Hat Creek Bridge Replacement Project

SHASTA COUNTY, CALIFORNIA
02-SHA-44-PM 59.4/59.8
EA#: 02-4F200
EFIS#: 0212000071

Initial Study with Proposed Negative Declaration

Prepared by the
State of California, Department of Transportation
1657 Riverside Drive
Redding, CA 96001

February 2016

General Information about This Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts being considered for the proposed project located in Shasta County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document describes why the project is being proposed, how the existing environment could be affected by the project, the potential impacts from the project, and proposed avoidance measures and best management practices which would be used during construction.

What should you do?

Please read this Initial Study. Additional copies of this document are available for review at the Caltrans District Office, 1657 Riverside Drive, Redding CA 96001. Copies of the document will also be available at the U.S. Post Office 12529 State Route 44/89, Old Station CA. The document can also be viewed online at: http://www.dot.ca.gov/dist3/departments/envinternet/shasta.htm

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 U.S. mail to:

- California Department of Transportation
  Attention: Wesley Stroud, Environmental Branch Chief
  North Region Office of Environmental Services, MS-30
  1657 Riverside Drive
  Redding CA 96001

- You may also submit comments via e-mail to Wesley.Stroud@dot.ca.gov.

- Submit comments by the deadline: March 14, 2016.

What happens next?

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

Alternate Document Formats

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: Wesley Stroud, North Region Environmental Management, 1657 Riverside Drive, Redding, CA 96001; (530) 225-2928 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SCH No. *Pending*
02-SHA-PM 59.4/59.8
0-4F200/0212000071

Hat Creek Bridge Replacement Project

From 0.1 Mile West to 0.3 Mile East of Sugarloaf Lane

INITIAL STUDY WITH PROPOSED NEGATIVE DECLARATION

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA
Department of Transportation

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

2-10-16
Date

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Proposed Negative Declaration

Pursuant to: Division 13, California Public Resources Code

Project Description

Using State and Federal funds, the California Department of Transportation (Caltrans) proposes a project to replace an existing bridge over Hat Creek, near the community of Old Station (Bridge No. 06-0084) on State Route 44, post mile (PM) 59.62, in Shasta County . The proposed project includes demolition and removal of the existing bridge, roadway widening to create a facility with two 12-foot lanes and 8-foot shoulders, construction of a new single span bridge, earthwork, paving, tree and vegetation removal, disposal of excess earth material, right of way acquisition, drainage improvement, culvert installation, guardrail and sign installation, and roadway striping. The project requires a 404 Permit from the U.S. Army Corps of Engineers, a 401 Certification from the California Central Valley Regional Water Quality Control Board, and a 1602 Agreement from the California Department of Fish and Wildlife.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this project. This does not mean that Caltrans' decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public. The Department has prepared an Initial Study for this project, and pending public review, expects to determine that the proposed project would not have a significant effect on the environment for the following reasons:

- The proposed project would have no effect with regard to agriculture and forest resources, cultural resources, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, utilities and service systems, or energy resources.

- The proposed project would have a less-than-significant impact with regard to aesthetics, air quality, biological resources, hazards and hazardous materials, hydrology and water quality, noise, and transportation/traffic.

_____ _____

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

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Chapter 1. **Proposed Project**

Project Title
Hat Creek Bridge Replacement 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
Wesley Stroud
Caltrans Environmental Branch Chief
Phone: (530) 225-2928

Project Location
The project is located on State Route (SR) 44 just west of Old Station, from Post Mile (PM) 59.4 to PM 59.8 (Figure 1).

Project Sponsor's Name and Address
California Department of Transportation, District 2
1657 Riverside Drive
Redding, CA 96001

Purpose and Need
The purpose of the project is to maintain mobility and connectivity on SR 44, in the vicinity of Old Station. The project is needed to address bridge girder deterioration, provide standard bridge rail, improve site distance, and to provide a clear recovery zone for errant vehicles.

Existing Facility
This section of SR 44 is part of the National Highway System and is an east-west High Emphasis Focus Route in the Interregional Transportation Strategic Plan. As an interregional facility, SR 44 provides the transportation corridor with vital connections to the interstate system and the rest of the State, providing access to basic goods and services along with routine and emergency medical services. This route supports the local economy, including freight movement and recreational tourism, and is a major transportation corridor for response and recovery efforts in case of emergencies such as forest fires. This section of highway is also within the 500 mile long Volcanic Legacy Scenic Byway All American Road. In addition, bicycles and pedestrians are allowed on this segment of SR 44. The existing roadway within the project limits consists of two 12-foot travel lanes with zero to two-foot shoulders.

The existing bridge is a 93-foot long, 32-foot wide three span (two piers within the Hat Creek streambed) concrete slab bridge that was built in 1958. The bridge currently has two 11.5-foot travel lanes, with 2-foot shoulders. The bridge girders on the Hat Creek Bridge are deteriorating

as a result of freeze/thaw actions and rebar corrosion. The existing roadway, driveways, and vegetation limit sight distance and clear recovery area for errant vehicles.

Project Description

Using State and Federal funds, the California Department of Transportation (Caltrans) proposes a project to replace an existing bridge over Hat Creek, near the community of Old Station (Bridge No. 06-0084) on State Route 44, post mile (PM) 59.62, in Shasta County . The proposed project includes demolition and removal of the existing bridge, roadway widening to create a facility with two 12-foot lanes and 8-foot shoulders, construction of a new single span bridge, earthwork, paving, tree and vegetation removal, disposal of excess earth material, right of way acquisition, drainage improvement, culvert installation, guardrail and sign installation, and roadway striping. The project requires a 404 Permit from the U.S. Army Corps of Engineers, a 401 Certification from the California Central Valley Regional Water Quality Control Board, and a 1602 Agreement from the California Department of Fish and Wildlife.

Bridge Replacement Work

The new bridge would be approximately 110-feet long, clear spanning Hat Creek with no supporting piers in the water. The bridge would have abutments with spread footings on the stream banks. The poured concrete spread footings would be approximately 4 to 5-feet deep, and would not require pile driving or cast in drilled hole (CIDH) piles to construct. The bridge width would be approximately 44-feet wide to accommodate two 12-foot travel lanes, two 8-foot shoulders, and two 2-foot wide bridge rails. Due to the increased bridge width, the new bridge would extend approximately 12-feet downstream (north) of the existing bridge.

Table 1: Bridge Dimensions

	Existing	New	Change
Length	93 feet	110 feet	+17 feet
Width	32 feet	44 feet	+13 feet

Items of Work Applicable to All Build Alternatives:

As part of the project, under all the build alternatives, the roadway grade west of the bridge would be lowered for approximately 780-feet to improve sight distance for vehicles pulling out from Sugarloaf Drive and looking to the west. The roadway within the project limits would be widened where necessary to include two 12-foot travel lanes and 8-foot paved shoulders. Existing guardrail at the bridge would be replaced. Two hundred feet of guardrail would be installed at the west end of the project. A cross culvert, with a headwall at the inlet and rock slope protection at the outlet, would be constructed under Sugarloaf Drive to relieve an existing flooding problem during high storm events. Project work would include establishing a Clear Recovery Zone (CRZ) by removing fixed objects adjacent to the traveled way. To create a CRZ, trees would be removed out to a distance of 20-feet from the new edge of traveled way.

In Water Work: Under all build alternatives, work would occur within the ordinary high water line of Hat Creek. Hat Creek has year round flows, so the project would require clear water diversion. Prior to construction, water would be diverted to one side of the channel creating a dry area for construction access. The construction contract would not define the method of water diversion, but the contractor would be required to submit a water diversion plan for approval by Caltrans and the permitting agencies prior to implementation at the construction site.

Staging Areas: Under all build alternatives, staging areas for equipment and materials are available within the project limits in the Caltrans right of way and at the eastern end of the project limits in an area on U.S. Forest Service (USFS) property.

Disposal Area: Under all build alternatives, the proposed project would generate approximately 4,000 cubic yards of excess soil. A proposed disposal area is located off of Potato Butte Road near the project site. The Potato Butte location is a gravel pit area, carved out of a cinder cone, which is owned and operated by the USFS Hat Creek Ranger District.

Equipment: The proposed project would require equipment such as a crane, excavators, dump trucks, portable generators, a boom truck, concrete trucks and pumps, hydraulic pumps, a paver, vibratory roller compactors, hoe rams, jackhammers, a street sweeper, and personnel vehicles (pickups).

Right of Way Easements and Acquisitions: Acquisition of sliver pieces of right of way and temporary construction easements, from approximately seven parcels, would be necessary for this project. The additional right of way and temporary construction easement requirements are the same under all build alternatives. The total acreage to be permanently acquired is approximately 0.53 acres, and the acreage for temporary construction easements is approximately 1.0 acre. The project does not require acquisition of any full parcels or relocation of any residences or businesses. A special use permit from the U.S. Forest Service would be required for construction activities on USFS property.

***Project Schedule and Duration*:** The project is proposed to be constructed in 2019. The project is anticipated to be constructed in one construction season, but due to uncontrollable factors, including weather, the project may require some work in a second construction season.

Alternatives

The alternatives in the Project Initiation scoping document as a starting point; a clear span bridge design was developed in order to avoid drilling or driving piles into Hat Creek.

The three build alternatives described in this document can be considered separate alternatives in terms of design and construction methodologies. All three alternatives result in construction of essentially the same bridge type, a clear span bridge, on an alignment essentially the same (within 12 feet) as the existing bridge. The project area and construction access areas are the same for all three build alternatives. The primary difference between the alternatives is the method and sequence of construction.

Half Width Construction Alternative

This alternative proposes to route one-way traffic to the east bound lane and remove the west bound side of the existing bridge. Half of the new bridge would be constructed in the west bound lane. Traffic would then be routed onto the newly constructed half bridge (west bound lane) and the other half of the existing bridge would be removed (existing east bound lane). The remaining half of the new bridge would then be constructed in the east bound lane. A construction contract would not specify exactly how the project would be constructed, however, the project development team has compiled a likely construction scenario as follows:

Most Likely Bridge Construction Sequence:

Tree removal would occur during the non-nesting months, which is the fall/winter prior to the start of construction (September 1st through February 15th of any given year).

Stage 1

- Place temporary barrier rail (k-rail) on east bound side of highway and route traffic to the east bound lane.
- Remove a portion of the precast girders, piers, and abutments in the west bound lane and the wing walls on the north side of the highway.
- Build the west bound side of the new abutments and asphalt concrete (AC) roadway approaches. Build the wing walls on the north side of the highway.
- Erect precast box girder sections on the west bound side of the highway.
- Pour the new concrete deck. Prepare the deck surface for a 1" polyester concrete overlay.
- Install type ST-20S metal bridge railing.

