Soda Creek Bridge (No. 06C-0348) at Soda Creek Road Replacement Project

Proposed Mitigated Negative Declaration and Initial Study
PUBLIC DRAFT

August 2016

Prepared for:
Shasta County
Department of Public Works
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NSR 17571

1. Project Title:	Soda Creek Road at Soda Creek Bridge (No. 06C-0348) Replacement Project
2. Lead Agency Name and Address	Shasta County Department of Public Works 1855 Placer Street Redding, CA 96001-1759
3. Contact Person and Phone Number	Joshua Cannan, Associate Engineer (530) 225-5151
4. Project Location	Soda Creek Road at Soda Creek, approximately 4.25 miles northeast of the community of Castella, Shasta County, California; Township 38 North, Range 3 West, Section 6, *Dunsmuir, California* quadrangle; Assessor Parcel Number: 014-040-007
5. Project Sponsor's Name	Shawn Ankeny, P.E., Supervising Engineer Shasta County Department of Public Works 1855 Placer Street Redding, CA 96001-1759
6. General Plan Designation	Timber Production
7. Zoning	Timber Production

8. Description of Project

The Shasta County Department of Public Works (County) proposes to replace the existing bridge (No. 06C-0348) on Soda Creek Road over Soda Creek (project) and construct the necessary roadway approach improvements. The bridge, built in 1930, was found to be structurally deficient with an inadequate load capacity, inadequate deck width, and substandard railing. The County has nominated this bridge for replacement under the federal-aid Highway Bridge Program administered by the Federal Highway Administration (FHWA) through the California Department of Transportation (Caltrans) Local Assistance program. The replacement bridge construction will conform to the current standards prescribed in the American Association of State Highway and Transportation Officials (AASHTO) Bridge Design Specifications, Caltrans amendments to the AASHTO Load and Resistance Factor Design specifications (California Department of Transportation 2011), Caltrans *Seismic Design Criteria Version 1.6* (California Department of Transportation 2010), and the County.

The bridge would be replaced with a longer and wider structure aligned downstream (southeast) of the current alignment. The new bridge would be constructed of a single-span, reinforced concrete box-girder structure. The Soda Creek Road approaches would be realigned and the new bridge centerline would be located approximately 35 feet from the existing bridge centerline. Construction of the new bridge outside the current alignment would allow continued use of the existing bridge during construction. The re-aligned roadway approaches would be graded to conform to the existing road and would be paved throughout the conform limits—whereas, the existing roadway is mostly an unpaved gravel surface—and the roadway would be widened to meet the County design standards for a Local Rural Roadway.

A temporary work area within the channel may be needed to construct the necessary falsework and to drop the existing bridge onto during its removal; however, no falsework supports would be placed directly in the wetted channel. It is anticipated that Soda Creek would have a relatively small amount of water flow during the construction season. Hand-placed sandbags may be used to temporarily divert the stream during construction. Following completion of the work, the falsework, diversion, and gravel work pad would be removed and the stream would be allowed to naturally reform the channel. The existing bridge would remain in operation throughout construction and be removed and disposed of off-site after the new bridge has been completed.

9. Surrounding Land Uses and Setting

Timber Production; Dispersed Recreation

10. Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement.)

- Federal Highway Administration
- U.S. Army Corps of Engineers (Sacramento District)
- U.S. Fish and Wildlife Service
- California Department of Fish & Wildlife (Region 1)
- California Regional Water Quality Control Board (Central Valley Region)
- California Department of Transportation (District 2)
- Shasta County Department of Public Works

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Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AC	asphalt concrete
APN	Assessor's Parcel Number
AQMD	Shasta County Air Quality Management District
ASR	Archaeological Survey Report
BA	Biological Assessment
BMP	Best Management Practice
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
CO_2	carbon dioxide
Corps	U.S. Army Corps of Engineers
County	Shasta County
CWA	Clean Water Act
dB	decibel
dbh	diameter at breast height
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
°F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
GHG	greenhouse gas
HBBR	Highway Bridge Replacement and Rehabilitation
HEPA	high energy particulate air
HPSR	Historical Properties Survey Report
IS	Initial Study
MND	Mitigated Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NPDES	National Pollutant Discharge Elimination System
NSO	Northern Spotted Owl
NSR	North State Resources

OHWM	ordinary high water mark
PM_{10}	particulate matter 10 microns or less
project	Soda Creek Road at Soda Creek Bridge Replacement Project
Q_{50}	50-year flood
Q_{100}	100-year flood
ROW	right of way
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
RMS	root mean square
SWPPP	Storm Water Pollution Prevention Plan
THP	Timber Harvest Plan
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service

1 Introduction

1.1 Introduction and Regulatory Guidance

This document is an Initial Study (IS) that summarizes the technical studies prepared for the proposed Soda Creek Road at Soda Creek Bridge (No. 06C-0348) Replacement Project (project). It includes an evaluation of potential environmental impacts that could result from the project and provides justification for a proposed Mitigated Negative Declaration (MND) for the project. This document has been prepared in accordance with the current California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines. Mitigation measures have been proposed to avoid or minimize any significant impacts that were identified.

1.2 Lead Agency

The Lead Agency is the public agency with primary responsibility for implementing a project. The project would receive funding through federal and state sources and would require approvals from the Federal Highway Administration (FHWA) and the California Department of Transportation (Caltrans). FHWA has designated Caltrans to act as the National Environmental Policy Act (NEPA) Lead Agency on its behalf. The Shasta County Department of Public Works (County) is the CEQA Lead Agency. NEPA approval is anticipated to be in the form of a Categorical Exclusion supported by technical studies.

1.3 Supporting Technical Studies

The technical studies listed below are available for review at the County. Please contact:

Joshua Cannan, Associate Engineer
Shasta County Department of Public Works
1855 Placer Street
Redding, CA 96001-1759
Phone: (530) 225-5151

Technical studies conducted for this project include:

- Archeological Survey Report (ASR)/Historical Properties Survey Report (HPSR) (Confidential, available to qualified readers only)
- Northern Spotted Owl Biological Assessment (BA)
- Northern Spotted Owl Habitat Assessment and Evaluation of Auditory and Visual Disturbance and Pacific Fisher Denning Habitat Assessment Technical Memorandum
- Natural Environment Study (NES) Report
- Design Hydraulic Study
- Wetland Delineation Report
- Initial Site Assessment
- Foundation Report

1.4 Document Organization

The IS consists of the following chapters:

Chapter 1.0 – Introduction: describes the purpose and content of this document.

Chapter 2.0 – Project Description: provides a comprehensive description of the project, tentative schedule, required permit approvals, and project alternatives.

Chapter 3.0 – Environmental Impacts and Mitigation Measures: describes the environmental impacts of the project using the CEQA Environmental Checklist. Where appropriate, mitigation measures are provided that would reduce potentially significant impacts to a less-than-significant level.

Chapter 4.0 – Determination: provides the environmental determination for the project.

Chapter 5.0 – Summary of Mitigation Commitments: provides a comprehensive list of all mitigation measures proposed for the project.

Chapter 6.0 – Report Preparation: identifies the individuals responsible for preparation of this document.

Chapter 7.0 –References: provides a list of references used to prepare this document.

2 Project Description

2.1 Location

Soda Creek Road at the Soda Creek Bridge (No. 06C-0348) is located approximately 3 miles northeast of the Soda Creek Road intersection with Interstate 5 (I 5) and 4.25 miles northeast of the community of Castella, Shasta County, California. The bridge crosses Soda Creek, a tributary to the Upper Sacramento River, which ultimately empties into Shasta Lake and eventually, the Pacific Ocean. The 1.35 acre project area is found on the *Dunsmuir, California* 7.5 minute U.S. Geological Survey quadrangle, Township 38 North, Range 3 West, Section 6, Mount Diablo Base & Meridian. The project location is shown in Figure 1. The project area corresponds to a Shasta County right-of-way (ROW) easement through Assessor Parcel Number (APN) 014-040-007.

2.2 Existing Facility Conditions

Soda Creek Road is an unpaved gravel road varying in width between one to two lanes, with a prescriptive right of way. The Average Daily Traffic Volume of the road at the bridge is about 5 vehicles per day. It is classified by the County as a Local Rural road.

The existing single-lane bridge over Soda Creek was constructed in 1930. It is a single-span steel truss bridge with a bituminous covered wood deck. The structure is approximately 76 feet long and 18 feet wide, and is supported on two concrete abutments. All interior and end supports are founded on spread footings anchored or benched into naturally occurring rock formations. As Soda Creek Road approaches the bridge, it narrows down to a single lane road.

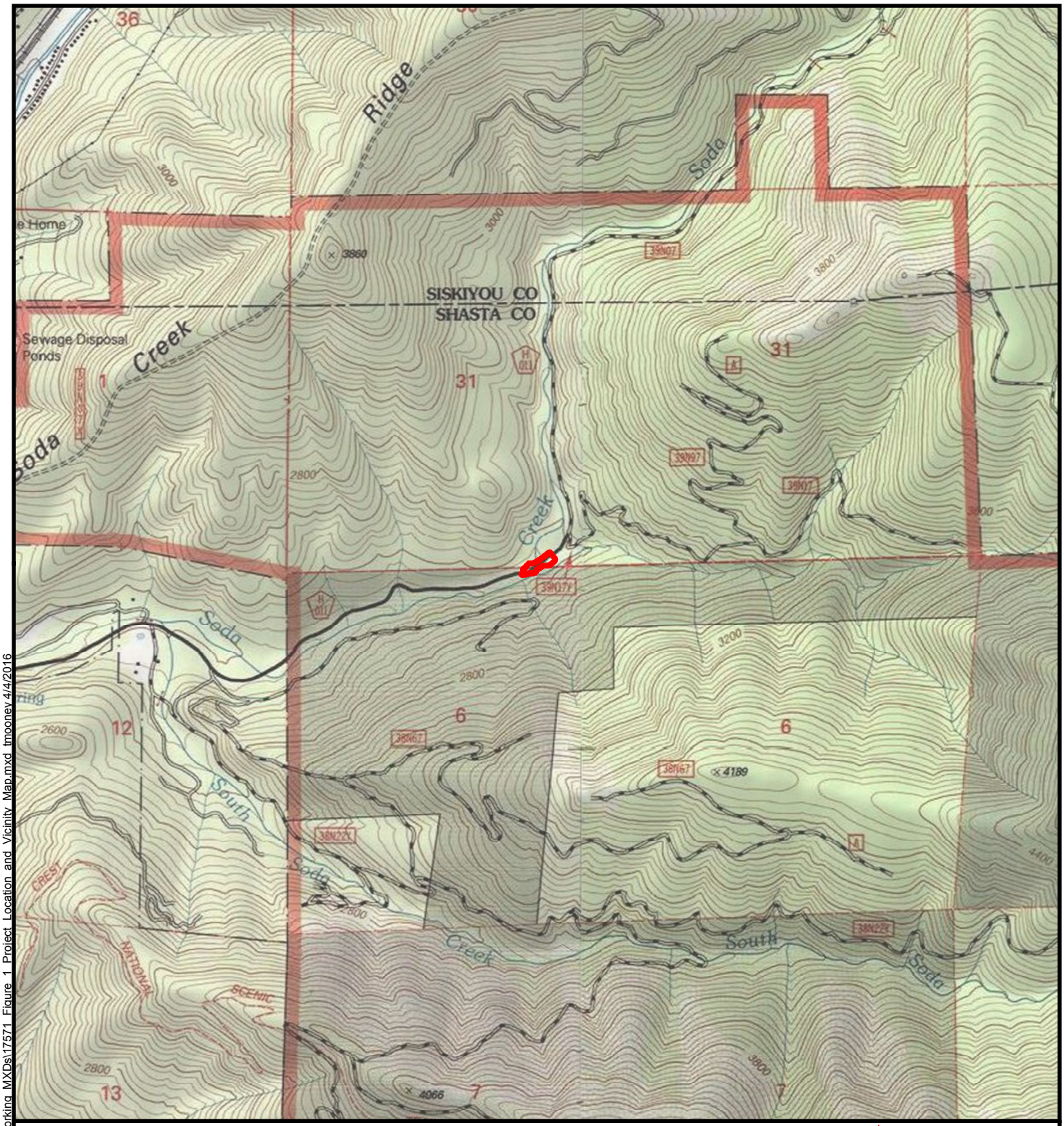
2.3 Project Purpose and Need

The purpose of this project is to improve public safety by providing a safe and cost effective solution for traffic to cross Soda Creek. The County identified the need for replacement after the bridge was found to be structurally deficient due to substandard load carrying capacity, inadequate deck width, and substandard railing. Soda Creek Road provides access to U.S. Forest Service (USFS) lands and private timber lands in a remote mountainous area. Road access is important for fire protection, timber harvest, and dispersed recreation.

2.4 Proposed Project

2.4.1 Replacement of Existing Bridge with a New Structure

The project would involve realignment and construction of a new two-lane bridge including excavations for abutments and installation of wingwalls; installation of guardrails; cuts and fill of the app roach roadway; clearing and grubbing of vegetation including removal of approximately 34 trees scattered throughout the project area, removal of seven additional trees within an approximately 0.12 acre quarry area; and removal and disposal of the existing bridge. Instream work would be required.



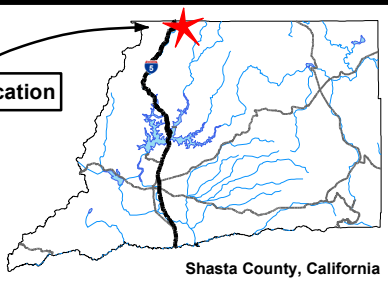
Project Area (1.35 acres)

Public Land Survey:
T38N, R03W, Sec. 6

USGS 7.5 Quad:
Dunsmuir - Revised 1986

N

2,000 1,000 0 2,000
Feet
1:24,000



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North State Resources, Inc.

Soda Creek Bridge Replacement Project

Figure 1
Project Location and Vicinity Map

No explosives would be used and no pile-driving activities are included as part of the proposed project (Cannan, pers. comm. 2013).

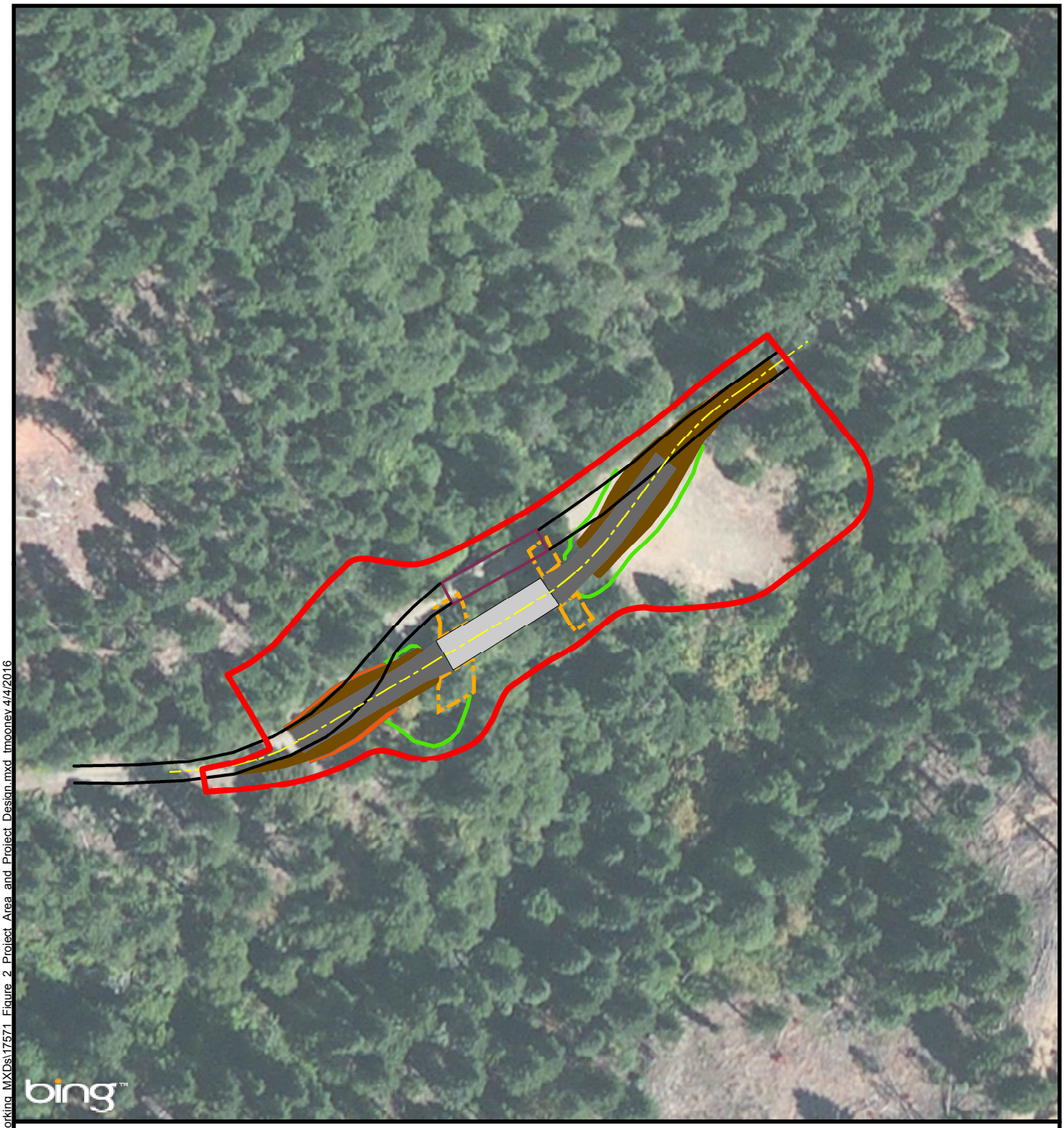
The replacement bridge would be a single-span, reinforced concrete box-girder structure measuring 110 feet long by approximately 23.5 feet wide. It would be installed along a new alignment to the southeast of the existing bridge with the proposed bridge centerline located approximately 35 feet from the existing bridge centerline (Figure 2). Figure 3 provides an engineered schematic of the proposed bridge layout, including a cross-section drawing. The southeasterly shift would allow a single stage construction operation and maintain vehicle access across Soda Creek throughout construction. The replacement bridge would be supported on abutments, and the footings of the abutments would be placed at depths of up to 10 feet below the ground surface, with the depth depending on the results of a geotechnical investigation. Wingwalls would be constructed and rock slope protection (RSP) installed to protect the bank slope. Crash-tested terminal end systems and approach guardrails would be placed at all corners of the new bridge. The guardrail timber posts would be 6 inches by 8 inches wide. Boring for the posts would penetrate up to 4 feet below the ground surface at some locations. The guardrails would be between 60 and 90 feet long.

