.

On the basis of this study it is determined that the proposed action with the incorporation of the identified measures will not have a significant effect on the environment for the following reasons:

- The project would have no effect on hazards/hazardous materials, land use/planning, mineral resources, population and housing, recreation, cultural resources, tribal cultural resources, and wildfire.

- Compliance with Caltrans Standard Specifications and implementation of other avoidance/minimization measures would ensure that the project would have less than significant impacts on aesthetics, agriculture and forest resources, biological resources, air quality, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, noise, public services, transportation, utilities and service systems, and mandatory findings of significance.

- Individual impacts would not have a cumulatively significant impact on the environment.

Signature

Wesley Stroud
Office Chief
Caltrans District 2

Date

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List of Abbreviated Terms

AB	Assembly Bill
ARB	(California) Air Resources Board
BAU	Business-as-usual
BMPs	Best management practices
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	Methane
CNDDB	California Natural Diversity Data Base
CO_2	Carbon dioxide
CO	Carbon monoxide
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
CTP	California Transportation Plan
DOT	Department of Transportation
EO	Executive Order
EPACT92	Energy Policy Act of 1992
ESA	Environmentally sensitive area
FCAA	Federal Clean Air Act
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GHG	Greenhouse gas
HFC-134a	1,1,1,2-tetrafluoroethane
HFC-152a	Difluoroethane
HFC-23	Fluoroform
H_2S	Hydrogen sulfide
IPCC	Intergovernmental Panel on Climate Change
LCFS	Low Carbon Fuel Standard
$MMTCO_2e$	Metric tons of carbon dioxide
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitrogen oxides
N_2O	Nitrous oxide
OPR	Office of Planning Research
OSTP	Office of Science and Technology Policy
O_3	Ozone
Pb	Lead
PPM	Parts per million
PM	Post mile or particulate matter (air quality)
ROG	Reactive organic gas
RTL	Ready to List
RTP	Regional Transportation Plan
SB	Senate Bill

SCAPCD	Siskiyou County Air Pollution Control District
SCS	Sustainable Communities Strategy
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SLR	Sea-level rise
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
STAGE	Siskiyou Transit and General Express
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental protection Agency
VOCs	Volatile organic compounds
VMT	Vehicle miles traveled

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Appendix A Site Plan

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Chapter 1. Proposed Project

Project Title
Portuguese Creek and Cade Creek Fish Passage Project

Lead Agency Name and Address
California Department of Transportation, District 2
Office of Environmental Management, MS-30
1657 Riverside Drive
Redding, CA 96001

Contact Person and Phone Number
Keith Pelfrey
Caltrans Senior Environmental Planner
Phone: (530) 941-3340
Email: keith.pelfrey@dot.ca.gov

Project Location
The project is located on State Route (SR) 96 in Siskiyou County at post mile (PM) 43.5 (Cade Creek) and at PM 57.0 (Portuguese Creek). Work at Cade Creek would require use of two disposal sites, which are located at PM 41.70 (in the community of Happy Camp) and 43.60 (within the Cade Creek work area). The approximately 3.9-acre Cade Creek work site is located in township 16 north, range 7 east, section 1, on the United States Geological Survey's Slater Butte 7.5-minute quadrangle. The approximately 0.9-acre disposal site in Happy Camp is located in in township 16 north, range 7 east, section 2, on the United States Geological Survey's Slater Butte 7.5-minute quadrangle. The approximately 2.4-acre Portuguese Creek work site is located in township 46 north, range 12 west, section 4, on the United States Geological Survey's Seiad Valley 7.5-minute quadrangle. A project vicinity map is shown in Figure 1. A project location map showing work locations is provided in Figure 2. The Cade Creek project area is shown in Figure 3. The Portuguese Creek project area is shown in Figure 4. The disposal site in Happy Camp is shown in Figure 5.

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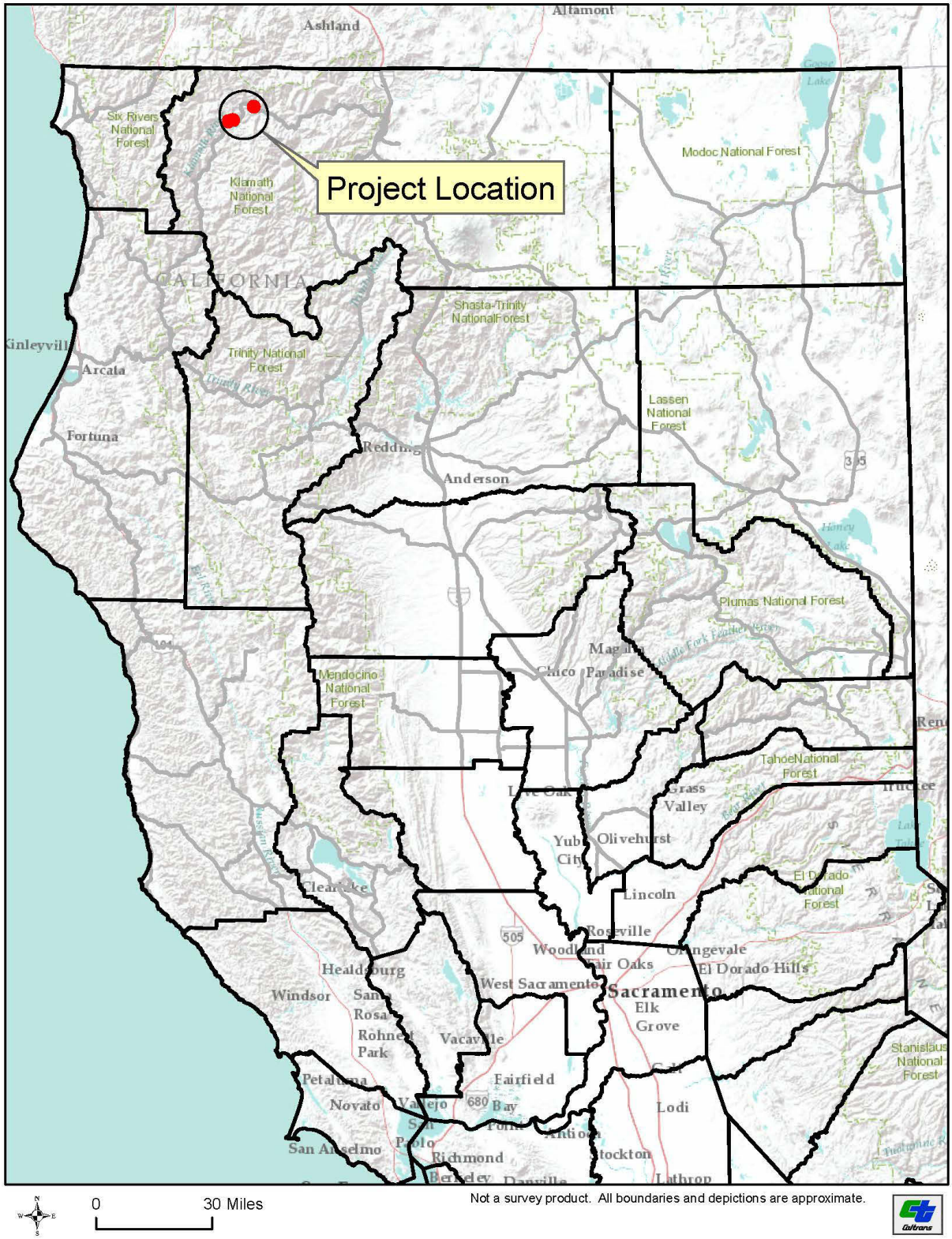

Figure 1 Project Vicinity Map

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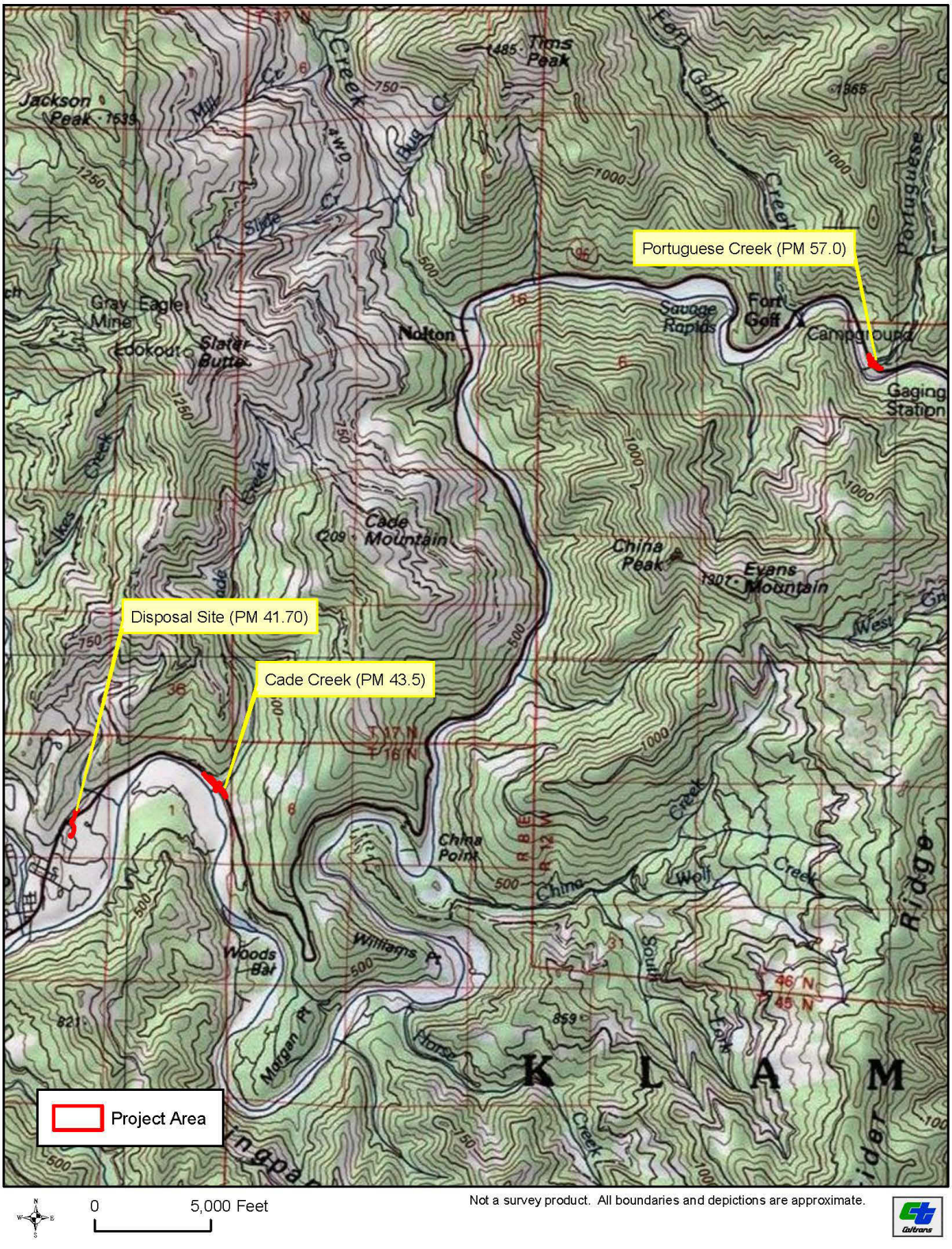

Figure 2 Project Location Map

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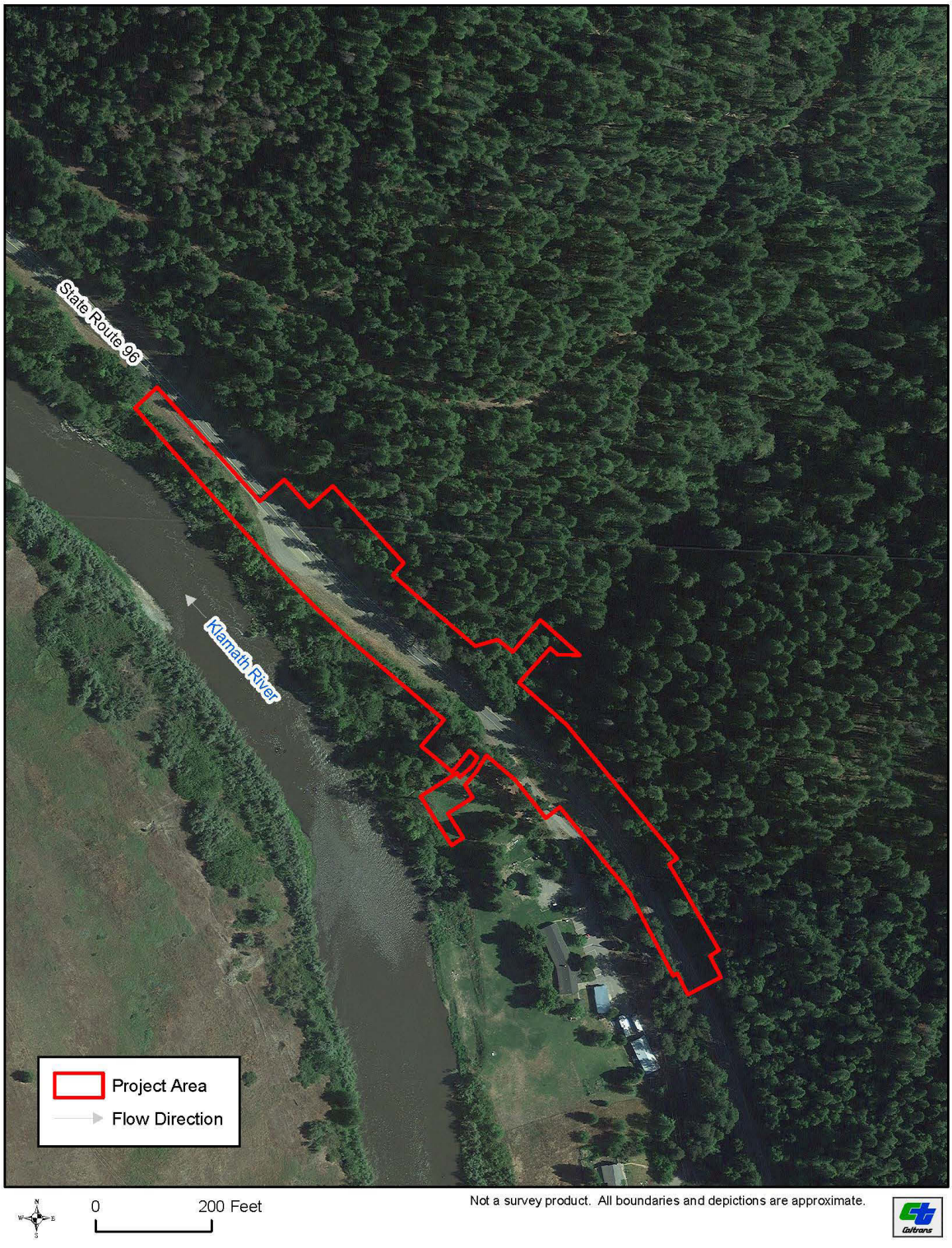

Figure 3 Cade Creek Project Area (2-SIS-96-PM 43.5)

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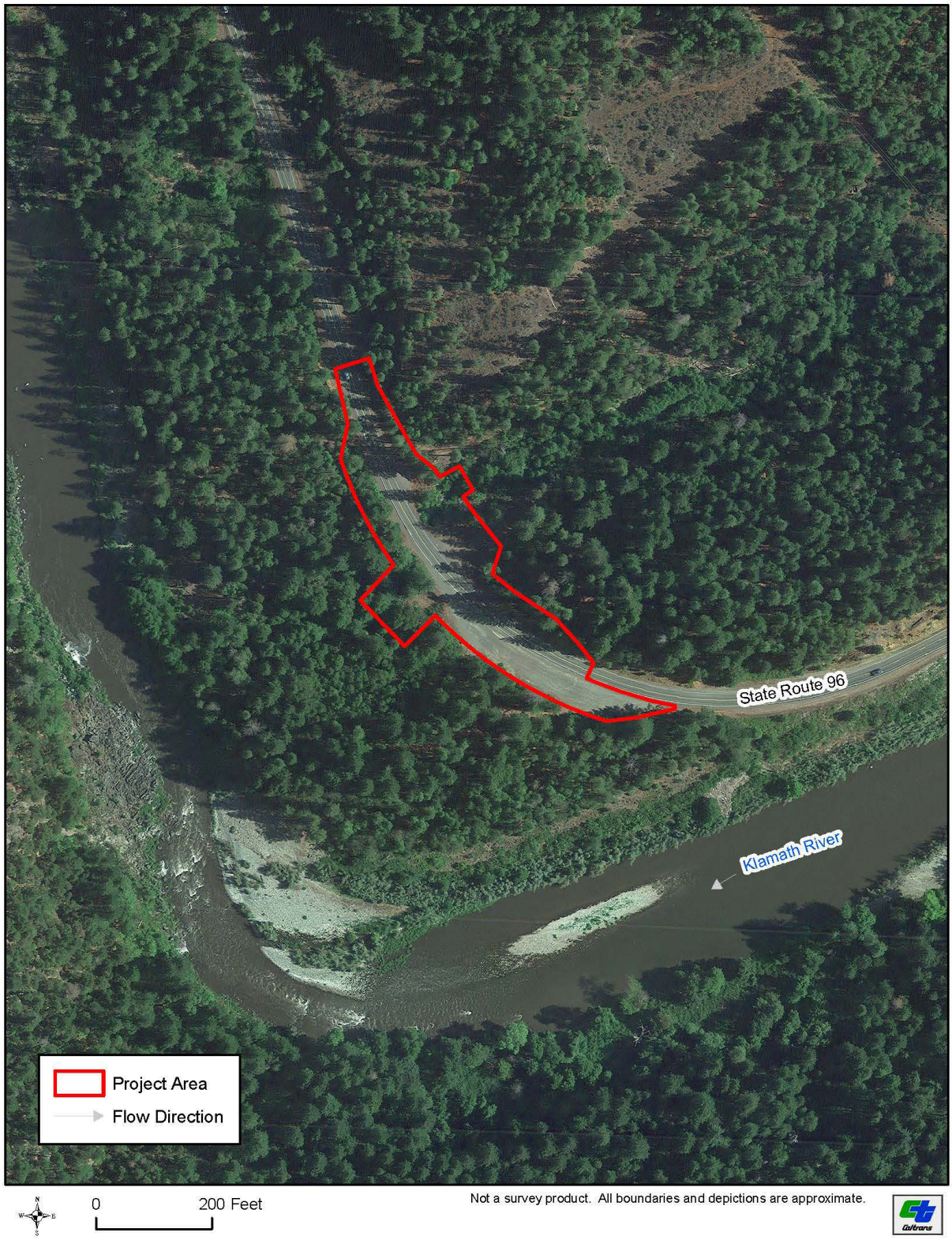

Figure 4 Portuguese Creek Project Area (2-SIS-96-PM 57.0)

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Figure 5 Disposal Site in Happy Camp (2-SIS-96-PM 41.70)

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Project Sponsor's Name and Address

California Department of Transportation, District 2
Office of Environmental Management, MS-30
1657 Riverside Drive
Redding, CA 96001

Purpose and Need

The California Department of Transportation, using state and federal funding, proposes to replace existing culverts with new bridges at Cade Creek and Portuguese Creek and restore/reconstruct the stream channels upstream and downstream of the new bridges. The project is located on State Route 96 in Siskiyou County at PM 43.5 (Cade Creek) and at PM 57.0 (Portuguese Creek). The purpose of the project is to provide structurally sound structures that meet current highway standards and fish passage criteria as mandated by state and federal law. The project is needed because the Portuguese Creek and Cade Creek culverts were built in the 1940's and the structures have corroded inverts and piping under the culvert structures. In addition to the structure deterioration, the culverts have been identified as a significant passage barrier for miles of potential habitat for anadromous fish species.