Stage 2

- Relocate temporary barrier rail (k-rail) to west bound side of highway and re-route traffic to west bound lane.
- Remove the remaining girders sections, piers, and abutments on the east bound side and wing walls on the south side of the highway.
- Build the east bound side of the new abutments and AC roadway approaches. Build the wing walls on the south side of the highway.
- Erect the remaining Pre-cast box girder sections on the east bound side of the highway.
- Pour the new concrete deck. Prepare the deck surface for a 1" polyester concrete overlay.
- Install type ST-20S metal bridge railing.

Construction would occur during a period from spring, summer, to fall. The estimated number of working days for the half width construction method is 145.

Temporary Detour Bridge Alternative

This alternative proposes to construct a one lane temporary bridge on the upstream side (south) of the highway and detour one-way traffic with a temporary traffic signal during construction of the new bridge. The existing bridge would be removed completely and the new bridge would be constructed. Because the new bridge would be wider, it would extend twelve feet farther north (downstream) from the existing bridge and the new centerline would be eight feet north of the existing. After construction of the new bridge, the temporary bridge would be removed and the earth embankments would be graded and matched to the new bridge. A construction contract would not specify exactly how the project would be constructed, however, the project development team has compiled a likely construction scenario as follows:

Most Likely Bridge Construction Sequence:

Tree removal would occur during the non-nesting months, which is the fall/winter prior to construction (September 1st through February 15th of any given year).

Stage 1

- Construct temporary abutments on the south side of the existing highway.
- Erect the temporary bridge on the temporary abutments.
- Build detour road approaches.
- Route traffic onto temporary detour.

Stage 2

- Remove existing bridge.

Stage 3

- Build new abutments, wing walls, and AC roadway approaches.
- Erect pre-cast box girder sections.
- Pour new concrete deck. Prepare the deck surface for a 1” polyester concrete overlay.
- Install ST-20S metal bridge railing.

Stage 4

- Remove temporary abutments, temporary bridge reconstruct the slopes to conform to existing channel.

Construction would occur during a period from spring, summer, to fall. The estimated number of working days for the detour bridge construction method is 120.

If a contractor proposes using a temporary bridge detour, plans for the proposed temporary bridge would need to be reviewed and approved by Caltrans engineers prior to implementation at the project site. Such approvals could lengthen the overall construction time, decreasing the chances of completing the project in one construction season.

Slide-In Bridge Construction Alternative

This alternative proposes to route traffic to the west bound lane and remove a portion of the bridge on the east bound side. The new bridge would be constructed on the east bound side of the highway. Traffic would be routed onto the new bridge on the east bound side. The west bound portion of the bridge would be removed. SR 44 would be closed at the bridge location, estimated to be closed over one night, and the new bridge would then be placed in its permanent position using a jack and slide method. A construction contract would not specify exactly how the project would be constructed, however, the project development team has compiled a likely construction scenario as follows:

Most Likely Bridge Construction Sequence:

Tree removal would occur during the non-nesting months, which is the fall/winter prior to the start of construction (September 1st through February 15th of any given year).

Stage 1

- Construct temporary abutments.

Stage 2

- Construct the new bridge superstructure on temporary abutments.
- Build detour road approaches.
- Route traffic onto temporary detour.

Stage 3

- Remove existing bridge.

Stage 4

- Close SR 44 to traffic during night hours.
- Jack superstructure and move to permanent abutments.
- Open SR 44 to traffic on new bridge.
- Remove temporary abutments and reconstruct the slopes to conform to existing channel.

Construction would occur during a period from spring, summer, to fall. The estimated number of working days for the slide in bridge construction method is 127. The cost of this alternative exceeds the available funds for the project.

No Build/No Action Alternative:

With the no build/no action alternative, no improvements would be made to the bridge or the roadway. The existing bridge would remain in place. Numerous additional projects could be required to maintain the existing structure. This strategy would result in a higher cost to the taxpayer, with greater and prolonged environmental disturbance possible, while only temporarily delaying replacement of the aging structure. Further deterioration of the structure could eventually lead to permit load limitations and/or bridge closure. If the existing bridge deteriorates

to the point that the roadway has to be closed, traffic would be forced to negotiate a detour of more than 120 miles. The No Build Alternative does not meet the purpose and need of this project.

Alternatives Considered but Eliminated From Further Discussion:

The Project Initiation Document included an alternative which proposed replacing the existing bridge on an alignment upstream of the current location. That alternative included using one-way traffic control to keep vehicles on the existing bridge during construction, and a work trestle to access the bridge for construction and demolition. The proposed structure included two spans with one bridge pier in Hat Creek, a bridge width of 44 feet, and 1,290 feet of roadway work. The upstream alternative would have required acquisition of additional right of way, including a residence, and would have required changes in access for an adjacent business. After consideration during the project development process, the upstream alternative is not being carried forward due to the increased environmental and community impacts as well as higher mitigation costs.

Project History

The preferred alternative included in the June 2013 Project Scope Summary Report was a 2-span bridge with a pier in Hat Creek. During the public outreach carried out for an adjacent project, local residents expressed concern about negative impacts to Hat Creek potentially caused by drilling in the creek bed or nearby springs. Due to these concerns, the adjacent project was not constructed. The sight distance improvements near Sugar Loaf Drive were part of the adjacent project, but are now included in the proposed bridge replacement project.

Preferred Alternative

The Caltrans preferred alternative is the half width construction alternative.

Permits and Approvals

Project work would require:

- 404 Permit: U.S. Army Corps of Engineers (USACE)
- 401 Certification: California Central Valley Regional Water Quality Control Board (RWQCB)
- 1600 Permit: California Department of Fish and Wildlife (CDFW)
- Special Use Permit from the U.S. Forest Service (primarily for staging of equipment and disposal)

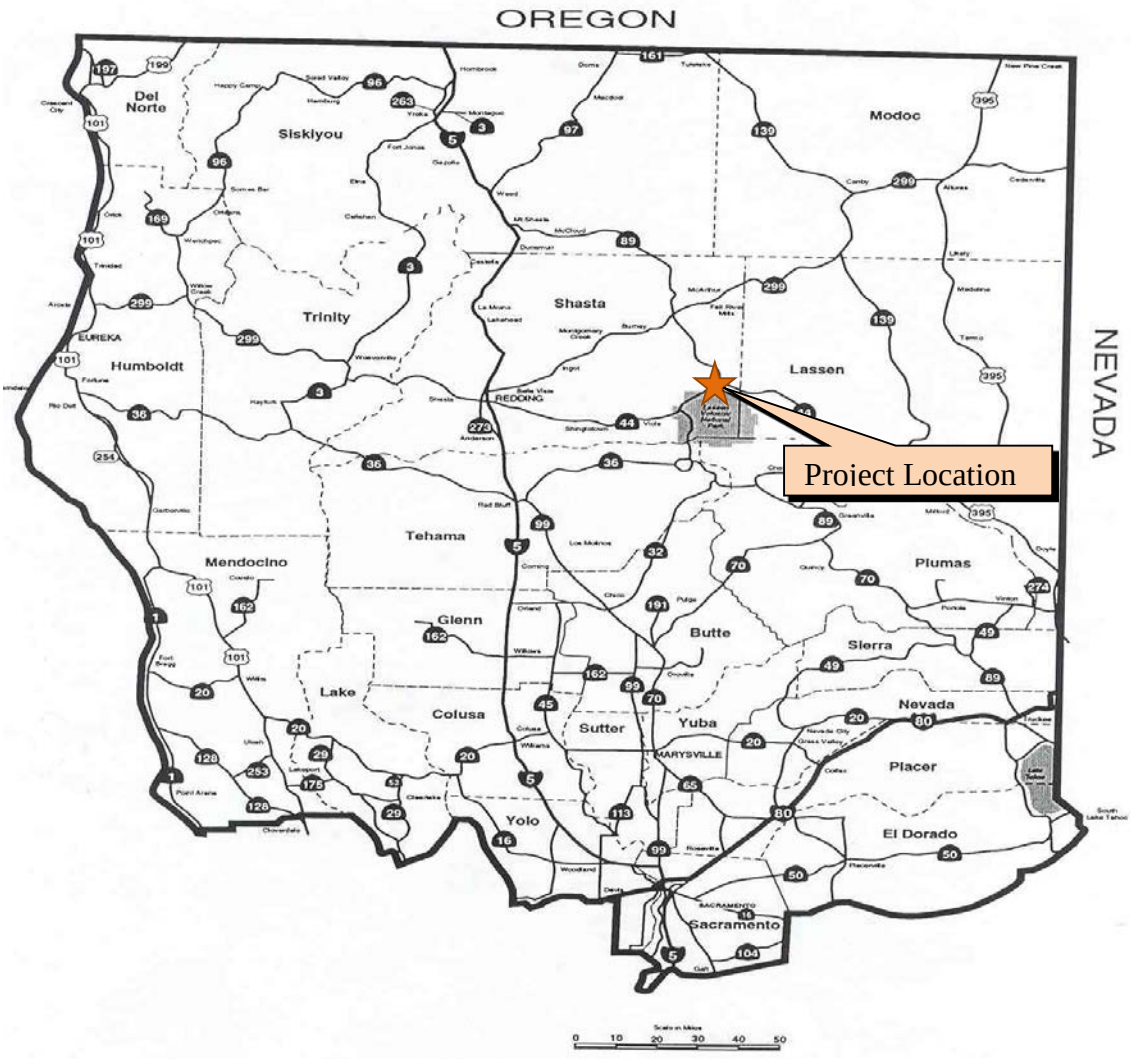

Figure 1: Project Vicinity Map

N	**Shasta County, California** **State Route 44 Post Mile 59.62** **In the vicinity of Old Station**	Hat Creek Bridge Replacement Project 02-4F200/0212000071
	Caltrans District 2 **Redding, CA**	