Approximately 133-linear feet of the new western approach roadway and 200-linear feet of the new eastern approach roadway would require cut and fill to bring them to grade with the existing roadway where the new alignment would tie into the existing alignment. Cuts would be to a depth of about 9 inches and occur near the ends of the approaches away from the bridge. Fills for the new approach roadway would be up to 20 feet in depth. Some of the fill material would be from roadway excavation; the remainder of the fill would likely be taken from a proposed borrow site located northeast of the existing bridge.

Temporary falsework may be required in the channel of Soda Creek for construction of the cast-in-place reinforced concrete box-girder bridge; however, no false work supports would be placed directly in the wetted channel of Soda Creek. Hand-placed sandbags may be used to divert a small amount of the stream during falsework construction. A gravel pad may be constructed across the channel for access. Abutment excavations would be outside of the wetted channel.

Contractor staging would occur in an existing barren area immediately adjacent to Soda Creek Road on the east side of Soda Creek and north of an unnamed drainage. The proposed staging area is a flat area covered in gravel and reclaimed asphalt that is approximately 100 feet long by 125 feet wide. The staging area would not be improved or altered. No utilities would have to be relocated to construct the proposed project. A new permanent ROW of approximately 1 acre from APN 014-040-007 would be required.

Because the new bridge would be on a new alignment, the existing bridge would remain open to traffic during construction activities. The contractor would be responsible for controlling traffic through the project area. Once the new bridge is completed, the existing bridge would be removed and the area would be contoured to match surrounding conditions.



Project Area (1.35 acres)
New Centerline
Existing Edge of Road
Existing Bridge
New Bridge
New Pavement
New Cut
New Shoulder/Dirt road
New FIll
Rock Slope Protection

N

100 50 0 100
Feet
1:1,200

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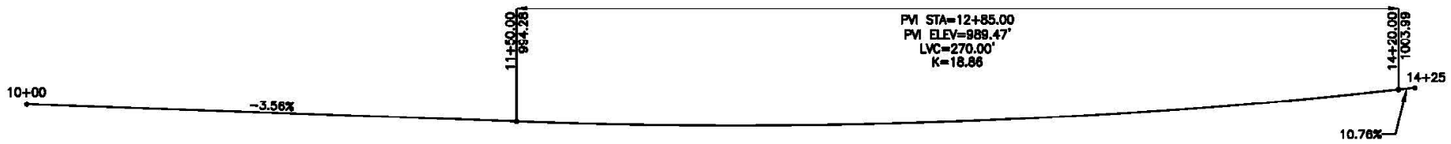
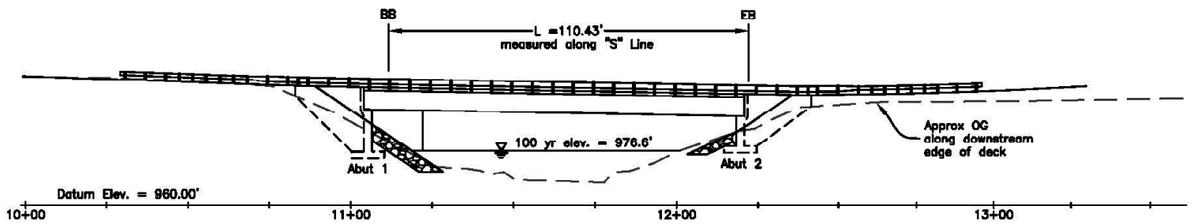
North State Resources, Inc.

Soda Creek Bridge Replacement Project

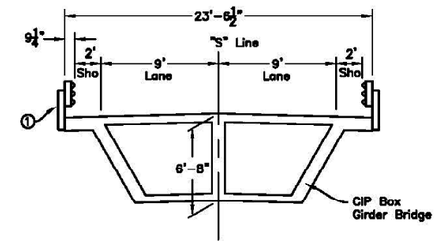
Figure 2
Project Area and Project Design



PROFILE
No Scale



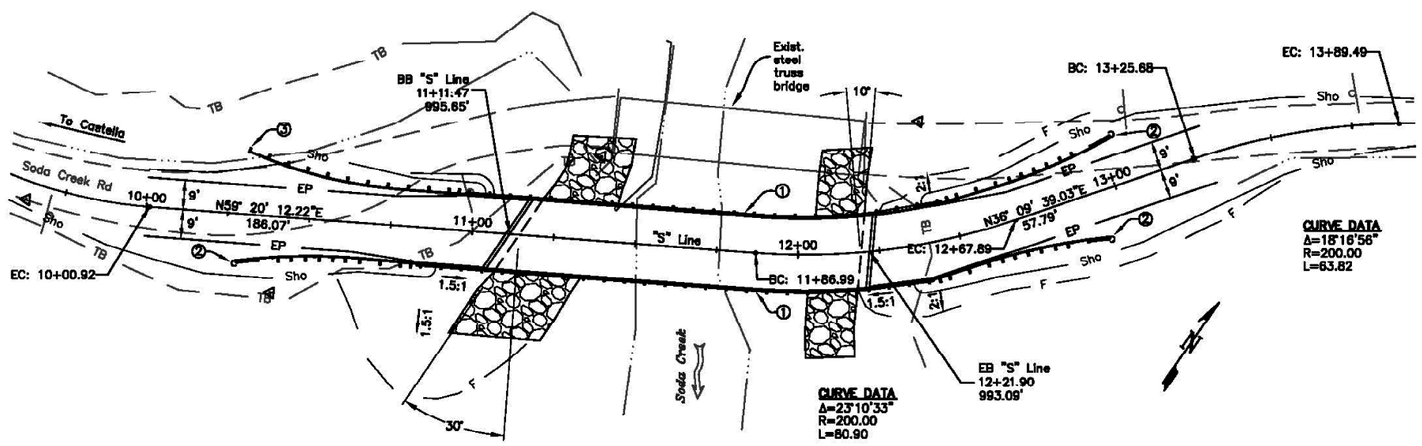
ELEVATION
1" = 20'



TYPICAL BRIDGE SECTION
1" = 5'

Notes:

1. Thrie Beam Bridge Rail, see "Thrie Beam Bridge Rail" sheet
2. Alternative Flared Terminal System End Treatment
3. Buried Post End Anchor



BAR IS TWO INCHES IN LENGTH ON ORIGINAL DRAWING. IF NOT TWO INCHES ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

PLAN
1" = 20'

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN: AASHTO LRFD Bridge Design Specifications, Sixth Edition and Caltrans Amendments

SEISMIC DESIGN: Caltrans Seismic Design Criteria (SDC) Version 1.7

DEAD LOAD: Includes 35 p.s.f. for future wearing surface.

LIVE LOADING: HL93 and permit design load.

SEISMIC LOADING: TBD

REINFORCED CONCRETE: fy = 60,000 p.s.i.
f'c = 3,600 p.s.i.
n = 8

PRELIMINARY
NOT FOR CONSTRUCTION

Joshua D. Cannan — DRAWN BY:	SUPERVISING ENGINEER:	Joshua D. Cannan – C 82046 — REGISTERED CIVIL ENGINEER:
Joshua D. Cannan — PROJECT ENGINEER:	STRUCTURES CHECKED BY:	APPROVAL DATE:

STATE OF CALIFORNIA
COUNTY OF SHASTA
DEPARTMENT OF PUBLIC WORKS

CONTRACT NO. 705928
RD. NO. 0H011 BR. NO. 6C-348
SCALE: As Shown

Soda Creek Road at Soda Creek
General Plan

SHEET 1 OF 1

Prepared by:

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Soda Creek Road at Soda Creek Bridge Replacement Project

Figure 3
Project Schematic

G:\Projects\17571 Soda Creek\GIS\Working_MXDs\17571 Figure 3 Project Schematic.mxd tmooney 4/4/2016

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2.4.2 Construction Criteria and Methods

The proposed project would comply with Best Management Practices (BMPs) described in the *Caltrans Construction Site Best Management Practices Field Manual and Troubleshooting Guide* (California Department of Transportation 2003). All project-specific BMPs and other pollution prevention and erosion control measures would be incorporated into the plans and specifications.

Removal of Existing Structure

Bridge removal would conform to the provisions of Section 60-2 of the Caltrans Standard Specifications (Caltrans 2015). Removal of the existing bridge would involve breaking the bridge into pieces and removing it mechanically. A tarp would likely be placed below the bridge to capture falling debris during disassembly and removal. Abutments would be removed at or up to 3 feet below the finished grade. The old bridge, concrete, and rebar would be disposed of off-site at an appropriate disposal or re-use facility. The banks and channel would be contoured to blend in with the surrounding landform. Disturbed areas will be hydroseeded and planted with native tree and other plant species.

Equipment

The types of construction equipment and vehicles to be used during construction activities would be determined by the construction contractor. Equipment typically used for this type of bridge replacement project include pick-up trucks, dump trucks, graders, backhoes, excavators, bulldozers, front-end loaders, clam shovels, jack hammers, pneumatic compressors and equipment, generators, welders, circular saws, concrete vibrators, compactors, water trucks, truck-mounted drills, concrete delivery trucks, asphalt concrete paving machines, rollers, and service vehicles. The number of construction workers needed for the proposed project would also be determined by the contractor.

2.5 Tentative Schedule

It is anticipated that the earliest that construction would start begin in July 2017. Construction is anticipated to require one to two construction seasons with project completion expected by December 2018. The new bridge and roadway approaches would be constructed first and once completed, the old bridge and associated roadway would be removed. No construction activities will occur between February 1 and July 15 to avoid potential adverse effects on nesting northern spotted owl (NSO). From July 16 through January 31, construction would be restricted to between the hours of 7 a.m. and 7 p.m. Nighttime construction is not expected to be needed. Occasional work on Saturdays or holidays may be necessary, but no work would occur on Sundays.

All instream activities, including bridge removal and substructure and superstructure construction activities would be confined to a work period between July 16 through October 31 to minimize and avoid impacts on water quality. Construction activities below the ordinary high water mark (OHWM) of Soda Creek may be allowed outside of the July 16 through October 31 period if permitted by the California Department of Fish and Wildlife (CDFW) and the Central Valley Regional Water Quality Control Board (RWQCB), depending on weather conditions.

2.6 Required Permits and Approvals

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

- U.S. Fish and Wildlife Service – Endangered Species Act Compliance for Northern Spotted Owl (Letter of Concurrence received September 30, 2015, #08ESMF00-2015-I-0612)
- U.S. Army Corps of Engineers – Sacramento District (Redding Field Office): Section 404 Nationwide Permit 14 (Linear Transportation Crossing Projects)
- CDFW – Redding Office: Section 1602 Streambed Alteration Agreement; State Endangered Species Act Compliance (if Shasta Salamander is found to be present)
- Central Valley RWQCB: Section 401 Water Quality Certification

2.7 No Project Alternative

In addition to the action alternative, the County also considered a "No Project" alternative in its evaluation of the project, pursuant to CEQA. Under the No Project alternative, the County would not proceed with replacement of the existing Soda Creek Road Bridge. However, Caltrans and FHWA have identified the existing bridge structure as being structurally deficient and inadequate. Implementation of the No Project alternative could result in future public safety issues associated with structural integrity and adequacy of the existing bridge.

3 Environmental Setting, Impacts, and Mitigation Measures

This chapter incorporates the Environmental Checklist contained in Appendix G of the CEQA Guidelines, including the CEQA Mandatory Findings of Significance. Each resource section provides a brief description of the setting, a determination of impact potential, and a discussion of the impacts. Where appropriate, mitigation measures are provided that would be used by the County to reduce potential impacts to a less-than-significant level. A discussion of cumulative impacts is included at the end of this chapter.

Addressed in this section are the following 17 environmental categories:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gases
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

Each of these issue areas was fully evaluated and one of the following four impact determinations was made:

- **No Impact:** No impact to the environment would occur as a result of implementing the proposed project.

- **Less-than-Significant Impact:** Implementation of the proposed project would not result in a substantial and adverse change to the environment and no mitigation is required.

- **Less than Significant With Mitigation Incorporated:** A "significant" impact that can be reduced to a less-than-significant level with the incorporation of project-specific mitigation measures.

- **Potentially Significant Impact:** Implementation of the proposed project could result in an impact that has a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (CEQA Guidelines Section 15382).

3.1 Environmental Setting

3.1.1 Regional Setting

Soda Creek is located within the upper Sacramento River watershed, which drains approximately 383,000 acres (600 square miles) of land, including runoff from the Klamath Mountains and the southwest slope of Mount Shasta. The upper Sacramento River drains into the 4.5 million acre foot Shasta Lake, one of the most important water storage reservoirs in California. The Soda Creek drainage basin encompasses 21.7 square miles, extending to the northeast. The basin consists mostly of steep, forested hillsides. Basin elevations range from a high of 5,705 feet at Everett Hill, to approximately 2,340 feet at the bridge site.

3.1.2 Local Setting

The Soda Creek project area is located in densely forested, mountainous timberland. All parcels within the project area are privately owned, with a majority of the project area is located on property owned by Oxbow Timber I, LLC. Public lands managed by the USFS (Shasta-Trinity National Forest) are located in the project vicinity. The project area consists of unpaved road and road shoulders; the existing bridge across Soda Creek; a large unpaved barren area; coniferous forest; riparian forest; and Soda Creek.

Climate

Climate within the project area is characterized as Mediterranean, with cool, wet winters and hot, dry summers. Precipitation in the project area averages approximately 64 inches of rain falling primarily between October and May (Western Regional Climate Center 2015). Average air temperatures range between a January high of 50 degrees Fahrenheit (ºF) and a July high of 90 ºF. The year-round average high is approximately 69 ºF.

Existing Land Uses

The project generally follows the existing Soda Creek Road corridor, which meanders through densely forested timber lands. In the project area, these timber lands are privately owned. There are signs of past timber harvest activities very near the project area; however there are no signs of current timber harvest activities.

Topography

The topography of the project area is characterized with a steep east-facing slope on the west side of Soda Creek and a moderately steep southwest-facing slope on the northeast side of Soda Creek. A level barren pullout area adjacent to Soda Creek Road occurs in the northeast portion of the project area on the south side of Soda Creek Road. The project area elevation ranges between 2,320 and 2,400 feet above mean sea level.

Hydrological Setting

Soda Creek, a perennial stream, is a direct tributary to the Sacramento River, flowing into the river about 2.6 river miles southwest of the project area. Soda Creek's hydrology is driven by sheetflow

from precipitation events, ground water, snow melt, and flow from numerous small tributaries that drain to Soda Creek throughout the watershed.

Soda Creek flows north to south and is confined to its stream channel with the exception of a side channel that flows during high precipitation or snow melt events. The width of Soda Creek's ordinary high water mark ranges from approximately 25 to 75 feet. Stream habitats include riffles, runs, and shallow pools with riffles occurring most often. The dominant substrates are boulders and cobble, with gravel and sand occurring less frequently. Both stream banks are heavily shaded with a multi-canopy layer dominated by white alder and big-leaf maple (*Acer macrophylum*). Red osier dogwood, California hazelnut (*Corylus cornuta*), and Oregon ash occupy the understory.

Soils

Two soil map units occur within the project area boundaries (U.S. Department of Agriculture and Natural Resources Conservation Service 2015):

- **Neuns-Kettlebelly, dry, complex, 50 to 75 percent slopes.** This is a non-hydric, well-drained soil formed in alluvium. The depth to a restrictive layer, bedrock, is approximately 50 inches.
- **Neuns-Kindig complex, 50 to 75 percent slopes.** This is a non-hydric, well-drained soil formed in alluvium. The depth to a restrictive layer, bedrock, is approximately 40 inches.

