

Lake 20/29 Culvert Rehabilitation Project

Lake County

01-Lak-20-PM 1.07/46.24

01-Lak-29-PM 25.16/48.74

EA 42780/EFIS 0100000180

Initial Study with Proposed Mitigated Negative Declaration



Prepared by the
State of California Department of Transportation



November 2016

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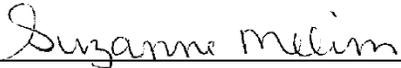
Lake 20/29 Culvert Rehabilitation Project
At Various Locations Along State Routes 20 and 29 in Lake County

INITIAL STUDY with MITIGATED Negative Declaration

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

THE STATE OF CALIFORNIA
Department of Transportation

11-30-16
Date of Approval



Suzanne Melim
Chief, North Region Environmental Planning
California Department of Transportation

Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans) is proposing to rehabilitate drainage at various locations in Lake County in the vicinity of Clear Lake on State Route 20 and 29. The scope of work involves repair and/or replacement of existing culverts, ditches, down drains (DD), flared end sections (FES), drainage inlets (DI), headwalls (HW), rock slope protection (RSP) and rock energy dissipaters (RED).

Determination

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

The proposed project would have no effect on: Agricultural and Forest Resources, Air Quality, Community Resources, Cultural Resources, Geology/Soils, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, and Utilities and Service Systems.

With the following mitigation measures incorporated, the proposed project would have less than significant effects to biological resources (Clear Lake Hitch):

- Caltrans has determined that take of a State Listed species (Clear Lake Hitch) is unavoidable, and an incidental take permit (ITP) application pursuant to Fish & Game Code Section 2081 will be prepared and submitted by the District Biologist. Compensatory requirements have not yet been determined. The terms and conditions of the 2081 permit will be determined by CDFW. Measures to minimize the take of species covered by the permit and to mitigate the effects caused by the take will be set forth in a mitigation plan which will be prepared and submitted by the Caltrans District Biologist in coordination with CDFW staff during the CESA 2081 consultation process.

In addition, the proposed project would have less than significant effects on Aesthetics, Biological Resources, Hazards and Hazardous Materials, and Hydrology and Water Quality because of the following avoidance and minimization measures:

Aesthetics:

- Restore and rectify areas that will require ground disturbance by removing vegetation before completion of the construction project. The trees and vegetation should be protected, where feasible. Vegetation removal should be limited to the extent necessary to construct the project.
- Special care will need to be given to any work that is done near the stream channel, and any vegetation that is removed will need to be replaced with appropriate vegetation that is indigenous to the area. Involve the Caltrans Environmental Branch.
- Re-grade all disturbed areas including access roads to their pre-construction profiles and contours.
- Preserve and protect large trees.
- If the project requires equipment/staging areas, per Caltrans Special Provision, Section 5.1, the contractor will be responsible for securing locations for staging and storage. At the end of construction, all areas used for staging, access or other construction activities, will be repaired, pursuant to Section 5-1.36 "Property and Facility Preservation."

Biological Resources:

- Establish environmentally sensitive areas (ESA) to avoid or minimize impacts to biological resources.
- Conduct mandatory environmental awareness training for construction personnel.
- Adhere to an in-stream work window of July 1st to October 1st to avoid and minimize potential impacts to sensitive species.
- Utilize containment measures/construction site Best Management Practices (BMP) to prevent construction debris from entering surface waters.
- Temporary de-watering may be necessary to conduct project construction activities below the ordinary high water mark (OHWM) of Clear Lake or within project area streams.
- Complete removal of any woody vegetation (trees and shrubs) required for the project, prior to project construction, and outside of the predicted nesting season for raptors and migratory birds in this area (between August 16th and February 28th). Vegetation removal outside this time period may not proceed until a survey by a qualified biologist determines no migratory bird nests are present or in use.
- If woody vegetation removal, structures construction, grading, or other project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (March 1st to August 15th), a qualified biologist will conduct a focused survey for active nests of such birds within 15 days prior to the beginning to project-related activities. If active nests are found, Caltrans will consult with the US Fish and Wildlife Service (USFWS) regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and with the California Department of Fish and Wildlife (CDFW) to comply with provisions of the Fish and Game Code of California.

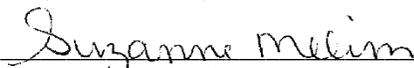
Hazards and Hazardous Materials:

- Include Caltrans Standard Special Provisions (SSP) 15-301 - non-hazardous paint/stripping removal, SSP 15-027 - non-hazardous ADL, SSP S5-750 - NOA legal and regulatory notification, and SSP 19-910 - NOA management in the Plans, Specifications, and Estimates (PS&E) and ready to list (RTL) bid packages available to contractors.
- Reuse excess soil within the project limits as much as possible..

Water Quality:

- Implement sediment and erosion-control BMPs in compliance with the [Caltrans' MS4 Permit and all applicable departmental programmatic documents](#) ~~Caltrans' programmatic documents and the Statewide Construction General Permit.~~
- Incorporate pollution prevention and design measures consistent with the program set forth in the Caltrans' Storm Water Management Plan (SWMP) in order to meet [both](#) regulatory and Caltrans' water quality objectives.
- Comply with Caltrans' 2015 Standard Specifications for Water Pollution Control.
- Prepare and implement a Water Pollution Control Program (WPCP) in accordance with Caltrans' Storm Water Quality Handbook to address all construction-related activities, equipment, and materials that have the potential to impact water quality.
- All construction site BMPs will follow the latest and most current edition of the Caltrans' Storm Water Quality Handbook: Construction Site Best Management Practices Manual.
- Dewatering may be required, but specifics relating to this activity have not yet been determined. Each RWQCB has unique permitting requirements and may have specific WDRs to regulate dewatering. NPDES and Storm Water staff may need to coordinate with RWQCB staff prior to the start of construction, to discuss and determine how to permit this activity.

A copy of this MND can be viewed at Caltrans District 3, Venture Oaks Office, 2379 Gateway Oaks Drive, Suite 150, Sacramento, CA 95833.


Suzanne Melim, Chief
North Region Environmental Services
California Department of Transportation

11-30-16
Date

Initial Study

Project Title

Lake 20/29 Culvert Replacement Project

Lead Agency Name, Address and Contact Person

Kendall Schinke, Branch Chief
California Department of Transportation (Caltrans)
2379 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833
(916) 274-0610, kendall_schinke@dot.ca.gov

Project Location

The project is located in Lake County, State Route (SR) 20 between post mile (PM) 1.07 and 46.24 and SR 29 between PM 25.16 and 48.74 (see Figure 1).

Purpose and Need

Purpose

The purpose of this project is to maintain and repair existing drainage facilities in order to prevent more costly roadway repairs and maintenance in the near future.

Need

The culverts identified have been in a steadily deteriorating condition requiring rehabilitation or replacement to prevent further damage to the culverts and surrounding roadbed. Drainage ditches have also been reported to have insufficient capacity and therefore require rehabilitation.

Description of Project

The California Department of Transportation (Caltrans) is proposing to rehabilitate drainage at various locations in Lake County in the vicinity of Clear Lake on State Route 20 and 29. The scope of work involves repair and/or replacement of existing culverts, ditches, down drains (DD), flared end sections (FES), drainage inlets (DI), headwalls (HW), rock slope protection (RSP) and rock energy dissipaters (RED).

Thirty-four drainage facilities were identified to be in need of improvement by Caltrans District 1 Maintenance. Thirty-two of these facilities are culverts that need either repair or replacement; the other two facilities are ditches that are in need of improvement work. After field reviews conducted in March/April 2004 by Caltrans District 1 Hydraulics, the number of culvert locations were reduced from 34 locations has been reduced to 30. These four culverts were removed for several reasons, including incorporation into another project and determination of no drainage problems. The number of culverts was further reduced to 28 when the two culverts along SR 53 were removed since another project incorporated these culverts.

There are two alternatives proposed: Build and No Build.

Alternative 1, Build

Alternative 1 involves the rehabilitation and/or replacement of the existing drainage facilities, described below (see Figures 2 and 3 for the locations of the culverts).

Location	Route	PM	Existing Diameter	Scope
1	20	1.07	18	Replace --- Steel pipe (Type OMP) drainage inlet (DI), replace 18" cross culvert with 24" alternative pipe culvert (APC), replace flared end section (FES) and place rock slope protection (RSP)
2	20	1.46	18	Replace OMP DI, replace 18" cross culvert and down drain with 24" APC, replace FES and place RSP
3	20	1.61	18	Replace OMP DI, replace 18" cross culvert and down drain with 24" APC, replace FES and place RSP
4	20	2.93	18	Replace OMP DI, replace 18" cross culvert and down drain with 24" APC, replace FES and place RSP
5	20	6.01	24	Repair hole at 6.5' from inlet, replace joint at cross culvert and down drain
6	20	8.84	24	Replace 2 DIs, replace 24" cross culvert, and install flood gate/check valve
7	20	13.80	36	Replace DI and 36" cross culvert
10	20	18.35	18	Replace head wall (HW) and cross culvert, replace FES, place RSP, and install flood gate/check valve
11	20	19.31	24	Replace OMP DI, and 24" cross culvert, replace FES, and place RSP
12	20	19.81	-	Replace HW, 24" cross culvert, FES, place RSP, and install flood gate/check valve or raise outlet
13	20	19.91	24	Replace 2 HWs, 24" cross culvert, place RSP, install flood gate/check valve, construct sand trap inlet, grade and pave asphalt concrete (AC) swale, and install slotted drain
14	20	25.86	18	Rehabilitated 18" cross culvert with cured in place pipe (CIPP) liner, install flood gate/check valve, and place RSP
16	20	46.24	18	Replace HW, replace 18" cross culvert with 24" APC, place down drain, RSP and Type D erosion control
18	29	25.16	18	Replace 18" double barrel corrugated metal pipe with 3' x 2' box culvert, place wing wall and RSP
19	29	33.04	18	Replace DI, 18" cross culvert with 24" APC, and place RSP
20	29	34.69	28	Repair the joint separation
21	29	40.83	18	Replace cross culvert; replace median culvert, southbound cross culvert, culvert at toe of the slope and respective OMP's
21A	29	40.85	24	Replace 24" CMP with 24" APC, FES, place RSP
22	29	42.93	24	Invert pave 30" corrugated steel pipe (CSP), place RSP and metal flared end section (MFES)
24	29	44.95	24	Repair collapsed section and line 24" cross culvert with CIPP, replace FES, and place RSP
26	29	46.04	30	Invert Pave 30" CSP, replace FES, and place RSP
27	29	46.38	24	Line 24" CMP cross culvert with CIPP, replace FES, and place RSP

28	29	47.14	24	Alternative 1: Repair collapsed section and line with 24" CMP cross culvert with CIPP. Alternative 2: Place shallow cross culvert and down drain
29	29	47.73	24	Line 24" CMP with CIPP, replace FES, and place RSP
29A	29	47.85	24	Replace 24" CSP with 24" APC, replace CMP DI, MFES, and place RSP
30	29	48.04	24	Remove concrete in the culvert at median drop inlet, line 24" CMP cross culvert with CIPP
31	29	48.12	24	Lining 24" CSP cross culvert with CIPP, replace FES, and place RSP
32	29	48.78	24	Replace RCP cross culvert, CSP outlet culvert, DI, MFES, and place RSP

Locations 5, 10, 11, 14 have contact with 100 year floodplain and are subject to a flood evaluation report summary. Cofferdams may be employed around the submerged outlet locations in order to repair or replace the culverts, depending on lake levels at the time of construction.

Alternative 2, No Build

Alternative 2 will maintain the continued use of the existing drainage facilities in their current condition. This alternative does not meet the purpose and need of this project.

Construction Details

At the present time, 20 temporary construction easements are anticipated at various locations. Work proposed at six of the 16 locations would require permanent right of way easements for the drainage facilities that extend outside the existing state right of way.