The project would benefit several species of anadromous salmonids known to utilize the Klamath River and its tributaries, including the southern Oregon northern California coast (SONCC) coho salmon (federal and state Threatened), steelhead–Klamath Mountains Province Evolutionary Significant Unit (ESU) (state Species of Special Concern and Forest Service Sensitive), Chinook salmon–upper Klamath and Trinity rivers ESU (federal candidate, state candidate-Endangered, state Species of Special Concern, and Forest Service Sensitive), and summer-run steelhead trout (state candidate Endangered, state Species of Special Concern, and Forest Service Sensitive). In addition, the project would improve the quality of critical habitat designated for the SONCC coho salmon in Cade Creek and Portuguese Creek and improve the quality of essential fish habitat for salmon in these two streams. Approximately 2.58 miles of stream habitat in Cade Creek and 2.78 miles of stream habitat in Portuguese Creek would become accessible to anadromous salmonids upon completion of work. The project may also provide opportunities to mitigate impacts to riverine habitat (e.g., streams and rivers) and anadromous salmonids resulting from other Caltrans transportation projects constructed within the Klamath River watershed.

Project Description

Work at Cade Creek would include:

- Constructing a temporary detour that is approximately 16 feet wide and includes a clear-span steel truss bridge that is approximately 135 feet long and located a minimum of 10 feet from the existing edge of pavement on the north side of the highway. The foundations for the temporary bridge would be spread footings and would be installed outside the ordinary high-water mark; pile driving would not be required.

- Diverting water around in-channel work areas and dewatering as needed.

- Replacing the existing culvert that is approximately 86 feet long and 8 feet in diameter with a clear-span bridge that is approximately 101 feet long, 44 feet wide, and located on the existing alignment. The foundations for the new bridge would be H-piles installed outside the ordinary high-water mark using a pile driver. The new bridge would receive architectural treatment to replicate the treatments that were

done at Fort Goff Bridge (State Route 96 in Siskiyou County at post mile 56). The railing would receive a stain that produces a rust color and the concrete transition end blocks and abutments would receive a rock texture and stain to match local rock.

- Placing approximately 628 cubic yards of non-grouted rock slope protection (RSP) under the bridge to reduce scour. This would include armoring the side slopes of the channel with a 3.6-foot deep layer of 1-ton RSP placed over a 0.75-foot deep layer of clean washed gravel filter. The streambed would include a 6.3-foot deep layer of 1-ton RSP with void filler at the bottom.

- Restoring approximately 86 lineal feet of streambed by removing the existing culvert.

- Reconstructing the stream channel for a distance of approximately 86 lineal feet upstream and 55 lineal feet downstream of the road centerline. Reconstructing the stream channel would consist of grading/recontouring the streambed upstream and downstream of the road centerline, slightly realigning the stream channel upstream of the roadway, placing new boulder clusters at random locations within the stream channel, and removal of riparian vegetation as needed.

- Replacing approximately 1,100 feet of roadway with new structural section that has paved shoulders 4 to 8 feet wide to accommodate the new bridge. Approximately 400 lineal feet of 8-foot-wide paved shoulders would be constructed west of the new bridge and approximately 600 lineal feet of 4-foot-wide paved shoulders would be constructed east of the new bridge.

- Installing approximately 438 lineal feet of new guardrail.

- Installing biostrips for stormwater treatment.

- Relocating underground telephone cable owned and maintained by Siskiyou Telephone.

- Removing a water drafting apparatus from Cade Creek downstream of the roadway to accommodate the stream restoration work. Negotiations with the owner of the water drafting apparatus will be conducted to compensate for the removal of the water drafting apparatus from its current location.

- Installing a drainage inlet just east of a private driveway to collect runoff before it crosses the driveway.

Work at Portuguese Creek would include:

- Constructing a temporary detour that is approximately 16 feet wide and includes a clear-span steel truss bridge that is approximately 80 feet long and located approximately 20 to 30 feet from the existing edge of pavement on the north side of the highway. The foundations for the temporary bridge would be spread footings and would be installed outside the ordinary high-water mark; pile driving would not be required.

- Diverting water around in-channel work areas and dewatering as needed.

- Replacing the existing culvert that is approximately 85 feet long and 14 feet in diameter with a clear-span bridge that is approximately 100 feet long, 44 feet wide, and located on the existing alignment. The foundations for the new bridge would be rock-socketed cast-in-drilled-hole (CIDH) piles with permanent steel casings installed outside the ordinary high-water mark; pile driving would not be required. The new bridge would receive architectural treatment to replicate the treatments that were done at Fort Goff Bridge (State Route 96 in Siskiyou County at post mile 56). The railing would receive a stain that produces a rust color and the concrete transition end blocks and abutments would receive a rock texture and stain to match local rock.

- Placing approximately 924 cubic yards of non-grouted RSP under the bridge to reduce scour. This would include armoring the streambanks with a 3.8-foot deep layer of 1-ton RSP placed over a 0.75-foot deep layer of clean washed gravel. The streambed would include a 6.7-foot deep layer of 1-ton RSP with void filler at the bottom.

- Restoring approximately 85 lineal feet of streambed by removing the existing culvert.

- Reconstructing the stream channel for a distance of approximately 70 lineal feet upstream and 103 lineal feet downstream of the road centerline. Reconstructing the stream channel would consist of grading/recontouring the streambed, placing new boulder clusters at random locations within the stream channel, and removal of riparian vegetation as needed.

- Replacing approximately 600 feet of roadway along the existing alignment with new structural section and widening the shoulders to 8 feet to accommodate the new bridge.

- Installing approximately 213 lineal feet of new guardrail.

- Installing biostrips for stormwater treatment.

- Relocating buried fiber-optic cables owned and maintained by AT&T and an underground telephone cable owned and maintained by Siskiyou Telephone.

Following contract approval in June 2023, the contractor would begin installation of CIDH piles and H-piles for the new bridges at Portuguese Creek and Cade Creek, respectively. Traffic control would consist of one-way reversing traffic on the existing highway. After completion of the pile foundation construction, work would be suspended. In May 2024, construction of temporary detours utilizing steel truss bridges would begin at both work locations. Once the temporary detours are in place, traffic would be shifted off the existing roadway and onto the detours. Traffic control would consist of one-way reversing traffic on the temporary detours. Construction of the new bridges would begin in summer 2024 and should be completed by October of that year. Upon completion of the new bridges, traffic would be shifted back onto the existing roadway and the temporary detours would be removed. If paving/striping work is not completed in 2024, it would be completed in 2025.

Staging/Stockpiling

Staging/stockpiling would occur within Caltrans' right-of-way in turnouts within the project limits at both Cade Creek and Portuguese Creek.

Disposal/Borrow Sites

Construction of the project would require vegetation removal and would disturb approximately 1.09 acres of ground surface (~0.75 acres at Cade Creek and ~0.34 acres at Portuguese Creek) and require the excavation of approximately 14,345 cubic yards of soil (~9,632 cubic yards at Cade Creek and ~4,713 cubic yards at Portuguese Creek). Work at Cade Creek and Portuguese Creek would require the use of two disposal sites that are located on private property. One disposal site is located at PM 41.70 and the other disposal site is located at PM 43.60. Approximately 6,235 cubic yards of soil excavated at the Cade Creek work area and approximately 2,595 cubic yards of soil excavated at the Portuguese Creek work area would be disposed of at the disposal sites. Construction of the project would generate approximately 1,766 cubic yards of asphalt grindings, which would become property of the contractor. Asphalt grindings may be reused onsite (excluding a minimal amount of grindings associated with yellow and white road striping).

Right-of-Way

Work would occur inside Caltrans' right-of-way on federal land that is managed by the Klamath National Forest throughout most of the project limits. Work would occur outside Caltrans' right-of-way on federal land that is managed by the Klamath National Forest along Cade Creek upstream of the roadway and along Portuguese Creek upstream and downstream of the roadway. Work occurring outside Caltrans' right-of-way on private property is limited to the two disposal sites (PM 41.70 and 43.60) and along Cade Creek downstream of the roadway. No right-of-way would be permanently acquired.

A site plan is provided in Appendix A.

Project Alternatives

Two project alternatives, a build alternative and a no-build alternative, were considered as viable options during preparation of this Initial Study. The build alternative (replace the existing culvert with a new bridge at each location) is the preferred alternative because it meets the project purpose and need. The no-build alternative does not meet the purpose and need of this project and is not preferred.

During early project planning, one additional alternative at Cade Creek (construct a three-sided bottomless culvert) and two additional alternatives at Portuguese Creek (construct a three-sided bottomless culvert and construct a double cell box culvert) were considered, but were eliminated from further consideration because the Project Development Team (PDT) agreed that they did not adequately meet the need and purpose of this fish passage project.

Permits and Approvals Needed

Work in Cade Creek and Portuguese Creek and in associated riparian habitat would require permits from the California Department of Fish and Wildlife (CDFW), United States Army Corps of Engineers, and the North Coast Regional Water Quality Control Board. In addition, a Notice of Intent would need to be filed with the State Water Resources Control Board to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Permit (the permit regulates the discharge of storm water runoff from construction sites). Work occurring outside Caltrans' right-of-way would require a temporary construction easement. Work on federal land would require a Special Use Permit from the Forest Service for work occurring outside Caltrans' right-of-way and potentially a Letter of Concurrence for work occurring inside Caltrans' right-of-way. Following approval of the Project Report, the California Transportation Commission would be required to vote to approve funding for the project. Permits and approvals needed for the project are summarized in Table 1.

Table 1 Permits and Approvals Needed

Agency	Permit/Approvals
California Department of Fish and Wildlife	Lake and Streambed Alteration Agreement
US Army Corps of Engineers	Nationwide Permit
North Coast Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification
State Water Resources Control Board	A Notice of Intent would need to be filed to obtain coverage under the NPDES General Construction Permit
US Forest Service	Special Use Permit and potentially a Letter of Concurrence
California Transportation Commission (CTC)	Following approval of the project report, the CTC would be required to vote to approve funding for the project.

Public Review

This draft Initial Study and proposed Negative Declaration will be circulated for public review for a period of 30 days. Caltrans will consider comments provided by the public and incorporate these comments into the final Initial Study that will be prepared for the project. Given the project's remote location and minimal community impacts, a public meeting will not be held.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 19 for additional information.

☒	Aesthetics	☒	Agriculture and Forestry	☒	Air Quality
☒	Biological Resources	☐	Cultural Resources	☒	Energy
☒	Geology/Soils	☒	Greenhouse Gas Emissions	☐	Hazards and Hazardous Materials
☒	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☒	Noise	☐	Population/Housing	☒	Public Services
☐	Recreation	☒	Transportation	☐	Tribal Cultural Resources
☒	Utilities/Service Systems	☐	Wildfire	☒	Mandatory Findings of Significance

DETERMINATION:

On the basis of this initial evaluation:

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

Chapter 2. CEQA Environmental Checklist

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

I. AESTHETICS—Except as provided in Public Resources Code Section 21099, would the project:

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

CEQA Significance Determinations for Aesthetics

See Aesthetics Section in Chapter 3.

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
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?	☐	☐	☐	☒

CEQA Significance Determinations for Agriculture and Forest Resources

See Agriculture and Forest Resources Section in Chapter 3.

III. AIR QUALITY—Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:

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

CEQA Significance Determinations for Air Quality

See Air Quality Section in Chapter 3.

IV. BIOLOGICAL RESOURCES—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
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?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Biological Resources

See Biological Resources Section in Chapter 3.

V. CULTURAL RESOURCES—Would the project:

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

CEQA Significance Determinations for Cultural Resources

a-c) No Impact. The cultural resources study included literature and records review of the project area; visits to and/or contacts with a number of repositories, agencies, organizations, and Native American representatives; and an archaeological field survey of the project area. The purpose of these efforts was to identify and evaluate any cultural resources that may exist within the project area and to assess any effects that the project might have related to the cultural resources (e.g., historical resources, prehistoric archaeological resources, historical archaeological resources, built environment resources, and traditional cultural properties).

The cultural resources study determined that the project is located within the ancestral territory of the Karuk tribe. Review of the Native American Heritage Commission's sacred lands file found that no sacred lands are present within the project area. Caltrans has consulted with applicable California Native American tribes and none of the tribes consulted provided notification of the presence or potential presence of tribal cultural resources, defined in Public Resource Code section 2107, within the project area. Consultation with California Native American Tribes is ongoing and will continue through project completion.

One cultural resource, the remnants of a historic site with stacked rock features, was observed at the Portuguese Creek work location during field surveys (California Department of Transportation 2020a). No cultural resources were observed at the Cade Creek work location or at the disposal sites.

It is Caltrans' policy to avoid cultural resources whenever possible. Implementation of standard conditions (e.g. installation of ESA fencing to protect a known cultural resource at the Portuguese Creek work location) and compliance with the following Caltrans Standard Specifications to protect known historical resources and buried cultural materials, including human remains, that may be encountered during construction would ensure that the project would have no adverse effect on historic/archaeological resources pursuant to §15064.5 or on buried human remains:

- Prior to RTL, the archaeologist shall delineate on the project plans an environmentally sensitive area (ESA) to protect a known cultural resource at the Portuguese Creek work location.

- Prior to construction, a contractor-supplied archaeologist shall oversee the installation of temporary flagging by the contractor to mark the boundaries of the environmentally sensitive area (ESA) to protect a known cultural resource at the Portuguese Creek work location.

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

- If human remains are discovered, California Health and Safety Code (H&SC) Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), who, pursuant to PRC Section 5097.98, will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the Caltrans District 2 Native American Coordinator so that he/she may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Given the determinations above, the project would have no impact on cultural resources.

VI. ENERGY—Would the project:

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

CEQA Significance Determinations for Energy

See Energy Section in Chapter 3.

VII. GEOLOGY AND SOILS—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
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?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒

CEQA Significance Determinations for Geology and Soils

See Geology and Soils Section in Chapter 3.

VIII. GREENHOUSE GAS EMISSIONS—Would the project:

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

CEQA Significance Determinations for Greenhouse Gas Emissions

See Greenhouse Gas Emissions Section in Chapter 3.

IX. HAZARDS AND HAZARDOUS MATERIALS—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

CEQA Significance Determinations for Hazards and Hazardous Materials

a-b) No Impact. As documented in the Initial Site Assessment (California Department of Transportation 2020b), lead-contaminated soils may exist throughout the project limits due to the historical use of leaded gasoline on the roadway, naturally occurring asbestos may exist within the project limits due to the underlying geology, and lead/chromium may be present in yellow and white road striping. Construction of the project would require excavation of a relatively small amount soil along the roadway and removal of a small amount of road striping from the roadway surface. These activities have the potential to release a minimal amount of hazardous materials/wastes into the environment. Compliance with the following Caltrans Standard Specifications would ensure that the project would have no impact related to hazards and hazardous materials:

- A site investigation for aerially deposited lead (ADL) and naturally occurring asbestos shall be conducted prior to RTL to determine whether hazardous soils/naturally occurring asbestos are present and what actions, if any, would be required. If encountered, soil with elevated concentrations of lead as a result of ADL on the State Highway System right-of-way within the limits of the project will be managed under the July 1, 2016, ADL Agreement between Caltrans and the California Department of Toxic Substances Control. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

- Because the project would utilize two disposal sites that are located on private property, a separate site investigation shall be performed on the privately-owned parcels prior to RTL.

- Asphalt grindings associated with the removal of yellow and white road striping shall be removed and disposed of by the contractor in accordance with Caltrans Standard Specification 36-4, which requires the contractor to prepare a Lead Compliance Plan.

Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, nor would it create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

c) No Impact. There are no existing or proposed schools within a 1/4-mile radius of the project. In addition, the project would not emit hazardous emissions or require the handling of hazardous or acutely hazardous materials or substances.

d) No Impact. No Cortese sites (sites which are known to contain hazardous wastes or substances) have been identified within or adjacent to the project area (California Department of Transportation 2020b).

e) No Impact. The Cade Creek and Portuguese Creek work areas are not located within two miles of a public airport. However, the disposal site at PM 41.70 is

located approximately 0.75 miles northeast of Happy Camp Airport. Happy Camp Airport is operated by Siskiyou County and services small propeller-driven aircraft and helicopters. The airport generally has very few departures/arrivals. However, between June and October, the airport experiences increased helicopter activity due to wildfire suppression efforts in the region. Airport operations would not expose construction workers to a safety hazard or excessive noise.

f) No Impact. The project would not impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. In the event of an emergency during construction, Caltrans would coordinate with the California Highway Patrol to resolve any traffic-related concerns.

g) No Impact. The project does not expose people or structures to additional risk of loss, injury, or death as a result of wildfire by using the existing highway. Rather, the project maintains the roadway for use as an escape route during wildfire emergencies and provides fire vehicles a means of accessing/suppressing wildfires.

Given the determinations above, the project would have no impact related to hazards and hazardous materials.

X. HYDROLOGY AND WATER QUALITY—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

CEQA Significance Determinations for Hydrology and Water Quality

See Hydrology and Water Quality Section in Chapter 3.

XI. LAND USE AND PLANNING—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Land Use and Planning

a-b) No Impact. The project is located in a rural part of Siskiyou County. Zoning within and adjacent to the project is designated as "Rural Residential Agricultural District." Land use in the project vicinity is primarily rural residential, recreational, and timber production. At the Cade Creek work location, the adjacent private landowner operates the Klamath River Resort Inn. The community nearest to the project is Happy Camp (unincorporated) to the west. The project would not physically divide an established community, would not affect existing and/or future land uses, or cause a significant environmental impact due to a conflict with any applicable land use plan, policy, and/or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Given the determinations above, the project would have no impact on land use and planning.

XII. MINERAL RESOURCES—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Mineral Resources

a-b) No Impact. The *Siskiyou County General Plan* (Siskiyou County 2019) does not identify the locations of known deposits of valuable or locally important mineral resources. No mineral resource zones have been mapped for Siskiyou County (California Department of Conservation 2020a). No mines have been reported within the project limits (California Department of Conservation 2020b). The Klamath River and many of its larger tributaries are known to have very small amounts of gold contained within placer deposits. As such, gold may be present within their streambed. However, the project would not affect land use and would not result in the loss of availability of a known mineral resource that would be of value nor would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a General Plan, specific plan, or other land use plan.

Given the determinations above, the project would have no impact on mineral resources.

XIII. NOISE—Would the project result in:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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?	☐	☐	☐	☒

CEQA Significance Determinations for Noise

See Noise Section in Chapter 3.

XIV. POPULATION AND HOUSING—Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

CEQA Significance Determinations for Population and Housing

a) No Impact. The project would not induce population growth, either directly or indirectly.

b) No Impact. The project would not displace any existing housing or people, necessitating the construction of replacement housing elsewhere.

Given the determinations above, the project would have no impact on population and housing.

XV. PUBLIC SERVICES

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☒	☐

CEQA Significance Determinations for Public Services

See Public Services Section in Chapter 3.

XVI. RECREATION

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
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?	☐	☐	☐	☒

CEQA Significance Determinations for Recreation

a-b) No Impact. The project would not increase the use of existing neighborhood and regional parks or other recreational facilities. In addition, the project does not include recreational facilities or require the construction or expansion of recreational facilities.

Given the determinations above, the project would have no impact on recreation.

XVII. TRANSPORTATION—Would the project:

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

CEQA Significance Determinations for Transportation

See Transportation Section in Chapter 3.

XVIII. TRIBAL CULTURAL RESOURCES—Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, 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:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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 section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

CEQA Significance Determinations for Tribal Cultural Resources

a-b) No Impact. Assembly Bill (AB) 52 (Chapter 532, California Statutes of 2014) establishes a formal consultation process for California tribes as part of the CEQA review process and equates significant impacts on "tribal cultural resources" with significant environmental impacts (Public Resources Code 21084.2). The cultural resources study determined that the project is located within the ancestral territory of the Karuk tribe. Review of the Native American Heritage Commission's sacred lands file found that no sacred lands are present within the project area. Caltrans has consulted with applicable California Native American tribes and none of the tribes consulted provided notification of the presence or potential presence of tribal cultural resources, defined in Public Resource Code section 2107, within the project area. Consultation with California Native American Tribes is ongoing and will continue through project completion.