Geology

The underlying geology of the project area and vicinity consists of Copley greenstone (sometimes referred to as Copley Formation) dating from the Middle Devonian Epoch between 400 and 380 million years ago (Wagner and Saucedo 1987). Copley greenstone is the oldest formation in the Eastern Klamath Mountains subsection (Miles and Goudey 1998).

Vegetation Community Types

Vegetation community types were classified based on the descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). Vegetation community types occurring within the project area include barren, Klamath mixed conifer, montane riparian, and riverine.

Barren

The barren vegetation community includes Soda Creek Road and its associated road shoulders and a compacted dirt and gravel pull-out. Vegetation is usually not present, although sparse herbaceous plants occurring in the project area include annual dogtail (*Cynosurus echinatus*), woolly mullein (*Verbascum thapsus*), dandelion (*Taraxacum officinale)*, Spanish lotus (*Acmispon americanus* var. *americanus),* common ragweed (*Ambrosia artemisiifolia*), and Klamath weed (*Hypericum perforatum*). This vegetation community type provides few resources to wildlife species. Although some species associated with adjacent habitats likely forage in the barren areas to some extent, use of such areas by wildlife is expected to be limited.

Klamath Mixed Conifer

Klamath mixed conifer occurs upslope from the montane riparian vegetation community throughout the project area. In the project area, this vegetation community is characterized by a dense overstory with a moderately dense shrub and herbaceous understory. Clear-cuts are present upslope of the project area on both sides of Soda Creek. Dominant tree species include Douglas-fir (*Pseudotsuga menziesii*), incense-cedar (*Calocedrus decurrens*), ponderosa pine (*Pinus ponderosa*), big-leaf maple, and canyon live oak (*Quercus chrysolepis*). Dominant understory vegetation includes tanoak (*Notholithocarpus densiflorus*), California hazelnut, and Himalayan blackberry (*Rubus armeniacus*). Species occurring in the herbaceous understory include white hawkweed (*Hieracium albiflorum*), Hartweg's wild ginger (*Asarum hartwegii*), rattlesnake plantain (*Goodyera oblongifolia*), and slender iris (*Iris tenuissima*).

Klamath mixed conifer vegetation provides a wide array of nesting and foraging opportunities for wildlife. Bird species commonly found in this vegetation community type include ground dwelling birds, such as mountain quail (*Oreotyx pictus*) and sooty grouse (*Dendragapus fuliginosus*), and woodpeckers including pileated woodpecker (*Dryocopus pileatus*) and hairy woodpecker (*Picoides villosus*). Predatory birds include sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*Accipiter cooperii*), and other raptors also inhabit this vegetation community type.

Western gray squirrel (*Sciurus griseus*), northern flying squirrel (*Glaucomys sabrinus*), and chickaree (*Tamiasciurus douglasii*) are mammals often found in the tree canopy and on the ground foraging for seeds and nuts. Black bear (*Ursus americanus*) and black-tailed deer (*Odocoileus hemionus*) are often found in this vegetation community type. In addition, carnivorous mammals commonly found include gray fox (*Urocyon cinereoargenteus*) and mustelids, such as long-tail weasel (*Mustela frenata*). The leaf litter also provides habitat for the California kingsnake (*Lampropeltis zonata*) and the ensatina salamander (*Ensatina eschscholtzi*).

Montane Riparian

The montane riparian community occurs adjacent to and along the banks of Soda Creek, and in a very small area on the east end of the project area. The canopy is dense and the understory is moderately dense. Upland herbaceous species become more prevalent as the hydrology provided by the stream's water table decreases away from the stream. Few white alder (*Alnus rhombifolia*) and Oregon Soda (*Fraxinus latifolia*) occur on either side of Soda Creek. Shrub species include red osier dogwood (*Cornus sericea* ssp. *sericea*), Oregon Soda, California blackberry (*Rubus ursinus*), and thimbleberry (*Rubus parviflorus*). The herbaceous layer includes horsetail (*Equisetum arvense*), California spikenard (*Aralia californica),* common ladyfern (*Athyrium filix-femina*), blue wildrye (*Elymus glaucus*), and Shasta lily (*Lilium pardalinum* ssp. *shastense*).

Riparian woodlands represent some of the most important wildlife habitats due to their high floristic and structural diversity, high biomass (and therefore high food abundance), and water availability. In addition to providing breeding, foraging, and roosting habitat for a diverse array of animals, riparian communities also provide movement corridors.

The leaf litter, fallen tree branches, and logs associated with the riparian communities provide cover for amphibians such as the western toad (*Bufo boreas*) and pacific chorus frog (*Pseudacris regilla*). The western fence lizard (*Sceloporus occidentalis*), western skink (*Eumeces skiltonianus*), and

northern alligator lizard (*Elgaria coerulea*) are also expected to occur here, as are several snake species, including the western rattlesnake (*Crotalus viridis*), racer (*Coluber constrictor*), and common kingsnake (*Lampropeltis getula*).

Common bird species nesting and foraging in this montane riparian vegetation communities, primarily in the riparian tree canopy, include the bushtit (*Psaltriparus minimus*), white-breasted nuthatch (*Sitta carolinensis*), black phoebe (*Sayornis nigricans*), Nuttall's woodpecker (*Picoides nuttallii*), and downy woodpecker (*Picoides pubescens*). Other resident species, such as the spotted towhee (*Pipilo maculatus*) and song sparrow (*Melospiza melodia*), often nest and forage in dense understory vegetation. Several species of raptors, including the red-shouldered hawk (*Buteo lineatus*), Cooper's hawk, American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), and western screech-owl (*Otus kennicottii*) are also year-round residents of riparian communities.

Several mammals also occur in riparian communities. Small mammals, such as the Botta's pocket gopher (*Thomomys bottae*) and deer mouse (*Peromyscus maniculatus*) may burrow or find refuge in dense grass or brushy thickets. Black-tailed deer (*Odocoileus hemionus*) frequently use riparian vegetation, and opportunists, such as the raccoon (*Procyon lotor*), are attracted by the abundance of prey and cover.

Riverine

The project area is bisected by the Soda Creek channel, which is characterized by its riverine features. Below the OHWM, Soda Creek is dominated by run and riffle areas with boulder, cobble, sand, and gravel substrates. Vegetation within the active stream channel is sparse and includes Indian rhubarb (*Darmera peltata*) and big-leaf sedge (*Carex amplifolia*).

The riverine community type provides critical food, water, and cover to a variety of wildlife species. Many amphibians, fish, and invertebrates are dependent on riverine habitat for survival. Several species of waterfowl and wading birds use riverine habitats to escape predation and seek refuge. Additionally, many species of insectivorous birds and bats find their prey over water.

3.2 Environmental Impacts and Mitigation Measures

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*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?	☐	☐	☐	☒

Discussion of Impacts

a) ***No Impact.*** There are no scenic areas or resources within the project area. The project consists of replacing the existing Soda Creek Road bridge and roadway approaches with similar structures on a slightly different alignment, and would be constructed in a manner consistent with the existing aesthetic.

b) ***Less-than-Significant Impact.*** Soda Creek Road is not designated as a local scenic highway in the County's General Plan. There are no scenic resources or historic buildings in the project area. The bridge and roadway approaches are not visible from areas outside of the immediate project area due to dense forest, steep topography, and remote location. There are no residential, recreational, or commercial developments near the project area. Several large trees would need to be removed to allow for the new bridge and roadway alignment downstream of the existing bridge, but the impact would not be inconsistent with nearby land uses (i.e., logging activities) and the existing scenic quality of the project area and vicinity.

c) ***Less-than-Significant Impact.*** The project consists of replacing the existing Soda Creek Road bridge and roadway approaches with similar structures. Although the existing bridge was originally constructed in 1930, and retains some of the character of that period, the new bridge would be constructed in a manner consistent with the existing aesthetic. The project would not introduce any elements that would degrade the existing visual character or quality of the site or surrounding area.

d) ***No Impact.*** Construction and operation of the project are not expected to result in increased glare in the project area and no lighting is proposed as part of the project.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
II. AGRICULTURAL AND FOREST RESOURCES — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and 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 by Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in 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?	☐	☐	☐	☒

Discussion of Impacts

a) ***No Impact.*** The project area does not include any designated farmland.

b) ***No Impact.*** The project area does not include any lands zoned for agricultural use or that are under a current Williamson Act contract.

c) ***No Impact.*** The project would not cause rezoning of forestland, timberland, or timberland zoned for timber production. Although the project area is zoned for Timber Production, the presence of the public facility (i.e., bridge) is a compatible use—necessary for forest management actions.

d) ***Less-than-Significant Impact.*** In order to accommodate the downstream realignment proposed for the new bridge and roadway approaches, approximately 1 acre forestland outside of the existing County ROW would be permanently converted to transportation corridor. This impact

would be less than significant and would be offset by the restoration of the existing roadway approaches to a condition consistent with the surrounding forest community type.

e) ***No Impact.*** The project would not result in the disturbance of any forest land outside of the proposed project footprint. The parcel through which the project area would be aligned is zoned for timber production and is not conducive to urban development primarily.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
III. AIR QUALITY — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute 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?	☐	☐	☐	☒

Discussion of Impacts

a, b) ***Less-than-Significant Impact.*** Air pollution control will conform to Caltrans Standard Specifications, which state that the contractor shall comply with all applicable air pollution control rules, regulations, ordinances, and statutes.

c) ***Less than Significant with Mitigation Incorporated.*** Shasta County is currently a state non-attainment area for particulate matter, 10 micron or less (PM_{10}) and ozone (California Air Resources Board 2013). Construction activities associated with the project could result in a relatively minor net increase in PM_{10} and ozone. While the amount of PM_{10} and ozone generated by the project would be minor, it would nevertheless be considered a significant impact because of the Shasta County Air Quality Management District's (AQMD) current non-attainment status for PM_{10} and ozone. In addition to adhering to Caltrans Standard Specifications and *Northern Sacramento Valley Planning Area 2012 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2013) for air quality, implementation of *Mitigation Measure #1—Air Quality Fugitive Dust Control* will reduce this impact to a less-than-significant level.

d) ***No Impact.*** The project would be constructed in a remote, uninhabited region of northern Shasta County. There are no nearby homes or developed recreation sites in the project vicinity. Road use it typically light and recreational opportunities in the region are widely dispersed (e.g., hunting). It is anticipated that dispersed recreational use of the stream access at the Soda Creek bridge would be temporarily closed to the public during construction, thus there would be no sensitive human receptors (i.e., public) affected by emissions from construction equipment. The volume of air pollutants generated by construction of the project would be minor and consistent with existing conditions; project activities will be implemented according to Caltrans Standard

Specifications and *Northern Sacramento Valley Planning Area 2012 Triennial Air Quality Attainment Plan* (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2013) for air quality.

e) ***No Impact.*** The project would not create any objectionable odors.

Mitigation Measures

Mitigation Measure #1—Air Quality/Fugitive Dust and Emissions Controls

The County shall include provisions in the construction bid documents that the contractor shall implement fugitive dust and emissions controls during construction activities. The fugitive dust and emissions controls shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- Pursuant to the California Vehicle Code 23114(4) (California Department of Motor Vehicles 2015), all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Any topsoil that is removed for the construction operation shall be stored on-site in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.
- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.
- Contractors will commit to using the best available emissions control technology. The use of diesel construction equipment meeting the California Air Resources Board (CARB) 1996 or newer certification standard for off-road heavy-duty diesel engines and having Tier 4 engines will be maximized to the extent feasible. Equipment may be electrified if feasible, and gasoline-powered equipment should be substituted for diesel-powered equipment when feasible, unless alternatively fueled construction equipment can be used. If the use of all equipment with Tier 4 engine standards is not feasible, the contractor should commit to using CARB and Environmental Protection Agency (EPA)-verified particulate traps, oxidation catalysts, and other appropriate controls when suitable to reduce emissions of diesel particulate matter and other pollutants during construction.

Timing/Implementation:	During construction
Enforcement:	Shasta County AQMD
Monitoring:	County and/or its contractor

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
IV. BIOLOGICAL RESOURCES — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. 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?	☐	☐	☐	☒

Discussion of Impacts

a) ***Less than Significant with Mitigation Incorporated.*** A Natural Environment Study (NES) report (North State Resources 2016), which analyzes the project effects on biological resources was approved by Caltrans in March 2016. Based on a review of habitat requirements and the findings of NSR's protocol-level botanical survey of the project area conducted on June 11 and 16, 2013 and June 5, 2014, no special-status plant species were found.

Based upon the review of habitat requirements of regionally occurring special-status fish and wildlife species and the results of the reconnaissance-level field assessment conducted on March 14, 2013, the project area provides habitat for 12 special-status wildlife species (North State Resources 2016). Although Soda Creek is suitable for fish, no federal of state listed fish species occur in the stream due to physical barriers (Shasta and Keswick dams) to anadromous fish passage downstream of the project area. Habitat for the following special-status wildlife species was found within the project area:

- Shasta salamander (*Hydromantes shastae*) – State Threatened
- Northern spotted owl (*Strix occidentalis caurina*) – Federally Threatened; Species of Special Concern

- Townsend's big-eared bat (*Corynorhinus townsendii*) – Species of Special Concern
- Pacific fisher (*Martes pennant pacifica*) Distinct Population Segment (DPS) – Federal Candidate; Species of Special Concern
- Foothill yellow-legged frog (*Rana boylii*) – Species of Special Concern
- Tailed frog (*Ascaphus truei*) – Species of Special Concern
- Northern goshawk (*Accipiter gentiles*) – Species of Special Concern
- Yellow warbler (*Dendroica petechia brewsteri*) – Species of Special Concern
- Yellow-breasted chat (*Icteria virens*) – Species of Special Concern
- Olive-sided flycatcher (*Contopus cooperi*) – Species of Special Concern
- Pallid bat (*Antrozous pallidus*) – Species of Special Concern
- Ringtail cat (*Bassariscus astutus*) – Fully Protected Species

Shasta salamander. Field assessments did not detect the presence of Shasta salamander in the project area, although a non-limestone rock outcropping and forested habitat within the project area provide potential habitat. The project could adversely affect Shasta salamander if individuals are present during construction. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. The species may also be affected if construction activities result in degradation of habitat due to erosion and sedimentation, accidental fuel leaks, and spills. In addition, loss of potential habitat may have a negative impact on this species.

Mitigation Measure #2 – Shasta Salamander, Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat, and Mitigation Measure #6 – Prevention of Spread of Invasive Species will be used to reduce project impacts on Shasta salamander to a less-than-significant level.

Foothill yellow-legged frog and Tailed frog. Field assessments did not detect the presence of foothill yellow-legged frog or tailed frog in the project area. However, the California Natural Diversity Data Base (CNDDB) contains occurrence records for both species in Soda Creek including a yellow-legged frog occurrence at the confluence of Soda Creek and the Sacramento River approximately 1.7 miles downstream of the project area, and a recorded occurrence of tailed frog in Soda Creek approximately 4 miles upstream of the project area. The rocky stream channel and conifer-dominated overstory provide habitat for both species.

Because habitat is present within the project area, construction activities have the potential to affect either species of frog. Potential direct effects include harassment, injury, and mortality of individuals due to equipment and vehicle traffic. *Mitigation Measure #7 – Frogs* will reduce construction impacts to a less-than-significant level. These species may also be affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. *Mitigation Measure #3 – Erosion and Sediment Control* and *Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants* will be used to maintain water quality. In addition, loss of riverine and riparian habitat may have a negative impact on these species; therefore, *Measure #5 – Replacement of Lost Riparian Habitat* will be used to reduce this impact to a less-than-significant level.

Northern spotted owl. The Spotted Owl Data Viewer (California Department of Fish and Wildlife 2015) and Forest Service survey data show multiple NSO observations and one NSO activity center within 2 miles of the project area. The NSO activity center is located approximately 0.83 mile northeast of the project area and was last confirmed active in 1996, when an adult male and female and two young were observed. Subsequent surveys conducted at the activity center in 2004, 2005, and 2006 resulted in no owl detections. The most recent NSO observation in the general area occurred in 2004, when an individual of unknown age and sex was observed approximately 0.45 mile southeast of the project area.

Although no observations of NSO have been recorded in the project area, functional habitat is present and could support breeding and non-breeding NSOs. USFWS designated critical habitat for NSO occurs in a portion of the NSO assessment area (0.5 mile radius from the project areas); however, no designated critical habitat occurs in the project area and no project related activities would occur within designated critical habitat.

Direct effects on NSO could result from tree removal that occurs during the breeding/nesting season (February 1 to July 15) if an individual owl, egg, or nest is present in or near a tree that is removed. Additionally, construction-related auditory disturbance or visual harassment of nearby NSOs may result in changes in breeding or foraging behavior, incidental loss of fertile eggs, or nestlings, lead to nest abandonment, or expose owls to increased risk of predation.