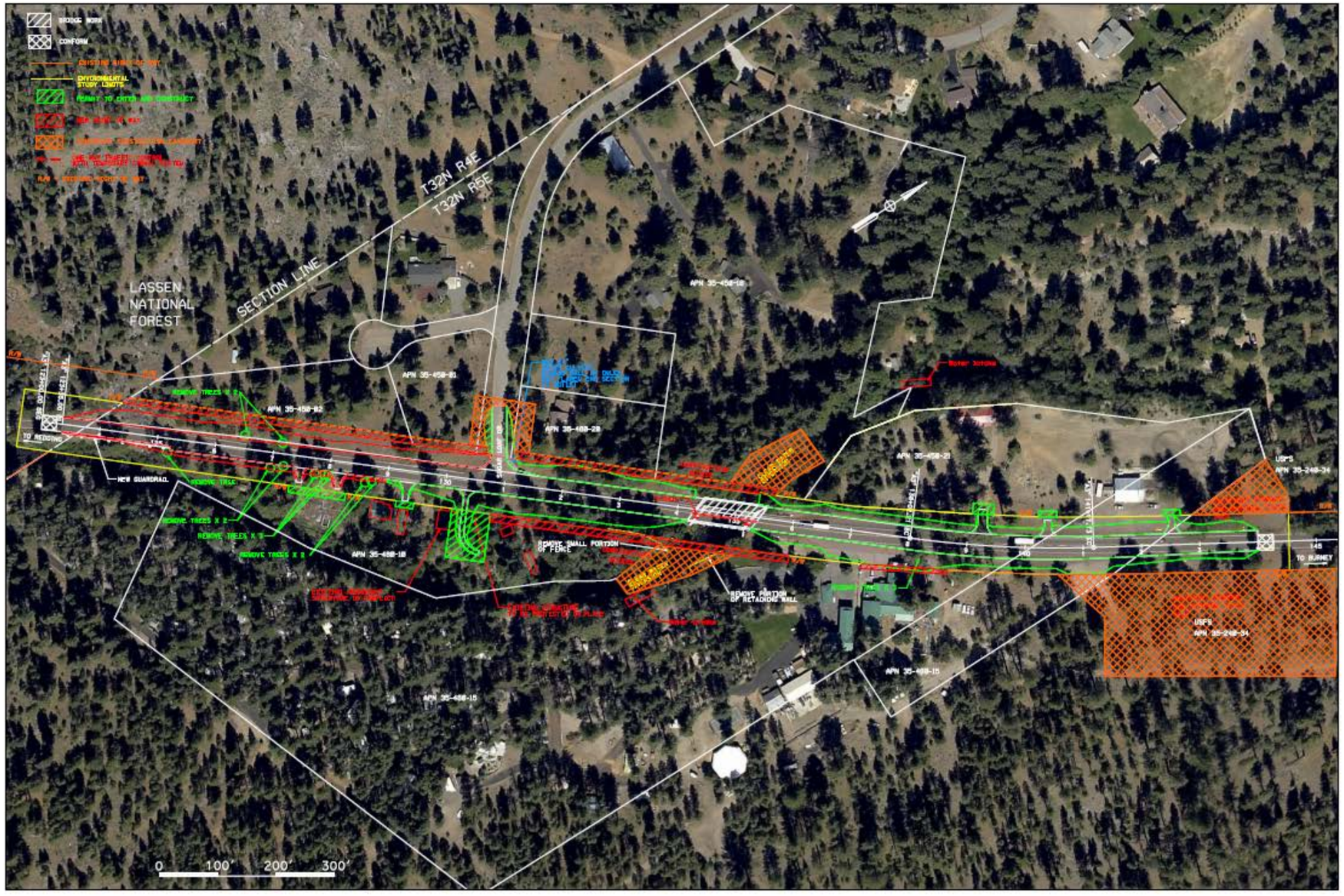

Figure 2: Project Detail Map

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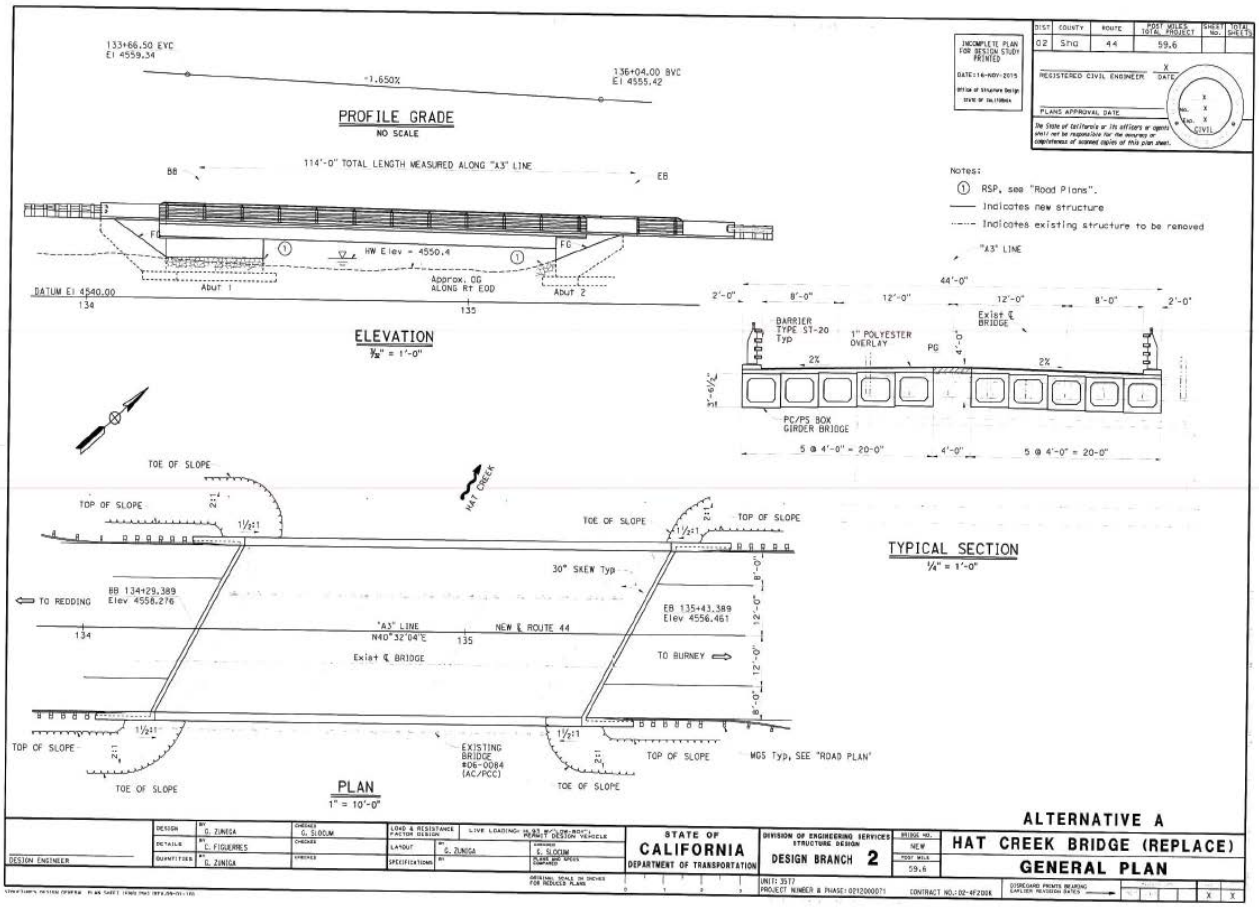