Permits and Approvals Needed

Permits:

- Central Valley Regional Water Quality Control Board (CVRWQCB) Section 401 Permit
- US Army Corps of Engineers (USACE) Section 404 Permit
- California Department of Fish and Wildlife (CDFW) 1600 Agreement
- CDFW 2081 Incidental Take Permit

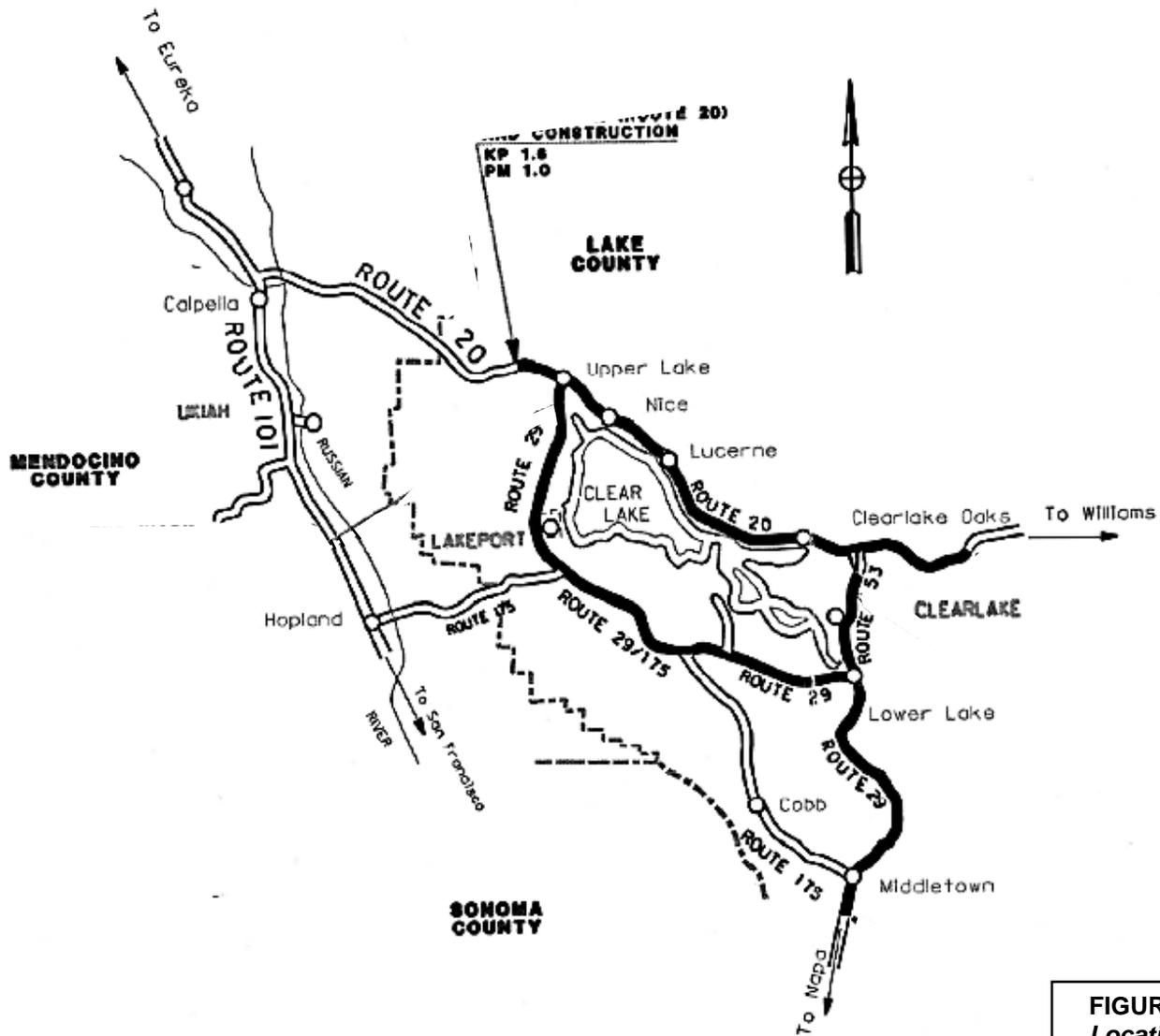


FIGURE 1
Location Map
 Lake 20/29 Culvert Rehabilitation Project
 01-LAK-20/29

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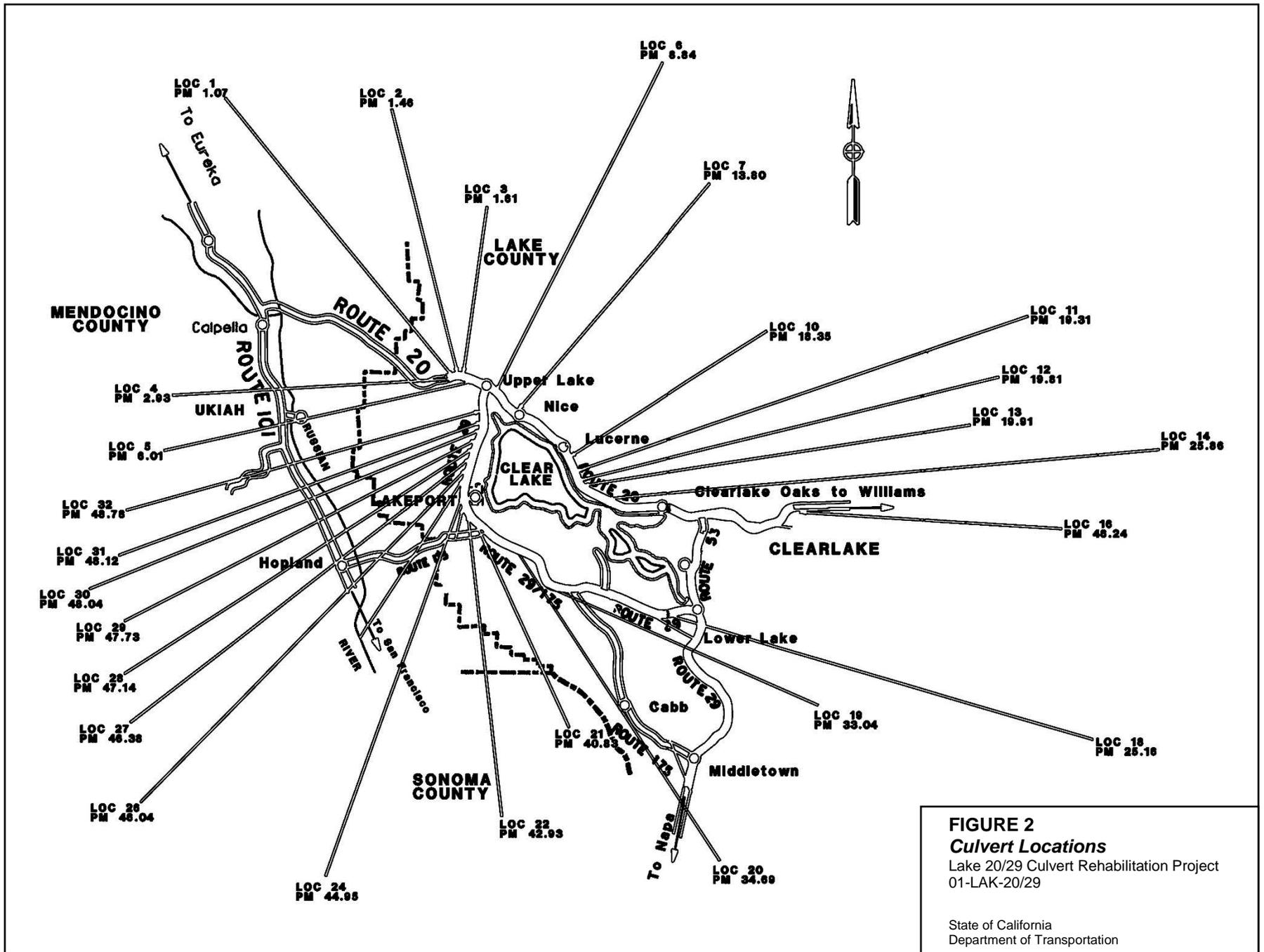


FIGURE 2
Culvert Locations
 Lake 20/29 Culvert Rehabilitation Project
 01-LAK-20/29

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FIGURE 3
Culvert Locations, with Aerial
 Lake 20/29 Culvert Rehabilitation Project
 01-LAK-20/29

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CEQA Environmental Checklist

The impacts checklist starting below identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

A brief explanation of each California Environmental Quality Act checklist determination follows each checklist item. The checklist is followed by a focused discussion of aesthetics, biological resources, hazardous waste, and water quality issues relating to this project.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A "Less Than Significant Impact" is based on the measures recommended in the Avoidance and Minimization section for aesthetic resources.				
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations for a, b, and d are based on the February 2016 Visual Assessment prepared for the project.

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations are based on review of aeriels and planning documents that show that there are no agricultural resources affected by the project.

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

a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations are based on the December 2015 Air Quality Analysis Memorandum.

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

A "Less Than Significant With Mitigation" is based on the mitigation measure recommended in the Avoidance and Minimization section for the Clear Lake Hitch.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

A "Less Than Significant Impact" is based on the measures recommended in the Avoidance and Minimization section for biological resources.

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?

"No Impact" determinations for b, c, e, and f are based on the August 2016 Natural Environment Study (NES).

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

"No Impact" determinations for a, b, and d are based on the July 2016 Screened Undertaking Memorandum.

"No Impacts" determination for c is based on the conclusion that there are no paleo resources affected.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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VI. GEOLOGY AND SOILS: Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

"No Impacts" determinations are based on the conclusion that there are no geologic or soil resources affected.

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?

An assessment of the greenhouse gas emissions and climate change is included in the body of environmental document. While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the body of the environmental document.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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A "Less Than Significant Impact" is based on the measures recommended in the Avoidance and Minimization section for hazardous waste..

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"No Impact" determinations are based on the June 2011 Amended Initial Site Assessment and input from the hazardous waste staff in July 2016.

IX. HYDROLOGY AND WATER QUALITY: Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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A "Less Than Significant Impact" is based on the measures recommended in the Avoidance and Minimization section for water quality.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
A "Less Than Significant Impact" is based on the measures recommended in the Avoidance and Minimization section for 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations for b, c, d, e, g, h, i, and j are based on the February 2016 Water Quality Assessment.

X. LAND USE AND PLANNING: Would the project:

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

"No Impact" determinations are based on reviews of local planning documents, maps, and project scope.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XI. MINERAL RESOURCES: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

"No Impact" determinations are based on the conclusion that no mineral resources will be affected.

XII. NOISE: Would the project result in:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

"No Impact" determinations are based on the December 2015 Noise Analysis Memorandum.

XIII. POPULATION AND HOUSING: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations are based on the project's scope and location.

XIV. PUBLIC SERVICES:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations are based on traffic information, April 2016 Traffic Management Plan, construction timing, and the project's scope and location.

XV. RECREATION:

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

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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"No Impact" determinations are based on the project's scope and location.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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XVI. TRANSPORTATION/TRAFFIC: Would the project:

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

"No Impact" determinations are based on the project's April 2016 Traffic Management Plan.

XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

"No Impact" determinations are based on the project's scope and location.

VIII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment, Environmental Consequences, and Avoidance/Minimization Measures

Environmental studies were prepared by Caltrans specialists for the following topics: air quality, biological resources, cultural resources, hazards and hazardous materials, noise, traffic/transportation, visual resources (aesthetics), and water quality/hydrology. As part of the scoping and environmental analysis carried for the project, the following environmental issues were considered but no adverse impacts were identified. As a result, there is no further discussion about these issues in this document:

- Agricultural and forest resources, community resources, cultural resources, geology and soils, land use and planning, mineral resources population and housing, public services, recreation, and utilities and service systems.

A focused discussion of aesthetic resources, biological resources, hazardous waste, and water quality issues relating to this project is included. Construction avoidance and minimization measures for air quality, noise, and transportation are also discussed.