On September 30, 2015, USFWS issued a concurrence with the determination made in the BA prepared for the proposed project (North State Resources 2014), that the project is not likely to adversely affect the threatened NSO. However, because habitat is present within the project area, construction activities have the potential to affect NSOs. Therefore, *Mitigation Measure #8 – Northern Spotted Owl* will ensure that construction impacts would remain at a less-than-significant level. In addition, *Mitigation Measure #1 – Air Quality/Fugitive Dust and Emissions Controls, Mitigation Measure #3 – Erosion and Sediment Control,* and *Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants* will be used to ensure that potential impacts on NSOs remain at a less-than-significant level.

Northern goshawk. Northern goshawks may nest in or adjacent to the project area. Construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting northern goshawks, or any activities resulting in nest abandonment, may adversely affect this species.

The project could also result in a small, temporary reduction of foraging and/or roosting habitat for northern goshawks. However, due to the regional abundance of similar habitats, temporary habitat loss is not expected to result in an adverse effect on this species. *Mitigation Measure #9 – Northern Goshawk* will ensure that construction impacts will remain at a less-than-significant level.

Yellow warbler, yellow-breasted chat, and olive-sided flycatcher. Yellow warbler, yellow-breasted chat, or olive-sided flycatcher was not observed during the field assessments conducted for the project; however, the riparian vegetation along Soda Creek provides breeding habitat for yellow warbler and yellow-breasted chat, while riparian and Klamath mixed conifer habitats in

the project area provide suitable nesting habitat for olive-sided flycatcher (North State Resources 2016). Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs, nestlings, or nesting adults or any activities resulting in nest abandonment, may adversely affect these species. The project may also result in a small, temporary reduction of foraging and/or roosting habitat for these species. However, due to the small and temporary nature of the impacts and the regional abundance of similar habitats, the project is not expected to have an adverse impact on their habitat. In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #10 – Migratory Birds* will be used to reduce any impacts on yellow warbler, yellow-breasted chat, and olive-sided flycatcher to a less-than-significant level.

Townsend's big-eared bat and pallid bat. Neither Townsend's big-eared bat nor pallid bat was observed during the field assessments conducted for the project (North State Resources 2016). A daytime inspection of the existing bridge revealed no evidence of its use as a bat roost (i.e., no bats were observed or heard; no bat guano or urine stains was observed on or under the structure). Further, no trees in the project area were observed to have large cavities (potential maternity or hibernacula roost sites). No direct impacts on breeding or hibernating Townsend's big-eared bat or pallid bat are anticipated. Although unlikely, volant individuals of either species may forage in the area and use the existing bridge or trees in the project area as day and/or night roosts. Project construction may result in a temporary disturbance of roost and foraging habitats; however, given the short duration of the impact and the abundance of similar habitat in the vicinity, this impact is not expected to have an adverse effect on Townsend's big-eared bat or pallid bat. *Mitigation Measure #11 – Bats* will be used to ensure that any impacts on Townsend's big-eared bats and pallid bats would be at a less-than-significant level.

Pacific fisher. No potential Pacific fisher denning structures were observed during the field assessment conducted for the project (North State Resources 2016). Pacific fisher may forage in the project area or frequently travel through it to utilize adjacent habitats; however, because no denning structures were observed, no direct project-related impacts on fisher are anticipated. Disturbance from construction activities could temporarily affect pacific fisher foraging behavior and movement patterns in and adjacent to the project are, although this disturbance would be temporary and less than significant since fisher would likely avoid the project area or move from the area on their own during construction. In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #12 – Pacific Fisher* will be used to ensure that any impacts on fisher would be at a less-than-significant level.

Ringtail cat. No potential ringtail cat denning structures were observed during the field assessment conducted for the project (North State Resources 2016). Montane riparian vegetation occurring in the project area provides a movement corridor and suitable foraging habitat for ringtail cat. While construction activities could temporarily disturb ringtail cats in the project area and general vicinity, there would be no direct impacts on individuals, since individuals would likely avoid the project area or move from the area on their own during construction. In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #13 – Ringtail Cat* will be used to ensure that any impacts on ringtail cats would be at a less-than-significant level.

Migratory birds and raptors. All migratory birds and their nests are protected from take under the federal Migratory Bird Treaty Act. All raptor species, including relatively common species and their nests, are protected from take according to California Fish and Game Code. An inactive American dipper (*Cinclus mexicanus*) nest was observed under the existing bridge over Soda Creek during the field reconnaissance visit (North State Resources 2016). Raptor nests were not observed in the project area; however, Klamath mixed conifer and montane riparian habitats in the project area provide suitable nesting habitat for a variety of migratory birds, including songbirds and raptors. If migratory bird or raptor species are nesting in or adjacent to the project area, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #14 – Migratory Birds and Raptors* will be used to ensure that any impacts on birds would be at a less-than-significant level.

b) ***Less than Significant with Mitigation Incorporated***. The montane riparian vegetation community is considered a sensitive natural community by CDFW and is present in the project area. The project would result in direct permanent impacts on approximately 0.003 acre of montane riparian. The proposed project would also result in temporary impacts on approximately 0.010 acre of montane riparian vegetation and 0.022 acre (40 linear feet) of riverine habitat as a result of bridge construction, including work platforms and stream diversions, and bridge demolition activities. *Mitigation Measure #15 – Sensitive Natural Communities* will be used to reduce impacts on riparian vegetation to a less-than-significant level.

c) Less than Significant with Mitigation Incorporated. The project would result in permanent and temporary impacts on wetland features under the jurisdiction of the Corps, pursuant to Section 404 of the Clean Water Act. The new bridge abutments and wingwalls would require the placement of fill (i.e. RSP), resulting in permanent impacts on up to 0.003 acre of riparian wetland.

The project would also result in temporary impacts on up to 0.032 acre of waters of the United States, including perennial stream (0.22 acre, 40 linear feet) and riparian wetland (0.010 acre). The temporary impacts on perennial stream would result from placement of temporary work platforms. Temporary impacts on riparian wetland would result from the removal of the existing eastern bridge abutment. *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat* and *Mitigation Measure #16 – Waters of the United States* will be used to reduce any potential impacts to waters to a less-than-significant level. *Mitigation Measure #3 – Erosion and Sediment Control* and *Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants* will be used to maintain water quality.

d) ***Less than Significant Impact.*** The project area does not encompass any wildlife nursery sites. No anadromous fish are present in Soda Creek. Construction activities would not impair passage for common fish such as trout through the project area, as instream construction would be limited to the dry season between July 16 and October 31, when flows will be at their lowest. If flow is present during construction, hand-placed sandbags may be used to temporarily divert water, thus maintaining flow through the project area. Soda Creek and its adjacent riparian habitat provide a migration corridor for many wildlife species. During project construction wildlife will be able to move around the project area, or move through it at night. Therefore, the project will not

interfere substantially with the movement of native fish and wildlife, resulting in a less than significant impact.

e) ***Less than Significant with Mitigation Incorporated.*** The proposed project will comply with the goals and objectives described in the County's General Plan (Shasta County 2004), including measures for water quality and biological resources protection. The proposed project will also comply with the County's riparian vegetation provisions specified in the General Plan, which include adhering to the County's grading ordinance and protecting and retaining natural vegetation to the extent possible. Construction of the new bridge would result in the loss of riparian vegetation, which may be inconsistent with riparian vegetation protection guidelines in the Resources Group in the General Plan (Shasta County 2004). *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat* will be used to reduce any potential impacts on vegetation to a less-than-significant level.

f) ***No Impact.*** Currently, there are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved habitat conservation plans that cover the project area.

Mitigation Measures

Mitigation Measure #2 – Shasta Salamander

In addition to the measure described below, *Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat,* and *Mitigation Measure #6 – Prevention of Spread of Invasive Species* will be used to reduce project impacts on Shasta salamander to a less-than-significant level.

- Due to the presence of potential habitat for Shasta salamander, the County shall conduct a protocol-level survey of slope habitat for Shasta salamander within the project area. The protocol-level survey will be conducted in accordance with the *Survey Protocol for the Shasta Salamander (Hydromantes shastae), in, Survey Protocols for Amphibians under the Survey and Manage Provisions of the Northwest Forest Plan, Version 3.0* (Olson and Lewendall 1999). The survey results will be submitted to CDFW. If no Shasta salamanders are encountered during the protocol-level survey, then no further action is necessary; however, if one is encountered, the County will initiate consultation with CDFW in accordance with the California Environmental Species Act (CESA).

- If Shasta salamander is encountered, additional mitigation will be determined in consultation with CDFW. It is anticipated that additional mitigation measures will include the following:

  - To the maximum extent practicable, ground disturbance including the removal of cover objects (i.e., down woody debris, rocks, etc.) within potential Shasta salamander habitat will be minimized.

  - The project area shall be surveyed for Shasta salamander 24-hours prior to initiation of construction activities. If Shasta salamanders are encountered during the survey, they will be relocated (with CDFW approval) to similar habitat outside of the construction zone.

- A biological monitor shall be on-site when ground disturbance activities take place in potential Shasta salamander habitat. If Shasta salamander is encountered during construction, activities will cease until the salamander has been relocated by a qualified biologist (with CDFW approval) or it has been determined that the salamander will not be harmed. Any trapped, injured, or killed special-status species shall be reported immediately to CDFW.

- For permanent and temporary impacts on potential Shasta salamander habitat as a result of the project, the County will create habitat on-site or acquire suitable conservation lands at a ratio equal to or greater than that which was impacted by the project.

Timing/Implementation:	Before, during, and after construction
Enforcement:	CDFW, County
Monitoring:	County and/or its contractor

Mitigation Measure #3—Erosion and Sediment Control

Erosion control measures shall be implemented during construction of the proposed project in non-riparian upland areas. These measures shall conform to the provisions in Section 21-2 of the Caltrans Standard Specifications and the special provisions included in the contract for the project (Caltrans 2015). Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which describes and illustrates placement of best management practices (BMPs) in the project site. Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will only be limited to July 16–October 31 with upland construction allowed from July 16 through February 1. For upland construction activities that must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that do not need to be disturbed.

- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it

reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction.

- All dewatering activities will be conducted in compliance with the *Caltrans Field Guide for Construction Site Dewatering* and Section 13-4.03G of the *Caltrans Standard Specifications*. Water removed from the excavation area for pier and abutment footings shall be pumped to a temporary sediment retention basin outside of the channel, through a mechanized water filtration system, or into baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include sediment sock or similar sediment control on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.

- Any new gravel material placed in the channel for temporary work platforms shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, Central Valley RWQCB, CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #4—Prevention of Accidental Spills of Pollutants

Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic habitat resources in the project area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored 50 feet away from surface water features.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Soda Creek or within an adequate fueling containment area.

- Equipment operating within the OHWM shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	Corps, Central Valley RWQCB, CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #5—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts on riparian habitat in the project area:

- The width of the construction disturbance zone within the riparian habitat shall be minimized through careful pre-construction planning.

- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts on riparian vegetation outside of the construction area are minimized.

- Riparian habitat areas temporarily disturbed shall be replanted at a 3:1 ratio using riparian species that have been recorded along Soda Creek in the project area including white alder (*Alnus rhombifolia*), red osier dogwood (*Cornus sericea* ssp. *sericea*), and Oregon Soda (*Fraxinus latifolia*).

- Onsite creation/restoration of riparian vegetation shall occur in areas that have been disturbed during project construction and within interstitial spaces of the RSP.

- Plant spacing intervals will be determined as appropriate based on site conditions following construction.

- Non-native tree species removed during project construction will be replaced with native riparian species.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County

Mitigation Measure #6—Prevention of Spread of Invasive Species

The following measures shall be implemented to prevent the spread of invasive species in the project area:

- All equipment used for off-road construction activities will be weed-free prior to entering the project area.

- If project implementation calls for mulches or fill, they will be weed free.

- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.

- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

- Any equipment (including boots or waders) and construction equipment shall be properly disinfected or cleaned according to guidance provided by the State of California Aquatic Invasive Species Management Plan (California Department of Fish and Game 2008; U.S. Bureau of Reclamation 2012) prior to in-water work to prevent the spread of aquatic invasive species.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #7—Frogs

In addition to the measures described below, *Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat*, and *Mitigation Measure #6 – Prevention of Spread of Invasive Species* will be used to reduce project impacts on foothill yellow-legged frog and tailed frog to a less-than-significant level.

- Because foothill yellow-legged frogs and tailed frogs may move into or out of the project area at any time, a pre-construction survey for the species is necessary to confirm its status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project area for these species. The survey shall be conducted a maximum of one week prior to construction. If one of these frogs is encountered within a construction impact zone, the biologist (in consultation with the CDFW) shall move it to a safe location within similar habitat. The County will inform Caltrans when such an activity occurs.

- If either species is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the species will not be harmed. Any special-status frog or other aquatic species encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed special-status species shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #8—Northern Spotted Owl

In addition to *Mitigation Measure #1 – Air Quality/Fugitive Dust and Emissions Controls, Mitigation Measure #3 – Erosion and Sediment Control,* and *Mitigation Measure #4 – Prevention of Accidental*

Spills of Pollutants the following measures shall be implemented to avoid or minimize the potential for significant impacts on NSO:

- No construction activities will occur between February 1 and July 15 to avoid any adverse effects to nesting NSO.
- All construction equipment will be properly muffled.
- Tree removal will be minimized to the extent feasible and occur during the non-nesting season (July 16 through January 31).

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #9—Northern Goshawk

The following measures shall be implemented to avoid or minimize the potential for significant impacts on northern goshawks:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (i.e., February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts. However, because of the possible presence of NSO in the project vicinity, project construction activities, including vegetation removal, will not begin until after July 15.
- If the breeding season cannot be avoided, a qualified biologist shall conduct a minimum of one pre-construction survey for nesting northern goshawks within the project area and a 500-foot buffer around the project area to ensure that no nests will be disturbed during project implementation. At least one survey should be conducted no more than 15 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees immediately adjacent to the impact areas for raptor nests. If an active nest is found close enough (i.e., within 500 feet) to the construction area to be disturbed by these activities, the biologist (in consultation with the CDFW) shall determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #10—Yellow Warbler, Yellow-breasted Chat, and Olive-sided Flycatcher

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measures shall be implemented to avoid or minimize the potential for significant impacts on yellow warblers, yellow-breasted chats, and olive-sided flycatcher:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (i.e., February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts. However, because of the possible presence of NSO in the project vicinity, project construction activities, including vegetation removal, will not begin until after July 15.

- If the breeding season cannot be avoided, a qualified biologist shall conduct a minimum of one pre-construction survey for yellow warblers, yellow-breasted chats, and olive-sided flycatcher within the project area and a 250-foot buffer around the project area. The survey should be conducted no more than 15 days prior to the initiation of construction in any given area. The pre-construction survey should be used to ensure that no nests of these species within or immediately adjacent to the project area would be disturbed during project implementation. If an active nest is found, a qualified biologist (in consultation with the CDFW) should determine the extent of a construction-free buffer zone to establish around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

Mitigation Measure #11—Bats

The County shall include provisions in the construction bid documents to minimize project impacts on bat species. The following measures shall be implemented to reduce construction-related impacts on bats:

- To the extent practicable, removal of large trees with cavities and removal of the existing bridge shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). However, the removal of the existing bridge during this time period is likely not feasible, since the existing bridge must be removed during the in-water construction period (June 15 through October 15). Therefore, the following measure will apply if necessary:

  - If construction (including the removal of large trees and the existing bridge) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the project area to locate maternity colonies and identify measures to protect the colonies from disturbance. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #12—Pacific Fisher

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measure shall be implemented to avoid or minimize the potential for significant impacts on pacific fisher:

- Removal of trees, logs and snags will be minimized to the extent feasible. This will help maintain forest structure of potential pacific fisher foraging habitat and movement corridors.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #13 – Ringtail Cat

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measure shall be implemented to avoid or minimize the potential for significant impacts on ringtail cat:

- Removal of trees, logs and snags will be minimized to the extent feasible. This will help maintain forest structure of potential ringtail cat foraging habitat and movement corridors.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #14 – Migratory Birds and Raptors

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #8 – Northern Spotted Owl, Mitigation Measure #9 – Northern Goshawk, ,* and *Mitigation Measure #10 –Yellow Warbler, Yellow-breasted Chat, and Olive-sided Flycatcher* the following measure shall be implemented to avoid or minimize the potential for significant impacts on migratory birds and raptors:

- Construction activities on, and removal of, the existing bridge should be scheduled to avoid the nesting season to the extent feasible. The typical nesting season in northern California extends from March through July. Thus, if bridge demolition can be scheduled to occur between August and October, or the period before nesting begins and after nesting is complete, the nesting season would be avoided, and no impacts would be expected.