Figure 3: Project General Plan Half Width Construction Alternative

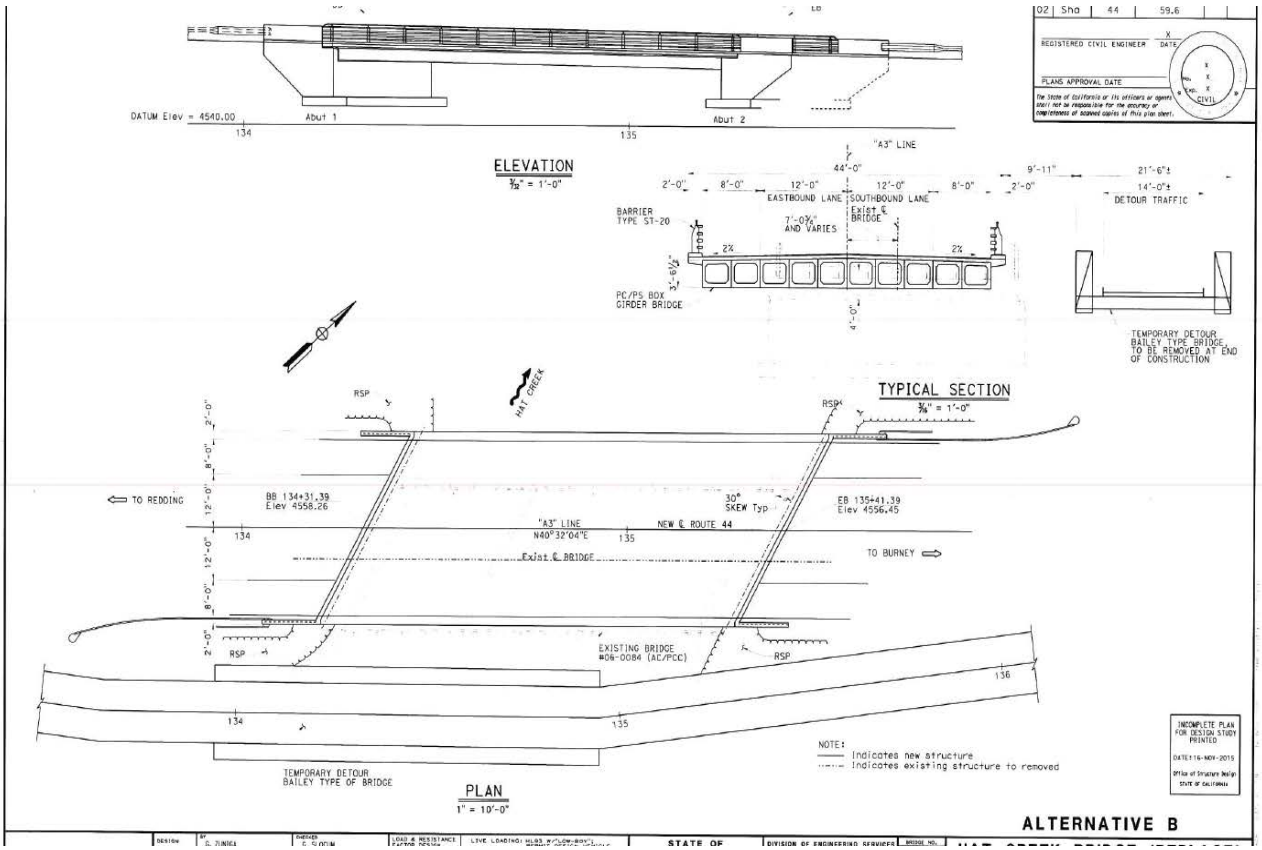

Figure 4: Project General Plan Temporary Detour Alternative

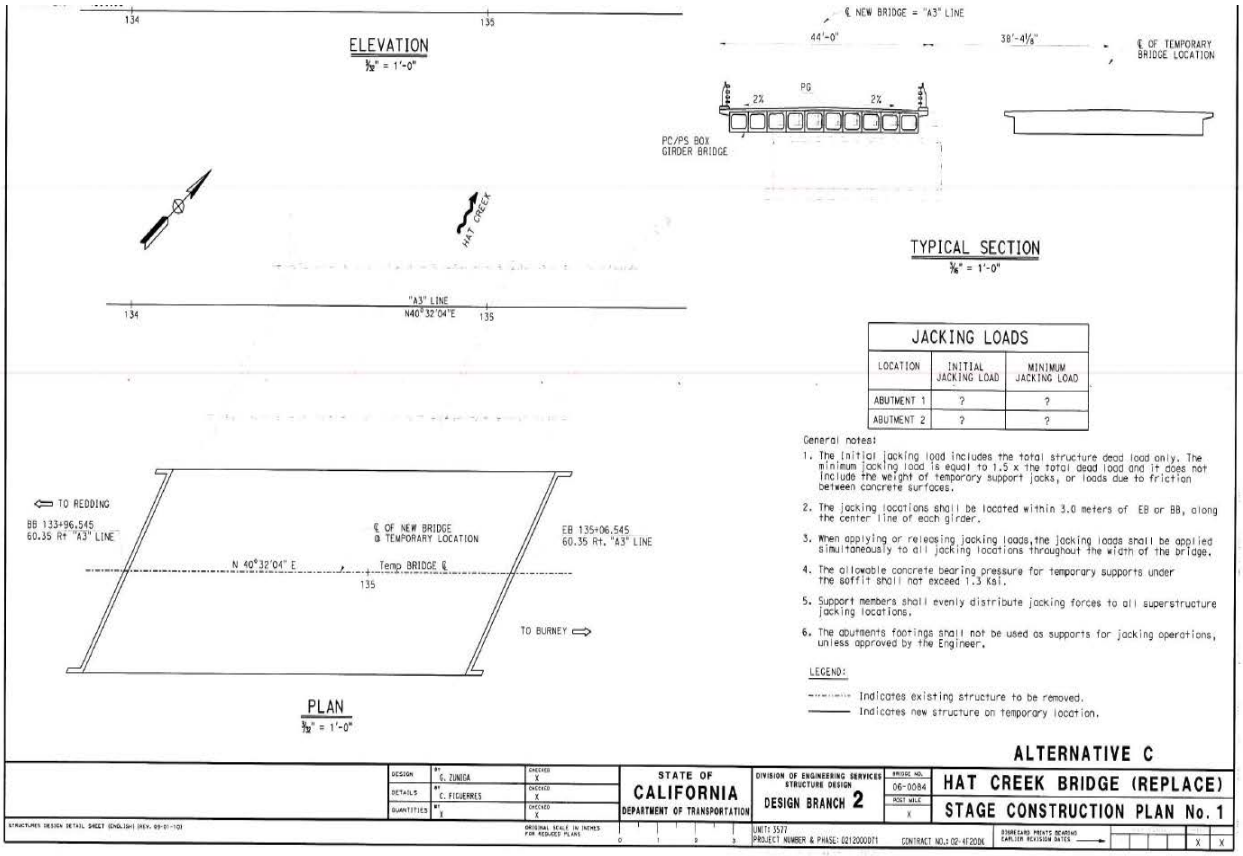

Figure 5: Project General Plan Slide-In Construction Alternative

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Environmental Factors Potentially Affected

The environmental factors checked below may be potentially affected by this project. Please see the checklist beginning on page 15 for additional information.

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

Environmental 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

Signature: Amber Kelley	**Date:** 2-10-16
Printed Name: Amber Kelley	**For:**

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 in the section following the checklist. 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.

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

Based on the Visual Impact Assessment (Caltrans, 2015), the project would have no impact with regard to having a substantial adverse effect on a scenic vista, and a less than significant impact with regard to substantially degrading the existing visual character or quality of the site and its surroundings. The project would not adversely affect any “Designated Scenic Resource” as defined by CEQA or create a new source of substantial light or glare.

Additional information can be found in Section 3.1 Aesthetics.

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

There is no Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or a Williamson Act contract property in the project vicinity (California Department of Conservation, 2015). Project activities would occur within Caltrans right of way and on private parcels using temporary construction easements. The trees located in Caltrans right-of-way are not available for a timber sale and are not considered to be merchantable timber. The proposed project would have no impact to agriculture and forest resources.

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

The proposed project would not increase capacity on SR 44, and would not result in any permanent operational-related air quality impacts. See Section 3.2: Air Quality for more information on potential construction-related air impacts.

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Based on the Natural Environment Study prepared by Caltrans (2016), the proposed project would have no impact to state or federally listed candidate, sensitive, or special status species,

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

wetlands, migratory corridors, local policies or ordinances protecting biological resources, or habitat conservation plans. Potential project-related impacts to biological resources are discussed in Section 3.3.

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

Caltrans conducts all of the necessary steps to comply with Section 106 of the National Historic Preservation Act and California Public Resources Code Section 5024. Appropriate records searches, public and Native American outreach, preparation of an Area of Potential Effects map, field surveys, preparation of a Historic Property Survey Report/Archaeological Survey Report have been completed. Please see Section 3.4 for further information.

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	☐	☐	☐	☒
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 risks to life or property?	☐	☐	☐	☒

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

Preliminary drilling studies were completed in November of 2015 in order to identify existing, subsurface Bridge foundation materials (Caltrans Office of Geotechnical Design – North, 2015) and soil types. The project site is not located in an area that contains a known earthquake fault (California Department of Conservation, 2015), or that is subject to strong seismic ground shaking, seismic-related ground failure, and/or landslides. The project does not include the use of septic tanks and/or alternative waste water disposal systems.

The project would have no impact related to geology and soils.

VII. GREENHOUSE GAS EMISSIONS: Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	An assessment of the greenhouse gas emissions and climate change is included in the section following the checklist. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the section following the checklist.

Please see Section 3.5 for further information on Greenhouse Gas Emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

The project does not involve the routine transport, use, or disposal of hazardous materials, and is not located on a known hazardous materials site (Caltrans, 2015). The project is not in the vicinity of an existing or proposed school, or public or private airport and/or airstrip. The project would not interfere with an emergency response plan and/or emergency evacuation plan, or expose people or structures to wildland fire-related hazards.

The project would have less than significant impact to hazards and hazardous materials. Please see Section 3.6: Hazards and Hazardous Materials for additional project-related hazardous materials information.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow	☐	☐	☐	☒

The project consists of the replacement of an existing bridge, and would not impact groundwater supplies, create additional runoff water, or otherwise substantially degrade water quality. The project site is not within a 100-year flood hazard area. The project site is not located in an area that would be impacted by a seiche or tsunami. The project would have less than significant impacts to hydrology and water quality.

Please see Section 3.7: Hydrology and Water Quality for additional project-related water quality information.

X. LAND USE AND PLANNING: Would the project:

a) Physically divide an established community?	☐	☐	☐	☒
b)Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

The proposed project would not physically divide an established community. The project consists of the replacement of an existing bridge; there is no conflict with regard to any applicable land use plan, policy, and/or regulation of an agency with jurisdiction over the project. There are no habitat conservation plans and/or natural community conservation plans that apply to the project site. The project does not require changes to zoning or existing land use.

The project would have no impact with regard to land use and planning.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES: Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
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?	☐	☐	☐	☒

The proposed project would not 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. The project site does not contain a locally important mineral resource. No known mineral resources of regional or statewide value exist at the project site.

The project would have no impact on mineral resources.

XII. NOISE: Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Noise and vibration would occur during construction and would be temporary and intermittent in nature. Receptors would include residents of adjacent houses, patrons at the adjacent RV Resort, travelers, and construction workers. There are no sensitive receptors such as hospitals or schools in the area. There would be no permanent increase in ambient noise levels. The project site is not located in the vicinity of a public or private airport and/or airstrip.

There project would have less than significant impacts related to noise. Please see Section 3.8 for further information on short term construction noise impacts.

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

The proposed project consists of the replacement of an existing bridge, would not extend the roadway or other infrastructure, would not construct new housing, and would not displace housing or people.

The project would have no impact on population and housing.

XIV. PUBLIC SERVICES:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The proposed project would not result in substantial adverse physical effects associated with the provision of new or physically altered governmental facilities, and would not create a need for new or physically altered governmental facilities, the construction of which could cause significant environmental effects to maintain acceptable service ratios, response times, or other performance objectives for public services. The proposed project would provide an improvement to the roadway and replace an existing bridge, and would not result in the introduction and/or an

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

increase in new residential units. Therefore, it would not cause an increased demand for public services. The project would have no impact on public services.

XV. RECREATION:

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

There is a privately owned RV Resort adjacent to the project limits and patrons and local residents use Hat Creek for fishing, but there are no designated or publicly owned recreational sites in the project area. The proposed project would not result in the introduction and/or an increase in new residential units or permanent human population in the project vicinity, and therefore it would not increase the use of existing neighborhood and regional parks. The proposed project would provide an improvement to the roadway and would not require the construction or expansion of recreational facilities that may have an adverse physical effect on the environment.

No long-term permanent impacts on recreational facilities would occur.

XVI. TRANSPORTATION/TRAFFIC: Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

No long-term impacts on transportation and traffic would occur as a result of this project. The proposed project would not result in conflicts or impacts related to an applicable congestion management program, air traffic patterns, increased hazards due to a design feature, inadequate emergency access, and/or adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Traffic control methodologies would be utilized during construction activities. Please see Section 3.9 for further discussion of Transportation and Traffic.

The project would have less than significant impacts to transportation and traffic.

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

The proposed project would not include construction of facilities (e.g., residences or commercial development) that would require the project vicinity to be served by a wastewater treatment facility. Therefore, the proposed project would not require wastewater treatment services, or the construction of new water or wastewater treatment facilities, new storm water drainage facilities, or the expansion of existing facilities. Though not public utilities, the Hat Creek Highlands Water

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact

Company and Hat Creek Resort both have water intakes in Hat Creek close to the project area. The project plans and construction activities would be planned to avoid impacts to these utilities.

The proposed project would consist of short-term construction activities, with short-term waste generation associated with the roadway improvement. Solid waste associated with the proposed project would be disposed at an appropriate landfill with sufficient capacity, or it would be taken to a recycling facility. Solid waste generated during construction would be disposed in accordance with all applicable statutes and regulations. The project would comply with statutes and regulations related to solid waste.

The project would have no impacts on utility and service facilities or impacts related to solid waste.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
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?	☐	☐	☐	☒

There are no impacts that trigger mandatory findings of significance.