Aesthetic Resources

Regulatory Setting

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state “with...enjoyment of aesthetic, natural, scenic and historic environmental qualities” (CA Public Resources Code [PRC] Section 21001[b]).

Affected Environment

Caltrans landscape staff prepared a Visual Assessment in February 2016.

Visual Setting

The visual settings of the project includes rolling hills with some sites of surrounding developments, deciduous and coniferous vegetation, and surrounding mountains. The visual quality of the area is quite scenic in some areas.

Views of surrounding developments are often screened by roadside vegetation and local topography thus the highway appears to be rural in character. There are existing road cut and fill slopes of varying heights visible adjacent to the highway. These cut and fill slopes are mostly covered with native vegetation. The visual backdrop from the highway is rolling foothills and mountains with dense groups of mature, pine trees punctuated by sparse understory vegetation.

Viewer Sensitivity

The project’s viewer sensitivity and overall resource change is considered moderate to low. Currently, the project corridor is a mix of roadway facility, farmland, and open space. Although the proposed project will be adding and upgrading culvert improvements, the visual character and quality

of the proposed project will be compatible with the visual character and quality of the existing roadway corridor.

Environmental Consequences

The most noticeable aspects of the completed project might be loss of vegetation that is required to be cleared around the access roads, staging areas, stream channels, and in the immediate vicinity to the culvert and drainage work. These proposed culvert and drainage would not appear out of place because these elements are already a fixed object in this environment. Access and staging might impact vegetation at the proposed location. The loss of vegetation would have a minor effect on the spatial character adjacent to the roadsides. As a result, the project would cause a minor adverse effect on the visual character of the site and its surroundings. With appropriate replanting around the cleared zones, the vegetated character of the roadsides would be re-established.

Avoidance and Minimization Measures

The implementation of the following minimization measures will help to diminish any possible visual impacts that may occur as a result of this work.

- Restore and rectify areas that will require ground disturbance by removing vegetation before completion of the construction project. The trees and vegetation should be protected, where feasible. Vegetation removal should be limited to the extent necessary to construct the project.
- Special care will need to be given to any work that is done near the stream channel, and any vegetation that is removed will need to be replaced with appropriate vegetation that is indigenous to the area. Involve the Caltrans Environmental Branch.
- Re-grade all disturbed areas including access roads to their pre-construction profiles and contours.
- Preserve and protect large trees.
- If the project requires equipment/staging areas, per Caltrans Special Provision, Section 5.1, the contractor will be responsible for securing locations for staging and storage. At the end of construction, all areas used for staging, access or other construction activities, will be repaired, pursuant to Section 5-1.36 “Property and Facility Preservation.

Biological Resources

Regulatory Setting

The following table outlines the applicable laws, ordinances, regional and local plans and their associated objectives, and summarizes Caltrans’ consultation with the appropriate resource agencies to insure that the proposed project is not in conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, regional or State habitat conservation plan, any local or regional ordinance or policy or any State or federal laws.

Summary of Project Compliance with State and Federal Laws, Ordinances, and Regulations

Agency	Authority	Requirements/Compliance	Permit/Consultation Required?
CDFW	State California Endangered Species Act of 1984; California Fish & Game Code §§ 2050 - 2098. Requires consultation with CDFW for projects that could affect a state listed threatened or endangered species. Section 2080 of California Endangered Species Act (CESA) prohibits “take” of any of these species. The take of state listed species incidental to otherwise lawful activities requires a permit, pursuant to §2081(b) of CESA	If CESA-listed species may potentially be affected by project activities, the applicant shall consult with the CDFW as per Section 2081 of the California Fish and Game Code	Yes. CESA species administered by the CDFW will be affected by the project.
CDFW	Native Plant Protection Act of 1977; California Fish & Game Code §§ 1900 et seq. The Native Plant Protection Act (NPPA) directs CDFW to carry out the Legislature’s intent to “preserve, protect and enhance rare and endangered plants in the State.” The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and to require permits for collecting, transporting, or selling such plants.	If NPPA-protected species may potentially be affected by project activities, the applicant shall consult with the CDFW.	None. FESA, CESA, and CNPS plant species were considered as part of environmental review and are not expected to be affected by the proposed project.
CDFW	California Fish & Game Code § 3503, § 3513, and § 355 – 357. CDFW No taking or possessing of the nests or eggs of birds	If removal of trees/vegetation occurs during the nesting season (Feb 1 – July 31) pre-construction surveys needed to verify absence of nesting birds	Consult with CDFW and USFWS if nests are detected and would be affected by the project.
CDFW	California Fish & Game Code § 3511 and § 5050. CDFW No taking of birds, reptiles, or amphibians listed as fully protected	If CDFW “fully protected” species may potentially be affected by project activities, the applicant shall consult with the CDFW.	None. No fully protected species are expected to be affected by the proposed project.
CDFW	California Fish & Game Codes § 1600 – 1616. Section 1600 of the Fish and Game Code requires any project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of a stream or use materials from a streambed to notify CDFW before beginning the project.	If work in stream environments or riparian habitat areas are proposed within the project area, then applicant shall consult with CDFW to determine permitting requirements.	Yes. Proposed project is expected to impact aquatic, wetland, or riparian areas.
CDFW	State Fish and Game Code §3513 - Adoption of Migratory Bird Treaty Act. Adopts the federal Migratory Bird Treaty Act’s provisions, so that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act; as with Migratory Bird Treaty Act, this state code offers no mechanism for obtaining an incidental take permit for the loss of nongame, migratory birds.	If removal of trees/vegetation occurs during the nesting season (February 1 – July 31) pre-construction surveys needed to verify absence of nesting migratory birds.	Consult with CDFW and USFWS if nests are detected and would be affected by the project.
CDFW	State Fish and Game Code §3503.5 - Protection of Raptors. Unlawful to take, possess, or destroy any birds-of-prey in the orders Falconiformes (hawks) or Strigiformes (owls). This statute does not provide for the issuance of any type of incidental take permit.	If removal of trees or vegetation occurs during the nesting season (February 1 – July 31) pre-construction surveys needed to verify absence of nesting raptors.	Consult with CDFW and USFWS if nests are detected and would be affected by the project.
RWQCB	Clean Water Act of 1977; Section 401 Water Quality Certification. Requires state certification from Regional Water Quality Control Board that federal permits allowing discharge of dredged or fill material into waters of the United States will not violate federal and state water quality standards.	If any construction activities would result in any discharge into waters of the State of California the applicant shall consult with RWQCB to determine permitting requirements.	Yes. Proposed project is expected to impact aquatic, wetland, or riparian waters of the State.
USFWS	Federal Endangered Species Act of 1973; 16 USC § 1531 et seq.; 50 CFR Parts 17 and 222.. Section 9 of the FESA and federal regulations prohibit the “take” of federally listed species, which is defined as killing, harming, or harassment of such species. Take can also include habitat modification or degradation that affect essential behavioral patterns such as breeding, feeding, or sheltering, and therefore indirectly cause injury or death to the listed species.	If FESA-listed species may potentially be affected by project activities, the applicant shall consult with the USFWS as per Section 7 of the FESA	None. No FESA species administered by USFWS will be affected by the project.
USFWS	Migratory Bird Treaty Act; 16 USC §§ 703 - 711; 50 CFR Subchapter B. USFWS Protection of migratory birds. The Migratory Bird Treaty Act makes it	If removal of trees occurs during the nesting season (February 1 – July 31) pre-construction surveys	Consult with CDFW and USFWS if nests are

Agency	Authority	Requirements/Compliance	Permit/Consultation Required?
	unlawful to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird.	needed to verify absence of nesting migratory birds	detected and would be affected by the project.
NOAA/NMFS	Federal Endangered Species Act of 1973; 16 USC § 1531 et seq.; 50 CFR Parts 17 and 222.. Section 9 of the FESA and federal regulations prohibit the “take” of federally listed species, which is defined as killing, harming, or harassment of such species. Take can also include habitat modification or degradation that affect essential behavioral patterns such as breeding, feeding, or sheltering, and therefore indirectly cause injury or death to the listed species.	If FESA-listed species administered by NOAA/NMFS (Federally-listed anadromous salmonids) may potentially be affected by project activities, the applicant shall consult with the NOAA/NMFS as per Section 7 of the FESA	None. No FESA species administered by NOAA/NMFS (Federally-listed anadromous salmonids) will be affected by the project.
USACE	Clean Water Act of 1977; 33 USC § 1251 – 1376, 30 CFR § 330.5(a)(26). Protection of wetlands and waters of the United States. Section 404 of the Clean Water Act requires a permit prior to any activity that involves any discharge of dredged or fill material into “Waters of the United States”. Nearly all surface waters and wetlands in California meet the criteria for Waters of the United States, including ephemeral streams and seasonal lakes and wetlands. Activities that require a permit under Section 404 include placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that results in the deposit of fill material within the “Ordinary High Water Mark” of Waters of the United States usually requires a permit, even if the area is dry at the time the activity takes place.	If any construction activities would result in any discharge into waters of the United States, the applicant shall consult with USACE to determine permitting requirements.	Yes. Proposed project is expected to impact jurisdictional waters of the United States.
Executive order 13112	charges each federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law: (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them.	Requires a noxious weed risk assessment for any ground disturbing activities in order to prevent the spread of the weeds into the surrounding area. The assessment would determine if project activities have a low, moderate, or high risk for the spread of the weeds. If noxious weeds are found in the area, the project shall include control measures to decrease the risk of spreading. Steps shall be taken to: 1) prevent introduction of new invaders, 2) conduct early treatment of new infestations, and 3) contain and control established infestations.	None. “Ground disturbing activities” are not part of the project scope. Project shall comply with invasive weed measures proposed in section 7 of this document.

Affected Environment

Caltrans biologist prepared a Natural Environment Study (NES) in April 2016.

Waters of the United States: Clean Water Act Section 404 “Wetlands”

The methodology described in the 1987 Corps of Engineers Wetlands Manual was used to delineate potentially jurisdictional wetlands. No potentially jurisdictional wetlands were recorded within the project environmental study limits (ESL). All results should be considered preliminary until verified by the USACE.

Waters of the United States: Clean Water Act Section 404 “Other Waters” of the United States

The methodology described in the 1987 Corps of Engineers Wetlands Manual as well as the methodology described in USACE’s 2005 Regulatory Guidance Letter (“Ordinary High Water Mark

Identification”) and the USACE’s August 2008 “A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States - A Delineation Manual”, was used to delineate “other” jurisdictional waters of the United States (OWUS) in the form of intermittent and perennial streams. Streams within the project study area possess bed and bank, and riparian vegetation.

Ordinary High Water – Clear Lake: DeWitt Clinton Rumsey, previously a cattle drive "Captain", was one of the first to record the water levels of Clear Lake. Its level was originally controlled by a rocky ledge in Cache Creek, called the "Grigsby Riffle" (which is now submerged upstream of the Cache Creek dam). In 1872 Rumsey installed a gauge in Lakeport to record the water level. He defined the level when the lake ceased to flow over the ledge as "Zero feet Rumsey", which corresponds to an elevation of 1,318.26 feet. The reading is called "on the Rumsey Gauge" or "Feet Rumsey".

Yolo County acquired riparian rights to Cache Creek's water in 1855. After gaining water storage rights in 1912, they built the Cache Creek dam in 1914. In 1942 the normal maximum level was set at 7.56 feet Rumsey, and required Yolo to keep the level below 9 feet except for limited times during floods. Yolo was entitled to use all the water down to zero feet. The Solano Decree limited the amount of water Yolo could use: if the lake is "full" on May 1—at 7.56 feet Rumsey—then they can draw 150,000 acre-feet, equivalent to a drop in the lake level of about 3.5 feet. The ordinary high water mark (OHWM) for Clear Lake will therefore be considered as the 1,325.82-ft elevation (7.56 feet Rumsey) contour (the “Lower Lake” USGS 7.5-minute quadrangle lists the spillway elevation of the Cache Creek dam as 1,326 feet).