- If it is not possible to schedule bridge removal to avoid nesting, any existing unoccupied and inactive nests shall be removed from the existing bridge before March 1 of the construction year. Removal of empty or unfinished nests shall be repeated as frequently as necessary (can be up to three times per week) to prevent nest completion. A nest exclusion devise can be installed (e.g., netting or similar mechanism that keeps birds from building nests) if desired prior to March 1 or after August 1. Any nest exclusion devises should be approved by CDFW prior to installation. Exclusion efforts should be continued until actual removal of the bridge structure. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction

Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #15 – Sensitive Natural Communities

- The project shall be designed and constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. Staging areas and construction access routes shall avoid encroachment into riparian vegetation where practicable and minimize encroachment where complete avoidance is not practicable. Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing shall be prohibited during construction. The exclusionary fencing shall be inspected and maintained on a regular basis throughout project construction.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

Mitigation Measure #16 – Waters of the United States

In addition to the measure described below, *Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat,* and *Mitigation Measure #6 – Prevention of Spread of Invasive Species*, the following measures shall be implemented to avoid or minimize the potential for project-related impacts on waters of the United States:

- To the extent practicable, the discharge of dredged or fill materials into waters of the United States, including wetlands, shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to RWQCB jurisdiction). However, complete avoidance is not feasible, thus the measures provided below shall be implemented.

- Prior to any discharge of dredged or fill material into waters of the United States, including wetlands, authorization under a Nationwide Permit shall be obtained from the Corps. For any features determined not to be subject to Corps jurisdiction during the verification process, authorization to discharge shall be obtained from the RWQCB. For fill requiring a Corps permit, water quality certification shall be obtained from the RWQCB prior to discharge of dredged of fill material.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW; and, if required, a streambed alteration agreement shall be obtained from CDFW.

- Construction activities that will affect waters of the United States shall be conducted during the dry season to minimize erosion.

- Stockpiles that are to remain on site through the wet season shall be protected to prevent erosion (e.g., silt fence, straw bales).

- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., Corps, RWQCB, and CDFW) shall be implemented and completed. All measures contained in the permits or associated with agency approvals shall be implemented.

- All waters of the United States that are temporarily affected by project construction shall be restored as close as practicable to original contours and conditions within 10 days of completion of construction activities.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, Central Valley RWQCB, CDFW
Monitoring:	County and/or its contractor

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
V. CULTURAL RESOURCES — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 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?	☐	☒	☐	☐
e) Cause a substantial adverse change in the significance of a Tribal resource pursuant to AB 52?	☐	☐	☒	☐

Discussion of Impacts

a) ***No Impact.*** The Soda Creek Road at Soda Creek Bridge (06C-0348) Replacement Project, Shasta County, California, Archaeological Survey Report (ASR) (North State Resources 2013a) states that no historic properties were identified in the project area that meet the significance criteria of the National Register of Historic Places. The bridge (06C-0384) is listed as a Category 5 bridge by Caltrans and as such does not meet the criteria for listing on the National Register of Historic Places.

b) ***Less than Significant with Mitigation Incorporated.*** The ASR states that no sites or properties possessing cultural significance to the Native American community are located in or near the project area. Contact with tribal organizations and representatives per Native American Heritage Commission (NAHC) guidance also did not reveal the presence of any known sensitive properties in the project area or vicinity. However, there is potential for a previously unrecorded and buried resource to be encountered during excavation activities. This would be a significant impact. *Mitigation Measure #17 – Cultural Resources* will be used to ensure that any potential impacts on prehistoric resources inadvertently discovered during construction would be less than significant.

c) ***No Impact.*** The project site is not known to support any unique paleontological resources or unique geologic features. Soil profiles and geologic map for the project area suggest that alluvial and weathering processes have shaped the region for a considerable period of time. Soils in the project area are derived from the weathering processes on the sedimentary rock laid down millions of years ago. Soils found in terraces along stream channels have considerable depths and consequently any archaeological resources are likely buried, becoming visible only in cut banks or on scoured ground surfaces.

d) ***Less than Significant with Mitigation Incorporated.*** Although no impacts on known cultural resources are anticipated, currently undetected cultural resources or evidence of human remains could be exposed during project excavation activities. This would be a significant impact.

Mitigation Measure #17 – Cultural Resources and *Mitigation Measure #18 – Human Remains* will be used to reduce any potential impacts to cultural resources to a less-than-significant level.

e) ***Less than Significant Impact***. Assembly Bill 52 (AB 52) was passed in 2014 and amends sections of CEQA relating to Native Americans. AB 52 establishes a new category, named Tribal cultural resources, and states that a project with an effect that may cause a substantial adverse change in the significance if a Tribal cultural resource may have a significant impact on the environment. Section 21074 was added to the Public Resources Code (PRC) to define cultural resource, as follows:

21074. (a) "Tribal cultural resources" are either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1 of the PRC.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a Tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "non-unique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a Tribal cultural resource if it conforms to the criteria of subdivision (a).

B 52 requires the CEQA lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests the lead agency to inform them, in writing, of projects in that area, and the tribe requests consultation, before the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required. In addition, AB 52 includes time limits for certain response regarding consultation, as follows:

- Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice;
- After provision of the formal notification by the lead agency, the California Native American tribe has 30 days to request consultation; and

- The lead agency must begin the consultation process within 30 days of receiving a California Native American tribe'

In accordance with AB 52, the County, under the purview of Caltrans District 2, consulted with the NAHC and local Native American groups and individuals pursuant to Section 106 of the National Historic Preservation Act (NHPA) and Section 21080.3 of CEQA. This consultation included contacting the local Native American individuals identified by the NAHC via letters and follow-up phone calls. Additionally, the NAHC conducted a review of its Sacred Lands database for culturally significant properties and responded that there are no records for the project area. Two local Native American tribes responded to the consultation follow-up phone calls. The United Tribes of Northern California and Wintu Educational and Cultural Council both requested that a tribal monitor be present during all project-related ground-disturbing activities; however, neither tribe indicated specific information about traditional properties or locations of traditional cultural use in the APE. Based on the responses received to date, it is unlikely that the project site contains Tribal cultural resources, as defined in PRC 21074. This impact would be less than significant. In addition, implementation of *Mitigation Measures #17 – Cultural Resources* and *Mitigation Measure #18 – Human Remains* will be used to reduce any potential impacts to cultural resources to a less-than-significant level.

Mitigation Measures

Mitigation Measure #17—Cultural Resources

- Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, "it is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the undertaking changes to include areas not previously surveyed." Per Attachment 4 of the Section 106 Programmatic Agreement (PA), isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

Mitigation Measure #18—Human Remains

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Shasta County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall contact the Native American Heritage Commission. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the Native American Heritage Commission, as appropriate.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
VI. GEOLOGY AND SOILS — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☒	☐
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 strata 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, creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Discussion of Impacts

a) i, ii) ***Less-than-Significant Impact.*** No faults are mapped passing through the project area and the site is not within an Alquist-Priolo area for fault-rupture hazard (California Department of Conservation 2014). Thus, the potential for seismic-related ground failure is low. Seismic activity in the region could cause ground shaking in the project area. The risk of seismic activity occurring would not change with the implementation of the proposed project. To ensure that potential seismically induced hazards do not affect the replacement bridge, Caltrans seismic design parameters, including staged increases in spectral acceleration, are incorporated into the project design (Caltrans 2010). Earthquake activity would have a negligible effect on the new bridge and road, resulting in less-than-significant impacts on public safety.

ii) ***Less-than-Significant Impact.*** Liquefaction issues may be present at the site due to high potential ground accelerations and the presence of saturated granular alluvial material. Groundwater elevations are likely to match the water elevation in the channel. The County's pending geotechnical investigation will determine the depth, cohesiveness and liquefaction potential of underlying soils, and the groundwater elevation that will influence the type and depth of the new bridge footings such that they provide bridge support that meets current County, AASHTO and Caltrans design criteria. The use of bridge foundations extending below the depth

of susceptible soils and groundwater elevation would reduce the risk of adverse impacts resulting from liquefaction to a less than significant level.

iv) ***Less-than-Significant Impact.*** The steep east-facing slope on the west side of Soda Creek and a moderately steep southwest-facing slope on the northeast side of Soda Creek create a potential for landslides to occur within the project area. The County's pending geotechnical investigation will determine potential landslide potential and recommend specific design elements and measures to reduce landslide potential in conformance with County, Caltrans, and AASHTO standards and criteria, therefore resulting in a less than significant impact.

b) ***Less than Significant with Mitigation Incorporated.*** Ground-disturbing construction activities would expose soils and make them susceptible to erosion in the event of rain; however, once soils are paved or overlain with RSP, the potential for erosion would be significantly reduced. *Mitigation Measure #3 – Erosion and Sediment Control* was incorporated into the project to minimize erosion pre- and post-construction, and would reduce this impact to a less-than-significant level.

c, d) ***Less-than-Significant Impact.*** The project area is underlain by alluvial sedimentary deposits that are not expansive and have a low shrink-swell potential, (Natural Resources Conservation Service 2013). Because work would be consistent with Caltrans Design Specifications, the potential for adverse impacts associated with geologic instability would be less than significant.

e) ***No Impact.*** The project does not involve septic or wastewater systems.

Mitigation Measures

Implement *Mitigation Measure #3 - Erosion and Sediment Control* to prevent degradation of water quality.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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 any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion of Impacts

a) ***Less than Significant with Mitigation Incorporated***. Greenhouse gases (GHGs) are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts because of their ability to trap heat in the atmosphere and affect climate. The major GHGs that are released from human activity include carbon dioxide (CO2), methane, and nitrous oxide (Governor's Office of Planning and Research 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

Emissions of GHGs from the proposed project would be generated offsite from the production of materials used for the bridge as well as onsite construction-related equipment emissions. The project would not increase the generation of emissions after construction is complete because traffic levels would be similar to current conditions. Emissions of GHGs resulting from off-road heavy-duty diesel engines during construction activities would be short-term and minor. Implementing *Mitigation Measure #1—Air Quality/Fugitive Dust and Emissions Controls* would reduce GHG emissions. Replanting of riparian trees and shrubs to replace those removed as a result of the project, as described in *Mitigation Measure #5*, would ultimately help to offset some of the carbon dioxide that would be generated by project construction. In addition, the new project facilities including wider roadway approaches and a wider bridge would be conducive to alternative forms of non-motorized transportation such as bicycles and pedestrians. These measures combined with measures included in *Mitigation Measure #19 – Greenhouse Gas Emissions* have been incorporated into the project design and will be used during construction to ensure that project-related impacts would remain less than significant.

b) ***Less-than-Significant Impact.*** The Shasta County AQMD has not adopted a plan, policy, or regulation for reducing GHG emissions (Shasta County Air Quality Management District 2016). However, the State of California has adopted several regulations related to GHG emissions reduction. These include efforts to reduce tailpipe emissions and diesel exhaust produced by fuel-combustion engines. Project operations would adhere to statewide efforts aimed at minimizing GHG emissions and, therefore, would not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing the emission of GHGs

Mitigation Measures

Mitigation Measure #19–Greenhouse Gas Emissions

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.
- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.
- Protect existing trees to the extent possible and encourage the planting of new trees.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
VIII. HAZARDS AND HAZARDOUS MATERIALS — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use compatibility 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?	☐	☒	☐	☐

Discussion of Impacts

a) ***Less than Significant with Mitigation Incorporated.*** Project construction and operation would not routinely generate any hazardous materials. Project operation would not involve the use or storage of any hazardous materials. Although construction would not generate any hazardous materials, a potential hazard to the public and the environment would be posed by the use of diesel or gasoline powered construction equipment (trucks, excavators, etc.) and lubricants such as oil and hydraulic fluids. The potential for such a hazard would be temporary and mitigable since equipment would be routinely maintained and inspected to avoid leaks, and is similar to vehicles operating on nearby roads. Best management practices described in *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* will be used to reduce potential impacts associated with accidental spills of pollutants (i.e., fuel, oil, grease, etc.) on vegetation and aquatic habitat resources within the project area. Best management practices included in Mitigation Measure #4 will be provided in the project design construction specifications. In the

event of an accidental spill, implementation of this measure will reduce the potential hazard to the public and the environment to a less-than-significant level.

b) ***Less than Significant with Mitigation Incorporated.*** No hazardous materials are currently stored, or proposed for use or storage, in the project area. However, the following potentially hazardous materials may occur within the proposed project area (pending further testing prior to construction) (Lawrence and Associates 2013):

- Although not observed during the ISA field survey, lead-based paint may be present on existing bridge components based on a commonality of steel truss/concrete pier bridge construction used historically at similar structures. If found to be present, measures included in *Mitigation Measure #20 - Lead-based Paint* have been incorporated into the project design and will be used during construction to ensure that project related impacts will remain less than significant.

- Although not observed during the ISA field survey, asbestos containing construction materials may be present as part of existing bridge components based on a commonality of steel truss/concrete pier bridge construction used historically at similar structures. If asbestos containing construction materials are found to be present, then implementation of *Mitigation Measure #21- Asbestos-containing Building Material* will be used during construction to ensure that project related impacts will remain less than significant.

- Treated wood bridge decking and curbs were observed within the project limits and their disposition will follow Caltrans protocol during and following construction of the proposed realignment. *Mitigation Measure #22 – Treated Wood Waste* will be used during construction to ensure that project-related impacts will remain less than significant.

c) ***No Impact.*** The nearest school (Castle Rock Community Preschool) is located approximately 3.5 miles southwest of the project area. The project would not pose a hazard to a school.

d) ***No Impact.*** The Environmental Site Assessment report (Lawrence and Associates 2013) prepared for the project conducted a review of federal and state records of known contaminated sites, regulated landfill sites, underground tank sites, and hazardous-waste generators in the project vicinity. No potential hazardous materials or waste sites were listed in the project vicinity. Because the site is within a timber harvest production area, Lawrence and Associates researched the Cal Fire website and found two nearby timber harvest plans (THPs) submitted by the adjacent property owner, Oxbow Timber I, LLC. The THPs did not identify any operations, such as fuel storage or pesticide uses, that would cause an environmental concern to the project site or vicinity. The project area is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e, f) ***No Impact.*** The project is not located near any public or private airstrip.

g) ***Less-than-Significant Impact.*** During construction of the replacement bridge, the existing bridge would remain open to allow two-way vehicular access through the project area. Although temporary, short duration disruptions to normal traffic operations would occur during

construction, the impact would be less than significant. The project is not anticipated to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan because vehicular access would be maintained through the project area during construction.

h) ***Less than Significant with Mitigation Incorporated.*** The project area and vicinity is mostly undeveloped forestland and is mapped as an area of very high fire hazard severity on Figure FS-1 Fire Hazard Severity zones in the Shasta County General Plan. The use of construction equipment in and around vegetated areas increases the potential for wildfire ignition. *Mitigation Measure #23- Wildfire Potential* will be implemented to reduce the risk of wildfire associated with project construction to a less-than-significant level. Operation of the project would not increase the existing wildfire potential.

Mitigation Measures

Implement *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of the project area environment.

Mitigation Measure #20–Lead-based Paint

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of lead-based paint coated surfaces found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from lead-based paint removal:

- A limited assessment for lead in the soil under the bridge will be performed for the project area. Samples shall be collected at each of the four corners of the two bridge abutments. In order for hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 to be waived, lead-contaminated soils must not exceed the contaminant concentrations discussed in section 9 of the variance and must meet all the conditions contained within the same section. Required handling of lead contaminated soils is outlined in Table 1 and would depend on the level of lead contamination in the soils at the site.

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Handling
		California Testing	
STLC <5.0	TTLC <1000	X	Non-hazardous Waste. Notify and require Lead Compliance Plan for worker safety.
	1000 – 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	1000 – 3397 but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Handling
	> 3397 or 1000 – 3397 and DI WET > 150 mg/l	Z2	Hazardous Waste. Not reusable under Variance. Dispose at Class 1 disposal site.
TLC >5.0	TTLC < 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	< 3397 and DI WET < 150 mg/l but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or DI WET > 150 mg/l	Z2	Hazardous Waste. Variance applies – cover with pavement structure.
		Federal Testing	
TCLP > 5.0 mg/l	N/A	Z3	RCRA Hazardous Waste. Dispose at Class 1 disposal site as a RCRA waste regardless of TTLC and STLC results.

* Note: For hazardous waste levels of lead – if pH is less than 5.5 soil must be placed under a pavement structure. If pH is less than 5.0 variance cannot be used and the soil must be disposed as Z-2 material. (Source: Caltrans Website: http://www.dot.ca.gov/hq/env/haz/hw_adl.htm

- Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the Clean Harbors Buttonwillow LLC facility in Buttonwillow, CA (CAD980675276) or the Chemical Waste Management Inc. Kettleman facility in Kettleman, CA (CAT000646117).

Timing/Implementation:	During construction
Enforcement:	County, EPA
Monitoring:	County and/or its contractor

Mitigation Measure #21–Asbestos-Containing Building Material

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of asbestos-containing building material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from asbestos removal:

- Prior to the start of construction, the existing bridge's building material will be tested for asbestos. If present, the following measure will be used:

- Asbestos-containing building material will be removed using one of several methods approved by the Federal EPA and California Occupational and Safety Hazard Administration (CalOSHA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a HEPA filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the Clean Harbors Buttonwillow LLC facility in Buttonwillow, CA (CAD980675276) or the Chemical Waste Management Inc. Kettleman facility in Kettleman, CA (CAT000646117).