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Chapter 3. **Discussion of Environmental Impacts**

3.1 Aesthetics

Regulatory Setting (Aesthetics)

CEQA establishes the policy of all state agencies in California to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities." (California Public Resources Code [PRC] Section 21001[b])

In addition, Caltrans strictly follows a policy of "context sensitive design." This policy states:

> The Department uses 'Context Sensitive Solutions' as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders. The context of all projects and activities is a key factor in reaching decisions. It is considered for all State transportation and support facilities when defining, developing, and evaluating options. When considering the context, issues such as funding feasibility, maintenance feasibility, traffic demand, impact on alternate routes, impact on safety, and relevant laws, rules, and regulations must be addressed.

Affected Environment (Aesthetics)

The project is located on SR 44 within the National Volcanic Legacy Scenic Byway and a small portion of the project limits are on U.S. Forest Service land. A focal point along the highway is Hat Creek, which meanders along the existing highway alignment. Dominant colors and textures throughout the project limits are represented by the greens and fine texture of coniferous trees, seasonal color from deciduous trees and shrubs, brown colors related to the forest canopy floor, greys related to rock cobble and out croppings, the watery texture of Hat Creek, and finally, the highway black top itself. In addition to demolition of the existing bridge and construction of a new wider bridge, the project would require tree removal and making cuts into the earthen hillside in order to accommodate road widening, establishment of a clear recovery zone (area free of obstacles) 20 feet from the edge of traveled way, and associated construction activities. The majority of the trees to be removed are west of the bridge and some are on private property immediately adjacent to the bridge in areas needed for access during construction.

Changes that potentially create a visual impact include:

- Temporary bridge construction
- Temporary clearing/staging areas
- Temporary stream/waterway diversion
- Temporary traffic detours
- Roadway and bridge widening
- Tree and vegetation removal

- New Bridge rail
- Additional guardrail
- Culvert construction and rock slope protection
- Embankment and steep cut slopes (earth work)

Environmental Consequences (Aesthetics)
A Caltrans landscape associate has reviewed the proposed project for potential visual impacts. Based on guidance in the Caltrans Standard Environmental Reference, Chapter 27: Visual & Aesthetics Review, Caltrans determined that the proposed project would constitute a low to moderate visual change, and a Visual Impact Assessment (VIA) was prepared (Caltrans, 2015).

The changes to visual resources for this project are anticipated to be low to moderate. The shoulder widening and tree removal for the CRZ portion of the project would remove most of the trees between some old cabins and the state route and the new edge of pavement would be fairly close to the cabins. The new bridge would be wider than the existing and the project would include adding 8 foot shoulders within the project limits.

Temporary, short-term visual impacts would also occur during construction. The staging areas, soil, disturbed ground, construction equipment, temporary signage and traffic signals, and bridge demolition and construction would be visible to area residents and travelers. Temporary erosion control measures also would be visible from the roadway (e.g., straw wattles, gravel-bag berms, and fiber rolls). These visual impacts would be temporary and would not require avoidance measures.

The project related impacts to aesthetics are less than significant.

Best Management Practices (Aesthetics)
The following measures are recommended for incorporation into the project in keeping with the Caltrans policy on context sensitive design:

- Type ST 20S Bridge Rail: This standard rail is composed of galvanized steel tubing which would be treated with a stain to transform the grey galvanized surface color to a rich rust/brown color in order to blend with the browns and rich greens in the project area.

- Rock Slope Protection: It is recommended that natural colored rock that matches and blends with the soil and native rock be used to achieve unity with the surrounding environment.

- Vegetation Loss: Post construction plainting would be implemented where appropriate and feasible. Replanting of trees removed to establish the CRZ would not occur as new trees would create a hazard to errant vehicles. Wildflower seed would be incorporated into the erosion control seed mix to offset the loss of vegetation in the clear recovery zone.

- Incorporate slope rounding and/or contour grading where possible.

- Where feasible, vegetation in temporary construction access areas would be trimmed at the roots in order to foster regrowth.

3.2 Air Quality

Regulatory Setting (Air Quality)

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and 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 transportation-related 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 ($PM_{2.5}$), and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (PB) and 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 structures 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 framework for project-level air quality analysis under the National Environmental Policy Act (NEPA).

Environmental Consequences

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

The project-related impacts to air quality are less than significant.

Best Management Practices

Most of the construction impacts to air quality are short-term in duration and, therefore, would not result in long-term adverse conditions. Implementation of the following measures, some of which may also be required for other purposes such as storm water pollution control, would reduce any air quality impacts resulting from construction activities:

- The construction contractor must comply with the Department's Standard Specifications in Section 14-9 (2010).

- Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including air pollution control district and air quality management district regulations and local ordinances.

- Section 14-9.03 is directed at controlling dust. If dust palliative materials other than water are to be used, material specifications are described in Section 18.

- Water or dust palliative would be applied to the site and equipment as often as necessary to control fugitive dust emissions. Fugitive emissions generally must meet a "no visible dust" criterion either at the point of emissions or at the right-of-way line depending on local regulations.

3.3 Biological Resources

This section evaluates the proposed project's potential to affect biological resources in the project area. A Natural Environment Study has been prepared for the proposed project (Caltrans, 2015). Biological studies (literature reviews, field surveys, and agency coordination) were completed for the project's biological study area (BSA).

Regulatory Setting (Biological Resources)

Federal Laws

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (U.S. Code [USC], Section 1531, et seq.; see also 50 CFR Part 402). This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highways Administration, are required to consult with United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species.

The Amended Magnuson-Stevens Fishery Conservation and Management Act, also known as the Sustainable Fisheries Act (Public Law 104-297), requires all Federal agencies to consult with the Secretary of Commerce on activities, or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH).

Wetlands and other waters are protected under a number of laws and regulations. At the Federal level, the Clean Water Act (CWA; Section 404) (33 USC 1344) is the primary law regulating wetlands and surface waters. The CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

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

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

The Lassen National Forest Land and Resource Management Plan of 1993 gives specific direction on how to manage Lassen National Forest (LNF) lands. The LNF Land and Resource Management Plan (LRMP) has been amended by three programmatic forest plan level decisions since its approval.

State Laws

The California Endangered Species Act (California Fish and Game Code, Section 2050, et seq.) emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset potential project-caused losses of listed species populations and their essential habitats. The CDFW is the agency responsible for implementing the California Endangered Species Act. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California Endangered Species Act allows for take incidental to otherwise lawful development projects; for these actions, an incidental take permit is issued by CDFW. For projects seeking a Biological Opinion under Section 7 of the Federal Endangered Species Act, CDFW may authorize impacts on species listed under the California Endangered Species Act species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

At the state level in California, wetlands and waters are regulated primarily by CDFW, the State Water Resources Control Board (SWRCB), and the RWQCB.

Sections 1600–1607 of the California Fish and Game Code require any agency that proposes a project which would substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines that the proposed project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement is required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider.

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

The California Native Plant Protection Act of 1977 (CNPPA) prohibits importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects.

Affected Environment (Biological Resources)

Environmental Setting

Temperatures in the project area range from 40 degrees to 96 degrees Fahrenheit in the summer, and from 10 degrees to 60 degrees Fahrenheit in the winter. Precipitation ranges from 76 to 229 centimeters (30 to 90 inches) per year, from October to May, with increasing snowfall as elevation increases.

Soils are varied, derived primarily from Mesozoic granitic, Paleozoic sedimentary and volcanic rocks, and Cenozoic volcanic rocks. Serpentine soils, maybe present, and support a number of endemic plants. Soils are deep to shallow. Fissures and cracks in granitic parent material often support forest growth, even where soil development is shallow.

The project location is within the Hat Creek Watershed located in northeastern California in Shasta and Lassen Counties. Hat Creek flows north through the watershed and drains into the Pit River. Hat Creek is one of the longest spring fed creeks in California, and is generally broken up into two main sections, Upper and Lower Hat Creek. The proposed project crosses Upper Hat Creek, which runs for over thirty miles from its headwaters in Lassen National Park downstream towards the small community of Cassel. Flow is constant in Hat Creek, with flows averaging around 470 cubic feet per second.

Habitats and Natural Communities of Special Concern

Montane Riparian

Montane Riparian is a habitat of concern and is regulated by State and Federal laws. All riparian habitats have exceptionally high value for many wildlife species. These areas provide water, thermal cover, migration corridors, and diverse nesting/feeding opportunities. Inclusions of Montane Riparian habitat are found on the banks of Hat Creek. Montane Riparian habitat is typically composed of black cottonwood (*Populus trichocarpa*), white alder (*Alnus rhombifolia*),

and mountain alder (*Alnus tenuifolia*). Oregon ash (*Fraxinus latifolia*), willow (*Salix* spp.), and a high diversity of forbs are common associates.

Riverine

The aquatic habitat within Hat Creek is classified as riverine. The majority of stream inhabitants live in riffles, on the underside of rubble and gravel, sheltered from the current. Characteristic of the riffle insects are the nymphs of mayflies (Ephemeroptera), caddisflies (Trichoptera), alderflies (Sialidae), stoneflies (Plecoptera), and the larva and pupae of true-flies (Diptera). In pools, the dominant insects are burrowing mayfly nymphs, dragonflies (Anisoptera), damselflies (Zygoptera), and water striders (Gerridae). Aquatic moss and heavily branched filamentous algae cling to rocks and align themselves with the current. Riverine is a habitat of concern and is regulated by State and Federal laws. An Ordinary High Water Mark delineation for the section of Hat Creek within the project study area was completed. The following table lists the fish commonly found in Upper Hat Creek.

Table 2. Fish Found in Upper Hat Creek

Common Name	**Scientific Name**
Native Species:	
Pit brook lamprey	*Entosphenus lethophagus*
Sacramento sucker	*Catostomus occidentalis*
Pit sculpin	*Cottus pitensis*
Non-native Species:	
Rainbow trout (planted)	*Onchorhynchus mykiss*
Brown trout	*Salmo trutta*
Brook trout	*Salvelinus fontinalis*
White Crappie	*Pomoxis annularis*

Special Status and Regionally Important Wildlife Species

Bats, osprey (*Pandion haliaetus*), northern goshawk (*Accipiter gentillis*), fisher (*Pekania pennanti*), American badger (*Taxidea taxus*) and hatchery rainbow trout (Oncorhynchus mykiss) were evaluated for potential impacts and the results are discussed below.

Bats

According to California Natural Diversity Database (CNDDB), the following bat species of concern have been observed within 10 miles of the project study area: pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), fringed myotis (*Myotis thysanodes*), Yuma bat (*Myotis yumanensis*), and long-eared myotis (*Myotis evotis*).