A total of 0.26 acres of jurisdictional OWUS was delineated within the ESL. Areas below the OHWM of these drainages are summarized in the table below:

Locations of Potentially Jurisdictional Other Waters of the United States

Resource ID	Area of Resource Within ESL (sq ft)	Length of Resource Within ESL (Linear Feet)	Lat/Long North American Datum (NAD) 1983	Notes
OWUS-06 Location 06 LAK-20 PM 8.84 "Clover Creek"	471.13	35.4	39°09'42.812" -122°54'41.899"	Highway cross culvert outfalls below top of bank of intermittent stream "Clover Creek" Tributary to Middle Creek
OWUS-10 Location 10 LAK-20 PM 18.35 "Clear Lake"	674.79	109.9	39°04'41.957" -122°04'07.218"	Existing outfall located below OHWM of Clear Lake.
OWUS-11 Location 11 LAK-20 PM 19.31 "Clear Lake"	953.14	106.6	39°03'54.073" -122°47'05.393"	Existing outfall located above OHWM of Clear Lake.
OWUS-12 Location 12 LAK-20 PM 19.61 "Clear Lake"	0.00	0.0		Existing outfall located below OHWM of Clear Lake.
OWUS-13A Location 13 LAK-20 PM "Un-Named"	33.80	20.2	39°03'27.982" -122°46'51.922"	Inlet channel appears to be a concrete-lined ephemeral stream.
OWUS-13B Location 13 LAK-20 PM "Un-Named"	55.43	35.6	39°03'28.214" -122°46'52.590"	Outfall. Riparian vegetation is rooted below OHWM.
OWUS-14 Location 14 LAK-20 PM 25.86 "Clear Lake"	6157.50	321.5	39°01'13.795" -122°42'23.459"	Existing outfall located at or below OHWM of Clear Lake.
OWUS-16A Location 16 LAK-20 PM 46.24 "Harley Gulch Creek Tributary"	93.43	47.6	39°00'39.678" -122°24'45.874"	Outfall channel, ephemeral stream
OWUS-16B Location 16 LAK-20 PM 46.24 "Harley Gulch Creek Tributary"	89.77	60.2	39°00'38.851" -122°24'44.755"	Inlet Channel is an ephemeral stream, outfall channel connects to perennial stream "Harley Gulch Creek"
OWUS-18A Location 18 LAK-29 PM 25.16 "Manning Flat Creek"	1109.54	148.6	39°54'57.989" -122°41'41.243"	Inlet; Cross culvert carries ephemeral stream.
OWUS-18B Location 18 LAK-29 PM 25.16 "Manning Flat Creek"	254.99	32.3	39°54'58.485" -122°41'41.528"	Outfall; Cross culvert carries ephemeral stream
OWUS-26A Location 26 LAK-29 PM46.04 Un-named ephemeral	145.42	86.3	39°05'34.845" -122°54'51.765"	Cross culvert carries ephemeral stream,
OWUS-26B Location 26 LAK-29 PM46.04	63.40	41.7	39°05'38.225" -122°54'56.809"	Outfall channel flows to pond outside of study area

Un-named ephemeral				
OWUS-27B Location 27 LAK-29 PM 46.38 Un-named ephemeral	52.04	26.1	39°05'54.842" -122°54'51.354"	Cross culvert carries ephemeral stream
OWUS-28A Location 28 LAK-29 PM 47.14 Un-named ephemeral	70.07	47.1	39°06'33.328" -122°54'39.656"	Head of ephemeral stream occurs at inlet
OWUS-28B Location 28 LAK-29 PM 47.14 Un-named ephemeral	125.28	86.2	39°06'32.505" -122°54'36.423"	Outfall; Cross culvert carries ephemeral stream
OWUS-29A Location 29A LAK-29 PM 47.73 Un-named ephemeral	108.13	42.5	39°07'00.537" -122°54'20.261"	Inlet; Cross culvert carries ephemeral stream
OWUS-29B Location 29A LAK-29 PM 47.73 Un-named ephemeral	241.22	73.8	39°06'59.608" -122°54'17.205"	Outfall; Cross culvert carries ephemeral stream
OWUS-30B Location 30 LAK-29 PM 48.04 Un-named ephemeral	27.66	17.1	39°07'14.924" -121°54'18.1650"	Outfall; Cross culvert is head of ephemeral stream
OWUS-31A Location 31 LAK-29 PM 48.12 Un-named ephemeral	126.22	70.5	39°07'19.258" -121°54'21.923"	Inlet; Cross culvert carries ephemeral stream
OWUS-31B Location 31 LAK-29 PM 48.12 Un-named ephemeral	53.50	29.3	39°07'19.812" -121°54'19.949"	Outfall; Cross culvert carries ephemeral stream
OWUS-32A Location 32 LAK-29 PM 48.78 Un-named ephemeral	213.66	30.2	39°07'56.829" -122°54'31.918"	Inlet occurs at PM 48.85; Ephemeral stream is captured and culverted southward on west side of SR29 to cross culvert at PM 48.78
OWUS-32B Location 32 LAK-29 PM 48.78 Un-named ephemeral	116.89	20.7	39°07'53.762" -122°54'27.764"	Outfall occurs at PM 48.78; Carries ephemeral stream
Totals:	11,237.01 sq. ft. = 0.26 acres	1,489.4 LF		

Special Status Plant Species

A list of sensitive plant species and habitats potentially occurring within the project vicinity was developed based on information compiled from the USFWS, CDFW California Natural Diversity Database ("CNDDDB" Rarefind, 2015 Cow Mountain, Upper Lake, Lucerne, Clearlake Oaks, Wilbur

Springs, Clearlake Highlands, Kelseyville, and Lakeport 7.5-minute USGS quads), the California Native Plant Society (“CNPS” Electronic Inventory, 2013), and from current literature. Species lists are included as Attachment 1 and 2. The following discussions are for sensitive plant species that have been recorded within the general vicinity of the project ESL or for those resources which may be affected by the project.

Konocti Manzanita

Konocti Manzanita (*Arctostaphylos manzanita* ssp. *elegans*) is a CNPS List 1B.3 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.3-Not very threatened in California). Konocti Manzanita is a perennial shrub that inhabits chaparral, cismontane woodland, and lower montane coniferous forests, usually on volcanic soils at elevations between approximately 1,300 and 5,300 feet.

Boggs Lake Hedge-Hyssop

Boggs’s Lake hedge hyssop (*Gratiola heterosepala*) is a CNPS List 1.B.2 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.2- Fairly very threatened in California) and is listed as endangered under the California Endangered Species Act (CESA). This species is an annual herb that inhabits vernal pools and lake margins at elevations between approximately 30 and 7,800 feet.

Bolander's Horkelia

Bolander’s horkelia (*Horkelia bolanderi*) is a CNPS List 1.B.2 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.2- fairly threatened in California). Bolander’s horkelia is a perennial herb that occupies the edges of vernal mesic areas, meadows, and seeps in areas of valley and foothill grasslands, lower montane coniferous forests, and chaparral at elevations between approximately 1,475 and 3,600 feet.

Burke's Goldfields

Burke’s goldfields (*Lasthenia burkei*) is a CNPS List 1.B.1 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.1- Seriously threatened in California) and is listed as endangered under both the Federal Endangered Species Act (FESA) and under CESA. Burke’s goldfields is an annual herb that occupies mesic meadows, seeps, and vernal pools at elevations between approximately 50 and 2,000 feet.

Few-Flowered Navarretia

Few-flowered navarretia (*Navarretia leucocephala* ssp. *pauciflora*) is a CNPS List 1.B.1 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.1- Seriously threatened in California) and is listed as endangered under FESA and threatened under CESA. Few-flowered navarretia is an annual herb that occupies volcanic ash flow vernal pools at elevations between approximately 1,300 and 2,800 feet.

Eel-Grass Pondweed

Eel grass pondweed (*Potamogeton zosteriformis*) is a CNPS List 2.B.2 species (List 2B: California Native Plant Society list of plants rare, threatened or endangered in California, but more common elsewhere; 0.2- fairly threatened in California). Eel grass pondweed is an annual herb that occupies freshwater marshes and swamps at elevations between approximately 0 and 6,100 feet. A single CNDDDB record for this species occurs within Lake County.

Lake County Stonecrop

Lake County stonecrop (*Sedella lieocarpa*) is a CNPS List 1.B.1 species (List 1B: California Native Plant Society list of plants rare, threatened or endangered in California; 0.1- Seriously threatened in California) and is listed as endangered by both FESA and CESA. Lake County stonecrop is an annual herb that occupies vernal pools and vernal mesic depressions in volcanic outcrops at elevations between approximately 1,200 and 2,600 feet.

Special Status Habitats and Vegetation Communities

A list of sensitive habitats potentially occurring within the project vicinity was developed based on information compiled from the USFWS, CDFW California Natural Diversity Database (“CNDDDB” Rarefind, 2015 Cow Mountain, Upper Lake, Lucerne, Clearlake Oaks, Wilbur Springs, Clearlake Highlands, Kelseyville, and Lakeport 7.5-minute USGS quads), the California Native Plant Society, and from the current literature. The following discussions are for sensitive plant species that have been recorded within the general vicinity of the project ESL or for those resources which may be affected by the project.

Oak Woodlands

California State Senate Concurrent Resolution No. 17 – Oak Woodlands (SCR-17) is legislation that requests State agencies having land use planning duties and responsibilities to assess and determine the effects of their decisions or actions within any oak woodlands containing Blue, Engleman, Valley, or Coast Live Oak. The measure requests those state agencies to preserve and protect native oak woodlands to the maximum extent feasible or provide replacement plantings where designated oak species are removed from oak woodlands. For the purposes of SCR-17, “oak woodlands” means a five-acre circular area containing five or more oak trees per acre.

Blue oaks and/or valley oaks occur within the project ESLs at Locations 1, 2, 3, 16, 18, 19, 22, 24, 29, 30, 31, and 32.

Jurisdictional Waters of the State of California (Excluding Waters of the United States)

The California Fish and Game Code, Sections 1600-1616, regulates activities that would alter the flow, bed, banks, channel or associated riparian areas of a river, stream or lake—all considered “waters of the state of California (W/CA)”. Guidance provided by CDFW requires project proponents to describe any impacts to the flow, bed, channel and bank of the river, stream, or lake as well as any foreseeable impacts to the riparian zone on or adjacent to the bank of the river, stream or lake. The riparian zone is the area that surrounds a channel or lake and supports (or can support) vegetation that is dependent on surface or subsurface water. Include the effects of the project activity to this zone at least to the outer (landward) edge of the drip line of any dependent vegetation.

All areas qualifying as WUS under Clean Water Act Section 404 also qualify as WCA; however, some areas considered as WCA do not qualify as “waters of the United States”. WCA jurisdiction at streams, lakes, and ponds considered as OWUS extends beyond the OHWM to the top of bank or to the greatest lateral extent of riparian vegetation, whichever is greater. This extent of WCAs described above will also be used for the purposes of consultation under CWA Section 401 Certification with the North Coast Regional Water Quality Control Board (NCRWQCB).

Woody riparian vegetation occurring within the environmental study limit (ESL) considered as W/CA was mapped and analyzed as tree and shrub canopy coverage digitized from aerial photography. Field

studies were conducted to determine that actual riparian tree or shrub trunks falling within the project ESL limits are accounted for in estimates of canopy coverage. Losses of mature woody riparian vegetation, including riparian oak trees, occurring in riparian areas will be analyzed and compensated as “riparian W/CA”. Areas between the OHWM and the top of stream-bank that do not support woody riparian vegetation will be analyzed as “non-riparian W/CA”.

The project ESLs contain a total of approximately 99.66 square feet (0.002 acre) of riparian W/CA canopy coverage. The ESL also contains a total of approximately 383.20 square feet (0.009 acres) of non-riparian W/CA occurring above the OHWM and below the top of bank.