Timing/Implementation:	During construction
Enforcement:	County, EPA, Cal OSHA
Monitoring:	County and/or its contractor

Mitigation Measure #22–Treated Wood Waste

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of treated wood waste material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from treated wood waste removal:

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste, as well as California Code of Regulations Title 22, Chapter 34, Sections 67386.1 through 67386.12 for labeling, accumulation, offsite shipment tracking, notification, treatment, and disposal. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

Mitigation Measure #23–Wildfire Potential

The County shall include provisions in the construction bid documents to minimize the potential for ignition of wildfire as a result of project construction. The following measure shall be implemented to reduce construction-related wildfire ignition potential:

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XI. 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 should 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?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
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 of seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion of Impacts

a) ***Less-than-Significant Impact.*** Construction and operation of the project would not violate any water quality standards or waste discharge requirements set forth by the Central Valley RWQCB in its Basin Plan for the Sacramento River and San Joaquin River Basins (Central Valley Regional Water Quality Control Board 2011). Soda Creek is not listed as an impaired water body under Section 303(d) of the Clean Water Act (Central Valley Regional Water Control Board 2010). Water pollution control measures have been incorporated into the project design and are required according to Caltrans Standard Specifications (Section 13). Additionally, project activities would comply with the requirements set forth in a 401 Water Quality Certification, which is required by the RWQCB prior to project implementation. Implementation of BMPs in accordance with County, Caltrans, and other regulatory permit requirements, and the fact that

most project construction activities would occur during the drier summer months would ensure project impacts on water quality are less than significant.

b) ***No Impact.*** Construction and operation of the project would have no effect on groundwater supplies. There would be no net change in local aquifers or the local groundwater table as a result of the project.

c) ***Less-than-Significant Impact.*** Construction activities associated with the project are not anticipated to alter the existing drainage pattern of the site or area in a way that would result in downstream erosion or sedimentation. Scour protection is expected to consist of RSP along the east and west side of the riverbank. A temporary work area within the channel would be needed to construct the necessary falsework and to drop the existing bridge onto during its removal. This temporary work area would consist of a temporary stream diversion and work pads constructed of clean gravel and would be removed following completion of the new bridge construction.

d) ***Less-than-Significant Impact.*** The project would not substantially alter the existing surface or instream drainage patterns of the project area. The replacement bridge would improve the stream hydraulics by replacing the existing bridge with a longer bridge and removing the existing west side abutment fill that encroaches into the channel, which will result in a smoother flow profile, lower water surface elevations, and restoring the stream closer to natural conditions (Shasta County 2016). In addition, the proposed soffit elevation increase would provide 10 feet of freeboard above the Q_{100}.

e) ***Less-than-Significant Impact.*** The larger, wider new bridge structure and extended roadway approaches would increase the amount of impervious surface in the project area. The additional surface area would result in a slight, but less than significant, increase in storm water runoff and the potential for polluted runoff (e.g., lubricants), but would not exceed existing or proposed (roadside drainage ditches and bridge deck runoff routed to Soda Creek) drainage facilities' capacities. The existing bridge structure and roadway approaches would be removed and their footprints would be restored to natural conditions.

f) ***Less than Significant with Mitigation Incorporated.*** Construction and operation of the project would involve construction activities and the use of hazardous materials (i.e., petroleum-based fuels and lubricants) in and adjacent to waterways. Construction activities could also temporarily increase the potential for sediment to enter the creek. These project activities could degrade water quality in Soda Creek. It is anticipated that roadway and bridge deck drainage for this project would be diverted away from the approach fills and directly into new roadside ditches routed to Soda Creek, or directly into Soda Creek. The following resource protection measures will be used during construction to reduce this potential impact to a less-than-significant level:

- Water pollution control measures have been incorporated into the project description and will be included in the construction contract pursuant to Caltrans Standard Specifications (Section 13 and 21-2).

- Erosion control measures will be implemented during construction of the proposed project in accordance with *Mitigation Measure #3—Erosion and Sediment Control*.

- Construction specifications will include *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* to reduce potential impacts associated with hazardous materials.

- In-channel construction work and operation of the new bridge will be conducted in accordance with all measures contained in permits or associated with agency approvals.

g) ***No Impact.*** The project does not include the construction of new housing within a flood hazard area.

h) ***Less-than-Significant Impact.*** The location hydraulic study conducted for the project concludes that the water surface elevation at the upstream face of the replacement bridge would decrease compared to the existing conditions due to the longer and higher proposed bridge (Shasta County 2016). The length, height, and structural design of the proposed bridge would meet the Caltrans Highway Design Manual requirements for hydraulic capacity and scour depth. The new bridge and the approach embankments would not encroach into the low-flow channel of Soda Creek.

Project materials that would be placed in the 100-year (Q_{100}) floodplain of Soda Creek include temporary false work and gravel, and permanent RSP. Although flood zones are not defined on the flood insurance rate map (FIRM) (FEMA 2011) of the area, the County anticipates that bridge abutments, including footings, would clear span 100-year flows. However, as a precautionary measure scour protection in the form of RSP both upstream and downstream of both abutments is included in the project design to avoid potential undercutting.

Temporary materials and structures would be in place during the instream construction window (July 16 through October 31) and would be removed following construction and prior to October 31. The area disturbed by the temporary gravel construction pad would be restored to pre-construction contours. Falsework—temporary bridge structure support—would be placed in the Q_{100} floodplain of Soda Creek during construction; however, no false work supports would be placed directly in the wetted channel of Soda Creek. Hand-placed sandbags may be used to divert a small amount of the stream during falsework construction. Abutment excavations would be outside of the wetted channel.

The project design and the fact that most project construction activities would occur during the drier summer months would ensure there would be no temporary and permanent project structures used that could impede flows within the Q_{100} floodplain. Any impacts associated with project construction and operation within the floodplain are less than significant.

i) ***Less-than-Significant Impact.*** The new bridge is designed to clear span the in the Q_{100} floodplain of Soda Creek with over 10 feet of freeboard (Shasta County 2016). Hydraulic Design Criteria prescribed in Caltrans' Local Procedures Manual (California Department of Transportation 2009) have been incorporated into the project design to ensure that the new structure would be capable of conveying the base or Q_{100} flood. The new bridge would be designed to avoid problems stemming from the transport of woody debris in the channel during periods of high flow by avoiding the use of piers and by providing the minimum drift clearance recommended by Caltrans and FHWA. A temporary diversion would be used to maintain typical flows if water is flowing through the creek channel during construction. The project would not

create a flood hazard. Construction and use of the new bridge and roadway approaches would have a less than significant potential to create a flood hazard.

j) ***No Impact.*** The project site is not at risk of seiche, tsunami, or mudflow.

Mitigation Measures

Implement *Mitigation Measure #3 - Erosion and Sediment Control* and *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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 communities' conservation plan?	☐	☐	☐	☒

Discussion of Impacts

a) ***Less-than-Significant Impact.*** The proposed bridge would replace the existing bridge over Soda Creek. Soda Creek Road is used primarily by residents and commercial timber harvest support vehicles to access properties beyond the project area. The project would not divide a community. While there may be minor delays to traffic passing along Soda Creek Road during construction, the effect on residents would be temporary and less than significant because the existing bridge would remain passable during construction.

b) ***Less-than-Significant Impact***. Construction of the project is consistent with the Shasta County General Plan's Community Organization and Development, Circulation, Noise, Timberland, and Fish and Wildlife elements (Shasta County 2004). The General Plan includes several objectives with which the project would be directly compatible. These include:

Community Organization and Development

- CO-2: To guide development in a pattern that will provide opportunities for present and future County residents to enjoy the variety of living environments which currently exist within the County, including:
  - Incorporated communities served by the full range of urban services.
  - Unincorporated communities served by most but not all urban services.
  - Unincorporated rural communities provided with very limited or no urban services.
  - Rural homesites located outside of community centers on relatively large lots or in clustered development accompanied by open space areas within the project provided that the clustering does not create an adverse impact on neighboring properties.
- CO-3: To guide development in a pattern that will respect the natural resource values of County lands and their contributions to the County's economic base.

- CO-4: To guide development in a pattern that will minimize land use conflicts between adjacent land users.

- CO-5: To guide development in a pattern that will establish an acceptable balance between public facility and service costs and public revenues derived from new development.

Circulation

- C-6: Formulate and adopt circulation design standards that:

  - are uniformly applied on a Countywide basis according to development type;

  - respond to public safety and health considerations, especially vehicle and

  - pedestrian safety, emergency access, evacuation routes, and the existing noise

  - environments of communities;

  - address all modes of transportation; and

  - will not result in substantial deterioration of air quality.

- C-8b: Working in conjunction with Caltrans, the County shall designate and provide signed truck routes, ensure that adequate pavement depth, lane widths, loading areas, bridge capacities, vertical height of overpasses and utility lines, and turn radii are maintained on the designated truck routes, and prohibit commercial truck traffic from non-truck routes except for deliveries.

- C-9: To guide all segments of the County's transportation program in a manner that addresses, responds to, and meets State and Federal air quality standards.

Noise

- N-1: To protect County residents from the harmful and annoying effects of exposure to excessive noise.

Timberlands

- T-1: Preservation of timberlands suitable for forest management and production to allow for the continuation of such uses or to provide opportunities for the future establishment of such uses.

- T-2: Protection of timberlands from incompatible adjacent land uses which adversely impact forest management activities.

Fish and Wildlife

- FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.

Replacement of the existing bridge structure would ensure safe and efficient movement of people and goods; meets timberland, environmental and circulation objectives; and implements funding strategies for construction, improvement, and maintenance of an existing roadway in Shasta County. The new bridge and improved roadway approaches would have a direct impact to lands zoned as timberland production (Shasta County 2013b) by permanently converting approximately 1.00 acre of this land to new County ROW. Permanent impacts resulting from project implementation would be minor relative to the total acreage of this timberland parcel (APN 014-0404-007) and total timberland within Shasta County. Thus the project would be consistent with County's General Plan objectives. The project is consistent with the County's circulation policies because its proposed project description includes County and Caltrans development standards and specifications, including ROW and temporary construction easements designed to minimize impacts on adjacent timberland-zoned lands, and design and mitigation measures address local, state, and federal safety improvements to existing county roads.

c) ***No Impact.*** Currently, there are no adopted habitat conservations plans, natural community conservation plans, or other approved habitat conservation plans that cover the project area.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XI. MINERAL RESOURCES — Would the project:				
a) Result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist 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?	☐	☐	☐	☒

Discussion of Impacts

a) ***No Impact.*** The project area has not been mapped by the State Division of Mines and Geology as containing marketable aggregate (California Geological Survey 2012). The project area is not in an important mineral resource area, as depicted in the General Plan (Shasta County 2004). Gravel mining activities do not occur at this location. It is unlikely that the project site would be considered an important aggregate resource.

b) ***No Impact.*** No locally important mineral resource recovery sites are located within the project site.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XII. NOISE — Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
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 compatibility plan or, where such a plan has not been adopted, within two miles of a public airport of 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?	☐	☐	☐	☒

Discussion of Impacts

a, d) ***Less than Significant Impact.*** The existing noise environment in the project vicinity is primarily defined by traffic noise emanating from Soda Creek Road, and periodic noise from heavy equipment and chainsaws associated with timber harvesting operations on the adjacent parcel with an active timber production zone contract. The Shasta County General Plan Noise Element does not include any discussion or policies applicable to construction noise. Policy N-b, applicable to proposed permanent non-transportation land uses, specifies that noise sources shall be mitigated if exceeding 55 decibels (dB) during daytime hours at the property line of adjacent noise-sensitive land uses. The project is in an uninhabited, heavily forested, mountainous region. The only potential sensitive noise receptors within one half mile radius are NSOs. To avoid any adverse effects, including noise impacts on potential nesting NSOs, the County and Caltrans will not undertake any construction activities at the project between February 1 and July 15, as described in *Mitigation Measure #8 - Northern Spotted Owl* in Chapter 3.2-IV. Although temporary noise increases from project construction may periodically exceed the permanent noise standards for non-transportation sources in the General Plan, the noise levels will be similar to ambient levels due to noise generated from timber harvesting operations allowable under the County's zoning code and the property owner's timber production contract provisions. Also, some noise would be masked by intervening vegetation and topography between the closest residences approximately one mile west of the project area. Operation of the new bridge would not generate noise above existing levels. Thus, the project would not expose persons other than construction workers or potentially sensitive noise receptors to noise levels in excess of applicable noise standards.

b) ***Less-than-Significant Impact.*** Construction-related ground vibration resulting from the movement of heavy equipment throughout the project area, would be temporary and localized, and would occur only during daylight hours (typically 7:00 a.m. to 7:00 p.m.). The project area and vicinity are rural and the nearest residence is located at least 0.5 mile away from the construction site. It is unlikely that any persons other than construction personnel would be exposed to ground vibration, thus the impact would be less than significant. The project does not involve the use of explosives.

c) ***No Impact.*** Construction and operation of the project would not result in a permanent (on-going) increase in ambient noise because traffic levels would not increase as a result of the project.

e, f)***No Impact.*** The project is not located in the vicinity of an airport or landing strip.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*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?	☐	☐	☐	☒

Discussion of Impacts

a) ***No Impact.*** Replacement of the existing Soda Creek bridge structure would have no effect on population or housing in the vicinity of Soda Creek Road. It would not increase traffic capacity or extend road access beyond what is available without the project. It would improve traffic safety on Soda Creek Road where it crosses Soda Creek.

b) ***No Impact.*** Existing housing in the vicinity of Soda Creek Road would not be displaced by the project and no replacement housing would be required.

c) ***No Impact.*** No people would be displaced as a result of the project and no replacement housing would be required.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XIV. PUBLIC SERVICES — Would the project:				
a) 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?	☐	☐	☐	☒

Discussion of Impact

a) ***Less-than-Significant Impact.*** The project would have a less-than-significant effect on public resources, including fire protection, police protection, and schools. Soda Creek Road is not used to access any parks of other public facilities. The proposed bridge would provide an improved, safer road and bridge across Soda Creek. During construction of the replacement bridge, traffic would be routed over the existing bridge, which would remain operational pending completion of the new bridge. No adverse effects on service ratios, response times, or service objectives for any of the public services are anticipated.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XV. RECREATION — Would the project:				
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?	☐	☐	☐	☒

Discussion of Impacts

(a, b) ***No Impact.*** The project would have no effect on access to existing recreational use of USFS lands in the area accessed by Soda Creek Road because the road and bridge will remain open to traffic during project construction.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
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 to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☒	☐
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?	☐	☐	☐	☒

Discussion of Impacts

a) ***Less-than-Significant Impact.*** The project is not anticipated to increase either the number of vehicle trips, volume-to-capacity ratio, or congestion at intersections. The project is consistent with the goals and policies of the Regional Transportation Plan for Shasta County and the Shasta County General Plan.

b) ***Less-than-Significant Impact.*** The primary purpose of the project is to provide for safer traffic circulation. There is a potential for minor delays during construction. However, there would not be a lowered level of service during the construction phase of the project, as Soda Creek Road would remain open and traffic would continue to be routed over the existing bridge. Based on current traffic levels in the project vicinity, traffic congestion along Soda Creek Road at the Soda Creek bridge crossing is not anticipated during the construction phase of the project. Any effects on traffic during construction would be temporary and less than significant.

c) ***No Impact.*** The project would not result in a change in air traffic patterns.

d) ***No Impact.*** The project would not result in the creation of sharp curves, dangerous intersections, or incompatible uses. The project is designed to provide an improved alignment and a safer bridge across Soda Creek.

e) ***Less-than-Significant Impact.*** During construction of the replacement bridge, traffic would be routed over the existing bridge. Stop signs during non-construction times and flagging during construction are anticipated. Although temporary, short-duration disruptions to normal traffic operation may be required during project construction, Soda Creek Road would remain open to traffic during construction and no significant impact on emergency vehicle access is anticipated.

f) ***No Impact.*** The project would not be in conflict with any adopted plans, policies, or programs that support alternative transportation, and would be consistent with the goals and policies of the Regional Transportation Plan for Shasta County, the 2010 Shasta County Bicycle Transportation Plan, and the Shasta County General Plan. The existing bridge crossing would remain open to alternative forms of transportation (e.g., pedestrian, bicycles) during construction.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XVII. UTILITIES AND SERVICE SYSTEMS — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☒	☐

Discussion of Impacts

a, b, d e) ***No Impact.*** The proposed project does not in involve any actions that would generate wastewater or require a new water supply. No new wastewater or water facilities would be constructed or needed as part of the project.

c) ***No Impact.*** Construction and operation of the project would not require new facilities or alterations to existing storm water facilities. The project profile would provide sufficient gradient for drainage of roadway and bridge surfaces. It is anticipated that roadway and bridge deck drainage for this project would be diverted away from the approach fills and directly into the Q_{100} flood plain of Soda Creek.

f) ***Less-than-Significant Impact.*** Construction activities associated with the project would generate solid waste in the form of demolished materials, metal pilings, and other trash. With the exception of hazardous materials, solid waste generated at the project site would be disposed of at a suitable facility such as the Lakehead Transfer Station near the Community of Lakehead approximately 22 miles south of the project area. Hazardous materials would be disposed of at an approved landfill. The project is not likely to generate solid waste in amounts that would adversely affect the existing capacity of the local landfill. The contractor would be responsible for removing the existing bridge from the site.

g) ***Less-than-Significant Impact.*** Any solid waste generated by the project would be disposed of at an approved landfill, in compliance with local, state, and federal regulations pertaining to solid waste disposal.