Given the determinations above, the project would have no impact on tribal cultural resources.

XIX. UTILITIES AND SERVICE SYSTEMS—Would the project:

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

CEQA Significance Determinations for Utilities and Service Systems

See Utilities and Service Systems Section in Chapter 3.

XX. WILDFIRE—If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

CEQA Significance Determinations for Wildfire

a) No Impact. The project does not substantially impair an adopted emergency response plan or emergency evacuation plan.

b) No Impact. The work locations at Cade Creek and Portuguese Creek are not located within state responsibility areas (they are located within federal responsibility areas). The disposal site at PM 41.70 is within a state responsibility area. A portion of the Cade Creek work location has a “Very High” fire hazard severity rating (Calfire 2020) and was burned by the Slater Fire in 2020. The disposal site used for work at Cade Creek does not have a fire hazard severity rating. However, areas with “Moderate” and “Very High” fire hazard severity ratings are present nearby. The Portuguese Creek work location does not have a fire hazard severity rating. However, areas with a “Very High” fire hazard severity rating are present nearby. The Devil’s Fire burned portions of the Portuguese Creek watershed upslope of the project area in 2020. The project does not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Rather, the

project maintains the roadway for use as an escape route during wildfire emergencies and provides fire vehicles a means of accessing/suppressing wildfires.

c) No Impact. The project does not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary ongoing impacts to the environment.

d) No Impact. The project does not 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.

Given the determinations above, the project would have no impact related to wildfire.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

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

CEQA Significance Determinations for Mandatory Findings of Significance

See Mandatory Findings of Significance Section in Chapter 3.

Chapter 3. Discussion of Environmental Impacts

Aesthetics

Affected Environment

The project is located on SR 96 in a rural part of northwestern Siskiyou County. SR 96 is situated within a rugged canyon carved by the Klamath River. In general, the highway affords the traveling public extensive views of the Klamath River and surrounding mountains between Willow Creek and Interstate 5 (California Department of Transportation 2020c). Within the project area, views of the nearby Klamath River are mostly obscured by dense vegetation along the roadway. SR 96 is not a designated scenic highway (California Department of Transportation 2020d).

Environmental Consequences

Construction Impacts

Impacts to the aesthetics of the project area include a minimal amount of tree removal (where construction access is needed, where temporary detours would be constructed, and where vegetation would be removed along road shoulders), a minimal amount of reconstruction/restoration of stream channels, and replacement of existing culverts that are obscured by vegetation with new bridges that would be visible to the traveling public. The project work scope includes various design features to minimize visual impacts. The bridge railings would receive a stain that produces a rust color and the concrete transition end blocks and abutments would receive a rock texture and stain to match local rock.

Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of the proposed project. The project's impact on aesthetics would be minimal and when these impacts are considered along with impacts on aesthetics resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on aesthetics would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

Given the design features incorporated into the project work scope to minimize visual impacts, no additional measures that would minimize visual impacts are warranted.

CEQA Significance Determinations for Aesthetics

The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The project would not have a substantial adverse effect on any scenic vistas, substantially damage scenic resources within a state scenic highway, or substantially degrade the existing visual character or quality of public views of the site and its surroundings. With a work scope that includes design features to minimize visual impacts, impacts on aesthetics would be less than significant.

Given the determinations above, the project would have a less than significant impact on aesthetics.

Agriculture and Forest Resources

Affected Environment

The project is located within the Klamath River canyon in western Siskiyou County. The topography in the project vicinity is characterized by steep, mountainous terrain with forested slopes. There is no prime farmland, unique farmland, or farmland of statewide importance in the project area (California Department of Conservation 2019c), nor are there any properties within the project area or in the project vicinity that are enrolled under a Williamson Act contract (California Department of Conservation 2019d). No agricultural operations occur within the project area.

Environmental Consequences

Construction Impacts

The widening and paving of roadway shoulders would result in the conversion of a minimal amount of forest land to non-forest use.

Cumulative Impacts

The project's impact on forest land would be minimal and when these impacts are considered along with impacts on forest land resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on forest land would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

Given that a minimal amount of forest land would be converted to a non-forest use and taking into account the vast extent of forest land elsewhere in the region, no avoidance, minimization, or mitigation measures are warranted.

CEQA Significance Determinations for Agriculture and Forest Resources

The project would not convert prime farmland, unique farmland, or farmland of statewide importance (farmland) to non-agricultural uses. In addition, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. The project would not conflict with existing zoning for, or cause rezoning or, forest land, timberland or timberland zoned Timberland Production. The project would convert a minimal amount of forest land to a non-forest use. However, this conversion of forest land would have a less than significant impact on forest resources. The project would not 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.

Given the determinations above, the project would have a less than significant impact on agricultural and forest resources.

Air Quality

Regulatory Setting

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM) —which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM_{10}) and particles of 2.5 micrometers and smaller ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition.

Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

Conformity

The conformity requirement is based on FCAA Section 176(c), which prohibits the U.S. Department of Transportation (USDOT) and other federal agencies from funding, authorizing, or approving plans, programs, or projects that do not conform to State Implementation Plan (SIP) for attaining the NAAQS. "Transportation Conformity" applies to highway and transit projects and takes place on two levels: the regional (or planning and programming) level and the project level. The project must conform at both levels to be approved.

Conformity requirements apply only in non-attainment and "maintenance" (former non-attainment) areas for the NAAQS, and only for the specific NAAQS that are or were violated. U.S. EPA regulations at 40 Code of Federal Regulations (CFR) 93 govern the conformity process. Conformity requirements do not apply in unclassifiable/attainment areas for NAAQS and do not apply at all for state standards regardless of the status of the area.

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), and in some areas (although not in California), sulfur dioxide (SO_2). California has non-attainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a non-attainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those

projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[1] that has not changed significantly from those in the RTP and TIP; project analyses have used the latest planning assumptions and EPA-approved emissions models; and in PM areas, the project complies with any control measures in the SIP. Furthermore, additional analyses (known as hot-spot analyses) may be required for projects located in CO and PM non-attainment or maintenance areas to examine localized air quality impacts.

Affected Environment

The project is located in a rural part of Siskiyou County in northern California. The climate in the project vicinity is characterized by warm summers and wet winters with occasional snowfall. The average annual precipitation recorded at the Happy Camp Ranger Station between 1916 and 2016 is 49.47 inches (Western Regional Climate Center 2019). Wind direction and strength varies seasonally in the project vicinity. In spring, prevailing winds are generally from the northwest. In winter, storms moving westward across northern California bring strong winds to the area. Inversion layers, which are common in winter, occur when a layer of warm air overlies a layer of dense cold air and prevents atmospheric mixing. If the trapped cold air contains large quantities of pollutants, air quality can be substantially impaired.

The project is located in the Northeast Plateau Air Basin and is within the jurisdiction of the Siskiyou County Air Pollution Control District (SCAPCD) and ARB. The SCAPCD is the primary local agency responsible for regional air quality planning, monitoring, and stationary source and facility permitting in accordance with standards set by the California ARB.

The project is located in an attainment/unclassified area for all current NAAQS. Therefore, conformity requirements do not apply. Construction activities would not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)). With regard to state air quality standards, the project is located in an attainment or unclassified area for all criteria pollutants. The project area attainment status of state and federal criterial air pollutants is shown in Table 2.

"Design concept" means the type of facility that is proposed, such as a freeway or arterial highway. "Design scope" refers to those aspects of the project that would clearly affect capacity and thus any regional emissions analysis, such as the number of lanes and the length of the project.[1]

Table 2 State and Federal Criteria Air Pollutant Standards and Status

Pollutant	Averaging Time	State Standard [i]	Federal Standard [ii]	State Project Attainment Status	Federal Project Area Attainment Status
O_3 [iii]	1 hour	0.09 ppm [iv]	N/A	Attainment	N/A
O_3	8 hours	0.070 ppm	0.070 ppm (4^{th} highest in 3 years)	Attainment	Attainment/ Unclassified
CO [v]	1 hour	20 ppm	35 ppm	Unclassified	Attainment/ Unclassified
CO	8 hours	9.0 ppm	9 ppm	Unclassified	Attainment/ Unclassified
CO	8 hours (Lake Tahoe)	6 ppm	N/A	Unclassified	N/A
PM_{10} [vi]	24 hours	50 µg/m [vii]	150 µg/m^3 (expected number of days above standard < or equal to 1)	Attainment	Unclassified
PM_{10}	Annual	20 µg/m^3	N/A	Attainment	N/A
$PM_{2.5}$ [viii]	24 hours	N/A	35 µg/m^3 [vi]	N/A	Attainment/ Unclassified
$PM_{2.5}$	Annual	12 µg/m^3	12.0 µg/m^3	Attainment	Attainment/ Unclassified
NO_2	1 hour	0.18 ppm	0.100 ppm [ix]	Attainment	Attainment/ Unclassified
NO_2	Annual	0.030 ppm	0.053 ppm	Attainment	Attainment/ Unclassified
SO_2 [x]	1 hour	0.25 ppm	0.075 ppm (99^{th} percentile over 3 years)	Attainment	Attainment/ Unclassified
SO_2	3 hours	N/A	0.5 ppm [xi]	N/A	Attainment/ Unclassified
SO_2	24 hours	0.04 ppm	0.14 ppm (for certain areas)	Attainment	Attainment/ Unclassified
SO_2	Annual	N/A	0.030 ppm (for certain areas)	N/A	Attainment/ Unclassified
Pb [xii]	Monthly	1.5 µg/m^3	N/A	Attainment	N/A
Pb	Calendar Quarter	N/A	1.5 µg/m^3 (for certain areas)	N/A	Attainment/ Unclassified
Pb	Rolling 3-month average	N/A	0.15 µg/m^3 [xiii]	N/A	Attainment/ Unclassified
Sulfates	24 hours	25 µg/m^3	N/A	Attainment	N/A
H_2S	1 hour	0.03 ppm	N/A	Unclassified	N/A
Visibility Reducing Particles (VRP) [xiv]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 %	N/A	Unclassified	N/A

Pollutant	Averaging Time	State Standard [i]	Federal Standard [ii]	State Project Attainment Status	Federal Project Area Attainment Status
Vinyl Chloride [xii]	24 hours	0.01 ppm	N/A	NA	N/A

Adapted from the California ARB Air Quality Standards chart
Greenhouse Gases and Climate Change: Greenhouse gases do not have concentration standards for that purpose. Conformity requirements do not apply to greenhouse gases.

[i] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[ii] Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[iii] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm. Transportation conformity applies in newly designated non-attainment areas for the 2015 national 8-hour ozone primary and secondary standards on and after August 4th, 2019 (see Transportation Conformity Guidance for 2015 Ozone NAAQS Non-attainment Areas).

[iv] ppm = parts per million

[v] Transportation conformity requirements for CO no longer apply after June 1, 2018 for the following California Carbon Monoxide Maintenance Areas (see U.S. EPA CO Maintenance Letter).

[vi] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 $\mu g/m^3$ to 12 $\mu g/m^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM_{10} standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[vii] $\mu g/m^3$ = micrograms per cubic meter

[viii] The 65 $\mu g/m^3$ $PM_{2.5}$ (24-hr) NAAQS was not revoked when the 35 $\mu g/m^3$ NAAQS was promulgated in 2006. The 15 $\mu g/m^3$ annual $PM_{2.5}$ standard was not revoked when the 12 $\mu g/m^3$ standard was promulgated in 2012. Therefore, for areas designated non-attainment or non-attainment/maintenance for the 1997 and or 2006 $PM_{2.5}$ NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

[ix] Final 1-hour NO_2 NAAQS published in the Federal Register on 2/9/2010, effective 3/9/2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause re-designation to non-attainment in some areas after 2016.

[x] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[xi] Secondary standard, the levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant rather than health. Conformity and environmental analysis address both primary and secondary NAAQS.

[xii] The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM_{10} and, in larger proportion, $PM_{2.5}$. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and $PM_{2.5}$ as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

[xiii] Lead NAAQS are not considered in Transportation Conformity analysis.

[xiv] In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

In air quality studies, sensitive receptors are hospitals, schools, homes, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. No sensitive receptors are present within a ¼-mile radius of the Portuguese Creek work location. Several homes are also present just outside the Cade Creek work area and within a ¼-mile radius of the disposal site at PM 41.70.

Environmental Consequences

Construction Impacts

The Air Quality Analysis prepared for the project concluded that because the project is not a capacity-increasing project, no long-term impacts on air quality resulting from operation of the project would occur (California Department of Transportation 2020e). However, during construction, short-term degradation of air quality may occur due to the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly-emitted particulate matter (PM_{10} and $PM_{2.5}$), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be

greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM_{10}, $PM_{2.5}$, and small amounts of CO, SO_2, NO_x, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site, and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM_{10} emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM_{10} emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Construction activities for large development projects are estimated by the United States Environmental Protection Agency (U.S. EPA) to add 1.2 tons of fugitive dust per acre of soil disturbed per month of activity. If water or other soil stabilizers are used to control dust, the emissions can be reduced by up to 50 percent. The Department's Standard Specifications (Section 14) on dust minimization require use of water or dust palliative compounds and would reduce potential fugitive dust emissions during construction.

In addition to dust-related PM_{10} emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate (PM_{10} and $PM_{2.5}$) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

SO_2 is generated by oxidation during combustion of organic sulfur compounds contained in diesel fuel. Under California law and ARB regulations, off-road diesel fuel used in California must meet the same sulfur and other standards as on-road diesel fuel (not more than 15 ppm sulfur), so SO_2-related issues due to diesel exhaust will be minimal.

Some phases of construction, particularly asphalt paving, may result in short-term odors in the immediate area of each paving site(s). Such odors would quickly disperse to below detectable levels as distance from the site(s) increases.

Cumulative Impacts

The project's impact on air quality would be minimal and temporary and when these impacts are considered along with impacts on air quality resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on air quality would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following measure shall be implemented to minimize air quality impacts during construction:

- The contractor shall comply with Section 10-5 "Dust Control", Section 14-9 "Air Quality", and Section 18 "Dust Palliatives" in the *2018 Caltrans Standard Specifications*.

Compliance with these Standard Specifications would include implementing the following dust and pollutant reduction/control measures to minimize any air quality impacts resulting from construction activities:

- Water or a dust palliative shall be applied to the site and equipment as often as necessary to control fugitive dust emissions.
- Construction equipment and vehicles shall be properly tuned and maintained. All construction equipment shall use low sulfur fuel as required by California Code of Regulations Title 17, Section 93114.
- Track-out reduction measures, such as gravel pads at project access points to minimize dust and mud deposits on roads affected by construction traffic, shall be used.
- All transported loads of soils and wet materials shall be covered before transport, or adequate freeboard (space from the top of the material to the top of the truck) shall be provided to minimize emission of dust during transportation.
- Dust and mud that are deposited on paved, public roads due to construction activity and traffic shall be promptly and regularly removed to reduce PM emissions.

CEQA Significance Determinations for Air Quality

Once built, the project would not conflict with or obstruct implementation of an applicable air quality management plan, result in a cumulatively considerable net increase of any criteria pollutant for which the project is in non-attainment, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. During construction, the project could result in short-term elevated levels of dust, criteria pollutants, and odors. However, compliance with Caltrans Standard Specifications for dust and pollutant control and the rapid dissipation of any odors would ensure that any impacts on air quality would be less than significant.

Given the determinations above, the project would have a less than significant impact on air quality.

Biological Resources

The biological resources evaluation included a review of relevant literature, databases such as the California Natural Diversity Data Base (CNDDB) and the California Native Plant Society's Inventory of Rare and Endangered Plants of California, species lists obtained from the USFWS and NOAA Fisheries, and completion of field surveys. Biological field surveys were conducted to document habitats present within the project area and to evaluate the potential for special-status species to be present. Based on the information obtained during the records review and field surveys and consideration of the proposed improvements, an impact analysis was made to determine project level impacts on biological resources. Results and findings based on the above literature searches, surveys, and analyses are documented in the Natural Environment Study (California Department of Transportation 2020f) and presented below. In addition, applicable general plans, habitat conservation plans, natural community conservation plans, and other relevant plans were reviewed to evaluate the project's consistency with these plans.

Affected Environment

Sensitive Natural Communities and Wetlands

Habitats present within the project area include riverine habitat, riparian habitat, and mixed conifer forest. The remainder of the project area consists of paved roadway and graveled roadside shoulders. The disposal sites at PM 41.70 (the site of a lumber mill) and PM 43.60 (private property adjacent to the Klamath River Resort Inn) consist of disturbed areas that support a sparse covering of grasses. Although no wetlands are present within the project area, a wetland is present just outside the disposal site at PM 41.70. Riverine, riparian, and wetland habitats are considered habitats of special concern and regulated under federal and state laws. A description of the onsite riverine and riparian habitats is provided below.

Riverine habitat within the project area is limited to Cade Creek and Portuguese Creek. Both streams have cold, perennial flowing water, relatively narrow channels, shallow water depths, and include a combination of riffle/run/pool habitats. The substrate of both streams consists predominantly of boulder and cobble, with smaller inclusions of pebble, gravel, sands, and fines. The stream provides rearing habitat for fish, turtles, amphibians, and a variety of aquatic invertebrates.

Riparian habitat within the project area is limited to the banks of Cade Creek and Portuguese Creek. The riparian woodland along Cade Creek upstream of the roadway was burned by the Slater Fire in 2020. The riparian woodland downstream of the roadway was not affected by the fire and has a well-developed canopy layer composed predominantly of mature alders and big-leaf maple. A dense shrub layer is present and consists predominantly of blackberry and elk clover (California spikenard). The ground cover includes various species of annual grasses and forbs. The riparian woodland along Portuguese Creek upstream and downstream of the roadway is similar to that described along Cade Creek downstream of the roadway. Overall, the riparian woodland along both streams provides high quality habitat to various wildlife species. The riparian woodland shades both streams, which is important to salmonids because it provides cold-water refugia during summer when water temperatures in the Klamath River begin to warm.

Riverine and riparian habitats are protected by state laws and regulations and Sections 401 and 404 of the federal Clean Water Act. Work within the bed and bank of Cade Creek and Portuguese Creek would require a Nationwide Permit from the Army Corps of Engineers, Water Quality Certification from the North Coast Regional Water Quality Control Board, and a Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife. Impacts to riparian vegetation would be addressed in applications for a Lake and Streambed Alteration Agreement and Water Quality Certification.