Special Status Wildlife Species

A list of sensitive wildlife species potentially occurring within the project vicinity was developed based on information compiled from the USFWS, CDFW California Natural Diversity Database (“CNDDDB” Rarefind, 2013 Cow Mountain, Upper Lake, Lucerne, Clearlake Oaks, Wilbur Springs, Clearlake Highlands, Kelseyville, and Lakeport 7.5-minute USGS quads), and from the current literature.

The following special status wildlife species occur or are likely to occur within the ESL:

Brownish Dubiraphian Riffle Beetle

The Brownish Dubiraphian Riffle Beetle is a species that has no formal listing or protection status, but appear in the CNDDDB due to their conservation status ranking. This species is known from collections only from the northeast shore of Clear Lake, Lake County, CA, inhabiting exposed, wave-washed willow roots.

A single record for this species occurs in the CNDDDB, collected from Rock Point and Nice, Clear Lake, based on two (2) specimens at the California State Collection of Arthropods, collected in 1946, and 2 specimens collected 1969. The CNDDDB indicates that this population was monitored in 1998 and possible subsequent years and indicates that the population is stable.

Clear Lake Hitch

On August 6, 2014, the Clear lake Hitch was listed as a threatened species under the California Endangered Species Act (CESA). The Clear Lake hitch is a fish species endemic to Clear Lake, California and its tributaries.

Clear Lake hitch spawn in intermittent tributary streams to Clear Lake. Historically, hitch likely spawned in all of the 17 stream systems tributary to Clear Lake, which were accessible to hitch due to the relatively low gradients in their lower reaches. Currently, Clear Lake hitch spawn regularly in significant, but vastly reduced numbers in only two streams in one drainage basin, in Kelsey Creek and Adobe Creek. Kelsey and Adobe creeks continued to be the main spawning areas for Clear Lake hitch from 2005-2012, but at much smaller numbers than historical runs. In recent years, no hitch at all have been sighted in some major tributaries during the spawning season. Only small numbers of spawning hitch have been reported in recent years in Middle, Scotts, Cole and Manning Creeks. No spawning hitch were found in Seigler Canyon Creek during surveys from 2004-2011.

Clear Lake hitch have specific requirements to complete their life-cycle, including access for unimpeded migration up tributary streams to suitable spawning habitat during the spring, and the

ability for adults and young to return downstream to Clear Lake before tributary streams run dry or reduced flows and water depth result in migration barriers.

Sacramento Perch (*Archoptiles interruptus*)

The Sacramento perch is considered a Species of Concern by the State of California. Sacramento perch are endemic to the Central Valley, the Pajaro and Salinas rivers, tributaries to the San Francisco Estuary (e.g., Alameda Creek), and Clear Lake where they occupied sloughs, lakes, floodplain lakes, and slow moving rivers generally at low elevations (<328 feet) except for Clear Lake, which is at an elevation of 1,319 feet. Today Sacramento perch are most likely extirpated from their native range. Two populations (Clear Lake and Alameda Creek) that were previously thought to be the only remnants of historic populations are now probably extirpated, although it is still possible a small population exists in Clear Lake. The single CNDDDB record for this species at Clear Lake is based on a 1937 collection.

Foothill Yellow-Legged Frog (*Rana boylii*)

The foothill yellow-legged frog is considered a Species of Concern by the State of California. The foothill yellow-legged frog occurs in the Coast Ranges from the Oregon border south to the Transverse Mountains in Los Angeles Co., in most of northern California west of the Cascade crest, and along the western flank of the Sierra south to Kern Co. An isolated population was historically recorded in San Joaquin Co. on the floor of the Central Valley. Isolated populations are also known from the mountains of Los Angeles County. Its elevation range extends from near sea level to 1940 m (6370 feet) in the Sierra. The foothill yellow-legged frog is found in or near rocky streams in a variety of habitats. Adults often bask on exposed rock surfaces near streams. When disturbed, they dive into the water and take refuge under submerged rocks or sediments. During periods of inactivity, especially during cold weather, individuals seek cover under rocks in the streams or on shore within a few meters of water.

Suitable habitat for this species occurs within the project ESLs along Middle Creek (Location 6), and within at Harley Gulch Creek (Location 16). Although not considered appropriate breeding habitat, foothill yellow-legged frogs may also be expected to occur at other intermittent streams within the ESL on a seasonal basis, when water is present. The waters of Clear Lake are not considered as appropriate breeding habitat and no CNDDDB records for this species occur within the waters of Clear Lake. Focused surveys for this species within the project ESLs were not performed however, the foothill yellow-legged frog is known to inhabit appropriate aquatic habitats in both Harley Gulch (near Location 16) and Middle Creek (Clover Creek, location 6, is tributary to Middle Creek) in Lake County.

Western Pond Turtle (*Emys marmorata*)

The western pond turtle is considered a Species of Concern by the State of California. The western pond turtle is uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest and absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Elevation range extends from near sea level to 1430 m (4690 ft). Western pond turtles are associated with permanent or nearly permanent water in a wide variety of habitat types. Individuals normally associate with permanent ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams.

Suitable breeding and foraging habitat for this species occurs within the ESLs within the waters of Clear Lake (Locations 8, 11, 12, 13, and 14), at Clover Creek (Location 6), and at Harley Gulch Creek

(Location 16). Although not considered appropriate breeding habitat, western pond turtles may also be expected to occur within intermittent streams within the ESL on a seasonal basis, when water is present (Manning Flat Creek, location 18), or moving through drainages connected to perennial ponds (locations 26 and 27). Focused surveys for this species within the project ESLs were not performed however, the western pond turtle is known to inhabit appropriate aquatic habitats in Lake County.

Migratory Birds

The Migratory Bird Treaty Act (“MBTA”; 16 USC §§ 703 - 711; 50 CFR Subchapter B) makes it unlawful to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Migratory birds are expected to occupy the project ESL and may be expected to nest within the project ESL in trees, snags, and shrubs, and on the ground or on existing structures (including bridges) between March 1st and August 15th.

Environmental Consequences

Wetlands

No areas qualifying as potentially jurisdictional wetlands occur within any of the project ESLs; therefore, no potentially jurisdictional wetlands are expected to be affected by the proposed project.

Other Waters of the United States

Project construction activities are expected to result in approximately 211 sq. ft. (0.005 acre) of permanent fills along 75.8 linear feet within potentially jurisdictional waters of the U.S. Additionally, cofferdams for clear water diversion activities are expected to result in approximately 100 sq. ft. (0.002 acre) of temporary fills along 19.5 linear feet within potentially jurisdictional waters of the U.S.

Special Status Plant Species

Because the project area is outside the range of the species, lacks suitable habitat or habitat components, or would not harm individuals or alter the species’ habitat, it is Caltrans’ determination that the proposed project will have “no effect” on Federal or State listed species, California rare plant species, or plant species protected by the California Native Plant Protection Act.

Special Status Habitats and Vegetation Communities

Oak Woodlands

Individual blue oaks and/or valley oaks occur within the project ESLs at Locations 1, 2, 3, 16, 18, 19, 22, 24, 29, 30, 31, and 32. The project scope does not include the removal of trees or shrubs and therefore no direct impacts to any oak trees are expected as a result of the proposed project activities.

Jurisdictional Waters of the State of California (Excluding Waters of the United States)

Project construction activities are expected to result in approximately 184 sq. ft. (0.004 acre) of permanent fills along 75.8 linear feet within potentially jurisdictional W/CA. Additionally, cofferdams for clear water diversion activities are expected to result in approximately 93 sq. ft. (0.002 acre) of temporary fills along 19.5 linear feet within potentially jurisdictional W/CA.

Special Status Wildlife Species

Brownish Dubiraphian Riffle Beetle

This species is known from collections only from the northeast shore of Clear Lake, inhabiting exposed, wave-washed willow roots. The waters of Clear Lake (up to the OHWM) provide potential habitat for the brownish Dubiraphian riffle beetle, and occur within the ESLs at Locations 10, 11 and 14 (see below).

Location 10: The outfall of the highway cross culvert located at Location 10 is located below the OHWM of Clear Lake and is embedded in a rock wall. Work at this location potentially affecting the waters of Clear Lake will involve replacing the existing 24-inch corrugated steel pipe (CSP) cross culvert with a 24-inch alternative pipe culvert (APC). A flood gate will be installed within the new APC culvert, and RSP will be placed at the culvert outfall.

The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the placement of RSP “in the dry” at the outfall of the culvert. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres). Additionally, the placement of RSP at the outfall of the culvert will result in a permanent fill of 31 sq. ft. (.0007 acres) within the waters of Clear Lake. Because this species is known to inhabit near shore areas of wave-washed vegetation in Clear Lake, Location 10 is not likely to support the brownish Dubiraphian riffle beetle.

Location 11: Project activities are not expected to result in temporary fills or disturbances or result in the placement of permanent fills below the OHWM of Clear Lake; however, riparian vegetation removal or trimming may occur resulting in approximately 18 sq. ft. (.0004 acres) of temporary impact of riparian W/CA which may potentially provide habitat for this species.

Location 12: The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the construction activities “in the dry” at the outfall of the culvert. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres) of aquatic habitat that could provide habitat for this species

Location 14: The outfall of the highway cross culvert located at Location 14 is located below the OHWM of Clear Lake and is embedded in a rock wall. Work at this location will involve lining the existing highway cross culvert with cured in place pipe (CIPP). The liner will be inserted at the inlet side; the liner would be inverted using water or air pressure to advance the liner down the culvert or alternatively, the liner may installed by winching into place through the outfall which may potentially require crew access to the outfall area. After the pipe has been cured, the liner is cooled. The ends of the pipe are then removed flush with the pipe ends and sealed where necessary. A segment of cured CIPP liner may need to be cut/removed and sealed from the outfall area.

The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, a temporary clear water diversion systems using a temporary cofferdam may be used in order to prevent un-cured CIPP liner material from contacting waters of Clear Lake and to facilitate

CIPP cutting and sealing activities “in the dry” at the outfall of the culvert. A temporary cofferdam may result in the temporary placement of approximately 46 sq. ft. (.0001 acres) of fill, resulting in the temporary de-watering of approximately 73 sq. ft. (.002 acres). Because this species is known to inhabit near shore areas of wave-washed vegetation in Clear Lake, Location 14 is not likely to support the brownish Dubiraphian riffle beetle.

Clear Lake Hitch

Clear Lake hitch spawn in intermittent tributary streams to Clear Lake. Historically, hitch likely spawned in all of the 17 stream systems tributary to Clear Lake, which were accessible to hitch due to the relatively low gradients in their lower reaches. Kelsey and Adobe creeks continued to be the main spawning areas for Clear Lake hitch from 2005-2012. Only small numbers of spawning hitch have been reported in recent years in Middle, Scotts, Cole and Manning Creeks. For the purposed of this analysis, the waters of Clear Lake (Locations 10, 11, and 14) and Clover Creek (Location 6; tributary to Middle Creek) will be considered as spawning and/or foraging habitat for the Clear Lake hitch.

At Location 6, the existing 24-inch CSP highway cross culvert and the existing 24-inch CSP leading from the highway shoulder to the northern bank of Clover Creek will be replaced by 24-inch APC. The highway cross culvert carries highway storm-water originating on the north side of SR-20 across SR-20 and outfalls near the top of the bank of Clover Creek. The storm-water system on the north side of SR-20 is ephemeral in nature and is incapable of supporting fish species, including Clear Lake hitch, therefore the highway cross culvert at Location 6 does not represent a barrier preventing Clear Lake hitch from accessing potential spawning or foraging habitat. Potential foraging and spawning habitat for Clear Lake hitch occurs within the waters of Clover Creek. No permanent or temporary fills are proposed to be placed and no temporary disturbances below the OHWM of Clover Creek are expected to occur as a result of these activities. Approximately 39 sq. ft. (.0009 acres) of temporary disturbance along the north bank of Clover Creek in non-riparian W/CA is located above the OHWM but below the top of the streambank. Construction activities proposed at Location 6 are therefore not expected to result in adverse effects to the Clear Lake hitch or Clear Lake hitch foraging or spawning habitat.