The Hat Creek Bridge and the surrounding habitat were surveyed during each field review for evidence of bats and none was revealed. Lack of evidence indicates it is unlikely that the bridge or surrounding trees are providing crevices for maternity roosts. No impacts to bat maternity roosts will occur as a result of this project.

Caltrans assumes that Hat Creek Bridge provides night roosting habitat. Construction is anticipated to occur in one season, and bats may need to utilize other night roosts during this time. Night roosts tend to be relatively abundant and are not a limiting factor in bat conservation. There are two additional bridges on Hat Creek that offer night roost opportunities. Furthermore, two caves are located 2-3 miles from the project study area that are currently used for roosting.

Although the bridge was surveyed for bats on 3 field visits and no physical evidence of bats was observed on the bridge or in the vicinity of the bridge, Caltrans can assume that bats forage within the project study area due to evidence of two known Townsend's big eared bat roosts located approximately 2-3 miles from the project study area. The home range of bat is malleable, depending on prey abundance. Townsend's big-eared bat was used for the impact analysis for bat foraging habitat since it has the greatest conservation protection. Townsend's big-eared bats are a sedentary species and the average foraging distance is 3 miles. It is assumed that bats will avoid foraging within the project study area during construction, affecting approximately 644 feet of foraging habitat out of approximately 8 miles available within a 3-mile radius.
Temporary loss of night roosting and foraging habitat is anticipated, but the amount of impact is unmeasurable and considered insignificant and discountable compared to the amount of available within 3 miles of the proposed project. The proposed project would not adversely affect special status bats or their foraging habitat on a local or regional level. No avoidance and minimization efforts for special status bats are warranted during construction. The project would have a less than significant impact to bats.

Osprey (*Pandion haliaetus*)
The osprey is a designated sensitive species by the USFS. CDFW listed the osprey as a second priority species of special concern in 1978. The osprey is a migratory bird and is protected by the Migratory Bird Treaty Act (16 U.S.C. 703-711) and California Fish and Game Code (Sec 3500). Three osprey nests have been observed between 6 and 8 miles from the proposed project and presumed extant according to CNDDB. Ospreys forage on fish from large bodies of water within 3 miles of their nest. These nests and their foraging habitat are located at a far enough distance from the project study area to avoid direct and indirect impacts.

Osprey nesting and foraging habitat are present within the project study area. During field surveys, no ospreys or their nests were observed. No direct impacts will occur to ospreys or their nests. Hat Creek is foraging habitat for ospreys and approximately 644 linear feet will be temporarily impacted out of the approximately 8 miles available within 3 miles of the project study area. This amount is insignificant compared to amount available foraging habitat within the three miles of the proposed project. The proposed project would not adversely affect osprey or osprey habitat on a local or regional level. No avoidance and minimization efforts are required for ospreys. The project related impacts to osprey would be less than significant.

Northern goshawk (*Accipiter gentillis*)
Goshawks are CDFW bird species of special concern, and USFS and BLM sensitive species. There is one CNDDB listed occurrence within 10 miles of the BSA. As of 1999, the goshawk nest was extirpated. According to the USFS, goshawk suitable habitat is within 0.5 miles of the project

area. Nest surveys were conducted, and no nests were found. No impacts are anticipated to goshawks as a result of this project and thus, no avoidance and minimization efforts are required for goshawks. The project would have no impacts to northern goshawk.

Fisher (*Pekania pennanti*)
Fishers within the West Coast Distinct Population Segment (DPS) are a federally listed potentially threatened, USFS sensitive species, State listed candidate threatened, and State species of special concern. Surveys were conducted to determine if resting or denning sites are in the area. It is unlikely that fisher are denning or resting within the project study area. No direct or indirect impacts would occur to fisher as result of this project. No adverse effects would occur to fishers and thus no avoidance or minimization efforts are required for fishers. The project would have no impacts to fisher.

American Badger (*Taxidea taxus*)
The American badger (badger) is a CDFW species of concern. During field surveys, several burrows were observed within the proposed staging area. All the burrows were measured to determine if they were the correct size and shape for a badger. Only one of the burrows was large enough to be used by a badger. The large burrow was examined for characteristic badger sign: horizontal claw marks, body drags, or tracks, and none were present. The burrow did look fresh with loose soil at the entrance indicative of recent digging. Based on the evidence, it appears to be a foraging burrow.

Badgers foraging within the project study area are assumed present. The proposed project may temporarily impact foraging habitat for nearby badgers. This indirect impact is unmeasurable and considered insignificant and discountable compared to amount of available foraging habitat available. This project would not adversely affect badgers and thus, no avoidance and minimization efforts are required for badgers. The project related impacts to badger would be less than significant.

Hatchery Rainbow Trout (Oncorhynchus mykiss)
Hatchery rainbow trout (trout) is considered a regionally important species. Water and passage for fish and aquatic organisms are protected under Sections 5901 and 5937 of the Fish and Game Code (Fish Passage and Water for Fish). Trout are currently planted by CDFW in Upper Hat Creek and potential impacts to this hatchery population were evaluated. The project would have no impacts to trout.

Federal Endangered Species Act *Summary*
Section 7 (a)(1) of the ESA requires federal agencies to consult with the USFWS and/or NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

Caltrans has determined the proposed project would have “no effect” on the following USFWS threatened, endangered, proposed and candidate species: California red-legged frog (*Rana*

draytonii), conservancy fairy shrimp (*Branchinecta conservatio*), Shasta crayfish (*Pacifastacus fortis*), Delta smelt (*Hypomesus transpacificus*), steelhead (*Oncorhynchus mykiss*), and slender Orcutt grass (*Orcuttia tenuis*) and fisher (*Pekania pennanti*). Furthermore, there are no USFWS designated critical habitats within the project study area. There are no special status species, under National Marine Fisheries Service jurisdiction, present within the project study area.

Montane Riparian

Approximately 0.53 acres of montane riparian habitat would be temporarily impacted by construction equipment accessing the bridge. Areas adjacent to the bridge with riparian vegetation would need to be disturbed for construction access. Where feasible, the riparian vegetation would be cut at the roots instead of being fully removed in order to foster regrowth after the project is completed. The project area has been reduced to avoid impacts to any more riparian vegetation than necessary for the project. Approximately 0.03 acres of riparian habitat would be permanently impacted by removal of vegetation on sand bars within the channel. The project would have a less than significant impact to riparian habitat.

Riverine

Riverine habitat would be temporarily impacted during the clear water diversion. No adverse permanent impacts to riverine habitat (open waters) would occur as a result of this project. The project would result in a permanent benefit to waters, as two concrete piers within the active channel would be removed. By removing the piers, this project would return the creek to its natural flow pattern; increase the hydraulic capacity, and increase riverine habitat. The project would have a less than significant impact to riverine habitat.

California Endangered Species Act Consultation Summary

The proposed project would not adversely impact any State special status species or its habitat. Additionally, no take of any State special status species would occur.

California Fish and Game Code Summary

Sections 1900-1913 of the Fish and Game Code (Native Plant Protection Act): There are no rare plants occurring within the project study area.

Sections 1601-1603 of the Fish and Game Code: Caltrans would obtain a Lake and Streambed Alteration Agreement from CDFW and the project would adhere to the included requirements.

Sections 5901 and 5937 of the Fish and Game Code (Fish Passage and Water for Fish)
Caltrans would not prevent, or impede the passing of fish up and down stream. The project would be constructed in a manner to allow sufficient water to pass through the clear water diversion at all times so that for fish that may be planted.

Invasive Species Summary

Caltrans has developed a suite of Best Management Practices (Caltrans 2003 Construction Site BMP Field Manual and Troubleshooting Guide) that would be implemented as part of the

proposed project. The implementation of these BMPs would prevent infestations of invasive plant and animal species.

Best Management Practices (Biological Resources)

Caltrans has developed a suite standard of Best Management Practices (BMPs) which are incorporated in the design of projects and project contracts. The following Best Management Practices would be implemented as part of the project:

- Disturbance or removal of riparian and streamside vegetation shall not exceed the minimum necessary to complete operations. Where feasible, hand tools (chain saws, etc.) shall be used to trim woody riparian vegetation to the extent necessary to gain access to work sites. Whenever possible, root systems shall be left intact to facilitate regrowth following temporary construction impacts.

- Removal of vegetation and trees would occur between September 1st and February 15th (outside of the nesting season).

- The construction access area adjacent to the riparian habitat would be delineated using highly visible material such as fencing, flags, or stakes.

- When implementation of water diversion is in effect, the contractor would ensure the creek has sufficient water to maintain aquatic life below the water diversion.

- Caltrans would not prevent, or impede the passing of fish up and down stream. Caltrans shall allow sufficient water at all times to pass through the clear water diversion for fish that may be planted or exist below the dam

- As water diversion is installed, fish and other aquatic organisms shall be relocated downstream if stranding occurs.

Compensatory Mitigation

Though impacts to riparian would be considered less than significant under CEQA, compensatory mitigation for impacts to montane riparian and riverine habitat would be required and coordinated with permitting agencies in the final design phase. The majority of anticipated impacts would occur on private property within temporary construction easements. Caltrans is currently working on a planting plan with the U.S. Forest Service along Lower Hat Creek in areas impacted by recent wildfires.

3.4 Cultural Resources

Regulatory Setting

"Cultural resources" as used in this document refers to historic and archaeological resources. The main laws and regulations dealing with cultural resources are described below.

National Historic Preservation Act

The National Historic Preservation Act of 1966 (NHPA), as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places (NRHP). Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council of Historic Preservation (36 CFR 800).

California Register of Historical Resources

At the State level, historical resources are considered under CEQA, as well as PRC Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires State agencies to identify and protect State-owned resources that meet NRHP criteria.

Affected Environment (Cultural Resources)

General Setting

The project area is located along the boundary of the Cascade Range and the Modoc Plateau. In general, the area near Hat Creek consists of volcanic steps consisting of lava flows and cinder cones. Historic pyroclastic flows have covered the low lying areas with as much of 30 feet of material. Elevations around the study area range from 4,724 feet, on the bluff above Hat Creek, to 4,595 feet at Hat Creek. The project area lies at 4,561 feet.

There are three types of soil within the Hat Creek Project area and one soil type at the Potato Butte Disposal area (US Dept of Agriculture 2014). The entire project area has experienced the erosional and depositional cycles of Hat Creek as it has meandered for eons.

Environmental Analysis (Cultural Resources)

On February 26, 2015 a records search was conducted at the Northeast Information Center (NEIC) for the project's Area of Potential Effects (APE) and a 0.5-mile project study area radius. No previous cultural resources investigations have been conducted within the project APE. NEIC records indicated there have been five previous archaeological investigations for various projects within the half mile record search area. This search revealed two cultural resources within the half mile record search area, but the search did not identify any cultural resources within the project APE.