Special-Status Species

Field surveys confirmed that no special-status plant species are present within and/or adjacent to the project area. Three special-status animal species were observed within and/or adjacent to the project area during field surveys: bald eagle, osprey, and northwestern pond turtle. Other special-status animal species are assumed to be present or potentially present within and/or adjacent to the project area. The following special-status species are present, assumed to be present, or potentially present within and/or adjacent to the project area:

Mammals

- California wolverine (FPT, SE, USFS-S)—Potentially Present
- Fisher–West Coast distinct population segment (SSC, USFS-S)—Potentially Present

- Humboldt marten (FT, SE, USFS-S)—Potentially Present
- Ring-tailed cat (SFP)—Assumed Present
- Fringed myotis (USFS-S)—Assumed Present
- Pallid bat (SSC, USFS-S)—Assumed Present
- Townsend's big-eared bat (SSC, USFS-S)—Assumed Present

Birds

- American peregrine falcon (FD, SD, SFP)—Potentially Present
- Bald eagle (FD, SE, SFP, USFS-S)—Present
- Northern goshawk (SSC, USFS-S)—Potentially Present
- Northern spotted owl (FT, SE, USFS-S)—Potentially Present
- Olive-sided flycatcher (SSC)—Potentially Present
- Osprey (WL)—Present
- Purple marten (SSC)—Potentially Present

Reptiles

- Northwestern pond turtle (SSC, USFS-S)—Present

Amphibians

- Southern torrent salamander (SSC, USFS-S)—Assumed Present

Fish

- Southern Oregon northern California coast (SONCC) coho salmon (FT, ST)—Assumed Present
- Chinook salmon–upper Klamath and Trinity rivers ESU (FC, SCE, SSC, USFS-S)—Assumed Present
- Steelhead–Klamath Mountains Province ESU (SSC, USFS-S)—Assumed Present
- Summer-run steelhead trout (SCE, SSC, USFS-S)—Assumed Present
- Klamath River lamprey (SSC, USFS-S)—Assumed Present
- Pacific lamprey (SSC, USFS-S)—Assumed Present
- Lower Klamath marbled sculpin (SSC)—Assumed Present
- Klamath large-scale sucker (SSC)—Potentially Present

Invertebrates

- Highcap lanx (S&M)—Potentially Present
- Western bumble bee (SCE, USFS-S)—Assumed Present
- Western pearlshell (S&M)—Potentially Present
- Western ridged mussel (S&M)—Potentially Present

Status

FE = Federal Endangered	SFP = State Fully Protected
FT = Federal Threatened	SE = State Endangered
FC = Federal Candidate	ST = State Threatened
FPT = Federal Proposed Threatened	SCE = State Candidate Endangered
FD = Federal Delisted	SD = State Delisted
USFS-S = Forest Service Sensitive	SSC = State Species of Special Concern
S&M = Survey and Manage	WL = Watch List

Streams within the project area and the nearby reach of the Klamath River provide suitable habitat for special-status fish species noted above, northwestern pond turtle, southern torrent salamander, highcap lanx, and freshwater mussels such as the western pearlshell and western ridged mussel. A northwestern pond turtle was observed in the nearby reach of the Klamath River during the field surveys. The mixed hardwood-conifer forest and riparian woodland within

and adjacent to the project area provide suitable habitat for special-status bird species noted above. A bald eagle was observed soaring over Portuguese Creek and an active osprey nest was observed approximately 600 feet from the project area near the confluence of Portuguese Creek and the Klamath River. The mixed hardwood-conifer forest and riparian woodland within and adjacent to the project area also provides suitable habitat for special-status mammal species noted above and the western bumble bee. However, these species were not observed during field surveys.

Cade Creek, Portuguese Creek, and the nearby reach of the Klamath River are designated as critical habitat for SONCC coho salmon and are within hydrologic units that are designated as EFH for salmon.

The following invasive species were observed within the project area: American bullfrog, Himalayan blackberry, curled dock, Dyer's woad, yellow star-thistle, chicory, sweet pea, clover, poison hemlock, and paradise apple. According to the California Department of Food and Agriculture (2020), Dyer's woad and yellow star-thistle are designated as noxious weeds.

Wildlife Corridors and Nursery Sites

Streams within the project area provide wildlife migration corridors and nursery sites for fish, amphibians, and turtles. Riparian habitat along streams within the project area provide migration corridors for amphibians and various small mammals. Trees within riparian habitat and in uplands provide potentially suitable nesting habitat for birds. No evidence of nesting within culverts was observed during the field surveys.

Local Policies and Ordinances

The project is located in Siskiyou County and therefore is subject to the *Siskiyou County General Plan*. The Conservation Element in the *Siskiyou County General Plan* includes various policies and objectives related to the protection of biological resources (e.g., streams, rivers, forests and woodlands, wetlands, and native plants and animals) within the county.

Habitat Conservation Plans, Natural Community Conservation Plans, and Other Approved Local, Regional, or State Habitat Conservation Plans

The United States Fish and Wildlife Service has approved one habitat conservation plan in Siskiyou County (United States Fish and Wildlife Service 2019). The habitat conservation plan provides incidental take permits for multiple species on privately owned timberlands located well outside of the project area. No natural community conservation plans have been designated in Siskiyou County (California Department of Fish and Wildlife 2019). The project includes work on federal land that is subject to the Northwest Forest Plan and the Klamath National Forest's Land and Resource Management Plan. The Northwest Forest Plan is a landscape approach to federal land management designed to protect Threatened and Endangered species while also contributing to social and economic sustainability in the region. The Klamath National Forest's Land and Resource Management Plan is the management plan for the forest.

Environmental Consequences

Sensitive Natural Communities and Wetlands

CONSTRUCTION IMPACTS

Construction of the project would permanently impact approximately 0.069 acres (~215 lineal feet) of riverine habitat as a result of placement of RSP within the ordinary high-water mark of Cade Creek and Portuguese Creek. Approximately 0.117 acres (~350 lineal feet) of riverine

habitat would be temporarily impacted as a result of channel reconstruction activities such as grading, recontouring, and realignment activities. Removal of culverts and replacement with clear-span bridges would restore approximately 0.043 acres (~171 lineal feet) of riverine habitat. Because the acreage of riverine habitat that would be permanently impacted is more than the acreage that would be restored by removal of existing culverts, the project would result in a net permanent impact to approximately 0.026 acres of riverine habitat. The amount of riverine habitat that would be permanently and temporarily impacted is not substantial.

Construction of the project would permanently impact approximately 0.16 acres of riparian habitat and temporarily impact approximately 0.08 acres of riparian habitat (approximately 28 trees between 6 and 25 inches in diameter at breast height would be removed or pruned to ground level). The amount of riparian habitat that would be permanently and temporarily impacted is not substantial.

Construction of the project would not impact any wetlands. A wetland adjacent to the disposal site at PM 41.70 would be protected during construction.

The widening and paving of roadway shoulders would result in the conversion of a minimal amount of upland vegetation (mixed conifer forest), which is not considered a sensitive natural community.

CUMULATIVE IMPACTS

The project's impact on riverine and riparian habitat would be minimal and when these impacts are considered along with similar impacts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on riverine and riparian habitat would be individually limited but not cumulatively considerable.

Special-Status Species

CONSTRUCTION IMPACTS

Construction of the project would not affect the following special-status species: California wolverine, fisher–West Coast distinct population segment, Humboldt marten, ring-tailed cat, fringed myotis, pallid bat, Townsend's big-eared bat, American peregrine falcon, bald eagle, northern goshawk, northern spotted owl, olive-sided flycatcher, osprey, purple martin, highcap lanx, and western bumblebee.

Construction of the project could affect the following special-status species: northwestern pond turtle, southern torrent salamander, SONCC coho salmon, Chinook salmon–upper Klamath and Trinity rivers ESU, steelhead–Klamath Mountains Province ESU, summer-run steelhead trout, Klamath River lamprey, Pacific lamprey, lower Klamath marbled sculpin, Klamath large-scale sucker, western pearlshell, and western ridged mussel.

Amphibians, turtles, fish, and freshwater mussels could be directly affected if present during in-channel work and harmed by construction equipment and, in the case of fish, from noise generated by pile driving outside the ordinary high-water mark of Cade Creek. Potential indirect effects on amphibians, turtles, fish, and freshwater mussels could occur if sediments or pollutants were to enter drainages and degrade their habitat. Construction of the project would directly and indirectly impact a minimal amount of critical habitat designated for SONCC coho salmon and EFH designated for salmon. As part of formal Section 7 consultation, Caltrans provided NOAA Fisheries a Biological Assessment. The Biological Assessment determined:

- The project may affect, and is likely to adversely affect the SONCC coho salmon and Chinook salmon–upper Klamath and Trinity rivers ESU.

- The project may affect, and is likely to adversely affect critical habitat designated for the SONCC coho salmon.

- The project may affect, and is likely to adversely affect EFH for salmon.

NOAA Fisheries is currently reviewing the Biological Assessment and determinations made in their Biological Opinion would be incorporated into the final Initial Study.

Construction of the project has the potential to introduce/spread invasive species into the project area and affect native plant and animal species. Of particular concern are noxious weed species, which crowd-out native plant species. Noxious weed species are often introduced or spread into construction areas as seeds embedded in mud that is attached to construction vehicles and equipment. Noxious weeds are considered widespread in California and subject to regulations to stop their spread. Any impacts on native plant and animal species as a result of the introduction of noxious weeds species into the project area would be minimal.

As noted above, construction of the project has the potential to adversely affect a variety of special-status species. However, the long-term benefits of the project would far-outweigh any short-term impacts. Anadromous salmonids that utilize the Klamath River and its tributaries would substantially benefit from the project. The project would improve the quality of critical habitat designated for the SONCC coho salmon in Cade Creek and Portuguese Creek and improve the quality of essential fish habitat for salmon in these two streams. Approximately 2.58 miles of stream habitat in Cade Creek and 2.78 miles of stream habitat in Portuguese Creek would become accessible to anadromous salmonids upon completion of work. The project may also provide opportunities to mitigate impacts to riverine habitat (e.g., streams and rivers) and anadromous salmonids resulting from other Caltrans transportation projects constructed within the Klamath River watershed.

CUMULATIVE IMPACTS

Any impacts on special-status species would be minimal and when these impacts are considered along with similar impacts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, any impacts on special-status species would be individually limited but not cumulatively considerable.

Impacts on designated critical habitat for SONCC coho salmon and EFH for salmon would be minimal and when these impacts are considered along with similar impacts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, impacts on designated critical habitat for SONCC coho salmon and EFH for salmon would be individually limited but not cumulatively considerable.

Any impacts on native plant and animal species related to the introduction/spread of invasive species would be minimal and when these impacts are considered along with similar impacts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, any impacts on native plant and animal species related to the

introduction/spread of invasive species would be individually limited but not cumulatively considerable.

Wildlife Corridors and Nursery Sites

CONSTRUCTION IMPACTS
The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. The project work scope includes the installation of temporary water diversions in stream channels during construction to allow aquatic organisms to move freely around the in-channel work areas. Stream restoration/channel reconstruction work would improve the quality of rearing habitat for juvenile salmonids, which would be a beneficial impact to salmonids.

A variety of migratory bird species could nest in vegetation within and/or adjacent to the project area. If present, nesting birds could be directly and indirectly affected by the proposed work. Potential direct effects on nesting birds could include mortality resulting from destruction of nests during vegetation removal. Potential indirect effects on nesting birds could include disruption of feeding patterns or nest abandonment due to construction related noise.

CUMULATIVE IMPACTS
The project's impact on wildlife corridors and nursery sites would be minimal and when these impacts are considered along with similar conflicts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on wildlife corridors and bursary sites would be individually limited but not cumulatively considerable.

Local Policies and Ordinances

CONSTRUCTION IMPACTS
The project is consistent with the Conservation Element in the *Siskiyou County General Plan*.

CUMULATIVE IMPACTS
The project would have no cumulative impacts on (i.e., conflicts with) local policies and ordinances.

Habitat Conservation Plans, Natural Community Conservation Plans, and Other Approved Local, Regional, or State Habitat Conservation Plans

CONSTRUCTION IMPACTS
The project would not conflict with any habitat conservation plans, natural community conservation plans, or other approved local, regional (e.g., the Northwest Forest Plan or the Klamath National Forest's Land and Resource Management Plan), or state habitat conservation plans.

CUMULATIVE IMPACTS
The project would have no cumulative impact on any habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plan.

Avoidance, Minimization, and/or Mitigation Measures

Sensitive Natural Communities and Wetlands

The following measures shall be implemented to avoid impacting sensitive natural communities (i.e., riverine and riparian habitat) adjacent to construction areas and a wetland adjacent to the disposal site at PM 41.70:

- Prior to any work activities, temporary Environmentally Sensitive Area (ESA) fencing shall be installed as delineated on the project plans or similar documents to avoid impacting sensitive natural communities (i.e., riverine and riparian habitat) adjacent to construction areas and a wetland adjacent to the disposal site at PM 41.70. The ESA fencing delineates the limits of work to avoid a sensitive animal, plant, waterway, or habitat. Construction equipment is not authorized beyond this fencing.

- During construction, the contractor shall inspect the ESA fencing daily to ensure that it is functioning properly and to make repairs as needed. After construction is completed, the contractor is responsible for removing temporary ESA fencing and removing/disposing of trash and construction materials. The contractor-supplied biologist and/or the Caltrans Environmental Construction Liaison shall confirm that the temporary ESA fencing and other construction materials or trash are removed from the project area.

Given that the project would result in a net permanent impact to a very small amount of riverine habitat, estimated approximately 0.026 acres, no measures are proposed to offset net permanent impacts to riverine habitat. The following measure shall be implemented to minimize temporary impacts to riverine habitat within the project area:

- Upon completion of work, the contractor shall restore temporarily disturbed streambed.

The following measures shall be implemented to offset permanent and temporary impacts to riparian habitat and to restore temporarily impacted riparian habitat:

- To offset permanent and temporary impacts to riparian habitat (approximately 28 trees between 6 and 25 inches in diameter at breast height would be removed or pruned to ground level), Caltrans shall perform post-construction onsite riparian planting. Areas suitable for replanting shall be planted with native riparian species such as big-leaf maple (*Acer macrophllum*), vine maple (*Acer circinatum*), white alder (*Alnus rhombifolia*), black cottonwood (*Populus trichocarpa*), madrone (*Arbutus menziesii*), oak (*Quercus* spp.), and arroyo willow (*Salix lasiolepis*). Riparian cuttings and plantings shall be planted approximately 4 to 6 feet apart. Plantings within rock slope protection along creek banks may be planted in sonotubes. The riparian plantings throughout the site are not expected to require supplemental irrigation, although watering will occur if deemed necessary by the site manager.

- Upon completion of work, temporarily impacted riparian areas shall be re-graded and re-contoured to approximate preconstruction contours and then stabilized and reseeded with a suitable cover crop that will not persist onsite beyond the first or second year. In addition, during the first year, a regionally appropriate native seed mix shall be applied. This seed mix and application rate shall be submitted to CDFW for review and approval along with the draft species list proposed for planting.

No measures are proposed to offset the permanent loss of upland vegetation (mixed conifer forest) because it is not a sensitive natural community. However, the following measure shall be implemented to restore areas of temporarily disturbed upland vegetation where suitable:

- Where suitable, disturbed upland areas shall be replanted with native upland woody plant species. Upland plants shall be purchased from a local native plant nursery. All potted stock shall be procured from organizations with practices in place to reduce the likelihood of spreading pathogenic *Phytophthora* species. Upland planting areas shall be planted at 15- to 20-foot intervals and may be supplemented with water. A temporary drip irrigation system may be installed throughout the site, deep-watering tubes, or stand-alone watering devices such as the Groasis Waterboxx™ may be utilized to ensure plant survival. Shade structures and deer cages may also be installed to protect plantings.

Special-Status Species

The following measures shall be implemented to avoid/minimize direct and indirect effects on the northwestern pond turtle, southern torrent salamander, SONCC coho salmon, Chinook salmon–upper Klamath and Trinity rivers ESU, steelhead–Klamath Mountains Province ESU, summer-run steelhead trout, Klamath River lamprey, Pacific lamprey, lower Klamath marbled sculpin, Klamath large-scale sucker, western pearlshell, and western ridged mussel:

PRE-CONSTRUCTION

- Prior to construction, the contractor shall prepare a dewatering plan for NOAA Fisheries approval. The plan shall describe the dewatering location, timing, duration, and area to be dewatered. Water pump intakes shall be screened to prevent the uptake of aquatic organisms.

- Prior to construction, the contractor shall prepare a Storm Water Pollution Prevention Plan in accordance with the *2018 Caltrans Standard Specifications* that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. All construction site Best Management Practices shall follow the most current edition of the *Construction Site Best Management Practices (BMPs) Manual*.

CONSTRUCTION

- Pile driving shall be limited to construction of the new bridge abutments at Cade Creek and shall be limited to the period from June 15 to October 15. The wet channel of Cade Creek shall not be diverted or screened during the impact pile driving because pile driving will occur outside of Cade Creek's bed, bank, and channel. A contractor-supplied biologist shall be present for the duration of pile driving. If water levels in Cade Creek are deep enough to accommodate a hydrophone, the contractor-supplied biologist shall monitor underwater noise levels using a hydrophone placed into Cade Creek to ensure that underwater noise levels do not exceed the pre-determined thresholds below:

    - Injury threshold for fish of all sizes includes a peak sound pressure level of 206 decibels (dB) relative to 1 micropascal.

    - Injury threshold for fish less than 2 grams is 183 dB relative to 1

micropascal cumulative sound exposure level, and 187 dB relative to 1 micropascal cumulative sound exposure level for fish greater than or equal to 2 grams.

- Disturbance threshold for fish of all sizes is 150 dB root mean square relative to 1 micropascal.

If noise generated by pile driving exceed the noise thresholds above, the contractor-supplied biologist has the authority to temporarily stop/start impact pile driving or reduce the number of pile strikes per day. The contractor-supplied biologist shall document any "take" of salmonids during pile driving and prepare a daily report documenting the species, age class, and number of fish.

- In-stream work shall be limited to the period from June 15 to October 15.

- Prior to the installation of temporary water diversions, fish exclusion screens shall be installed upstream and downstream of the in-water work areas. Openings of fish exclusion screens shall not exceed ¼ inches. The contractor shall be responsible for installing and maintaining temporary fish exclusion screens during construction. The contractor shall inspect the temporary fish exclusion screens daily to ensure that they are functioning properly and to make repairs as needed.

- Temporary water diversions shall be installed to divert flows around the in-channel work areas. The contractor shall be responsible for installing and maintaining temporary water diversions during construction. The contractor shall inspect the temporary water diversions daily to ensure that they are functioning properly and to make repairs as needed.

- When any dam or other artificial obstruction is being constructed, sufficient water velocity or water shall at all times be kept or allowed to pass downstream to maintain aquatic life below the dam and for safe fish passage.

- Prior to any in-stream work (including in-stream clear water diversion), within the stream banks or in the riparian zone, a contractor-supplied biologist shall relocate any fish, amphibians, reptiles, and mollusks (aquatic and terrestrial) upstream/downstream of the in-stream clear water diversion areas or in uplands outside the project limits for non-aquatic amphibians and mollusks. The contractor-supplied biologist shall survey the project area each day before the commencement of work activities where equipment and/or material may encounter streams or riparian zones. The contractor-supplied biologist shall remain onsite during in-stream work until the in-stream diversion and fish exclusion screens are fully functioning and the channel is dry within the work area. Surveys will not be needed after the diversions are completed and the streambed is dry in the work area. To avoid and minimize the risk of injury to fish, attempts to seine and/or net fish shall precede the use of electrofishing. Electrofishing shall be conducted in accordance with NOAA Fisheries electrofishing guidelines and other appropriate fish and wildlife agency guidelines. Electrofishing shall be conducted by one 3- to 4-person teams, with each team having an electrofishing unit operator and two or three netters. At least three passes will be made through the enclosed areas to remove as many fish as possible. Fish initially will be placed in 5-gallon buckets filled with creek water. Air bubblers shall be used to increase oxygen levels in buckets holding fish to minimize

harm to fish during relocation. The contractor-supplied biologists shall include at least one person with a minimum of 2 years of professional experience in fisheries field surveys and fish capture and handling procedures. The person shall have completed an electrofishing training course such as Principles and Techniques of Electrofishing (USFWS National Conservation Training Center), or similar course, if electrofishing is used. The contractor-supplied biologist shall remain on call throughout the duration of the project and shall be present during removal of water diversions and fish exclusion screens to relocate any special-status species that may be present. The contractor-supplied biologist shall document any "take" of salmonids during in-stream work at Cade Creek and Portuguese Creek and prepare a daily monitoring report documenting the species, age class, and the number of fish. Documentation of all species of fish, reptiles, amphibians, and mollusks shall be included in the monitoring report. If species are not known photo documentation is required.

- Heavy equipment is not allowed within the wet channel where water is actively flowing.

- All rock placed within the bed and/or bank of streams shall be clean and free of debris.