The outfall of the highway cross culvert located at Location 10 is located below the OHWM of Clear Lake and is embedded in a rock wall. The highway cross culvert carries highway storm-water originating on the northeast side of SR-20 across SR-20 and outfalls within Clear Lake. The storm-water system on the northeast side of SR-20 is ephemeral in nature and is incapable of supporting fish species, including Clear Lake hitch, therefore the highway cross culvert at Location 10 does not represent a barrier preventing Clear Lake hitch from accessing potential spawning or foraging habitat. Potential foraging and spawning habitat for Clear Lake hitch occurs within the waters of Clear Lake. Work at this location potentially affecting the waters of Clear Lake involve replacing existing the 24-inch CSP cross culvert with a 24-inch APC. A flood gate will be installed within the new APC culvert, and RSP will be placed at the culvert outfall. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the placement of RSP “in the dry” at the outfall of culvert Location 10. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres). Additionally, the placement of RSP at the outfall of Location 10 will result in a permanent fill of 31 sq. ft. (.0007 acres) within the waters of Clear Lake that could provide potential adult foraging or juvenile rearing habitat for the Clear Lake hitch.

At Location 11, project activities are not expected to result in temporary fills or disturbances or result in the placement of permanent fills below the OHWM of Clear Lake. However, it is expected that riparian vegetation removal and/or trimming will occur, resulting in approximately 18 sq. ft. (.0004 acres) of temporary impact along of riparian W/CA which may potentially provide habitat as aquatic habitat cover, potential food inputs, and thermoregulation for adult and juvenile Clear Lake hitch.

Location 12: The water level of Clear Lake fluctuates throughout the year. The highway cross culvert carries highway storm-water originating on the east side of SR-20 across SR-20 and outfalls within Clear Lake. The storm-water system on the east side of SR-20 is ephemeral in nature and is incapable of supporting fish species, including Clear Lake hitch, therefore the highway cross culvert at Location 12 does not represent a barrier preventing Clear Lake hitch from accessing potential spawning or foraging habitat. Potential foraging and spawning habitat for Clear Lake hitch occurs within the waters of Clear Lake. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the construction activities “in the dry” at the outfall of the culvert. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres) of aquatic habitat that could provide habitat for this species.

The outfall of the highway cross culvert located at Location 14 is located below the OHWM of Clear Lake and is embedded in a rock wall. The highway cross culvert carries highway storm-water originating on the north side of SR-20 across SR-20 and outfalls within Clear Lake. The storm-water system on the north side of SR-20 is ephemeral in nature and is incapable of supporting fish species, including Clear Lake hitch, therefore the highway cross culvert at Location 14 does not represent a barrier preventing Clear Lake hitch from accessing potential spawning or foraging habitat. Potential foraging and spawning habitat for Clear Lake hitch occurs within the waters of Clear Lake. Work at this location potentially affecting the waters of Clear Lake will entail lining the existing highway cross culvert with CIPP. The liner will be inserted at the inlet side; the liner would be inverted using water or air pressure to advance the liner down the culvert or alternatively, the liner may installed by winching into place through the outfall which may potentially require crew access to the outfall area. After the pipe has been cured, the liner is cooled and the ends removed flush with the pipe ends, and sealed where necessary. It is expected that a segment of cured CIPP liner will need to be cut/removed and sealed from the outfall area.

The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, temporary clear water diversion systems using a temporary cofferdam may be used in order to prevent un-cured CIPP liner material from contact with the waters of Clear Lake and to facilitate CIPP cutting and sealing activities “in the dry” at the outfall of culvert Location 14. A temporary cofferdam is expected to result in the temporary placement of 46 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 73 sq. ft. (.002 acres) within the waters of Clear Lake that could provide potential adult foraging or juvenile rearing habitat for the Clear Lake hitch.

Effects of Sound Exposure: Available information indicates that fish may be injured or killed when exposed to elevated levels of underwater sound pressure generated from driving piles with impact hammers.

The project does not propose any in-water or near water pile driving activities; however, short-term noise disturbance caused by construction equipment could occur during construction, and will be conducted “in the dry” either above the OHWM of Clear Lake or behind a de-watered cofferdam. Sound exposure levels (SELs) due to the proposed project construction activities are therefore not expected to reach or exceed threshold sound exposure levels. No adverse acoustic effects are anticipated as a result of conducting project construction activities. Likely effects on juvenile or adult fish would be avoidance of habitat adjacent to the construction area.

Effects of De-Watering Project Areas: The use of clear water diversions using temporary cofferdams to perform de-watering may be required during the construction of the proposed culvert rehabilitation project at locations where the culvert outfalls occur in areas considered as habitat for the Clear Lake Hitch below the OHWM of Clear Lake (Locations 10 and 14). Temporary cofferdams on streams may temporarily impede the passage of fish up or downstream of the action area; however, as discussed above, the work at Location 6 is not expected to occur below the OHWM of Clover Creek and the use of a clear water diversion system and de-watering are not expected to occur at this location. During the potential dewatering and fish relocation phase (in-water work window of July 1st to October 1st), Clear Lake hitch and other fish species may be present at each stream de-watering site. The primary purpose of a cofferdam is to hold out water and unstable soil from the construction area, and thereby, allow in-the-dry construction of the permanent structure below the water line. Temporary cofferdams constructed of sandbags, aqua-dams or similar materials will be installed to confine waters from the required work area.

Cofferdams will be installed during the initial phase of construction each season or during the initial phase of construction at each culvert location. Because de-watering the area inside the cofferdam may require continuous pumping to maintain the de-watered area, and because a temporary cofferdam is not designed to withstand expected winter high flows and possible flood conditions, it is unfeasible for temporary cofferdams to be left in place between construction seasons. It is assumed that temporary cofferdams will be installed at one location at a time. Once the culvert rehabilitation construction activities are completed, the temporary cofferdam will be completely removed at that location before constructing the temporary cofferdam and implementing project construction activities at another location.

If temporary cofferdams are used, the installation of the cofferdams to isolate the work area from the water column would result in the temporary loss of aquatic habitat (substrate and water column) equal to the enclosed area and volume of the area behind the temporary cofferdams.

At Location 10, a temporary cofferdam may result in the temporary placement of 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres) below the OHWM of Clear Lake.

Location 12: The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the construction activities “in the dry” at the outfall of the culvert. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres) of aquatic habitat that could provide habitat for this species

At Location 14, a temporary cofferdam is expected to result in the temporary placement of 46 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 73 sq. ft. (.002 acres) below the OHWM of Clear Lake.

To prevent discharge of turbid water to the waters of Clear Lake or its tributaries considered as habitat for the Clear Lake hitch as a result of de-watering activities, water removed from the de-watered areas will be filtered and/or treated in a manner to ensure that discharges conform to the water quality requirements of the waste discharge permit or water quality certification issued by the CVRWQCB prior to discharging water to Clear Lake or its tributaries.

Fish relocation at the potential project de-watering sites will be conducted with electroshocking gear, seining gear, or dip nets by qualified biologists. Water in the de-watered areas behind temporary cofferdams will then be removed using screened pumps. When aquatic habitats have been sufficiently dewatered, relocation efforts will continue until all fish have been removed from the dewatered reach. By removing fish from the aquatic areas within the construction areas, the project is expected to significantly reduce the number of Clear Lake hitch or other fish species that are potentially injured or killed during the summer work season. In the absence of fish relocation, Clear Lake hitch and other fish species would be exposed to dewatering, thermal stress, desiccation, and physical injury from construction equipment.

Despite these measures, some mortality of fish is likely at each de-watered site due to injury from relocation methods (seining or electrofishing), stress related to handling, and individual fish eluding capture. These latter fish will die when the work areas are dewatered. Mortality associated with fish relocation activities is expected to be low. To minimize impacts during fish collection and relocation, Caltrans proposes to use only experienced biologists, approved by CDFW. Fish will be relocated to suitable habitats within the action area but outside of the construction area. Based on review of up-to-date fish relocation techniques and protocols, unintentional mortality of juvenile fish is not expected to exceed three percent of the fish collected. Biologists with electrofishing experience and skill can reduce injury and mortality rates to near one percent.

California Fish and Game Code Section 86 defines “take” to mean to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill. If temporary cofferdams are used to conduct project construction activities, fish relocation activities will require the pursuit and catch/capture of Clear Lake Hitch resulting in “take” of this California Endangered Species Act (CESA)-listed species.

Effects of Riparian Vegetation Removal or Trimming: When streamside or lakeside vegetation is removed, summer water temperatures typically increase in proportion to the increase in sunlight that reaches the water surface. Increases in solar radiation to stream reaches may also change aquatic species composition, increase algal biomass and alter invertebrate communities. Primary elements of habitat for special status fish species and other aquatic species such as large woody debris, pool and riffle formation, and food inputs may also to be impacted by the riparian vegetation removal. In addition, removal of riparian vegetation can change local microclimate, soil moisture, groundcover, and susceptibility to bank erosion, and influence the re-establishment of vegetation.

Trimming of riparian vegetation along the shore of Clear Lake (areas considered as habitat for the Clear Lake hitch), and within the ESLs, is expected to occur only at Location 11, resulting in the temporary removal of approximately 5 sq. ft. (.0001 acres) of woody riparian vegetation. This may

result in adverse effects to Clear Lake hitch or other fish species due to temporarily increased water temperature, reduced cover, or increased solar radiation inputs in the Clear Lake.

Effects of Mobilization of Sediment from Construction Activities: Suspended and deposited fine sediment can adversely affect rearing and spawning habitat for special status fish species, if present in excessive amounts. High levels of suspended solids may abrade and clog fish gills, reduce feeding, and cause fish to avoid some areas. The level of disturbance also may cause juveniles to abandon protective habitat or reduce their ability to detect predators, potentially increasing their vulnerability to predators. Increased levels of fine sediment can also adversely affect spawning habitat and other in-stream or in-lake habitat features utilized by Clear Lake hitch and other fish species within the action area by covering or degrading the quality of gravel riffles, and reducing cover for juvenile fish by filling-in pools and the interstitial spaces of gravel, cobble, and boulder substrates.

Within the project ESLs, sediment originating from construction activities may be deposited in Clear Lake or its tributaries. Several activities associated with construction of the project may result in an increase delivery of sediment to Clear Lake or tributary streams in the action area. These include the installation and removal of temporary cofferdams and associated in-channel or in-lake work during culvert rehabilitation activities.

Mobilization of Sediment from Installation and Removal of Temporary Cofferdams: If temporary cofferdams are deemed necessary, the placement of cofferdam materials and the subsequent removal of these materials at the conclusion of construction activities has the potential to temporarily disturb the lakebed or streambed and generate sediment plumes.

Although increased amounts of sediment input to habitat for Clear Lake hitch and other fish species could be generated during project construction, sediment quantities have not been estimated by Caltrans for this analysis. Considering the limited amount of streambed/lakebed areas that would be disturbed by the proposed project, any adverse effect to the special status fish species or their habitat due to suspended and/or deposited fine sediment is expected to be minimal, if at all.

Mobilization of Sediment: Effects on Spawning Habitat: Moderate, but short-duration, temporary increases in turbidity are expected to occur during the installation and subsequent removal of temporary cofferdams. Sediment input by project construction has the potential to degrade existing Clear Lake hitch spawning habitat conditions in the action area, if any exists. Fine sediments input associated with project construction could reduce the permeability of gravels, inter-gravel flow, and the availability of dissolved oxygen for developing embryos, and interfere with emergence success by occluding interstitial pore space. Laboratory studies have found an inverse relationship between fine sediment and fry survival, with decreases of 3.4 percent survival for each one percent increase in fine sediment.