Mitigation Measures

No project-specific mitigation is required under this subject.

	Potentially Significant Impact	*Less than Significant with Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE (To be filled out by Lead Agency if required)				
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, 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?	☐	☒	☐	☐

Discussion

a) ***Less than Significant with Mitigation Incorporated.*** As discussed in the preceding sections, the proposed project has a potential to result in adverse effects on air quality, biological resources, and cultural resources. Special-status wildlife species that could be affected by the project are Shasta salamander, NSO, Townsend's big-eared bat, pallid bat, pacific fisher, foothill yellow-legged frog, tailed frog, northern goshawk, yellow warbler, yellow-breasted chat, olive-sided flycatcher, ringtail cat, and migratory birds and raptors. The project also would have minor impacts on sensitive riparian habitat and riverine habitat. Potential impacts on resources and the specified species are discussed in detail in the corresponding sections above. Mitigation measures required to reduce the significance of project impacts are summarized in Chapter 5. With implementation of the required mitigation measures, potential impacts would be reduced to a less-than-significant level. Although cultural resources are not likely to be affected, there is the potential for previously undetected cultural resources or human remains to be affected by project activities. Therefore, mitigation measures (see Chapter 5) have been incorporated into the proposed project to ensure protection of any such resources in the event of inadvertent discovery. The project is consistent with the existing land uses, and the relevant plans and policies that govern such projects.

b) ***Less-than-Significant Impact.*** The project would include improvements to an existing transportation system by replacing an existing bridge structure with a new bridge. The project would not introduce new development into a previously undeveloped area. The project site is near undeveloped forestlands; adjacent timberland land use will be retained. Existing open space will be retained. Impacts associated with the project would be limited to the construction phase for the most part, and can be fully mitigated for at the project level. As a result, cumulative impacts are considered to be less than significant.

c) ***Less than Significant with Mitigation Incorporated.*** The proposed Soda Creek Road bridge replacement project could result in a variety of impacts on human beings, particularly during the construction phase. The only human sensitive receptors in the project area other than project-related construction workers are occasional recreational hikers or hunters. Potential adverse effects on recreational users and construction workers from the project are due to temporary decreases in air quality, greenhouse gas emissions, wildfire hazards, and hazardous materials that could be encountered during construction. Chapter 5 contains mitigation measures that will be used to avoid or minimize potentially adverse effects to humans resulting from the construction of the project. The project would not involve any actions that would have a substantial direct or indirect impact on the human environment that cannot be mitigated to a less-than-significant level.

4 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.

Shawn Ankeny 8-16-16

Signature Date

Shawn Ankeny, P.E., Supervising Engineer
Shasta County Department of Public Works

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5 Summary of Mitigation Commitments

Shasta County is committed to implementing the following mitigation measures during construction of the Soda Creek Road at Soda Creek Bridge (No. 06C-03487) Replacement Project:

5.1 Air Quality

5.1.1 Mitigation Measure #1—Air Quality/Fugitive Dust and Emission Controls

The County shall include provisions in the construction bid documents that the contractor shall implement fugitive dust and emissions controls during construction activities. The fugitive dust and emissions controls shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpile sites at least twice daily, including during non-work days or until soils are stable.
- Pursuant to the California Vehicle Code 23114(4) (California Department of Motor Vehicles 2015), all trucks hauling soil and other loose material to and from the construction site shall be covered or shall maintain at least 6 inches of freeboard (i.e., minimum vertical distance between top of load and the trailer).
- Any topsoil that is removed for the construction operation shall be stored on-site in piles not to exceed 4 feet in height to allow development of microorganisms prior to resoiling of the construction area. These topsoil piles shall be clearly marked and flagged. Topsoil piles that will not be immediately returned to use shall be revegetated with a non-persistent erosion control mixture.
- Soil piles for backfill shall be marked and flagged separately from native topsoil stockpiles. These soil piles shall also be surrounded by silt fencing, straw wattles, or other sediment barriers or covered unless they are to be immediately used.
- Equipment or manual watering shall be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.
- Contractors will commit to using the best available emissions control technology. The use of diesel construction equipment meeting the California Air Resources Board (CARB) 1996 or newer certification standard for off-road heavy-duty diesel engines and having Tier 4 engines will be maximized to the extent feasible. Equipment may be electrified if feasible, and gasoline-powered equipment should be substituted for diesel-powered equipment when feasible, unless alternatively fueled construction equipment can be used. If the use of all equipment with Tier 4 engine standards is not feasible, the contractor should commit to using CARB and Environmental Protection Agency (EPA)-verified particulate traps, oxidation

catalysts, and other appropriate controls when suitable to reduce emissions of diesel particulate matter and other pollutants during construction.

Timing/Implementation:	During construction
Enforcement:	Shasta County AQMD
Monitoring:	County and/or its contractor

5.2 Biological Resources

5.2.1 Mitigation Measure #2—Shasta salamander

In addition to the measure described below, Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat, and Mitigation Measure #6 – Prevention of Spread of Invasive Species will be used to reduce project impacts on Shasta salamander to a less-than-significant level.

- Due to the presence of potential habitat for Shasta salamander, the County shall conduct a protocol-level survey of slope habitat for Shasta salamander within the project area. The protocol-level survey will be conducted in accordance with the Survey Protocol for the Shasta Salamander (*Hydromantes shastae*), in, Survey Protocols for Amphibians under the Survey and Manage Provisions of the Northwest Forest Plan, Version 3.0 (Olson and Lewendall 1999). The survey results will be submitted to CDFW. If no Shasta salamanders are encountered during the protocol-level survey, then no further action is necessary; however, if one is encountered, the County will initiate consultation with CDFW in accordance with the California Environmental Species Act (CESA).

- If Shasta salamander is encountered, additional mitigation will be determined in consultation with CDFW. It is anticipated that additional mitigation measures will include the following:

  - To the maximum extent practicable, ground disturbance including the removal of cover objects (i.e., down woody debris, rocks, etc.) within potential Shasta salamander habitat will be minimized.

  - The project area shall be surveyed for Shasta salamander 24-hours prior to initiation of construction activities. If Shasta salamanders are encountered during the survey, they will be relocated (with CDFW approval) to similar habitat outside of the construction zone.

  - A biological monitor shall be on-site when ground disturbance activities take place in potential Shasta salamander habitat. If Shasta salamander is encountered during construction, activities will cease until the salamander has been relocated by a qualified biologist (with CDFW approval) or it has been determined that the salamander will not be harmed. Any trapped, injured, or killed special-status species shall be reported immediately to CDFW.

- For permanent and temporary impacts on potential Shasta salamander habitat as a result of the project, the County will create habitat on-site or acquire suitable conservation lands at a ratio equal to or greater than that which was impacted by the project.

Timing/Implementation:	Before, during, and after construction
Enforcement:	CDFW, County
Monitoring:	County and/or its contractor

5.2.2 Mitigation Measure #3—Erosion and Sediment Control

Erosion control measures shall be implemented during construction of the proposed project in non-riparian upland areas. These measures shall conform to the provisions in Section 21-2 of the Caltrans Standard Specifications and the special provisions included in the contract for the project (Caltrans 2015). Such provisions include the preparation of a Storm Water Pollution Prevention Plan (SWPPP), which describes and illustrates placement of best management practices (BMPs) in the project site. Erosion control measures to be included in the SWPPP or to be implemented by the County include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features. In-water construction will only be limited to July 16–October 31 with upland construction allowed from July 16 through February 1. For upland construction activities that must take place during the late fall, winter, or spring, then temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and maintained until permanent erosion control structures are in place.

- Areas where wetland and upland vegetation need to be removed shall be identified in advance of ground disturbance and limited to only those areas that have been approved by the County. Exclusionary fencing will be installed around areas that do not need to be disturbed.

- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent possibility of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas upon completion of the day's activities. Soils shall not be left exposed during the rainy season.

- Suitable BMPs, such as silt fences, straw wattles, or catch basins, shall be placed below all construction activities at the edge of surface water features to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Further, sediment built up at the base of BMPs will be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction.

- All dewatering activities will be conducted in compliance with the *Caltrans Field Guide for Construction Site Dewatering* and Section 13-4.03G of the *Caltrans Standard Specifications*.

Water removed from the excavation area for pier and abutment footings shall be pumped to a temporary sediment retention basin outside of the channel, through a mechanized water filtration system, or into baker tanks or similar storage system and trucked offsite to an authorized disposal site. If a temporary basin is constructed, it shall be located outside of the active channel and include sediment sock or similar sediment control on the discharge.

- If spoil sites are used, they shall be located such that they do not drain directly into a surface water feature, if possible. If a spoil site drains into a surface water feature, catch basins shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded and vegetated with native species to reduce the potential for erosion.

- Sediment control measures shall be in place prior to the onset of the rainy season and will be monitored and maintained in good working condition until disturbed areas have been revegetated with native species.

- Any new gravel material placed in the channel for temporary work platforms shall meet Caltrans' cleanness test indicating the relative proportions of clay-sized material clinging to coarse aggregate and screenings (California Test No. 227) with a value of 85 or higher.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, Central Valley RWQCB, CDFW
Monitoring:	County and/or its contractor

5.2.3 Mitigation Measure #4—Prevention of Accidental Spills of Pollutants

Construction specifications shall include the following measures to reduce potential impacts on vegetation and aquatic habitat resources in the project area associated with accidental spills of pollutants (e.g., fuel, oil, and grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

- Equipment and hazardous materials shall be stored 50 feet away from surface water features.

- Vehicles and equipment used during construction shall receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling shall be conducted in an area at least 50 feet away from Forsythe Creek or within an adequate fueling containment area.

- Equipment operating within the OHWM shall use non-toxic vegetable oil for operating hydraulic equipment instead of traditional hydraulic fluids.

Timing/Implementation:	During construction
Enforcement:	Corps, Central Valley RWQCB, CDFW

Monitoring:	County and/or its contractor

5.2.4 Mitigation Measure #5—Replacement of Lost Riparian Habitat

The following measures shall be implemented to reduce potential impacts on riparian habitat in the project area:

- The width of the construction disturbance zone within the riparian habitat shall be minimized through careful pre-construction planning.
- Exclusionary fencing shall be installed along the boundaries of all riparian areas to be avoided to ensure that impacts on riparian vegetation outside of the construction area are minimized.
- Riparian habitat areas temporarily disturbed shall be replanted at a 3:1 ratio using riparian species that have been recorded along Soda Creek in the project area including white alder (*Alnus rhombifolia*), red osier dogwood (*Cornus sericea* ssp. *sericea*), and Oregon Soda (*Fraxinus latifolia*).
- Onsite creation/restoration of riparian vegetation shall occur in areas that have been disturbed during project construction and within interstitial spaces of the RSP..
- Plant spacing intervals will be determined as appropriate based on site conditions following construction.
- Non-native tree species removed during project construction will be replaced with native riparian species.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County

5.2.5 Mitigation Measure #6—Prevention of Spread of Invasive Species

The following measures shall be implemented to prevent the spread of invasive species in the project area:

- All equipment used for off-road construction activities will be weed-free prior to entering the action area.
- If project implementation calls for mulches or fill, they will be weed free.
- Any seed mixes or other vegetative material used for re-vegetation of disturbed sites will consist of locally adapted native plant materials to the extent practicable.
- Any gravels or materials used for the temporary stream diversion shall be new, from a local source, or properly disinfected or cleaned prior to installation.

- Any equipment (including boots or waders) and construction equipment shall be properly disinfected or cleaned according to guidance provided by the State of California Aquatic Invasive Species Management Plan (California Department of Fish and Game 2008; U.S. Bureau of Reclamation 2012) prior to in-water work to prevent the spread of aquatic invasive species.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.6 Mitigation Measure #7—Frogs

In addition to the measures described below, *Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat*, and *Mitigation Measure #6 – Prevention of Spread of Invasive Species* will be used to reduce project impacts on foothill yellow-legged frog and tailed frog to a less-than-significant level.

- Because foothill yellow-legged frogs and tailed frogs may move into or out of the project area at any time, a pre-construction survey for the species is necessary to confirm its status (presence/absence) on the site immediately prior to the onset of project construction. Therefore, a qualified biologist shall conduct a minimum of one survey of the project area for these species. The survey shall be conducted a maximum of one week prior to construction. If one of these frogs is encountered within a construction impact zone, the biologist (in consultation with the CDFW) shall move it to a safe location within similar habitat. The County will inform Caltrans when such an activity occurs.

- If either species is encountered during construction, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined that the species will not be harmed. Any special-status frog or other aquatic species encountered during construction shall be allowed to move away on their own. Any trapped, injured, or killed special-status species shall be reported immediately to CDFW.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.7 Mitigation Measure #8—Northern Spotted Owl

In addition to *Mitigation Measure #1 – Air Quality/Fugitive Dust and Emissions Controls, Mitigation Measure #3 – Erosion and Sediment Control,* and *Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants* the following measures shall be implemented to avoid or minimize the potential for significant impacts on NSO:

- No construction activities will occur between February 1 and July 15 to avoid any adverse effects to nesting NSO.

- All construction equipment will be properly muffled.
- Tree removal will be minimized to the extent feasible and occur during the non-nesting season (July 16 through January 31).

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.8 Mitigation Measure #9—Northern Goshawk

The following measures shall be implemented to avoid or minimize the potential for significant impacts on northern goshawks:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (i.e., February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts. However, because of the possible presence of NSO in the project vicinity, project construction activities, including vegetation removal, will not begin until after July 15.
- If the breeding season cannot be avoided, a qualified biologist shall conduct a minimum of one pre-construction survey for nesting northern goshawks within the project area and a 500-foot buffer around the project area to ensure that no nests will be disturbed during project implementation. At least one survey should be conducted no more than 15 days prior to the initiation of construction activities. During this survey, the biologist should inspect all trees immediately adjacent to the impact areas for raptor nests. If an active nest is found close enough (i.e., within 500 feet) to the construction area to be disturbed by these activities, the biologist (in consultation with the CDFW) shall determine the extent of a construction-free buffer zone to be established around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.9 Mitigation Measure #10—Yellow Warbler, Yellow-Breasted Chat, Olive-sided Flycatcher

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measures shall be implemented to avoid or minimize the potential for significant impacts on yellow warblers, yellow-breasted chats, and olive-sided flycatcher:

- If all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the project should be removed before the onset of the nesting season (i.e., February 1 through August 31), if practicable. This will help preclude nesting and substantially decrease the likelihood of direct impacts. However, because of the possible

presence of NSO in the project vicinity, project construction activities, including vegetation removal, will not begin until after July 15.

- If the breeding season cannot be avoided, a qualified biologist shall conduct a minimum of one pre-construction survey for yellow warblers, yellow-breasted chats, and olive-sided flycatcher within the project area and a 250-foot buffer around the project area. The survey should be conducted no more than 15 days prior to the initiation of construction in any given area. The pre-construction survey should be used to ensure that no nests of these species within or immediately adjacent to the project area would be disturbed during project implementation. If an active nest is found, a qualified biologist (in consultation with the CDFW) should determine the extent of a construction-free buffer zone to establish around the nest. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW, Caltrans
Monitoring:	County and/or its contractor

5.2.10 Mitigation Measure #11—Bats

The County shall include provisions in the construction bid documents to minimize project impacts on bat species. The following measures shall be implemented to reduce construction-related impacts on bats:

- To the extent practicable, removal of large trees with cavities and removal of the existing bridge shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (i.e., after August 15). However, the removal of the existing bridge during this time period is likely not feasible, since the existing bridge must be removed during the in-water construction period (June 15 through October 15). Therefore, the following measure will apply if necessary:

- If construction (including the removal of large trees and the existing bridge) occurs during the non-volant season (March 1 through August 15), a qualified biologist shall conduct a pre-construction survey of the project area to locate maternity colonies and identify measures to protect the colonies from disturbance. The pre-construction survey will be performed no more than 14 days prior to the implementation of construction activities (including staging and equipment access). If a lapse in construction activities for 14 days or longer occurs between those dates, another pre-construction survey will be performed.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.11 Mitigation Measure #12—Pacific Fisher

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measure shall be implemented to avoid or minimize the potential for significant impacts on pacific fisher:

- Removal of trees, logs and snags will be minimized to the extent feasible. This will help maintain forest structure of potential pacific fisher foraging habitat and movement corridors.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.12 Mitigation Measure #13—Ringtail Cat

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, the following measure shall be implemented to avoid or minimize the potential for significant impacts on ringtail cat:

- Removal of trees, logs and snags will be minimized to the extent feasible. This will help maintain forest structure of potential ringtail cat foraging habitat and movement corridors.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.13 Mitigation Measure #14—Migratory Birds and Raptors

In addition to *Mitigation Measure # 5 – Replacement of Lost Riparian Habitat*, *Mitigation Measure #8 – Northern Spotted Owl, Mitigation Measure #9 – Northern Goshawk, ,* and *Mitigation Measure #10 –Yellow Warbler, Yellow-breasted Chat, and Olive-sided Flycatcher* the following measure shall be implemented to avoid or minimize the potential for significant impacts on migratory birds and raptors:

- Construction activities on, and removal of, the existing bridge should be scheduled to avoid the nesting season to the extent feasible. The typical nesting season in northern California extends from March through July. Thus, if bridge demolition can be scheduled to occur between August and October, or the period before nesting begins and after nesting is complete, the nesting season would be avoided, and no impacts would be expected.