- Temporary access roads shall be constructed outside of wet channels and shall be rocked or stabilized prior to rainfall events to prevent sediment mobilization.

- A temporary containment system (e.g., a platform, net, tarp, fence, or combination of these items) shall be installed under temporary and permanent bridges to ensure that debris does not fall into stream channels during construction.

- If water drafting is needed for the watering of stockpiles, disturbed areas, and road surfaces for dust abatement and erosion control, it shall take place from June 15 to October 15, and follow the NOAA Fisheries guidelines in *Water Drafting Specifications* (NOAA Fisheries 2001). In accordance with the *Water Drafting Specifications*, the water diversion rate shall not exceed 10 percent of the surface flow and any reduction in pool volume shall not exceed 10 percent. In addition, openings in the perforated plate or woven wire mesh screens shall not exceed 3/32 inches. The drafting operator shall actively observe the drafting operation and pumping shall cease and the screen cleaned if it becomes more than 10 percent obstructed by debris. Water pump intakes shall be screened to prevent the uptake of aquatic organisms.

POST-CONSTRUCTION

- After construction is completed, clear water diversion structures, falsework, temporary bridges, and temporary access roads (including all crushed, angular gravel used to surface temporary access roads) shall be removed.

Direct and indirect impacts to designated critical habitat for SONCC coho salmon and EFH for salmon would be minimized by implementing the measures for riverine and riparian habitat protection and fish protection. Caltrans initiated formal Section 7 consultation with NOAA Fisheries. Upon completion of formal Section 7 consultation, any additional measures required by NOAA Fisheries for fish protection would be incorporated into the final Initial Study. Additional measures may be required by resource agencies as a condition of permits to be issued for the project.

The following measures shall be implemented to prevent the introduction or spread of invasive and/or noxious weed species.

- In accordance with Caltrans Non-Standard Specification 14-6.05, prior to beginning work, the contractor shall prepare an invasive species control plan that identifies measures to be implemented to prevent the introduction and/or spread of invasive species (e.g., noxious weeds). As part of this plan, all vehicles that are anticipated to travel overland (off-paved roads) are required to be washed pre - and post-construction to prevent the spread of any noxious weeds. The invasive species control plan shall be subject to approval by Caltrans and implemented prior to beginning work.

- Prior to working within streams, all equipment (including boots/waders) shall be properly disinfected or cleaned according to guidance provided by the *California Aquatic Invasive Species Management Plan* (California Department of Fish and Game 2008) to prevent the spread of aquatic invasive species.

- To prevent and control the introduction and spread of invasive species, all areas left disturbed at the end of construction shall be seeded with a native or sterile mix and mulched to help prevent the establishment of invasive weeds.

Wildlife Corridors and Nursery Sites
The following measure shall be implemented to ensure that vegetation removal and construction activities would avoid impacting nesting birds:

- To avoid disturbing nesting birds, tree and shrub removal shall be restricted to the period between October 1 and January 31. If this is not practicable, a contractor-supplied biologist shall conduct a preconstruction survey for nesting birds within 3 days prior to removing trees and shrubs. If an active nest is discovered, the resident engineer shall be notified immediately and all work within 100 feet of the nest shall cease. Work within the buffer zone may proceed only after a contractor-supplied biologist has determined that the nest is no longer active.

Local Policies and Ordinances
Implementation of measures for habitat protection, species protection (including nesting migratory birds), and invasive species control would ensure consistency with the Conservation Element in the *Siskiyou County General Plan*.

Habitat Conservation Plans, Natural Community Conservation Plans, and Other Approved Local, Regional, or State Habitat Conservation Plans
Not applicable.

CEQA Significance Determinations for Biological Resources

Sensitive Natural Communities and Wetlands
Implementation of habitat protection measures would ensure that there would be no impacts on wetlands and that impacts on riverine and riparian habitat would be less than significant.

Special-Status Species
Implementation of measures for protection of special-status species would ensure that the project would not 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. Any impacts on special-status species would be less than significant.

Wildlife Corridors and Nursery Sites
The use of water diversions during construction to allow the free movement of aquatic organisms and implementation of measures to protect nesting birds would ensure that any impacts on wildlife corridors and/or wildlife nursery sites would be less than significant.

Local Policies and Ordinances
The project would not conflict with any local policies or ordinances protecting biological resources. Therefore, there would be no impact.

Habitat Conservation Plans, Natural Community Conservation Plans, or Other Approved Local, Regional, or State Habitat Conservation Plans
The project would not conflict with any habitat conservation plans, natural community conservation plans, or other approved local, regional, or state habitat conservation plan. Therefore, there would be no impact.

Given the determinations above, the project would have a less than significant impact on biological resources.

Energy

Affected Environment
The project area does not include any existing infrastructure that requires an input of energy. However, energy use in the project area is affected by the amount of traffic that passes through the project area. Presently, the project area has a very low amount of daily vehicle traffic. Most of the vehicles are traveling between Happy Camp and Yreka.

Environmental Consequences

Construction Impacts
An Energy Analysis Report was prepared for the project (California Department of Transportation 2020g). Once built, the project would not increase or decrease energy use within the project area. During construction, there would be a short-term increase in energy use due to the operation of construction vehicles and equipment, and from vehicles idling at one-way reversing traffic controls (the idling of vehicles is an inefficiency in energy use). However, the increase in energy use during construction would be minimal and temporary.

Cumulative Impacts
The project's impact on energy resources would be minimal and temporary and when these impacts are considered along with impacts on energy resources resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on energy resources would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

Not applicable.

CEQA Significance Determinations for Energy

Wasteful/unnecessary/inefficient energy consumption would be limited to vehicles idling at the one-way reversing traffic control during construction. However, the impact of this temporary inefficient energy use on the environment would be less than significant. Therefore, the project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Given the determinations above, the project would have a less than significant impact on energy resources.

Geology and Soils

Affected Environment

The project is located within the Klamath Mountains, which are generally characterized by their steep slopes and unstable soils. Landslides are common throughout the Klamath Mountains, particularly in winter. They are often caused by rainstorms that saturate the ground and cause the ground to slide downslope or by seismic events that cause unstable soils to slide downslope. Review of aerial photographs found no evidence of large landslides within the project limits or in the Cade Creek and Portuguese Creek watersheds. Given that the topography within the project area is relatively level and there is no history of highway repairs due to landslides or subsidence within the project area, the soils are presumed to be relatively stable. The underlying geology in the project area consists of marine sedimentary and metasedimentary rocks (California Department of Conservation 2019e). The project is not located in an area that has a known active earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map (California Department of Conservation 2019f). The Cade Creek work location is subject to high seismic ground shaking and the Portuguese Creek work location is subject to moderate seismic ground shaking from earthquakes due to proximity to known active faults off the coast (California Department of Conservation 2019g). The project area is not in an area characterized by seismic-related ground failure and/or liquefaction (California Department of Conservation 2019h).

Soils types within the Portuguese Creek work area are limited to Holland-Aiken families association, 2 to 15 percent slopes (Natural Resources Conservation Service 2019). Soil types within the Cade Creek work area consist of riverwash; Clallam, deep Goldridge gravelly families association, 30 to 90 percent slopes; and Holland-Clallam, deep Coboc families associations, 15 to 70 percent slopes. Soil types within the disposal site at PM 41.70 consist of riverwash and Holland-Aiken families association, 2 to 15 percent slopes. The Holland-Aiken families association, 2 to 15 percent slopes have the potential for moderate erosion. The Clallam, deep Goldridge gravelly families association, 30 to 90 percent slopes and Holland-Clallam, deep Coboc families associations, 15 to 70 percent slopes have the potential for severe erosion.

Expansive soils present hazards for development because they expand and shrink depending on water content. A hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The Natural Resource Conservation Service recognizes four hydrologic soil groups (A through D). Group D soils have a high shrink-swell potential due to their high clay content and are considered expansive soils. None of the soil types within the

project area contain a soil component that is classified as a Group D soil.

Environmental Consequences

Construction Impacts
Although the new bridges could be subjected to moderate to high seismic ground shaking in the event of a strong earthquake, any such limitations can be overcome through proper planning, design, and/or construction. Work associated with the removal of culverts, construction of new bridges, stream channel restoration/reconstruction, and replacement of the structural section of the roadway would expose native soil. The project would result in approximately 1.09 acres of ground disturbance and excavation of approximately 14,345 cubic yards of soil. Approximately 8,830 cubic yards of soil excavated at the Cade Creek and Portuguese Creek work locations would be disposed of at the designated disposal sites. These activities would result in the loss of a small amount of soil and have the potential to cause soil erosion.

Cumulative Impacts
The project's impact on geology and soils would be minimal and when these impacts are considered along with impacts on geology and soils resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on geology and soils would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following measures shall be implemented to overcome the effects of strong seismic ground shaking and to minimize the potential for erosion:

- Bridges shall be designed in accordance with current seismic safety standards.

- Prior to construction, the contractor shall prepare a Storm Water Pollution Prevention Plan in accordance with the *2018 Caltrans Standard Specifications* that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. All construction site Best Management Practices shall follow the most current edition of the *Construction Site Best Management Practices (BMPs) Manual*.

CEQA Significance Determinations for Geology and Soils

The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, seismic-related ground failure (including liquefaction), and landslides. The project is not located on a soil that is unstable or that would become unstable as a result of the project and potentially result in onsite/offsite landslide, lateral spreading, subsidence, liquefaction, or collapse. Because no expansive soils are present within the project area, the project would not create substantial direct or indirect risks to life and/or property. The project does not include the use of septic tanks and/or alternative waste water disposal systems and would not directly or indirectly destroy a unique paleontological resource/site or unique geologic feature. The project would result in the loss of a small amount of soil, but this quantity would not constitute a substantial loss of soil. By designing bridges in accordance with current seismic safety standards and implementation of standard construction site BMPs for erosion control during construction, the project would have a less than significant impact on geology and soils.

Given the determinations above, the project would have a less than significant impact on geology and soils.

Greenhouse Gas Emissions

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

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

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

REGULATORY SETTING

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

Federal

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

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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

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

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

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

State

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

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

Assembly Bill (AB) 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (ARB) 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 ARB 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. ARB 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 ARB 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 ARB, 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 ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[2] 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."

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

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

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[2] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

SB 150**,** Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

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

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

ENVIRONMENTAL SETTING

The project is in a rural area, with a primarily natural resources based agricultural and tourism economy. SR 96 is the main transportation route to and through the area for both passenger and commercial vehicles. The nearest alternate route is Interstate 5, which is located approximately 70 miles to the east. Traffic counts are low and SR 96 is rarely congested. The Siskiyou County Local Transportation Commission is the state-designated Regional Transportation Planning Agency for Siskiyou County and guides transportation development within the County. The *2016 Regional Transportation Plan for Siskiyou County* (Siskiyou County Local Transportation Commission 2016) addresses GHGs in the project area.

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

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (EPA 2018a). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

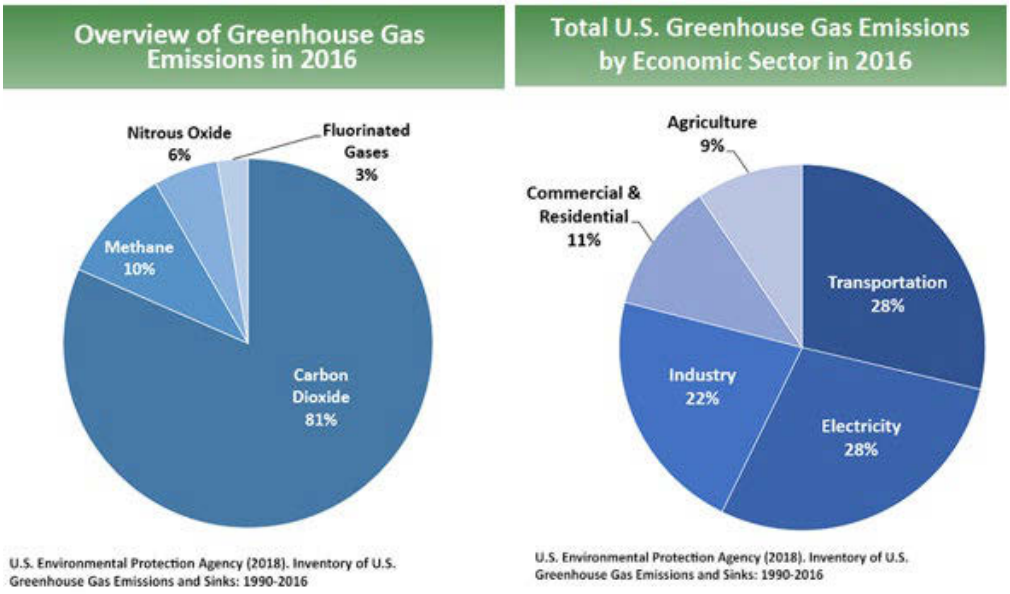

Figure 6 U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

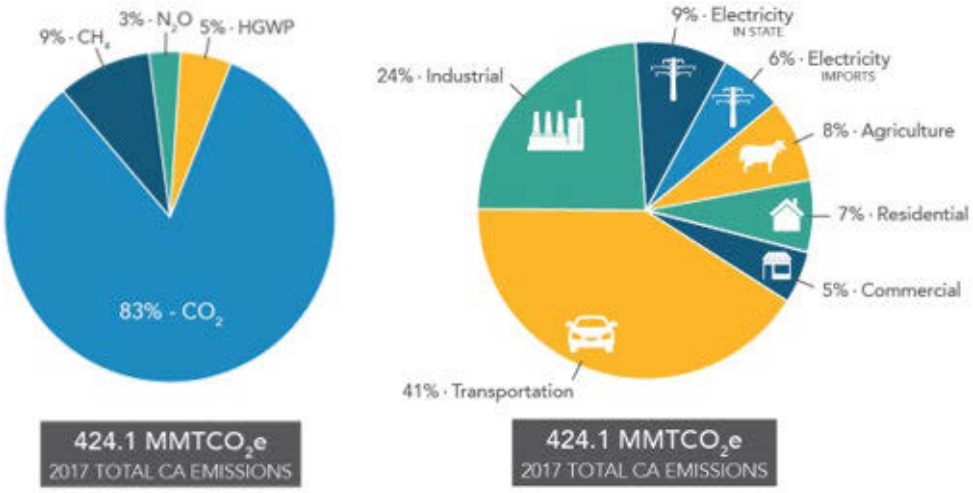

Figure 7 California 2017 Greenhouse Gas Emissions

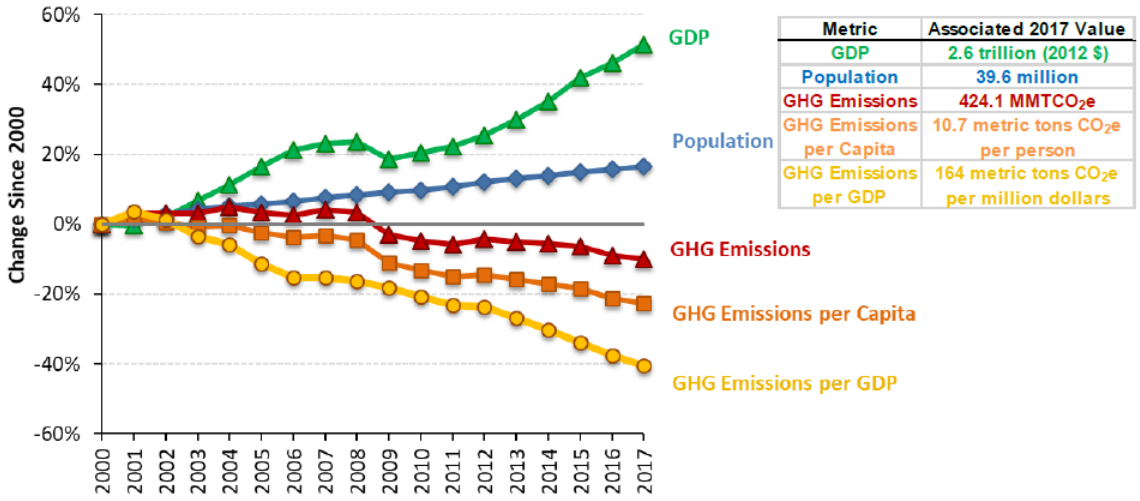

Figure 8 Change in California GDP, Population, and GHG Emissions since 2000 (*Source*: ARB 2019b)

AB 32 required ARB 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. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels.

The project site is located in Siskiyou County and is within the jurisdiction of the Siskiyou County Local Transportation Commission, which is the state-designated Regional Transportation Planning Agency (RTPA) for Siskiyou County and guides transportation development within the County. The *2016 Regional Transportation Plan for Siskiyou County* identifies goals for GHG reduction within the County.

Although the project is not located within the jurisdiction of a metropolitan planning organization (MPO) and therefore not subject to the guidelines regarding GHG emissions and air quality conformity analysis, the policies and actions identified in the *2016 Regional Transportation Plan for Siskiyou County* would improve air quality and community health. The *2016 Regional Transportation Plan for Siskiyou County* includes goals, policies, and strategies aimed at reducing greenhouse gas emissions in Siskiyou County. RTP projects such as roadway and

bridge repairs are necessary to maintain a safe regional transportation system and to prevent deterioration of roadways and bridges which may require costlier repairs in the future. These projects would not result in greater traffic volumes along state highways or County roads. To the degree that keeping an existing travel route open avoids travel via longer alternative routes that would accompany a closure, maintaining existing roadways and bridges can help to avoid increases in vehicle miles traveled (VMT). The RTP also includes long-term bicycle and pedestrian improvement projects which would create more bicycle and pedestrian friendly communities and potentially further reduce VMT. The RTP also includes public transit elements. By expanding alternative forms of transportation, Siskiyou County is in-line with statewide climate change goals. The RTP is a programmatic document and the proposed projects would be reviewed on a project-by-project basis, therefore there is no potential for significant impact.

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

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. 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
Key project features include replacement of two existing culverts with new bridges that allow for fish passage. Construction of the project would not increase capacity of the State Highway System or induce an increase in vehicle miles traveled (VMT). While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions
Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

Estimates of various GHG including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N2O), and hydroflourocarbons (HFCs) were made for the construction year using the Caltrans Construction Emission Tool (Cal-CET2018 version 1.3). As shown in Table 3, the primary GHG released during construction is CO_2 (California Department of Transportation 2020e).

Table 3 Estimates of GHG Emissions During Construction (in U.S. tons)

Construction Year	CO_2	CH_4	N_2O	HFCs
2024	125	<1	<1	<1

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

CEQA Significance Determinations for Greenhouse Gas Emissions
While the project will result in GHG emissions during construction, it is anticipated that the project will not result in any increase in operational GHG emissions. Once built, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. With implementation of construction GHG-reduction measures, the impact would be less than significant.

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

GREENHOUSE GAS REDUCTION STRATEGIES

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

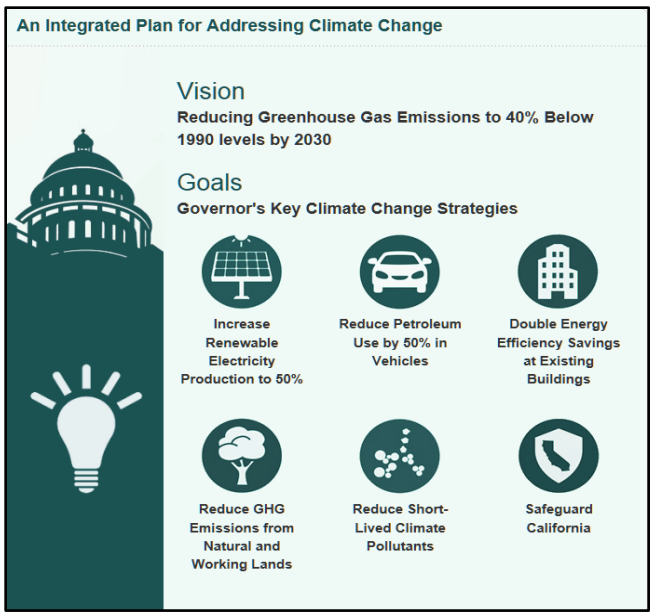

Figure 9 California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing GHG emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

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

Caltrans Activities

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

CALIFORNIA TRANSPORTATION PLAN (CTP 2040)

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

demand management and new technologies rather than continuing to expand capacity on existing roadways.