Clear Lake hitch spawning habitat includes intermittent tributary streams to Clear Lake. Historically, hitch likely spawned in all of the 17 stream systems tributary to Clear Lake, which were accessible to hitch due to the relatively low gradients in their lower reaches. Location 6, on Clover Creek, will therefore be considered as potential spawning habitat for the Clear Lake hitch. Some hitch in the past were observed to spawn along the shores of Clear Lake, over clean gravel in water .5 to 4 inches deep where there was wave action to keep the gravels clean of silt. Therefore Locations 10, 11, and 14 below the OHWM of Clear Lake will also be considered as potential spawning habitat for the Clear Lake hitch. Adult Clear Lake hitch can move into appropriate spawning areas as early as mid-March

and may remain in these spawning areas until the beginning of June. The embryos hatch out after approximately seven days and the larvae become free-swimming after another seven days. Larval fish must then move downstream to the lake quickly before the streams dry up. In the lake, larvae remain inshore and are thought to depend on stands of tules (*Schoenoplectus acutus*) for cover until they reach approximately 2 inches and assume a pelagic lifestyle until they reach breeding age and are ready to begin the cycle again.

In-water construction activities are proposed within a work window of July 1st to October 1st to avoid conducting in-water activities during the Clear Lake hitch spawning period and to minimize potential impacts to developing Clear Lake hitch juveniles. Project activities with the potential to generate sediment have been timed to avoid spawning runs of Clear Lake hitch and other fish species. Therefore, adverse effects to spawning habitat for the Clear Lake hitch resulting from suspended and/or deposited fine sediment is not expected.

Mobilization of Sediment: Effects on Life Stages: Construction activities are known to cause temporary increases in water turbidity. Short-term increases in turbidity could occur during construction.

High levels of turbidity and suspended sediment may affect adult and special status fish species. High concentrations of suspended sediment can disrupt normal feeding behavior and efficiency, reduce growth rates, and increase plasma cortisol levels. Even small pulses of turbid water will cause fish species to disperse from established territories, which can displace fish into less suitable habitat and/or increase competition and predation, decreasing chances of survival. Increased sediment deposition can fill pools and reduce the amount of cover available to fish, decreasing the survival of juveniles.

Increased turbidity levels associated with the project are not expected to physically injure special status fish species or result in adverse behavioral effects. Moderate, but short-duration temporary increases in turbidity are expected to occur during the installation and subsequent removal of temporary cofferdams, if de-watering is determined to be necessary. These levels will likely result in some limited behavioral effects, such as temporarily reduced feeding efficiency of special status fish species in the action area. These behavioral changes are not expected to cause mortality or decrease the probability of individual juvenile or adult Clear Lake hitch or other fish species survival within the action area.

Effects of Contaminants/Toxic Chemicals: The proposed project could involve the storage, use, or discharge of toxic and other harmful substances near streams and other water-bodies that could potentially affect fish and other aquatic organisms. Potential impacts range from avoidance of the project site to mortality, which could occur through exposure to lethal concentrations of contaminants or exposure to non-lethal levels that cause physiological stress and increased susceptibility to other sources of mortality (e.g., predation and disease). Project activities that could result in the accidental or unintentional runoff or discharge of toxic materials and other harmful substances to streams include the following:

- Accidental spill of petroleum products
- Operation of vehicles and equipment in or adjacent to stream channels or drainages
- Storage of pavement, petroleum products, concrete, and other construction materials
- Discharge of water from construction areas
- Disturbance and mobilization of contaminants with adsorbed metals

The operation of heavy equipment and other construction equipment in or near the lake or stream can result in accidental spills and leakage of fuel, lubricants, hydraulic fluids, and coolants. In addition, re-suspension of sediments with adsorbed metals during in-water construction potentially could lead to localized degradation of water quality and food resources. Re-suspended particulate material also could be transported to downstream locations as a result of transport by flow, thus leading to potential degradation of water quality and food resources beyond the immediate construction area.

The potential magnitude of biological effects resulting from these accidental, unintentional, or intentional actions depends on a number of factors, including the type, amount, concentration, and solubility of the contaminant; and the timing and duration of the discharge or channel disturbance. Contaminants can affect survival and growth rates, as well as the reproductive success of fish and other aquatic organisms. The level of effect depends on species and life stage sensitivity, duration and frequency of exposure, condition or health of individuals (e.g., nutritional status), and physical or chemical properties of the water (e.g., flow volume, temperature, and dissolved oxygen).

Disturbance and Direct Injury: Noise, vibrations, artificial light, and other physical disturbances can harass fish, by disrupting or delaying normal activities, or causing injury or mortality. The potential magnitude of effects depends on a number of factors, including the type and intensity of the disturbance, proximity of the action to the water-body, timing of actions relative to the occurrence of sensitive life stages, and frequency and duration of activities. For most activities, the effects on fish would be limited to avoidance behavior in response to movements, noises, and shadows caused by construction personnel and equipment operating in or adjacent to the water-body. However, survival may be altered if disturbance causes fish to leave protective habitat (e.g., causing increased exposure to predators) or is of sufficient duration and magnitude to affect growth and spawning success. In the absence of mitigation, injury or mortality may result from direct and indirect contact with humans and machinery, materials being placed in the stream, and physiological stress.

Impacts on Clear Lake hitch and other fish species migrating adults, spawning, and egg incubation will be avoided by limiting any in-water construction to the season when these sensitive life stages are considered to be absent (July 1st to October 1st). However, because of their potential year-round presence in Clear Lake at Locations 10, 11, and 14, juvenile Clear Lake hitch and other fish species would be subject to potential harassment, injury, or mortality during work activities occurring in or near the lakeshore or stream channel. Most juveniles would be expected to move upstream or downstream of the immediate project area in response to disturbance. Displacement could affect survival by increasing the exposure of juveniles to predators and possibly increasing competition with other juveniles, especially if suitable rearing habitat is limited or not readily available. Although juveniles are capable of actively moving away from disturbances, some juveniles may seek cover in active work areas, where they may be injured or killed by exposure to harmful levels of suspended sediment or other factors. Fry and small juveniles are at highest risk because of their tendency to hide in the substrate and reluctance to move away from protective near-shore habitat.

Temporary lighting of work areas to facilitate nighttime construction, especially at construction sites adjacent to or over waterways, may alter behavior of animals that prey on fish (e.g., piscivorous birds, mammals, and fish) or make fish more visible to predators, thereby leading to increased mortality of fish through increased predation. Night-time work is not proposed as part of this project.

Foothill Yellow-Legged Frog

Suitable habitat for this species occurs within the project ESLs along Middle Creek, and within at Harley Gulch Creek. Although not considered appropriate breeding habitat, foothill yellow-legged frogs may also be expected to occur at other intermittent streams within the ESL on a seasonal basis, when water is present. The waters of Clear Lake are not considered as appropriate breeding habitat and no CNNDDB records for this species occur within the waters of Clear Lake. The foothill yellow-legged frog is known to inhabit appropriate aquatic habitats in both Harley Gulch (near Location 16) and Middle Creek (Clover Creek, Location 6, is tributary to Middle Creek) in Lake County, which will be considered as habitat for the foothill yellow-legged frog for the purposes of this analysis.

At Location 6, the existing 24-inch CSP highway cross culvert and the existing 24-inch CSP leading from the highway shoulder to the northern bank of Clover Creek will be replaced by 24-inch APC. No permanent or temporary fills are proposed to be placed and no temporary disturbances below the OHWM of Clover Creek are expected to occur as a result of these activities. Approximately 39 sq. ft. (0.009 acres) of temporary disturbance along the north bank of Clover Creek in non-riparian W/CA located above the OHWM but below the top of the streambank. Project construction activities will be timed to occur during the low- or no-flow period of Clover Creek, between July 1st and October 1st, and no construction activities will occur below the OHWM of Clover Creek. Construction activities proposed at Location 6 are therefore not expected to result in adverse effects to foothill yellow-legged frog individuals, but may be expected to result in temporary adverse effects to foothill yellow-legged frog habitat.

At location 16, the proposed construction activities consist of removing the existing 18-inch CSP highway cross culvert and replacing it with a 24-inch APC, or alternatively, the existing 18-inch CSP will be lined with CIPP. The headwall on the inlet side will be removed and replaced in the same position. "Erosion control Type D" (hydroseed, straw and tackifier) will be applied along the highway embankment slope and highway drainage that leads to the cross culvert at PM 46.24. No new permanent fills are proposed and no temporary fills will be required for construction. Project construction activities will be timed to occur during the low- or no-flow period of Clover Creek, between July 1st and October 1st. The stream entering culvert Location 16 is ephemeral and is not expected to be flowing at this time. Therefore, construction activities at location 16 are not expected to result in adverse effects to the foothill yellow-legged frog or its habitat.

Western Pond Turtle

Suitable breeding and foraging habitat for the western pond turtle occurs within the ESLs within the waters of Clear Lake (Locations 10, 11, and 14), at Clover Creek (Location 6), and at Harley Gulch Creek (near Location 16). Although not considered appropriate breeding habitat, western pond turtles may also occur within intermittent streams on a seasonal basis, when water is present (Manning Flat Creek, location 18), or moving through drainages connected to perennial ponds (Locations 26 and 27), or in upland habitats within approximately 200 feet adjacent to these aquatic features. Each of these locations will be considered as potential habitat for the western pond turtle for the purposes of this analysis.

The outfall of the highway cross culvert located a Location 10 is below the OHWM of Clear Lake and is embedded in a rock wall. Work at this location potentially affecting the waters of Clear Lake will entail replacing existing 24-inch CSP cross culvert at PM 18.35 with a 24-inch APC. A flood gate will be installed within the new APC culvert, and RSP will be placed at the culvert outfall. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary

cofferdam may be used in order to facilitate the placement of RSP “in the dry” at the outfall of Location 10. A temporary cofferdam is expected to result in the temporary placement of 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres). Additionally, the placement of RSP at the outfall of culvert will result in a permanent fill of 31 sq. ft. (.0007 acres) within the waters of Clear Lake that could provide potential aquatic habitat for the western pond turtle.

At location 11, project activities are not expected to result in temporary fills or disturbances or result in the placement of permanent fills below the OHWM of Clear Lake. However, riparian vegetation removal or trimming may occur, resulting in approximately 18 sq. ft. (.0004 acres) of temporary impact of riparian W/CA which may potentially provide habitat as aquatic habitat cover, potential food inputs, and thermoregulation for western pond turtles.

Location 12: The water level of Clear Lake fluctuates throughout the year. Depending on the conditions at the time of construction, a temporary clear water diversion system using a temporary cofferdam may be used in order to facilitate the construction activities “in the dry” at the outfall of the culvert. A temporary cofferdam is expected to result in the temporary placement of approximately 54 sq. ft. (.001 acres) of fill, and is expected to result in the temporary de-watering of approximately 87 sq. ft. (.002 acres) of aquatic habitat that could provide habitat for this species

The outfall of the highway cross culvert located at Location 14 is below the OHWM of Clear Lake and is embedded in a rock wall. Work at this location potentially affecting the waters of Clear Lake will entail lining the existing highway cross culvert at PM 25.86 with CIPP. At this location, the liner will be inserted at the inlet side; the liner would be inverted using water or air pressure to advance the liner down the culvert or alternatively, the liner may installed by winching into place through the outfall which may potentially require crew access to the outfall area. After the pipe has been cured, the liner is cooled and the ends removed flush with the pipe ends, and sealed where necessary. A segment of cured CIPP liner may need to be cut/removed and sealed from the outfall area.

Depending on the conditions at the time of construction, temporary clear water diversion systems using a temporary cofferdam may be used in order to prevent un-cured CIPP liner material from contact with the waters of Clear Lake and to facilitate CIPP cutting and sealing activities “in the dry” at the outfall of Location 14. A temporary cofferdam is expected to result in the temporary placement of 46 sq. ft. (.003 acres) of fill, and may result in the temporary de-watering of approximately 73 sq. ft. (.002 acres) within the waters of Clear Lake that could provide potential aquatic habitat for the western pond turtle.