On September 17 and November 17, 2015 a pedestrian survey of the project area was conducted to identify cultural resources, taking into account the limits of the construction site and staging areas. No cultural resources were identified during the pedestrian survey.

As part of the Section 106 process and in compliance with AB 52 requirements, correspondence with the Native American Heritage Commission (NAHC) was initiated on September 10, 2015, to obtain information regarding ethnographic Native American values or prehistoric or historic cultural resources that may be present near or within the project area. A request was made for the NAHC to check the Sacred Lands Files to identify any culturally sensitive areas existing in the project vicinity, as well as to provide a list of tribal contacts that may have additional insights about cultural resources in the project area. In a response dated September 16, 2015, the NAHC indicated that a search of the Sacred Lands File failed to indicate the presence of Native American cultural resources in the project area. A list of Native American individuals/organizations with possible knowledge of specific resources in the area was included in the correspondence.

Morning Star Gali, the Pit River Tribal Historic Preservation Officer (THPO), was contacted on March 19, 2015. She was able to take the list provided by the Native American Heritage Commission and suggest the appropriate Cultural Band Representatives. Based on that input, two additional letters were sent to interested parties. On September 22, 2015 a letter was sent to the Roaring Creek Rancheria; to date no response has been received. On September 22, 2015 a letter was sent to James Hayward Sr. of the Redding Rancheria; to date no response has been received.

In September and November of 2015, Caltrans Archaeologist Russell Adamson met Bill George, Atsugewi Band Cultural Representative at the project site. Mr. George had no issues with the bridge location, but due to the recent geological history requested to monitor during the work on the vertical curve.

Based on the results of the record search, pedestrian survey, geology, and the project area's highly disturbed nature, the project would have a less than significant impact to cultural resources.

Best Management Practices (Cultural Resources)

Although human remains are unlikely to be encountered during proposed project-related excavation, in the event human remains (including those interred outside formal cemeteries) are discovered during subsurface activities, the construction contractor would be required to follow the procedures set forth in Section 7050.5(b) of the California Health and Safety Code. Further excavation or disturbance of the site would cease and the County Coroner would be notified so that they could ascertain the origin. If the remains are thought to be Native American, the coroner then would be required to contact the NAHC, pursuant to PRC Section 5097.98.

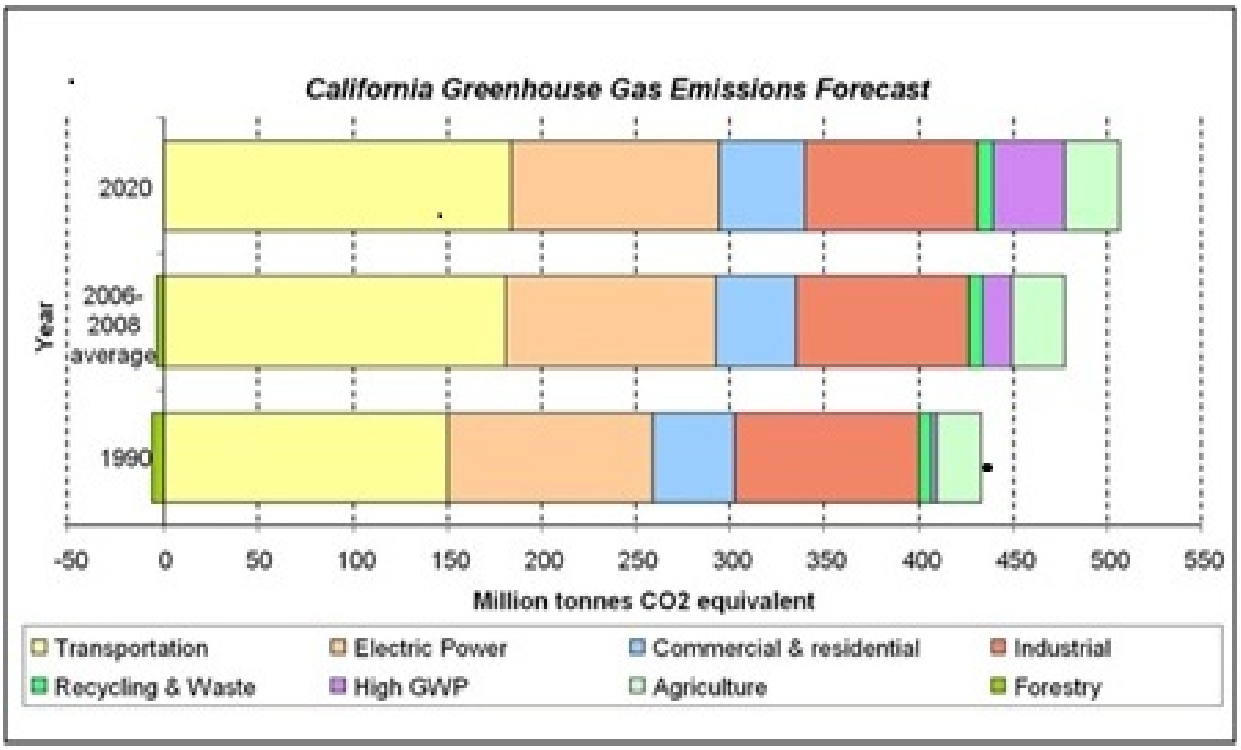
3.5 Greenhouse Gas Emissions

An individual project does not generate enough greenhouse gas (GHG) emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contribution of all other sources of GHG.[1] In assessing

[1] This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air

cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: May 2014). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.



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

Figure 6: California Greenhouse Gas Forecast

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human-made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans, published in December 2006.[2]

Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

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

Project Analysis

The purpose of the proposed project is to provide a reliable highway crossing that meets modern highway design standards and accommodates interregional transportation needs. The proposed project would not increase capacity or vehicle miles travelled, therefore no increases in operational GHG emissions are anticipated.

Construction Emissions

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would 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 traffic management practices during construction phases. Even though the project is not anticipated to increase operational GHG emissions, the proposed project would generate some GHG emissions during construction.

CEQA Conclusion

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

Project level GHG measures

During construction, the project would utilize a one way reversing traffic control, which would eliminate traffic delays and long periods of traffic holding (idling). While construction emissions of greenhouse gases are unavoidable, the proposed project is minor in scope, and construction utilizing mechanized equipment would be of relatively short duration.

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement the Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Former Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a $222 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including $100.7 billion in transportation funding during the next decade. The Strategic Growth Plan targets a significant decrease in traffic congestion below today's level, and a corresponding reduction in GHG emissions; the Strategic Growth Plan proposes to accomplish these targets while accommodating growth in

population and the economy. A suite of investment options has been created that, combined together, are expected to reduce congestion. The Strategic Growth Plan relies on a complete systems approach to attain CO_2 reduction goals: systems monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements, as depicted in Figure 7.

Figure 8: Mobility Pyramid

Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans works closely with local jurisdictions on planning activities, but does not have local land use planning authority. Caltrans assists efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, and light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note; however, that the control of the fuel economy standards is held by the U.S.EPA and ARB.

Adaptation Strategies

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm

damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

On November 14, 2008, former Governor Arnold Schwarzenegger signed EO S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change. This EO set in motion several agencies and actions to address the concern of sea level rise.

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

The proposed project location is outside of the coastal zone and is not in an area expected to experience direct impacts due to sea level rise for the projected 2050 and 2100 years.

Currently, the Department is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change effects, the Department has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, the Department will be able review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level rise.

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. The Department is an active participant in the efforts being conducted in response to EO S-13-08 and is mobilizing to be able to respond to the National Academy of Science Sea Level Rise Assessment Report.

3.6 Hazards and Hazardous Materials

Regulatory Setting

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

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA). The purpose of CERCLA, often referred to as "Superfund," is to identify and clean up abandoned contaminated sites so that public health and welfare are not compromised. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include: The Community Environmental Response Facilitation Act (CERFA) of 1992, the Clean Water Act, the Clean Air Act, the Safe Drinking Water Act, the Occupational Safety and Health Act (OSHA), the Toxic Substances Control Act (TSCA) among others.

California regulates hazardous materials, waste, and substances under the authority of the CA Health and Safety Code and is also authorized by the federal government to implement RCRA in the state. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and clean up contamination include Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste, Title 23 Waters, and Title 27 Environmental Protection.

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

Affected Environment (Hazards and Hazardous Materials)

An Initial Site Assessment (Caltrans, 2012) and updated Initial Site Assessment (Caltrans, 2015), identified the potential for several minor hazardous waste/material issues within the project site; lead containing paint related to thermoplastic and/or paint striping removal, asbestos containing material could be present in joint filler material, abutment joints, and/or expansion joints, aerially deposited lead is expected to be present in soils within the project limits, however not at hazardous waste levels, and potential for treated wood waste in sign posts and metal beam guardrail posts. Prior to construction activities a Preliminary Site Investigation would be completed in order to identify and, if necessary, quantify the presence of these waste/material issues.

If lead containing paint, aerially deposited lead, or treated wood waste are present, construction specifications would be included in the project contract to address appropriate lead removal (including preparation of a Lead Compliance Plan), and temporary storage, testing, and transportation to an appropriate disposal or recycling facility. In addition, a requirement would be included for the contractor to provide written documentation for recycling or disposal facilities to acknowledge the potential for lead on the material received.

If asbestos containing material is present, it would be treated in accordance with the appropriate construction contract specifications, including requiring the contractor be notified as to the presence of suspected asbestos containing material. Asbestos removal must be conducted by a licensed and certified asbestos abatement contractor.

The project impacts related to hazards and hazardous materials are less than significant.

3.7 Hydrology and Water Quality

Regulatory Setting

Clean Water Act

Sections 303, 304, 401, 402, and 404 of the CWA contain the primary federal laws governing water quality. The act's objective is "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." The CWA establishes the basic structure for regulating discharge of pollutants and gives EPA authority to implement pollution control programs. EPA has authorized Cal/EPA to administer the CWA in California.

Clean Water Act Sections 401 and 404 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain 401 Certification, certifying that the proposed project would be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by USACE. Obtained from the appropriate RWQCB, 401 Certification is dependent on the project location and is required before USACE issues a 404 permit. Section 401 regulations allow the RWQCB Executive Officer wide discretion in implementing Basin Plan requirements and water quality objectives, including Section 303(d) of the CWA. Because of the number and extent of sediment impaired waterbodies under its jurisdiction, the North Coast RWQCB regulates stormwater discharges through the 401 Certification program, and the project area is in this region.