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

CALTRANS STRATEGIC MANAGEMENT PLAN

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

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

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

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

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

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

Project-Level GHG Reduction Strategies

The following measures shall be implemented to reduce GHG emissions and potential climate change impacts:

- The contractor shall comply with the *2018 Caltrans Standard Specifications* in Section 14-9. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including the Siskiyou County Air Pollution Control District regulations and local ordinances.
- Compliance with Title 13 of the California Code of Regulations, which includes idling restrictions on construction vehicles and equipment to no more than 5 minutes.
- Compliance with Caltrans Standard Specifications 7-1.02A and 7-1.02C "Emissions Reduction."

- Utilize a traffic management plan to minimize vehicle delays.

- To the extent feasible, construction traffic shall be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

ADAPTATION

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 that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

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

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT 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" (U.S. DOT 2011).

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

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."

- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.

- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.

- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.

- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

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

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

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies.

The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

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

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

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

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

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

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

Project Adaptation Analysis

SEA-LEVEL RISE
The project is outside the coastal zone and not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

FLOODPLAINS
The project would not result in a substantial increase in short-term or operational emissions of greenhouse gases that would cause climate change, which could affect floodplains.

WILDFIRE
The work locations at Cade Creek and Portuguese Creek are not located within state responsibility areas (they are located within federal responsibility areas). The disposal site used for work at Cade Creek is within a state responsibility area. A portion of the Cade Creek work location has a "Very High" fire hazard severity rating (Calfire 2020) and was burned by the Slater Fire in 2020. The disposal site used for work at Cade Creek does not have a fire hazard severity rating. However, areas with "Moderate" and "Very High" fire hazard severity ratings are present nearby. The Portuguese Creek work location does not have a fire hazard severity rating. However, areas with a "Very High" fire hazard severity rating are present nearby. The project would not result in a substantial increase in short-term or operational emissions of greenhouse gases that would cause climate change, which could exacerbate the hazard of wildfire.

Hydrology and Water Quality

Affected Environment

Cade Creek and Portuguese Creek are perennial streams that flow through the project area. These streams are conveyed under SR 96 via culverts. After exiting the culverts, the streams flow a short distance before emptying into the Klamath River. The Klamath River discharges flow into the Pacific Ocean approximately 90 miles downriver of the project area. No lakes are present within or adjacent to the project area.

As documented in the Water Quality Assessment Report (California Department of Transportation 2020h), the project area is located within the North Coast Hydrologic Basin Planning Area, which is located within the Klamath River watershed and is managed by the North Coast Regional Water Quality Control Board. The primary receiving water bodies in the project area are Cade Creek and Portuguese Creek, which are tributary to the Klamath River. According to the *Water Quality Control Plan for the North Coast Region* (Water Quality Control Board 2018), no beneficial uses of surface waters are identified for Cade Creek and Portuguese Creek. However, beneficial uses of surface waters in the Klamath River for the Happy Camp Hydrologic Subarea and the Seiad Valley Hydrologic Subarea are identified as:

- **Municipal and Domestic Supply (MUN)**—Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply.

- **Agricultural Supply (AGR)**—Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation (including leaching of salts), stock watering, or support of vegetation for range grazing.

- **Industrial Service Supply (IND)**—Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

- **Industrial Process Supply (PRO)**—Uses of water for industrialactivities thatdependprimarily on water quality.

- **Groundwater Recharge (GWR)**—Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers.

- **Freshwater Replenishment (FRSH)**—Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity).

- **Hydropower Generation (POW)**—Uses of water for hydropower generation.

- **Water Contact Recreation (REC-1)**—Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

- **Non-Contact Water Recreation (REC-2)**—Uses of water for recreational activities involving proximity to water, but where there is generally no body contact with water, nor any likelihood of ingestion of water. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

- **Commercial and Sport Fishing (COMM)**—Uses of water for commercial, recreational (sport) collection of fish, shellfish, or other aquatic organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

- **Warm Freshwater Habitat (WARM)**—Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- **Cold Freshwater Habitat (COLD)**—Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

- **Rare, Threatened, or Endangered Species (RARE)**—Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered.

- **Migration of Aquatic Organisms (MIGR)**—Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

- **Spawning, Reproduction, and/or Early Development (SPWN)—**Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

- **Aquaculture (AQUA)**—Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

- **Native American Culture (CUL)**—Uses of water that support the cultural and/or traditional rights of indigenous people such as subsistence fishing and shellfish gathering, basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses.

- **Wildlife Habitat (WILD)**—Uses of water that support terrestrial or wetland ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats or wetlands, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

- **Navigation (NAV)**—Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

Existing and potential beneficial uses applicable to groundwater in the Region include Municipal and Domestic Water Supply (MUN), reflecting the importance of groundwater as a source of drinking water in the Region and as required by the State Board's Sources of Drinking Water Policy. Other beneficial uses for groundwater include: Industrial Water Supply (IND), Industrial Process Water Supply (PRO), Agricultural Water Supply (AGR), and Freshwater Replenishment to Surface Waters (FRSH), among others. Occasionally, groundwater is used for other purposes (e.g., groundwater pumped for use in aquaculture operations).

Environmental Consequences

Construction Impacts

Construction activities that have the potential to impact hydrology and water quality include bridge/culvert work, the addition of new impervious surfaces, and excavation/grading activities.

Removal of existing culverts and construction of new bridges at Cade Creek and Portuguese Creek would require working within stream channels. At each work location, the stream would be temporarily diverted to one side of the channel while the other side of the channel is restored/reconstructed, and vice versa. Upon completion of work, the temporary water diversion would be removed and the stream would return to the full-width of its natural channel. Construction-related impacts on hydrology and water quality would be minimal and temporary.

Replacement of the structural section of the roadway would involve replacing existing impervious surfaces with new impervious surfaces. The installation of paved shoulders along the roadway would add approximately 1.4 acres of new impervious surface. Post-construction stormwater flows may minimally exceed pre-construction stormwater flows and may result in a negligible increase in pollutants above existing levels.

Excavation/grading activities would minimally alter the natural topography of the project area but would not substantially alter the hydrology. Excavation/grading activities may result in a minimal amount of erosion and siltation on- and off-site, which could degrade water quality.

Project design features include the installation of stormwater treatment BMPs for onsite stormwater treatment to minimize impacts on water quality. These stormwater treatment BMPs consist of installing biostrips. Because more than one acre of ground disturbance would occur, a Storm Water Pollution Prevention Plan would be prepared in accordance with the *2018 Caltrans Standard Specifications* (California Department of Transportation 2018). Compliance with Caltrans Standard Specifications for erosion control and spill prevention would minimize any impacts to water quality during construction.

The Floodplain Evaluation Report Summary (California Department of Transportation 2020i) determined that the project is located within mapped 100-year flood hazard areas that are subject to flooding. However, the project would only minimally alter surface elevations within the mapped 100-year floodplains of Cade Creek and Portuguese Creek and would not result in a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q). As such a Floodplain Only Practicable Alternative Finding would not be required for work within the floodplains.

The project would not affect the beneficial uses of surface waters downstream of the project area in the Klamath River or affect suitable/potentially suitable uses of ground water as identified in the *Water Quality Control Plan for the North Coast Region*.

Cumulative Impacts

The project's impact on hydrology and water quality would be minimal and when these impacts are considered along with impacts on hydrology and water quality resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on hydrology and water quality would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following measure shall be implemented to minimize impacts to water quality during construction:

- Prior to construction, the contractor shall prepare a Storm Water Pollution Prevention Plan in accordance with the *2018 Caltrans Standard Specifications* that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. All construction site Best Management Practices shall follow the most current edition of the *Construction Site Best Management Practices (BMPs) Manual*.

The following construction site BMPs are anticipated to be incorporated into the Storm Water Pollution Prevention Plan:

- Existing vegetation shall be removed to the minimum extent necessary to facilitate the proposed work (SS-2).

- Temporary access road entrances and exits shall be stabilized and maintained to prevent sediment erosion and transport from the work area (TC-1).

- Temporary drainage inlet protection methods such as gravel bags shall be deployed to prevent sediment and other pollutants from entering drainage systems (SC-10)

- Perimeter control devices such as fiber rolls, compost socks, and silt fences shall be utilized to prevent sediment transport from the project site (SC-6, SC-09).

- Disturbed slopes shall be stabilized with a combination of seed, biodegradable rolled erosion control products (RECP) such as fiber rolls, coir blankets, and geotextile fabrics (SS-7).

- Concrete washout facilities, re-fueling areas, as well as equipment and storage areas shall be covered and located away from drainage inlets and waterways to prevent both stormwater and non-stormwater discharges (WM-3, WM-8, NS-9).

- Dewatering operations shall be implemented to manage the discharge of pollutants from the accumulation of groundwater associated with excavations, temporary stream crossings and clear water diversions (NS-2, NS-4, NS-5).

- Paving and sealing operations shall be conducted to avoid and minimize the discharge of pollutants to receiving waters (NS-3).

- Spill prevention and control practices (WM-4).

Additional construction site BMPs would likely be incorporated in the approved project Storm Water Pollution Prevention Plan during the construction phase of the project to address BMPs for specific items of work.

CEQA Significance Determinations for Hydrology and Water Quality

The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The project would not risk release of pollutants due to inundation by flood, tsunami (California Department of Conservation 2019i), or seiche.

Construction of the project may result in short-term impacts to water quality. However, implementation of measures during construction to minimize impacts to water quality would ensure that any impacts would be less than significant.

Construction of the project would not 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 that would: (1) result in substantial erosion or siltation on- or off-site; (2) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (3) 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 (4) impede or redirect flows. However, construction of project may result in a minimal amount of erosion or siltation on- or off-site, contribute to a minimal increase in runoff water (in both rate and amount) that may provide additional sources of polluted runoff, and redirect a limited amount of stormwater runoff from the roadway into

streams. Incorporation of project design features for onsite stormwater treatment, compliance with Caltrans Standard Specifications for erosion control/spill prevention, and implementation of other measures to protect water quality would ensure that any impacts on water quality are less than significant.

Given the determinations above, the project would have a less than significant impact on hydrology and water quality.

Noise

Affected Environment

In noise/vibration studies, sensitive receptors are hospitals, schools, homes, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to noise and vibration. No sensitive receptors are present within a 1/4-mile radius of the Portuguese Creek work area. However, several sensitive receptors are present within a 1/4-mile radius of the Cade Creek work area. These include several homes just outside of the project limits. In addition, numerous sensitive receptors are present within a 1/4-mile radius of the disposal site at PM 41.70, which is needed for work at Cade Creek. This disposal site is located within the community of Happy Camp and is approximately 0.75 miles northeast of the Happy Camp Airport. The Happy Camp Airport is operated by Siskiyou County and services small propeller-driven aircraft and helicopters. The airport generally has very few departures/arrivals. However, between June and October, the airport typically experiences increased helicopter activity due to wildfire suppression efforts in the region.

Environmental Consequences

Construction Impacts

The project would not increase capacity or involve the introduction of permanent noise-producing activities. However, temporary noise impacts would occur from the use of stationary and mobile construction equipment and vehicles during construction (California Department of Transportation 2020e). Construction vehicles and equipment could include excavators, compressors, generators, haul trucks, pavers, pile drivers, and material loaders. Project construction noise levels would fluctuate depending on the construction phase, equipment type, and quantity and duration of use. Peak noise levels during construction would likely result from impact-pile driving at Cade Creek and the use of excavators to break up concrete and place materials into haul trucks. Noise levels associated with these activities could be up to 90 decibels and could affect nearby sensitive receptors. Once built, the project would not be a source of permanent ground-borne vibrations. Although ground-borne vibrations may be noticeable during construction, they would be temporary in duration and minimal in magnitude. Compliance with Caltrans Standard Specifications for noise/vibration control would ensure that any noise/vibration impacts would be minimal.

Noise generated by airport operations would not expose construction workers at the disposal site located at PM 41.70 to excessive noise levels.

Cumulative Impacts

The project's noise impacts would be minimal and temporary and when these impacts are considered along with noise impacts resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not

contribute to have an adverse cumulative impact. Therefore, the project's noise impacts would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following measure shall be implemented to minimize noise and vibration impacts during construction:

- The contractor shall comply with Caltrans Standard Specification 14-8.02 "Noise Control", which includes provisions for minimizing construction-related noise and vibration. These include controlling and monitoring noise resulting from work activities and ensuring that construction-related noise levels do not exceed 86 dBA Lmax at 50 feet from the job site from 9 p.m. to 6 a.m.

CEQA Significance Determinations for Noise

The project includes a disposal site that is within two miles of the Happy Camp Airport. However, noise generated by airport operations would not expose people residing in or working in the project area to excessive noise levels; therefore, there would be no impact.
Although construction activities may periodically generate noise and vibration levels that exceed established standards, implementation of measures to control noise and vibration during construction would ensure that impacts would be less than significant.

Given the determinations above, the project would have a less than significant impact related to noise impacts.

Public Services

Affected Environment

SR 96 within the project area is a public highway utilized by various public transportation service providers. Siskiyou Transit and General Express (STAGE) is Siskiyou County's public transit service provider. Other transportation service providers that operate within the project area include school districts that provide buses to transport students to and from schools. Emergency service providers that operate within the project area include various firefighting agencies/groups (e.g., Calfire, Klamath National Forest, Happy Camp Volunteer Fire Department, and Seiad Valley Volunteer Fire Department), California Highway Patrol, Siskiyou County Sheriff Department, and ambulances that transport patients to the local hospital. These emergency service providers are vital to the safety of the local community and residents living in unincorporated areas; their effectiveness is often measured in the time required to respond to an emergency.

Environmental Consequences

<u>Construction Impacts</u>
The project work scope includes the use of detours and one-way reversing traffic controls when partial closure of the roadway is required during construction. When partial closure of the roadway is required and one-way reversing traffic control is utilized, travel time through the work areas is expected to be delayed by only a few minutes. However, emergency service providers (e.g., police, fire, and ambulance) would not be subject to traffic controls and any delays would have negligible impact on response time. Delays in travel time for public transportation

providers (e.g., local school districts that provide school buses to transport students to and from schools) would be minimal.

Cumulative Impacts
The project's impact on public services would be minimal and temporary and when these impacts are considered along with impacts on public services resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on public services would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures
The following measure shall be implemented to minimize potential delays to response time for emergency services and travel time for public transportation services:

- Implement public outreach efforts described in the Transportation Section.

CEQA Significance Determinations for Public Services
The project would not provide new governmental facilities or affect demand for governmental facilities or public services. Implementation of public outreach efforts prior to construction would ensure that the project would have a less than significant impact on response time for emergency services (e.g., police, fire, and ambulance) and travel time for public transportation services (e.g., STAGE and school buses). Therefore, the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the 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 police and fire protection, schools, parks, or other public facilities.

Given the determinations above, the project would have a less than significant impact on public services.

Transportation

Affected Environment
SR 96, a two-lane highway that begins at Willow Creek and terminates at Interstate 5 just north of Yreka, is the principal highway that connects residents in the project vicinity to the nearby community of Happy Camp and to the distant communities of Yreka and Willow Creek.

Within the project area, SR 96 consists of a 11-foot-wide paved lane with a 0 to 2-foot-wide paved shoulder in each direction of travel, has a posted speed limit of 55 miles per hour, and has an annual average daily traffic (AADT) of 700 vehicles. The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks (called STAA trucks) to operate on the Interstate and certain primary routes. The STAA trucks are longer than California legal trucks and have a larger turning radius than most local roads can accommodate. The section of SR 96 within the project area is designated as a Terminal Access Route for STAA trucks. This section of SR 96 is occasionally utilized by bicyclists and pedestrians. SR 96 in the project area includes a culvert that conveys Cade Creek under SR 96 and another culvert that conveys Portuguese Creek under SR 96.

The project is consistent with transportation goals/objectives in the Circulation Element in the *Siskiyou County General Plan*, *2016 Regional Transportation Plan for Siskiyou County*, and Senate Bill 857, which mandates Caltrans to provide fish passage remediation in anadromous fish habitats when performing maintenance or replacement of a structure.

Environmental Consequences

Construction Impacts

Construction of the project would not increase capacity of the State Highway System or induce an increase in vehicle miles traveled (VMT). Therefore, an induced travel analysis for VMT is not required under CEQA. Once built, the project would result in no operational impacts on the traveling public. The project work scope includes the use of detours and one-way reversing traffic controls when partial closure of the roadway is required during construction. During one-way reversing traffic control, travel time through the work locations is expected to be delayed by only a few minutes for all modes of travel. As such, impacts to the traveling public (e.g., motorists, school buses transporting students to schools, STAA trucks, bicyclists, and pedestrians) would be minimal. As described previously under Public Services, emergency service providers would not be subject to traffic controls and any delays would have a negligible impact on response time.

Cumulative Impacts

The project's impact on transportation would be minimal and temporary and when these impacts are considered along with impacts on transportation resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on transportation would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

As part of the traffic management studies, a Traffic Management Plan (TMP) was prepared for the project (California Department of Transportation 2020j). The TMP identified various traffic/transportation impacts that would occur during construction of the project. In addition, the TMP identified measures to be implemented during construction to minimize traffic/transportation impacts. The following measures shall be implemented to minimize potential impacts on transportation:

Public Outreach

Prior to construction, the following public outreach efforts shall be made:

- Inform the public about the project.
- Notify adjacent property owners about the project.
- Notify local school districts (e.g., Siskiyou Union High School District, Happy Camp Elementary School District, and Seiad Elementary School District) about the project.
- Implement a public information campaign (e.g., news releases and worker safety media campaign).

Vehicle Traffic

- Lane Closures: No lane closures on SR 96 shall occur when traffic volumes exceed the carrying capacity of the remaining open lane (for this segment of SR 96, the carrying capacity is estimated at 900 vehicles per lane). Based on review of traffic volumes, lane and shoulder closures would be allowed anytime except after 3:00 p.m. Fridays, on weekends, or "designated holidays", except when temporary detours are in place.

- Motorist Information: A portable changeable message sign shall be placed before the first traffic control sign for each approach to the work areas.

Bicyclists and Pedestrians

- Bicyclists and pedestrians are allowed within the project limits. During operations, bicyclists are subject to stop and delay, and may travel past the work zone using the open lane (the same as vehicle traffic). When pedestrians are present, they would be accommodated with either a 4-foot paved shoulder or, if a temporary signal system is used, a pedestrian crossing system.

CEQA Significance Determinations for Transportation

The project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project work scope includes the use of detours and one-way reversing traffic controls when partial closure of the roadway is required during construction. When partial closure of the roadway is required and one-way reversing traffic control is utilized, travel time through the project area is expected to be delayed by only a few minutes.

The project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) and would not substantially increase hazards due to a geometric design feature or incompatible uses.

Once built, the project would not result in inadequate emergency access. Implementation of public outreach efforts prior to construction would ensure that construction of the project would have a less than significant impact on response time for emergency services.

Given the determinations above, the project would have a less than significant impact on transportation.

Utilities and Service Systems

Affected Environment

Various utilities are present within the project area. Telephone cable owned and maintained by Siskiyou Telephone is buried underground at the Cade Creek and Portuguese Creek work locations. Fiber optic cables owned and maintained by AT&T are also buried underground at the Portuguese Creek work location. In the project vicinity, solid waste disposal for the community of Happy Camp occurs at the Happy Camp Transfer Station, which is located approximately one mile south of Happy Camp.