- If it is not possible to schedule bridge removal to avoid nesting, any existing unoccupied and inactive nests shall be removed from the existing bridge before March 1 of the construction year. Removal of empty or unfinished nests shall be repeated as frequently as necessary (can be up to three times per week) to prevent nest completion. A nest exclusion devise can be installed (e.g., netting or similar mechanism that keeps birds from building nests) if desired prior to March 1 or after August 1. Any nest exclusion devises should be approved by CDFW prior to installation. Exclusion efforts should be continued until actual removal of the bridge structure. The County will inform Caltrans when such an activity occurs.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.14 Mitigation Measure #15—Sensitive Natural Communities

- The project shall be designed and constructed to avoid and minimize removal of riparian vegetation to the maximum extent practicable. Staging areas and construction access routes shall avoid encroachment into riparian vegetation where practicable and minimize encroachment where complete avoidance is not practicable. Avoided riparian habitat will be clearly identified in the construction drawings and contractor work plans. Exclusionary fencing will be installed to mark boundaries of all avoided riparian areas. All pedestrian and vehicular traffic into the avoided areas delineated by the fencing shall be prohibited during construction. The exclusionary fencing shall be inspected and maintained on a regular basis throughout project construction.

Timing/Implementation:	Prior to and during construction
Enforcement:	CDFW
Monitoring:	County and/or its contractor

5.2.15 Mitigation Measure #16—Waters of the United States

In addition to the measure described below, *Mitigation Measure #3 – Erosion and Sediment Control, Mitigation Measure #4 – Prevention of Accidental Spills of Pollutants, Mitigation Measure #5 – Replacement of Lost Riparian Habitat,* and *Mitigation Measure #6 – Prevention of Spread of Invasive Species*, the following measures shall be implemented to avoid or minimize the potential for project-related impacts on waters of the United States:

- To the extent practicable, the discharge of dredged or fill materials into waters of the United States, including wetlands, shall be avoided (this also includes waters not subject to Corps jurisdiction, but subject to RWQCB jurisdiction). However, complete avoidance is not feasible, thus the measures provided below shall be implemented.

- Prior to any discharge of dredged or fill material into waters of the United States, including wetlands, authorization under a Nationwide Permit shall be obtained from the Corps. For any features determined not to be subject to Corps jurisdiction during the verification process, authorization to discharge shall be obtained from the RWQCB. For fill requiring a Corps permit, water quality certification shall be obtained from the RWQCB prior to discharge of dredged of fill material.

- Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any intermittent or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW; and, if required, a streambed alteration agreement shall be obtained from CDFW.

- Construction activities that will affect waters of the United States shall be conducted during the dry season to minimize erosion.

- Stockpiles that are to remain on site through the wet season shall be protected to prevent erosion (e.g., silt fence, straw bales).

- Any monitoring, maintenance, and reporting required by the regulatory agencies (i.e., Corps, RWQCB, and CDFW) shall be implemented and completed. All measures contained in the permits or associated with agency approvals shall be implemented.

- All waters of the United States that are temporarily affected by project construction shall be restored as close as practicable to original contours and conditions within 10 days of completion of construction activities.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	Corps, Central Valley RWQCB, CDFW
Monitoring:	County and/or its contractor

5.3 Cultural Resources

5.3.1 Mitigation Measure #17—Cultural Resources

- Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, "it is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the undertaking changes to include areas not previously surveyed." Per Attachment 4 of the Section 106 Programmatic Agreement (PA), isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

5.3.2 Mitigation Measure #18—Human Remains

- If human remains are discovered during project activities, all activities in the vicinity of the find shall be suspended and the Shasta County Sheriff–Coroner shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner shall contact the Native American Heritage Commission. Treatment of the remains shall be conducted in accordance with the direction of the County Coroner and/or the Native American Heritage Commission, as appropriate.

Timing/Implementation:	During construction
Enforcement:	Native American Heritage Commission and County
Monitoring:	County and/or its contractor

5.4 Geology and Soils

Implement *Mitigation Measure #3 - Erosion and Sediment Control* to prevent degradation of water quality.

5.5 Greenhouse Gas Emissions

5.5.1 Mitigation Measure #19–Greenhouse Gas

- Reuse and recycle construction and demolition waste, including, but not limited to soil, vegetation, concrete, lumber, metal, and cardboard.
- Ensure that the project enhances, and does not disrupt or create barriers to, non-motorized transportation.
- Protect existing trees to the extent possible and encourage the planting of new trees.

Timing/Implementation:	Prior to and during construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.6 Hazards and Hazardous Materials

Implement *Mitigation Measure #4 - Prevention of Accidental Spills of Pollutants* to prevent degradation of the project area environment.

5.6.1 Mitigation Measure #20–Lead-based Paint

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of lead-based paint coated surfaces found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from lead-based paint removal:

- A limited assessment for lead in the soil under the bridge will be performed for the project area. Samples shall be collected at each of the four corners of the two bridge abutments. In order for hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 to be waived, lead-contaminated soils must not exceed the contaminant concentrations discussed in section 9 of the variance and must meet all the conditions contained within the same section. Required handling of lead contaminated soils is outlined in Table 1 and would depend on the level of lead contamination in the soils at the site.

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Handling
		California Testing	
STLC <5.0	TTLC <1000	X	Non-hazardous Waste. Notify and require Lead Compliance Plan for worker safety.
	1000 – 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*

Table 1. Lead Soil Management

Soluble Lead (mg/l)	Total Lead (mg/kg)	Soil Type	Handling
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	1000 – 3397 but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or 1000 – 3397 and DI WET > 150 mg/l	Z2	Hazardous Waste. Not reusable under Variance. Dispose at Class 1 disposal site.
TLC >5.0	TTLC < 1411 and DI WET < 1.5 mg/l	Y1	Hazardous Waste. Variance applies – cover with minimum 1 foot of clean soil.*
	1411 – 3397 and DI WET < 150 mg/l	Y2	Hazardous Waste. Variance applies – cover with pavement structure.*
	< 3397 and DI WET < 150 mg/l but Surplus	Z2	Hazardous Waste. Surplus. Dispose at Class 1 disposal site.
	> 3397 or DI WET > 150 mg/l	Z2	Hazardous Waste. Variance applies – cover with pavement structure.
		Federal Testing	
TCLP > 5.0 mg/l	N/A	Z3	RCRA Hazardous Waste. Dispose at Class 1 disposal site as a RCRA waste regardless of TTLC and STLC results.

* Note: For hazardous waste levels of lead – if pH is less than 5.5 soil must be placed under a pavement structure. If pH is less than 5.0 variance cannot be used and the soil must be disposed as Z-2 material. (Source: Caltrans Website: http://www.dot.ca.gov/hq/env/haz/hw_adl.htm

- Lead-based paint will be removed using one of several methods approved by the Federal Environmental Protection Agency (EPA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a high efficiency particulate air (HEPA) filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the Clean Harbors Buttonwillow LLC facility in Buttonwillow, CA (CAD980675276) or the Chemical Waste Management Inc. Kettleman facility in Kettleman, CA (CAT000646117).

Timing/Implementation:	During construction
Enforcement:	County, EPA
Monitoring:	County and/or its contractor

5.6.2 Mitigation Measure #21 – Asbestos Containing Building Material

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of asbestos-containing building material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from asbestos removal:

- Prior to the start of construction, the existing bridge's building material will be tested for asbestos. If present, the following measure will be used:

- Asbestos-containing building material will be removed using one of several methods approved by the Federal EPA and California Occupational and Safety Hazard Administration (CalOSHA), at the contractor's discretion. Acceptable methods include wet scraping or the use of a dustless needle gun connected to a vacuum unit with a HEPA filter that empties directly into a waste container. The waste container will be properly documented and disposed of at a Class I landfill, such as the Clean Harbors Buttonwillow LLC facility in Buttonwillow, CA (CAD980675276) or the Chemical Waste Management Inc. Kettleman facility in Kettleman, CA (CAT000646117).

Timing/Implementation:	During construction
Enforcement:	County, EPA, CalOSHA
Monitoring:	County and/or its contractor

5.6.3 Mitigation Measure #22 –Treated Wood Waste

The County shall include provisions in the construction bid documents to ensure the proper removal and disposal of treated wood waste material found on the existing bridge. The following measure shall be implemented to reduce construction-related environmental impacts that could result from treated wood waste removal:

- The contractor will remove treated wood waste following the alternative management standards specific under Caltrans Special Stand Provision 14-11.09 for treated wood waste, as well as California Code of Regulations Title 22, Chapter 34, Sections 67386.1 through 67386.12 for labeling, accumulation, offsite shipment tracking, notification, treatment, and disposal. All personnel that may come into contact with treated wood waste will receive, at a minimum, training on safe handling, sorting and segregating, storage, labeling (including date), and proper disposal methods.

Timing/Implementation:	Prior to, during, and after construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.6.4 Mitigation Measure #23–Wildfire Potential

- Per the requirements of Public Resources Code 4442, the County shall include a note on all construction plans that internal combustion engines shall be equipped with an operational spark arrester, or the engine must be equipped for the prevention of fire.

Timing/Implementation:	Prior to construction
Enforcement:	County
Monitoring:	County and/or its contractor

5.7 Hydrology and Water Quality

Implement *Mitigation Measure #3—Erosion and Sediment Control* and *Mitigation Measure #4—Prevention of Accidental Spills of Pollutants* to prevent degradation of water quality.

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6 Report Preparation

6.1 Shasta County Department of Public Works– CEQA Lead Agency

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Joshua Cannan, P.E.	Project Manager

6.2 North State Resources, Inc. – Environmental Compliance

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Connie MacGregor Carpenter	Environmental Analyst
Jed McLaughlin	Environmental Analyst
Kurt Bainbridge	Biologist
Paul Kirk	Biologist
Sarah Tona	Botanist
Brian Ludwig	Principal Archaeological Investigator
Kristina Crawford	Cultural Resources
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6.3 – Lawrence and Associates - Environmental Site Assessment

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7 References

American Association of State Highway and Transportation Officials. 2010. *AASHTO LRFD bridge design specifications, 4th edition, with 2010 interim revisions*. American Association of State Highway and Transportation Officials.

California Air Resources Board. 2013. Area designations maps/state and national. http://www.arb.ca.gov/desig/adm/adm.htm (accessed April 22, 2013).

California Attorney General's Office. 2010. Addressing climate change at the project level, California Attorney General's Office. State of California, Attorney General's Office. Sacramento, California.

California Department of Conservation. 2012. Shasta County important farmland 2012. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx (accessed March 11, 2016).

——. 2013. State of California Williamson Act contract land, data submissions current to 2012. State of California, The Natural Resources Agency, Department of Conservation, Sacramento, California.

——. 2016. Regional geologic hazards and mapping program – Alquist-Priolo. Available at http://www.conservation.ca.gov/cgs/rghm/ap/Pages/index.aspx (accessed March 24, 2016).

California Department of Fish and Wildlife. 2015. California natural diversity database – BIOS 5 for commercial subscribers. Available online at https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp (accessed November 9, 2015).

California Department of Motor Vehicles. 2015. 2015 vehicle code general provisions and divisions division 11 chapter 12 article 1 section 23114 spilling loads on highways. Available at http://www.dmv.ca.gov/portal/dmv/detail/pubs/vctop/vc/d11/c12/a1/23114 (accessed November 13, 2015).

California Department of Toxic Substances Control. 2013. DTSC's hazardous waste and substances site list - site cleanup (Cortese list). http://www.dtsc.ca.gov/SiteCleanup/Cortese_List.cfm (accessed May 6, 2013).

California Department of Transportation. 2003. Caltrans construction site best management practice (BMP) field manual and troubleshooting guide. State of California, Department of Transportation.

——. 2009. Local assistance procedures manual. State of California, Department of Transportation – Division of Local Assistance. Sacramento, California.

——. 2010. Seismic design criteria, version 1.6. http://www.dot.ca.gov/hq/esc/techpubs/manual/othermanual/other-engin-manual/seismic-design-criteria/sdc.html (accessed June 14, 2011).

——. 2011. California amendments to the AASHTO LRFD bridge design specifications (fourth edition). State of California, Department of Transportation.

——. 2015. Standard specifications. State of California, Department of Transportation – Publication Distribution Unit. Sacramento, California.

California Geological Survey. 1997. Geology of Western Shasta County, California Department of Conservation, California Geological Survey.

——. 2006. Aggregate availability in California. Department of Conservation, California Geological Survey.

Cal Recycle. 2010. Solid waste information system (SWIS) facility/site listing. http://www.calrecycle.ca.gov/SWFacilities/Directory/Search.aspx (accessed August 9, 2010).

Central Valley Regional Water Quality Control Board. 2010. USEPA Approved California 2008-2010 Section 303(d) List of impaired Waters. Available online at: http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/index.shtml. Accessed March 2016.

——. 2011. Fourth Edition of the Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River Basins. Revised October 2011.

Federal Emergency Management Agency. 2011. Flood insurance rate map - Shasta County, California and incorporated areas. Community panel number 060890050G. Washington, D.C.

Governor's Office of Planning and Research. 2008. Technical advisory: CEQA and climate change: Addressing climate change through California Environmental Quality Act Review. Sacramento, CA. Available online at: <http://opr.ca.gov/docs/june08-ceqa.pdf>. Prepared June 19, 2008. Accessed January 2016.

Greenhouse Gas Protocol Initiative. 2013. GHG emissions from transport or mobile sources. http://www.ghgprotocol.org/calculation-tools (accessed August 9, 2013).

Lawrence and Associates. 2013. Environmental site assessment Soda Creek Road Bridge Replacement, Shasta County, California. Lawrence and Associates. Shasta Lake, California.

Mayer, K. E., and W. F. Laudenslayer Jr., eds. 1988. *A guide to wildlife habitats of California*. California Department of Forestry and Fire Protection. Sacramento, California.

Natural Resources Conservation Service. 2013. Web soil survey. Intermountain area, parts of Lassen, Modoc, Shasta, and Siskiyou Counties, California. Available at http://websoilsurvey.nrcs.usda.gov/app/ (accessed April 29, 2013).

North State Resources, Inc. 2013a. Soda Creek Road at Soda Creek bridge (06C-0348) Replacement Project archaeological survey report. Prepared for State of California, Department of Transportation, District 2.

——. 2013b. Soda Creek Road at Soda Creek bridge (06C-0348) Replacement Project delineation of waters of the United States. Prepared for State of California, Department of Transportation, District 2.

——. 2014. Soda Creek Road at Soda Creek bridge (06C-0348) Replacement Project biological assessment. Prepared for State of California, Department of Transportation, District 2.

——. 2016. Soda Creek Road at Soda Creek bridge (06C-0348) replacement project -natural environmental study. Prepared for the Shasta County Public Works Department by North State Resources, Inc. Redding, California.

Olson, D. H., and P. C. Lewendal. 1999. Survey protocol for the Shasta salamander (*Hydromantes shastae*). In D. H. Olson (editor), Survey protocols for amphibians under the survey and manage provisions of the northwest forest plan, Version 3.0. Pp. 79-124.

Sacramento Valley Air Quality Engineering and Enforcement Professionals. 2013. Northern Sacramento Valley planning area 2012 triennial air quality attainment plan.

Shasta County. 2004. General plan (as amended through 2004). Available at http://www.co.shasta.ca.us/index/drm_index/planning_index/plng_general_plan.aspx (accessed February 3, 2016).

——. 2013a. Preliminary environmental study (PES) form for Soda Creek Road at Soda Creek bridge replacement (bridge no. 06C-0348). Prepared for California Department of Transportation, District 2 by Shasta County Department of Public Works Redding, California.

——. 2013b. Shasta County internet zoning viewer. Available at http://gis.co.shasta.ca.us/Zoning/ (accessed February 3, 2016).

——. 2016. Location hydraulic study for Soda Creek Road at Soda Creek federal project no. BRLO-5906(106) bridge no. 6C-348. Shasta County Department of Public Works. March 6, 2016.

United States Fish and Wildlife Service. 2015. Letter from Christopher D. Nagano of USFWS to Tom Balkow of Caltrans; concurrence with not likely to adversely affect determination for the threatened northern spotted owl as a result of the Soda Creek Bridge Replacement in Shasta County, California.

Wagner, D.L, and G.J. Saucedo. 1987. Geologic map of the Weed quadrangle. Available at http://www.quake.ca.gov/gmaps/RGM/weed/weed.html (accessed January 22, 2013).