NPDES Program: Municipal Separate Storm Sewer Systems

Section 402 of the CWA, or the National Pollutant Discharge Elimination System (NPDES), requires issuance of a permit for five categories of stormwater dischargers, including Municipal Separate Storm Sewer System (MS4s). EPA defines an MS4 as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that are designed or used for collecting or conveying stormwater." The EPA has delegated administration of the NPDES program to the SWRCB and nine RWQCBs. The SWRCB and RWQCBs also are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for regulating discharges to ensure compliance with the water quality standards.

The SWRCB has identified Caltrans as an owner/operator of an MS4, pursuant to federal regulations. The Caltrans MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in California. This permit, adopted by the SWRCB on September 19, 2012, and effective from July 1, 2013, contains three basic requirements:

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

2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and

3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs to the maximum extent practicable and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan 2003 (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California (Caltrans, 2003). The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices that Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project would follow the guidelines and procedures outlined in the SWMP to address stormwater runoff.

NPDES Program: General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities

Construction General Permit (CGP) (Order No. 2009-009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ), adopted on July 17, 2012, became effective on July 17, 2012. The permit regulates stormwater discharges from construction sites that result in a disturbed surface area (DSA) of 1 acre or greater, and/or smaller sites that are part of a larger common plan of development. For all projects subject to the CGP, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans Standard Specifications, a WPCP is necessary for projects with DSA less than 1 acre.

Affected Environment (Hydrology/Water Quality)

No long term water quality impacts are expected. Temporary water quality impacts may occur during construction, but any impacts to water quality are expected to be insignificant. The use of construction site BMPs ensure construction activities do not impact water quality. Because Hat Creek has year round flows, the project would require diversion of water from the active work zone during construction. After the construction contract is awarded, the contractor would create a clear water diversion plan. The clear water diversion plan would be submitted to and approved by applicable permitting agencies prior to implementation.

The proposed project would potentially result in short-term impacts on water quality during construction. The primary causes of construction-related impacts would be from increased sediment and dust, generated by ground-disturbing activities and removal of vegetation, and potential accidental discharge of pollutants associated with construction equipment and materials (hydraulic fluids).

However, implementation of the proposed project would result in temporary effects to water

quality as a result of demolition of the existing bridge and construction of a new bridge over Hat Creek. Therefore, a Section 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board and a Section 404 Permit from the Sacramento USACE would be needed. All work within Hat Creek would also be subject to Department of Fish and Wildlife 1600 Streambed Alteration Agreement requirements, and compliance with Sections 401 and 404 of the Clean Water Act would be required.

The project related impacts to hydrology and water quality are less than significant.

Best Management Practices

The construction contractor would be required to implement the standard temporary construction site BMPs (found in the Caltrans Storm Water Project Planning and Design Guide or in Section 7-1.01G of the Caltrans Standard Specifications), to control potential discharges of pollutants to surface waters during and immediately after construction.

Before any ground-disturbing activities begin, the construction contractor would be required by Caltrans contract specifications to prepare and implement a WPCP, including erosion control measures and construction waste containment measures so that waters of the State are protected during and after construction. The WPCP would describe the BMPs that the construction contractor would use to prevent erosion and sedimentations. Examples of temporary BMPs include: silt fences, hydraulic mulch, hydro seeding, street sweeping, fiber rolls, storm drain inlet protection, and spill control and prevention measures. Caltrans also would adhere to the conditions of the NPDES permit issued by the SWRQB.

Construction activities for the project would comply with and be covered under the Caltrans Statewide Storm Water Permit, Caltrans would comply with all requirements of the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, and Caltrans would notify the Central Valley Board that the project is to be covered under the permit prior to construction.

Additionally, Caltrans has developed a suite of BMPs (Appendix E-Caltrans 2003 Construction Site BMP Field Manual and Troubleshooting Guide), that are included in the proposed project design. These BMPs would be implemented as part of the proposed project. Applicable BMPs are described below.

- Silt fences and fiber rolls would be placed to control sediment discharge, and therefore minimal sediment would be released into receiving waters.
- Measures would be taken to prevent construction equipment effluents from contaminating soil or waters in the construction site.
- Excavated spoils would be controlled to prevent sedimentation to the stream.
- Straw mulch, silt fences, and fiber rolls would be applied to exposed soil areas for over-wintering protection from erosion if two construction seasons are necessary to complete the work.

- The construction contractor would be required to develop and implement site-specific BMPs, a Water Pollution Control Plan, and emergency spill controls.

- No concrete washings or water from concrete would be allowed to flow into waterways. No concrete would be poured within flowing water in the waterways.

- Water that has come into contact with setting concrete would be pumped into a tank and disposed at an approved disposal facility.

3.8 Construction Noise

Regulatory Setting (Noise)

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project would have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible.

Affected Environment (Noise)

Short-term noise impacts would occur from the use of stationary and mobile construction equipment and vehicles. Project construction equipment could include excavators, compressors, generators, haul trucks, concrete breakers, pavers, debris and material loaders, diesel-powered earth-moving equipment, a crane, and impact tools, however no pile driving is needed for the project. Project construction noise levels would fluctuate, depending on the construction phase, equipment type, quantity and duration of use, and the presence or absence of barriers.

Table 2 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance.

Table 3. Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration, 2006. See also: http://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

Long term noise impacts: The proposed project would not add new lanes to the roadway, and therefore it would not increase the roadway capacity or induce an increase in traffic. The proposed project would meet the criteria for a Type III project, established in Title 23, Section 772 of the Code of Federal Regulations (CFR) (Caltrans 2012b). Therefore, the proposed project requires no analysis for highway traffic noise impacts (Caltrans 2012b). Type III projects do not involve added capacity, construction of new through lanes or auxiliary lanes, or exposure of noise sensitive land uses to a new or existing highway noise source (FHWA 2011). The proposed project would not result in a permanent increase in noise levels and would have no long-term impact. Construction noise would be short-term and intermittent.

The project related noise impacts would be less than significant.

Best Management Practices (Noise)
The construction contractor would be required to comply with Section 14 of the Caltrans Standard Specifications, which would require construction noise control including:

- Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from 9 p.m. to 6 a.m.
- Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler.

3.9 Transportation and Traffic

Affected Environment

Traffic: The proposed project is a bridge replacement project and would not cause an increase in traffic that would be substantial in relation to the existing traffic load and capacity. The proposed project would improve sight distance at Sugarloaf Lane, and would not add new lanes or otherwise increase the roadway capacity. Temporary traffic delays from one-way reversible traffic control would occur during construction. Signals would be placed at both ends of the bridge, and traffic would be able to proceed one direction at a time. Idling time for vehicles would be limited to the

amount of time it takes for traffic from one direction to pass through the construction site. During the construction of roadway improvements west of the bridge, it is likely that one way traffic control would be implemented using flaggers instead of traffic signals.

Transportation Impacts: Proposed shoulder widening on both the bridge and the approach roadway would improve safety for motorists, bicyclists, and pedestrians.

Project-related impacts to transportation and traffic are less than significant.

Best Management Practices

The construction contractor would implement a Transportation Management Plan (TMP), which would specify hours of work, public notice requirements, traffic control measures, and signal system requirements (Caltrans, 2012b). Emergency access would be maintained throughout construction.

Chapter 4. Consultation and Coordination

The following is a summary of coordination and consultation that has occurred:

4/16/15 Caltrans Public Meeting – A preliminary scoping meeting/open house was held to Inform the public and interested agencies that preliminary design and environmental studies were to begin.

6/25/15 A project coordination meeting was held with multiple Caltrans and USFS staff at the project site.

9/10/15 Request sent to Native American Heritage Commission

9/16/15 Response received from Native American Heritage Commission

9/17/15 A meeting was held at the project site between Russell Adamson, Caltrans Archaeologist and Bill George, Pit River Tribe Atsugewi Band Cultural Representative.

10/19/15 Starting in October of 2015, Caltrans Right of Way agent Carol Sloan made several attempts to contact the owners/representatives of the Hat Creek RV Resort in order to obtain approval to access resort property for environmental surveys and to discuss project activities. A letter was sent on 10/19/15 with no response received to date. Three phone calls were made in December of 2015 with no response received to date. On 12/8/15, the Secretary of State's (SOS) corporation data was accessed. The agent for service listed with the SOS's office was Gregory Key. An attempt was made to reach him, however the phone number listed was not his. No contact has been made to date.

10/29/15 Caltrans Public Meeting – Caltrans held a meeting at the Old Station Fire Hall to update the public about the geotechnical drilling plan.

11/17-18/15 A meeting was held at the project site with Pit River Atsugewi Band representative Bill George and Russell Adamson, Caltrans archaeologist.

12/2015 Caltrans mitigation specialist Mary Ann McCrary made initial contact (via telephone) with Shawn Wheelock of the U.S.F.S. to discuss potential mitigation options on U.S.F.S. land.

12/2015 Caltrans biologist, Michelle Clark, contacted Dr. Richard Lis, CA Department of Fish and Wildlife Preliminary Coordination (via telephone) regarding 1602 permit and montane riparian impacts.

12/2015 Caltrans biologist, Michelle Clark contacted Karen S. Harville, Supervisory Wildlife Biologist Lassen National Forest, Hat Creek Ranger District (via email). Several emails were exchanged discussing potential impacts to wildlife.

12/22/2015 A meeting was held at the project site with Jim Simmons, Hat Creek Highlands Water Company and Wesley Stroud, Caltrans Environmental Branch Chief

3/2/2016 *Scheduled Caltrans Public Meeting* – Draft Environmental Document

Chapter 5. List of Preparers

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

Russell Adamson, Project Archaeologist
Contribution: Cultural resource surveys and reports

Nathan Alexander, Resident Engineer
Contribution: Construction Coordination

Rajive Chadra, Engineering Geologist
Contribution: Initial Site Assessment for Hazardous Waste

Michelle Clark, Project Biologist
Contribution: Biological surveys and Natural Environment Study

Brett Ditzler, Hydraulics Project Engineer
Contribution: Floodplain Evaluation Report Summary and Location Hydraulic Study

Darrell Naruto, NPDES Coordinator
Contribution: Water Quality Assessment Report

Greg Slocum, Structure Design Engineer
Contribution: Preliminary Bridge Design

Bill Lehman, Project Engineer
Contribution: Project design

Eric Orr, Senior Project Engineer
Contribution: Project design oversight

Robin Solari, Landscape Associate
Contribution: Visual Impact Assessment

Wesley Stroud, Environmental Branch Chief
Contribution: Document preparation oversight

Carolyn Sullivan, Associate Environmental Planner
Contribution: Environmental Project Management and Document writer

Derek Willis, Project Manager
Contribution: Project management

Jim Wood, Supervising Construction Engineer
Contribution: Construction Coordination

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