Environmental Consequences

<u>Construction Impacts</u>

Construction of the project would require relocating an underground telephone cable at the Cade Creek work location and relocating an underground telephone and buried fiberoptic cables at the Portuguese Creek work location. However, the project would not involve any planned loss of telephone services during construction. In the event that unforeseen utilities conflicts arise during construction, utilities may be turned off for short periods. Any impacts to local residents would be minimal. The earthwork associated with utilities work has the potential to degrade water quality and the aquatic environment.

Once built, the project would not require a water supply or a waste water treatment provider to service the project. During construction, the contractor would utilize a small volume of water for dust control.

Once built, the project would not generate solid waste material. The contractor would reuse some excavated materials onsite for backfill and dispose of approximately 8,830 cubic yards of excess soil at disposal sites located at PM 41.70 and 43.60. The use of designated disposal sites for excess excavated soil would avoid impacting local landfills. Construction of the project would generate approximately 1,766 cubic yards of asphalt grindings, which would become property of the contractor. Asphalt grindings may be reused onsite (excluding a minimal amount of grindings associated with yellow and white road striping, which as discussed previously under Hazards and Hazardous Wastes, would be disposed of in accordance with Caltrans Standard Specification 36-4). Construction of the project would not disrupt solid waste collection services in the local area.

Cumulative Impacts

The project's impact on utilities and service systems would be minimal and temporary and when these impacts are considered along with impacts on utilities and service systems resulting from other Caltrans projects on SR 96 in Siskiyou County constructed in the last 20 years or that are reasonably foreseeable, they would not contribute to have an adverse cumulative impact. Therefore, the project's impact on utilities and service systems would be individually limited but not cumulatively considerable.

Avoidance, Minimization, and/or Mitigation Measures

The following measure shall be implemented to minimize impacts to water quality and the aquatic environment during utilities work:

- Prior to construction, the contractor shall prepare a Storm Water Pollution Prevention Plan in accordance with the *2018 Caltrans Standard Specifications* that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. All construction site Best Management Practices shall follow the most current edition of the *Construction Site Best Management Practices (BMPs) Manual*.

CEQA Significance Determinations for Utilities and Service Systems

The earthwork associated with utilities work has the potential to degrade water quality and the aquatic environment and may require that utilities be turned off for short periods. However, measures to protect water quality and the aquatic environment would be implemented during construction to ensure that any environmental impacts would be less than significant.

Once built, the project would not require a water supply or a waste water treatment provider to service the project. Water needed for dust control during construction would have a less than significant impact on local water supply.

Once built, the project would not be a source of waste material. With balanced earthwork at Portuguese Creek, the use of two disposal sites to handle excess excavated soil at Cade Creek, and the disposal of a minimal amount of grindings associated with yellow and white road striping in accordance with Caltrans Standard Specification 36-4, the project would not 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. As such, the project would comply with federal, state, and local statutes and regulations related to solid waste.

Given the determinations above, the project would have a less than significant impact on utilities and service systems.

Mandatory Findings of Significance

a) Does the project 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?

   Less than Significant Impact. Construction of the project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Compliance with Caltrans Standard Specifications and implementation of other avoidance/minimization measures would ensure that any environmental impacts do not reach levels that are potentially significant.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

   Less than Significant Impact. The project would result in impacts that are individually limited, but not cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

   Less than Significant Impact. Construction of the project would result in minimal impacts to various resources (e.g., aesthetics, agriculture and forest resources, air quality, energy, geology and soils, greenhouse gas emissions, hydrology and water quality, noise, public services, transportation, and utilities and service systems) in the human environment. Compliance with Caltrans Standard Specifications and implementation of other avoidance/minimization measures would ensure that any impacts on human beings would be less than significant.

Given the determinations above, the project would have a less than significant impact related to mandatory findings of significance.

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Chapter 4. List of Preparers

This Initial Study was prepared by the California Department of Transportation, North Region Office of Environmental Management, with input from the following staff:

Alex Arevalo, Water Quality Specialist
Contribution: Water Quality Assessment Report

Joe Baltazar, Transportation Engineer
Contribution: Traffic Management Plan Data Sheet

Rajive Chadha, Hazardous Waste Specialist
Contribution: Initial Site Assessment Report

Marla Despas, Biologist
Contribution: Biological Assessment and Natural Environment Study

Darrin Doyle, Environmental Coordinator
Contribution: Document writer

Jason Lee, Transportation Engineer
Contribution: Air Quality/Traffic Noise/Greenhouse Gas Analysis and Energy Analysis

Bill Lehman, Engineer
Contribution: Project design and Floodplain Evaluation Report Summary

Kerry Molz, Project Manager
Contribution: Project management

Keith Pelfrey, Senior Environmental Planner
Contribution: Document oversight

Robin Solari, Landscape Associate
Contribution: Visual Impact Assessment Report

Wesley Stroud, Environmental Office Chief
Contribution: Document oversight

Elizabeth Truman, Archaeologist
Contribution: Archaeological Survey Report and Historic Properties Survey Report

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Chapter 5. References

Calfire. 2020. Fire Hazard Severity Zone Mapping Tool. https://egis.fire.ca.gov/FHSZ/ Accessed February 6, 2020.

California Department of Conservation. 2020a. Mineral Land Classification. Accessed June 19, 2020. https://maps.conservation.ca.gov/planning/

———. 2020b. Mines Online. Accessed June 19, 2020. https://maps.conservation.ca.gov/planning/

———. 2019c. California Important Farmland Finder. Accessed November 19, 2019. https://maps.conservation.ca.gov/dlrp/ciff/

———. 2019d. Williamson Act Maps. Accessed August 14, 2019. https://www.conservation.ca.gov/dlrp/wa/Pages/stats_reports.aspx

———. 2019e. Geologic Map of California. Accessed November 20, 2019. https://maps.conservation.ca.gov/planning/

———. 2019f. Alquist-Priolo Faults. Accessed November 19, 2019. https://maps.conservation.ca.gov/planning/

———. 2019g. Earthquake Shaking Potential for California. Accessed November 20, 2019. https://maps.conservation.ca.gov/planning/

———. 2019h. Liquefaction Zones. Accessed November 20, 2019. https://maps.conservation.ca.gov/planning/

———. 2019i. Tsunami Inundation Zones. Accessed November 19, 2019. https://maps.conservation.ca.gov/planning/

California Department of Fish and Game. 2008. California Aquatic Invasive Species Management Plan. https://wildlife.ca.gov/Conservation/Invasives/Plan

California Department of Fish and Wildlife. 2019. NCCP Plan Summaries. Accessed December 16, 2019. https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans

California Department of Food and Agriculture. 2020. California Noxious Weeds. https://www.cdfa.ca.gov/plant/ipc/encycloweedia/weedinfo/winfo_table-sciname.html

California Department of Transportation. 2020a. Historic Property Survey Report/Archaeological Survey Report, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020b. Initial Site Assessment Report, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020c. Visual Impact Assessment Report, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020d. List of Eligible and Officially Designated State Scenic Highways: Accessed June 26, 2020.

———. 2020e. Air Quality/Traffic Noise/Greenhouse Gas Analysis, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020f. Natural Environment Study, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020g. Energy Analysis Report, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020h. Water Quality Assessment Report, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020i. Floodplain Evaluation Report Summary, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2020j. Traffic Management Plan Data Sheet, Portuguese Creek and Cade Creek Fish Passage Project.

———. 2018. Standard Specifications.

NOAA Fisheries. 2001. Water Drafting Specifications.

North Coast Regional Water Quality Control Board. 2018. Water Quality Control Plan for the North Coast Region.

Natural Resources Conservation Service. 2019. Web Soil Survey. Accessed November 21, 2019. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Siskiyou County. 2019. Siskiyou County General Plan. https://www.co.siskiyou.ca.us/planning/page/general-plan

Siskiyou County Local Transportation Commission. 2016. 2016 Regional Transportation Plan for Siskiyou County. https://www.co.siskiyou.ca.us/sites/default/files/fileattachments/transportation_commission/page/1121/ltc-20181207_rtp_2016_finalreport_withammendment1.pdf

United States Fish and Wildlife Service. 2019. Environmental Conservation Online System. Accessed December 16, 2019. https://ecos.fws.gov/ecp0/conservationPlan/region/summary?region=8&type=HCP

Western Regional Climate Center. 2019. Happy Camp Ranger Station, California (043761). Accessed November 19, 2019. https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3761

Appendix A Site Plan

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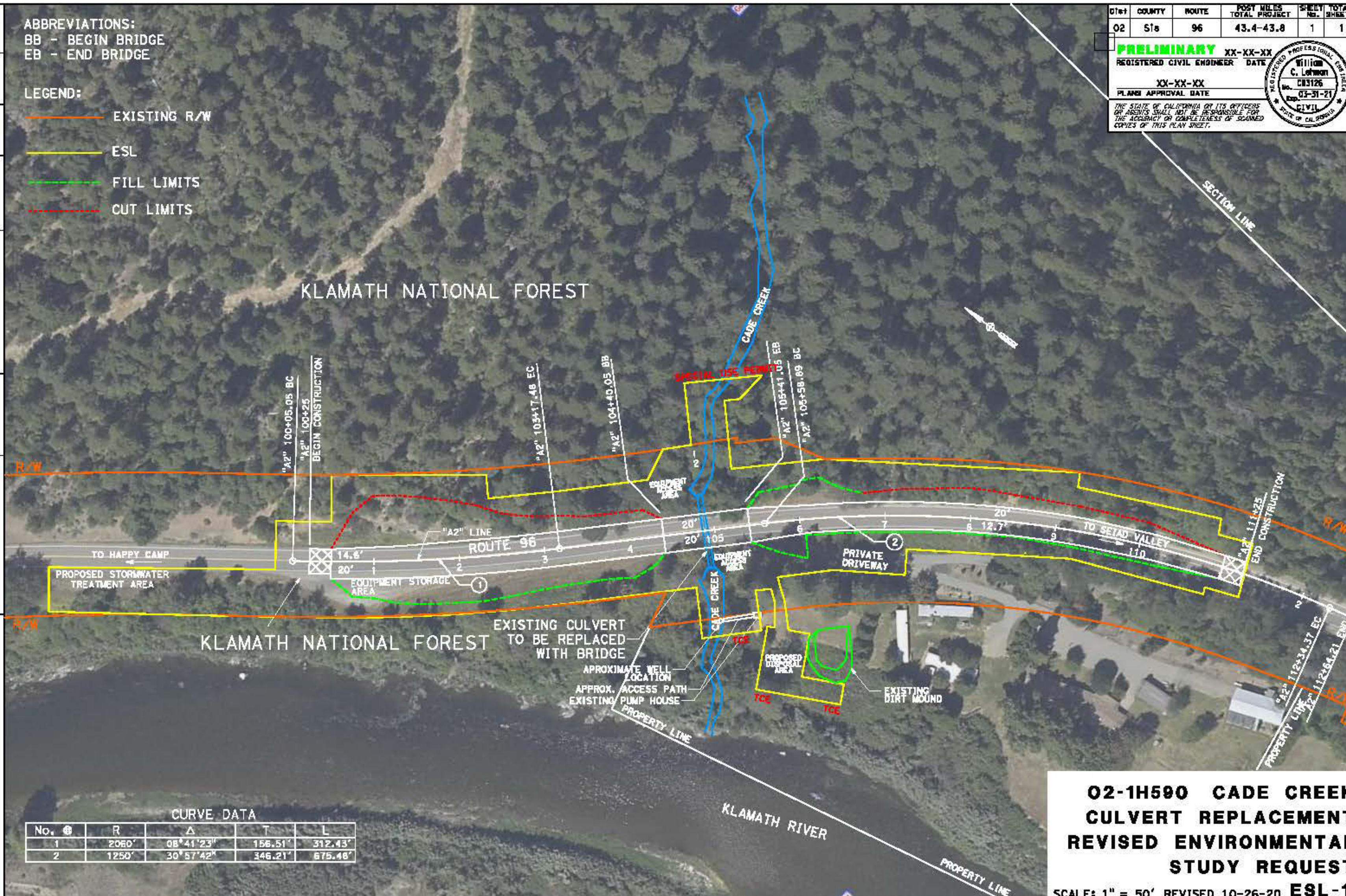

CURVE DATA

No.	R	Δ	T	L
1	2060'	08°41'23"	156.51'	312.43'
2	1250'	30°57'42"	346.21'	675.46'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	96	43.4-43.8	1	1

PRELIMINARY XX-XX-XX
REGISTERED CIVIL ENGINEER DATE
XX-XX-XX
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER William C. Lehman No. C83126 Exp. 03-31-21 CIVIL STATE OF CALIFORNIA

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02-1H590 CADE CREEK CULVERT REPLACEMENT REVISED ENVIRONMENTAL STUDY REQUEST

SCALE: 1" = 50' REVISED 10-26-20 ESL-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
FUNCTIONAL SUPERVISOR: TOBY CRAWFORD
CALCULATED-DESIGNED BY / CHECKED BY: WILLIAM C. LEHMAN
REVISED BY / DATE REVISED

P:\pro\3\02\1h590\geo\gn\420_Environmental\Revised ESR Request\1H590 Code Creek Revised.dgn

DATE PLOTTED => 08-JAN-2021
TIME PLOTTED => 11:32
LAST REVISION 00-00-00

BORDER LAST REVISED 7/2/2010
USERNAME => s113032
DGN FILE => 1H590 Code Creek Revised.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0316
PROJECT NUMBER & PHASE 0216000025

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	96	VARIES	1	1

PRELIMINARY XX-XX-XX
REGISTERED CIVIL ENGINEER DATE

XX-XX-XX
PLANS APPROVAL DATE

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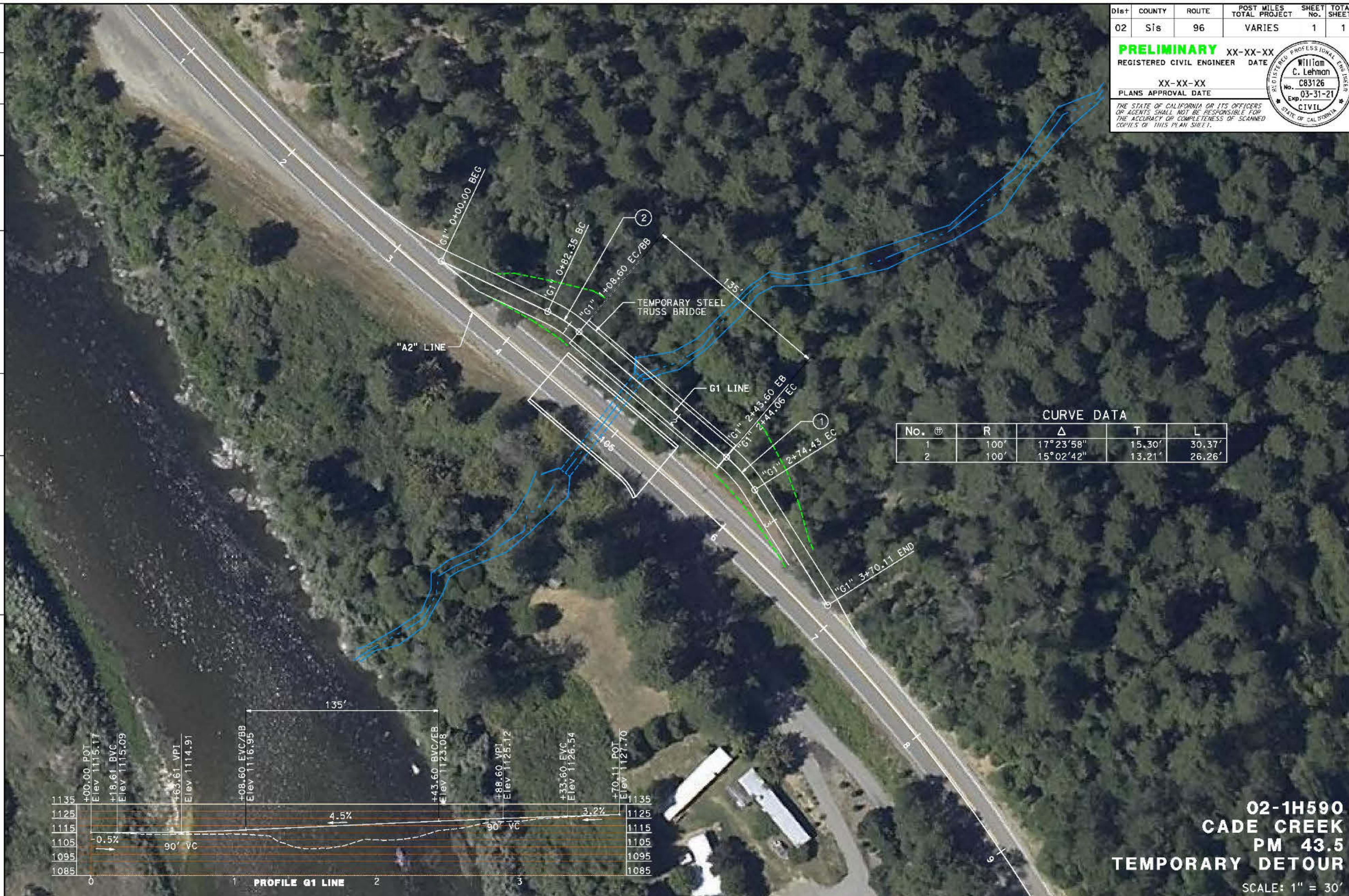
REGISTERED PROFESSIONAL ENGINEER William C. Lehman No. C83126 Exp. 03-31-21 CIVIL STATE OF CALIFORNIA



CURVE DATA

No.	R	Δ	T	L
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2	100'	15°02'42"	13.21'	26.26'

02-1H590
CADE CREEK
PM 43.5
TEMPORARY DETOUR

SCALE: 1" = 30'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans®

DESIGN

FUNCTIONAL SUPERVISOR: TOBY CRAWFORD
CALCULATED-DESIGNED BY: WILLIAM C. LEHMAN
CHECKED BY
REVISED BY
DATE REVISED

DATE PLOTTED => 20-JUL-2020
TIME PLOTTED => 1:33
LAST REVISION 00-00-00

BORDER LAST REVISED 7/2/2010

USERNAME => s113032
DGN FILE => Cade Detour North.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0316

PROJECT NUMBER & PHASE 0216000025

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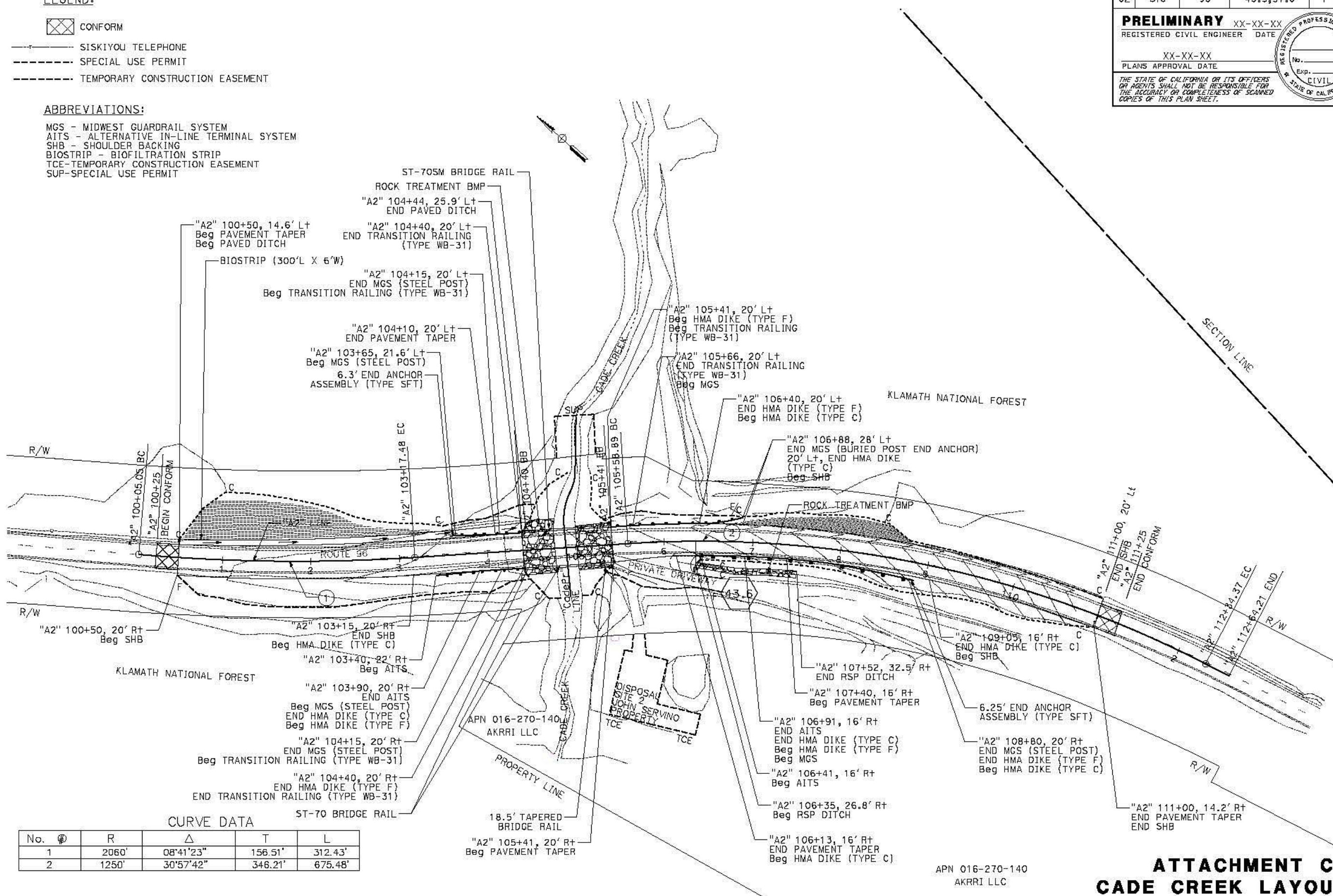
LEGEND:

CONFORM
SISKIYOU TELEPHONE
SPECIAL USE PERMIT
TEMPORARY CONSTRUCTION EASEMENT

ABBREVIATIONS:

MGS - MIDWEST GUARDRAIL SYSTEM
AITS - ALTERNATIVE IN-LINE TERMINAL SYSTEM
SHB - SHOULDER BACKING
BIOSTRIP - BIOFILTRATION STRIP
TCE-TEMPORARY CONSTRUCTION EASEMENT
SUP-SPECIAL USE PERMIT



CURVE DATA

No.	R	Δ	T	L
1	2060'	08°41'23"	156.51'	312.43'
2	1250'	30°57'42"	346.21'	675.48'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	96	43.5,57.0	1	1

PRELIMINARY XX-XX-XX
REGISTERED CIVIL ENGINEER DATE
XX-XX-XX
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
LANDSCAPE ARCHITECTURE
FUNCTIONAL SUPERVISOR: STEVE THORNE
CALCULATED-DESIGNED BY: ROBIN SOLARI
CHECKED BY
REVISED BY
DATE REVISED

ATTACHMENT C3
CADE CREEK LAYOUT

P:\proj3\02\1h590\design\200_Project Approval\DPR_PR\Attachments\DGN\Attachment C3 - Cade Layout_Treatment revision.dgn

LAST REVISION 00-00-00
DATE PLOTTED => 15-MAR-2021
TIME PLOTTED => 09:50

BORDER LAST REVISED 7/2/2010
USERNAME => s113032
DGN FILE => Attachment C3 - Cade Layout_Treatment revision.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 0382
PROJECT NUMBER & PHASE 0216000025

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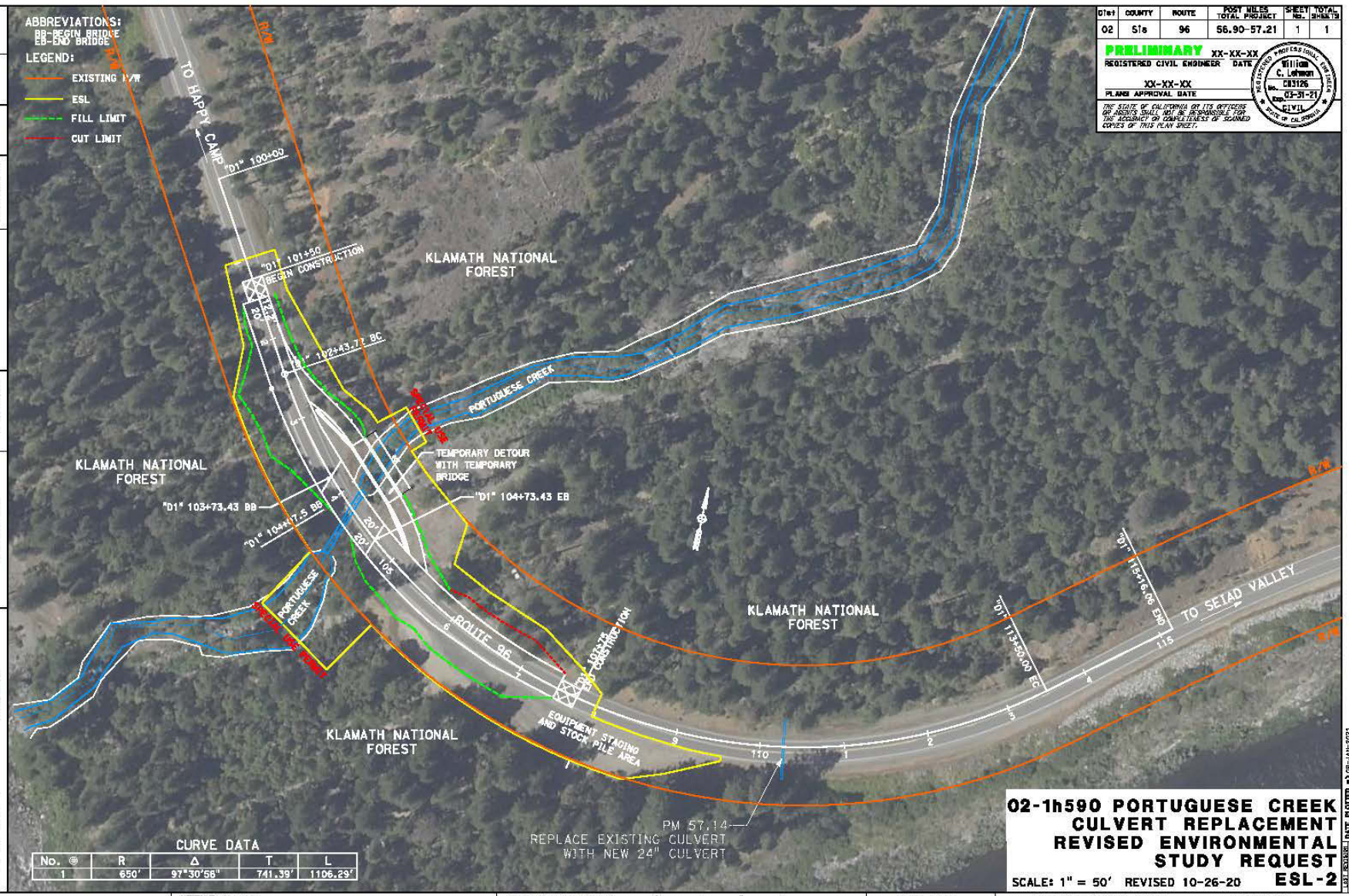
ABBREVIATIONS:
BB-BEGIN BRIDGE
EB-END BRIDGE
LEGEND:
EXISTING R/W
ESL
FILL LIMIT
CUT LIMIT
TO HAPPY CAMP
"D1" 100+00
"D1" 101+50 BEGIN CONSTRUCTION
"D1" 102+43.77 BC
KLAMATH NATIONAL FOREST
PORTUGUESE CREEK
TEMPORARY DETOUR WITH TEMPORARY BRIDGE
"D1" 103+73.43 BB
"D1" 104+17.5 BB
"D1" 104+73.43 EB
PORTUGUESE CREEK
ROUTE 96
"D1" 113+50.00 EC
"D1" 113+76.06 END
TO SEIAD VALLEY
EQUIPMENT STAGING AND STOCK PILE AREA
PM 57.14
REPLACE EXISTING CULVERT WITH NEW 24" CULVERT
CURVE DATA
No. | R | Δ | T | L
1 | 650' | 97°30'56" | 741.39' | 1106.29'
02-1h590 PORTUGUESE CREEK CULVERT REPLACEMENT
REVISED ENVIRONMENTAL STUDY REQUEST
SCALE: 1" = 50' REVISED 10-26-20 ESL-2
PRELIMINARY XX-XX-XX
REGISTERED CIVIL ENGINEER DATE
William C. Lehman
CE3126
03-31-21
CIVIL
XX-XX-XX
PLANS APPROVAL DATE
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Dist | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET No. | TOTAL SHEETS
02 | Sis | 96 | 56.90-57.21 | 1 | 1
STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
DESIGN
FUNCTIONAL SUPERVISOR: TONY CRAWFORD
CALCULATED-DESIGNED BY: WILLIAM C. LEHMAN
CHECKED BY
REVISED BY
DATE REVISED
LAST REVISION 00-00-00
DATE PLOTTED => 08-JAN-2021
TIME PLOTTED => 10:26
P:\proj\13\02\1h590\design\420_Environmental\Revised ESR Request\1h590 Portuguese Creek Revised.dgn
BORDER LAST REVISED 7/2/2010
USERNAME => s113032
DGN FILE => 1h590 Portuguese Creek Revised.dgn
RELATIVE BORDER SCALE IS IN INCHES
0 1 2 3
UNIT 0316
PROJECT NUMBER & PHASE 0216000025

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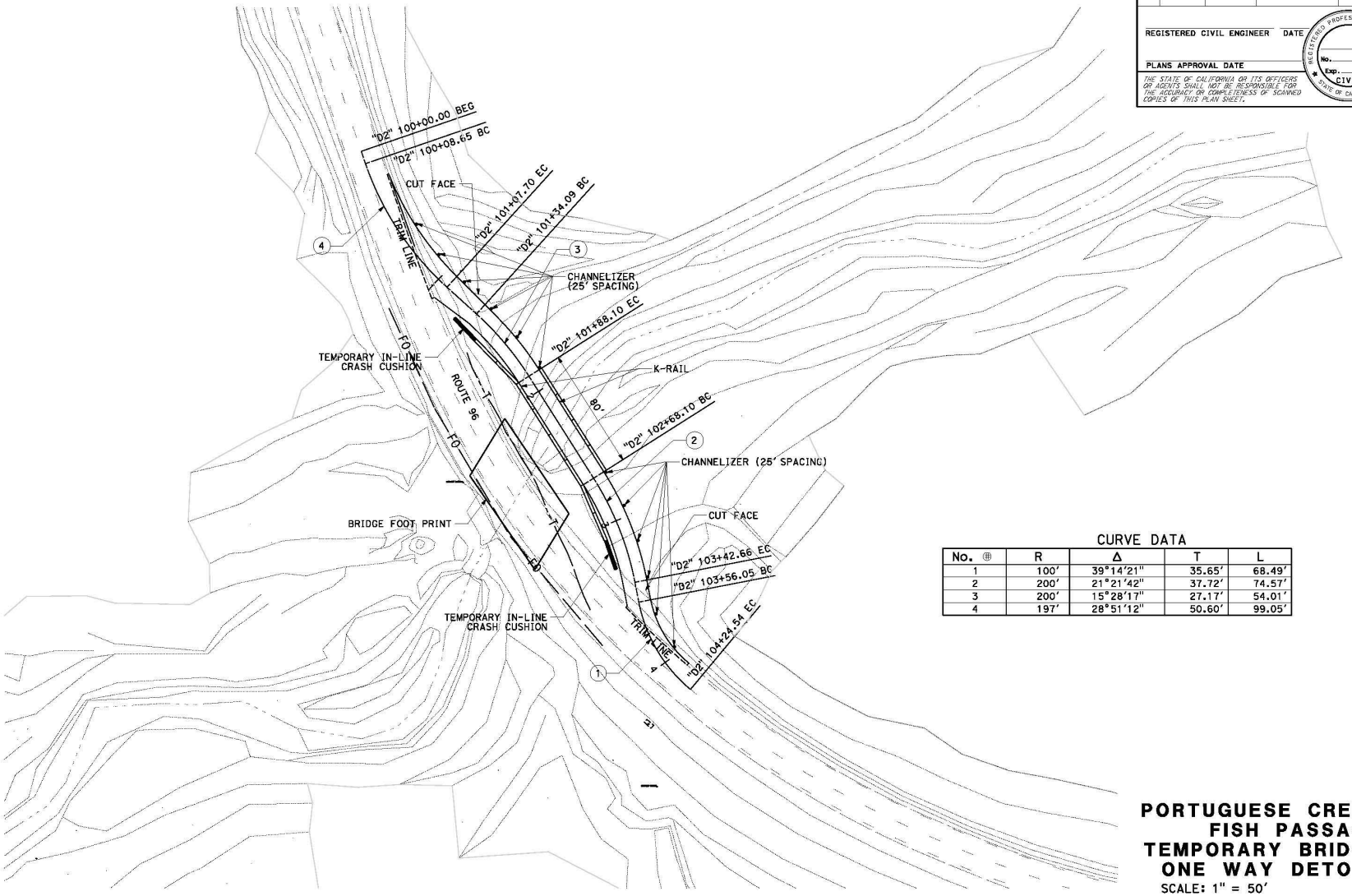

CURVE DATA

No.	R	Δ	T	L
1	100′	39°14′21"	35.65′	68.49′
2	200′	21°21′42"	37.72′	74.57′
3	200′	15°28′17"	27.17′	54.01′
4	197′	28°51′12"	50.60′	99.05′

PORTUGUESE CREEK FISH PASSAGE TEMPORARY BRIDGE ONE WAY DETOUR

SCALE: 1" = 50′

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

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

REVISED BY	DATE REVISED

CALCULATED/ DESIGNED BY

CHECKED BY

FUNCTIONAL SUPERVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

USERNAME => s113032
DGN FILE => Portuguese One-Way Detour.dgn

RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3

UNIT 0316

PROJECT NUMBER & PHASE 0216000025

BORDER LAST REVISED 7/2/2010

LAST REVISION DATE PLOTTED => 20-JUL-2020
00-00-00 TIME PLOTTED => 11:23

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Sis	96	43.5,57.0	1	1

PRELIMINARY XX-XX-XX
REGISTERED CIVIL ENGINEER DATE

XX-XX-XX
PLANS APPROVAL DATE

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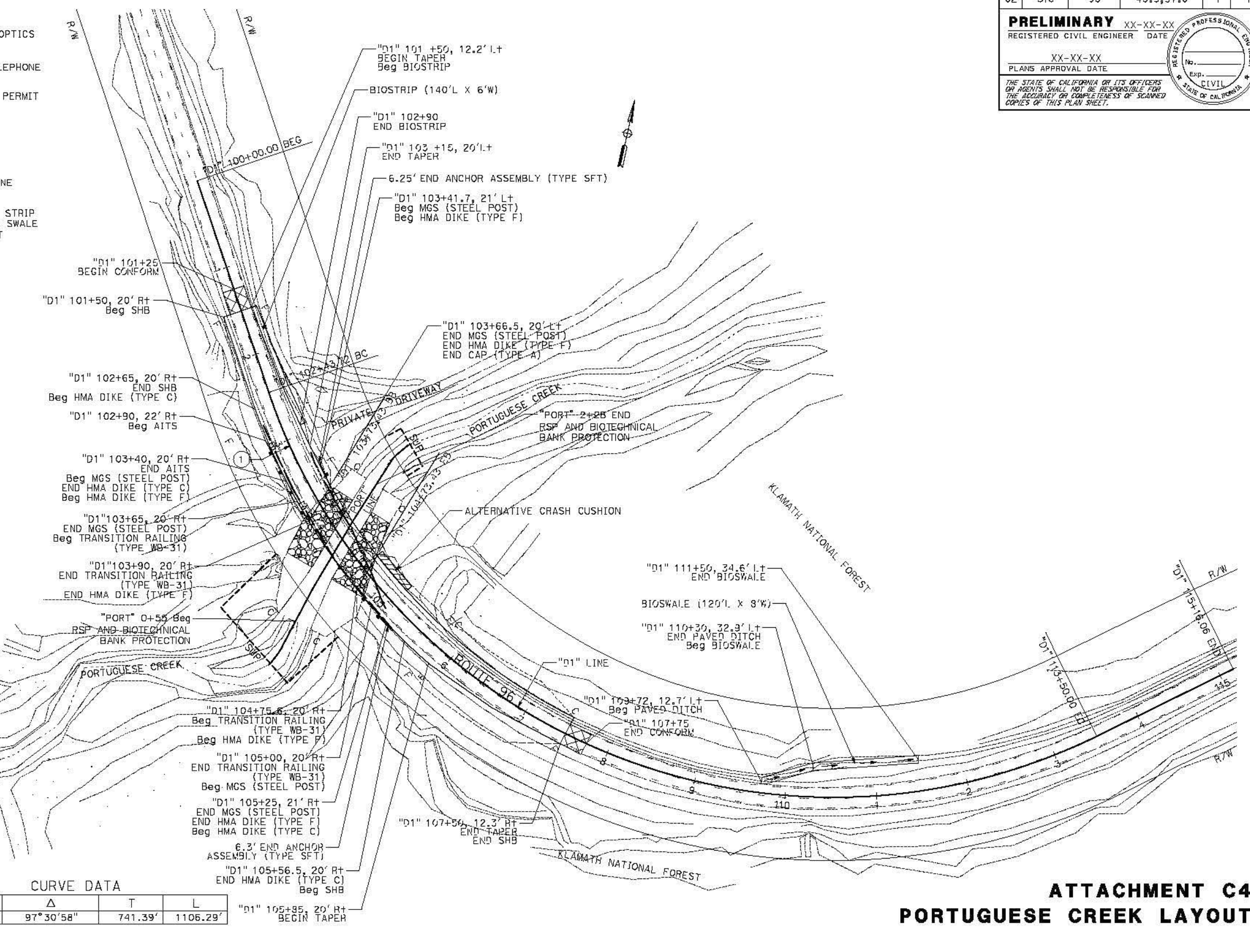
REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

LEGEND:

—FO— AT&T FIBER OPTICS
---T— SISKIYOU TELEPHONE
-------- SPECIAL USE PERMIT
CONFORM

ABBREVIATIONS:

AITS-ALTERNATIVE IN-LINE TERMINAL SYSTEM
SHB-SHOULDER BACKING
BIOSTRIP-BIOFILTRATION STRIP
BIOSWALE-BIOFILTRATION SWALE
SUP-SPECIAL USE PERMIT



CURVE DATA

No.	R	Δ	T	L
1	650'	97°30'58"	741.39'	1106.29'

ATTACHMENT C4
PORTUGUESE CREEK LAYOUT

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
LANDSCAPE ARCHITECTURE
FUNCTIONAL SUPERVISOR: STEVE THORNE
CALCULATED-DESIGNED BY: ROBIN SOLARI
CHECKED BY
REVISED BY
DATE REVISED

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LAST REVISION 00-00-00 DATE PLOTTED => 15-MAR-2021 TIME PLOTTED => 08132

BORDER LAST REVISED 7/2/2010 | USERNAME => s113032 DGN FILE => Attachment C4 - Portuguese Layout_Treatment revision.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0382 | PROJECT NUMBER & PHASE 0216000025

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