At location 18, an existing double 24-inch CSP culvert system will be replaced by a single 3 ft. x 2 ft. concrete box culvert, with a new headwall constructed at the inlet. Project construction activities are expected to result in the placement of 5 sq. ft. (.0001 acres) of permanent fill along the intermittent stream. Project construction activities will be timed to occur during the low- or no-flow period of this drainage system, between July 1st and October 1st. The stream entering Location 18 is intermittent and is not expected to be flowing at the time of construction. Western pond turtles would be expected to occupy this drainage system only on a seasonal basis, when aquatic habitat is present or during winter rain events. Construction activities proposed at Location 18 are therefore not expected to result in adverse effects to western pond turtles or western pond turtle habitat.

At Location 26, project construction activities will consist of paving the existing 30-inch CSP invert with concrete and the placement of RSP at the culvert outfall. Project construction is expected to result in the placement of 35 sq. ft. (.0008 acres) of permanent fill along the ephemeral stream channel which could potentially serve as seasonal dispersal habitat for western pond turtles. Project construction activities will be timed to occur during the low- or no-flow period of this drainage system (July 1st and October 1st). The stream entering Location 26 is ephemeral and is not expected to be flowing at the time of construction. Western pond turtles would be expected to occupy this drainage system only on a seasonal basis, when aquatic habitat is present or during winter rain events. Construction activities proposed at Location 26 are therefore not expected to result in adverse effects to western pond turtle individuals.

At Location 27, construction will consist of lining the existing 24-inch CSPs with CIPP. No new permanent or temporary fills are proposed at this location. Project construction activities will be timed to occur during the low- or no-flow period of this drainage system, between July 1st and October 1st. The stream entering Location 27 is ephemeral and is not expected to be flowing at the time of construction. Western pond turtles would be expected to occupy this drainage system only on a seasonal basis, when aquatic habitat is present or during winter rain events. Construction activities proposed at location 26 are therefore not expected to result in adverse effects to western pond turtles individuals or western pond turtle habitat.

Western pond turtles may be expected to utilize upland habitat within approximately 200 feet of suitable aquatic habitat as egg-laying sites or as potential over-wintering sites. Project construction activities in uplands adjacent to aquatic features considered as western pond turtle habitat (Locations 6, 10, 14, 16, 18, 26, and 27) are limited to the replacement of existing culverts and culvert end treatments (headwalls, flared end sections), lining existing culverts with CIPP, and in some cases, RSP will be placed at culvert outfalls. Culvert replacement will be accomplished using the “cut and cover” method (the roadway surface is “cut” to expose the existing culvert, the existing culvert is lifted out of the resulting trench, a new culvert is placed in the resulting trench, and the trench is backfilled and the roadway pavement is repaired), and therefore all project “ground-breaking” activities will be limited to within the fill of the roadway prism. The fill of the roadway prism is not considered as appropriate upland habitat for western pond turtle egg-laying or over-wintering. Construction activities at Locations 6, 10, 14, 16, 18, 26, and 27 are therefore not expected to result in adverse effects to western pond turtle upland habitat.

Migratory Birds

Migratory birds are expected to occupy the project ESL and may be expected to nest within the project ESL in trees, snags, and shrubs, and on the ground or on existing structures (including bridges) between March 1st and August 15th. By observing the measures below, no take of migratory birds or active migratory bird nests are expected to occur as a result of project construction activities.

Avoidance, Minimization, and Mitigation Measures

Mitigation for Clear Lake Hitch:

Fully Mitigate Impacts to Clear Lake Hitch – The California Endangered Species Act allows CDFW to issue an incidental take permit for a species listed as candidate, threatened, or endangered only if specific criteria are met. The impacts of the authorized take must be minimized and fully mitigated; the measures required to minimize and fully mitigate the impacts of the authorized take should be

roughly proportional in extent to the impact of the taking on the species, maintain the applicant's objectives to the greatest extent possible, and may be successfully implemented by the applicant. Caltrans shall coordinate with the CDFW potential mitigation options, including, but not limited to habitat enhancement, fish barrier removal, or other options prior to submittal of the Incidental Take Permit application.

Sections 2081(b) and (c) of CESA allow CDFW to issue an incidental take permit (ITP) for a State listed threatened and endangered species only if specific criteria are met. These criteria are reiterated in Title 14 CCR, Sections 783.4(a) and (b), and are as follows:

1. The authorized take is incidental to an otherwise lawful activity;
2. The impacts of the authorized take are minimized and fully mitigated;
3. The measures required to minimize and fully mitigate the impacts of the authorized take: a. are roughly proportional in extent to the impact of the taking on the species, b. maintain the applicant's objectives to the greatest extent possible, and c. are capable of successful implementation;
4. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and
5. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

CESA emphasizes early coordination to avoid potential affects to State listed species and to develop appropriate mitigation planning to offset project caused losses of listed species. Caltrans has determined that take of a State Listed species is unavoidable, and an application pursuant to Fish & Game Code Section 2081 will be prepared and submitted by the District Biologist. Compensatory requirements have not yet been determined. The terms and conditions of the 2081 permit will be determined by CDFW and will ensure that the issuance criteria in items 1 through 5 above are met. Measures to minimize the take of species covered by the permit and to mitigate the effects caused by the take will be set forth in a mitigation plan which will prepared and submitted by the Caltrans District Biologist in coordination with CDFW staff during the CESA 2081 consultation process.

Other Measures

Establish Environmentally Sensitive Areas: Additional direct and indirect impacts to sensitive biological resources, including potential waters of the U.S. and potential waters of the State of California, throughout the project area will be avoided or minimized by designating these features outside of the construction impact area as "Environmentally Sensitive Areas" (ESAs) on project plans and in project specifications. ESA information will be shown on contract plans and discussed in the Special Provisions. ESA provisions may include, but are not necessarily limited to, the use of temporary orange fencing to identify the proposed limit of work in areas adjacent sensitive resources or to locate and exclude sensitive resources from potential construction impacts. Contractor encroachment into ESAs will be prohibited (including the staging/operation of heavy equipment or casting of excavated materials). ESA provisions will be implemented as a first order of work and remain in place until all construction activities are complete.

Environmental Awareness: Before any work occurs in the project area, including grading and vegetation removal, the project proponent will request a Caltrans biologist via the project Resident Engineer or will retain a qualified biologist (familiar with the resources to be protected) to conduct a mandatory contractor/worker environmental awareness training for construction personnel. The

awareness training will be provided to all construction personnel (contractors and subcontractors) to brief them on the need to avoid and minimize effects to sensitive biological resources (e.g., jurisdictional waters, special-status species) adjacent within construction areas and the penalties for not complying with applicable state and federal laws and permit requirements. The biologist will inform all construction personnel about the life history and habitat requirements of special-status species with potential for occurrence onsite, the importance of maintaining habitat, and the terms and conditions of any environmental documents, biological opinions, and/or other permits issued to the project proponent by the overseeing agencies (i.e., CDFW, USACE, RWQCB), as appropriate.

The environmental training will also cover general restrictions and guidelines that must be followed by all construction personnel to reduce or avoid effects on sensitive biological resources during project construction. The training also will include identifying the BMPs written into construction specifications for avoiding and minimizing the discharge of construction materials or other contaminants into jurisdictional waters.

Limited Operating Periods at Aquatic Features: Any work within areas considered as potentially jurisdictional “waters of the United States” or “waters of the State of California” (Locations 6, 10, 11, 13, 14, 16, 18, 26, 27, 29A, 30, 31, and 32) shall only occur between July 1 and October 1 of any construction season. Locations 6, 10, 11, 14, 16, 18, 26, and 27 are considered as potential habitat for the Clear Lake hitch, the foothill yellow-legged frog, and/or the western pond turtle. This window represents the seasonal low- or no-flow period for aquatic features within the project ESLs and avoids or minimizes potential impacts to sensitive life stages of sensitive species.

Containment Measures / Construction Site Best Management Practices: The Contractor shall implement measures so as to contain construction related material in manageable locations, and prevent debris from entering surface waters during in-water work and for construction operations outside of receiving waters.

BMPs utilized for erosion control will be implemented and in place prior to, during, and after construction to ensure that no silt or sediment enters receiving waters. Areas where a disturbance of soil has occurred will be stabilized appropriately and approved by the CVRWQCB prior to filing the Notice of Termination. BMPs options and the selected measures deployed, which relate to in-water work, will be considered, evaluated, and dependent on factors such as field conditions, changes to construction strategies, and regulatory requirements in order to protect the beneficial uses of receiving waters. The project design team may specify BMPs to be utilized during construction in addition to, or in place of, other temporary measures selected by the Contractor.

Compliance with all construction site BMPs, specified in the approved Water Pollution Control Program (WPCP) and any other permit conditions, is mandatory to minimize the introduction of construction related contaminants and sediment to receiving waters. In order to achieve this and reduce the potential for discharge, the Contractor shall follow all applicable guidelines and requirements in the 2015 Caltrans Standard Specifications (2015 CSS), Section 13, regarding water pollution control and general specifications for preventing, controlling, and abating water pollution in streams, waterways, and other bodies of water. Project specific BMPs shall address (among other things) soil stabilization, sediment control, wind erosion control, vehicle tracking control, non-storm water management, and waste management practices and will be based on the best conventional and best available technology. Caltrans staff and the Contractor shall perform routine inspections of the construction area to verify that field BMPs are properly implemented, maintained, and are operating

effectively and as designed. BMPs and measures selected must meet the standards and objectives to minimize water pollution impacts set forth in the 2015 CSS and shall include (but not be limited to) the following:

- Conduct all in-water work within streams or other aquatic features between July 1st and October 1st.
- Use only equipment in good working order and free of dripping or leaking engine fluids. Conduct any necessary equipment washing where water is prevented from flowing into MS4 drainage conveyance systems and receiving waters.
- In case of an accidental spill, an “emergency response plan” will be prepared and submitted to the National Marine Fisheries Service (NMFS) and CDFW for review and approval at least 14 days prior to conducting any construction work. A spill prevention control and countermeasures plan will be onsite and in place to handle any topside spills. The plan will include strict onsite handling rules to keep construction and maintenance materials from entering the receiving waters, including procedures related to refueling, operating, storing, and staging construction equipment, as well as preventing and responding to spills. The plan also will identify the parties responsible for monitoring the spill response. During construction, any spills will be cleaned up immediately according to the spill prevention and countermeasure plan.
- BMPs for spill containment measures (plastic sheeting, absorbent pads and/or other containment devices) will be utilized during construction activities.
- Prevent discharge of turbid water to the receiving waters during any construction activities by filtering the discharge first using a filter bag, diverting the water to a settling tank or infiltration areas, and/or treating the water in a manner to ensure that discharges conform to the water quality requirements of the waste discharge permit issued by the CVRWQCB prior to entering receiving waters.

De-Watering Activities / Clear Water Diversion: Depending on seasonal levels, temporary de-watering may be necessary to conduct project construction activities below the OHWM of Clear Lake (Locations 10, 12, and 14) or within project area streams. Clear water diversion consists of a system of structures and measures that intercept clear surface water runoff upstream of a project site, transport it around the work area, and discharge it downstream with minimal water quality degradation for either the project construction operations or the construction of the diversion. Clear water diversions are used in a waterway to enclose a construction area and reduce sediment pollution from construction work occurring in or adjacent to water.

Any intakes that may be required for water pumps associated with wetting/ irrigation/ water diversion of sites shall be screened to CDFW specifications to avoid the intake of fish and amphibians. Temporary fills used for diversion structures may consist of sandbags, clean and washed spawning-quality gravels, “aqua-dams” or similar materials; diversion structure materials shall be free of “fine” sediments that could be discharged into receiving waters. The contractor is responsible for submitting proposals for any stream diversions, therefore water-diversion and/or de-watering plans have not yet been prepared for the proposed project. Clear water diversions must be constructed in accordance permit conditions and in accordance with the “Caltrans Storm Water Quality Handbooks, March 1, 2003” *Section 7: Construction Site Best Management Practices Manual Clear - Water Diversion NS-5*.

De-Watering Activities – Fish Relocation: After any water diversion structures are in place and before dewatering is initiated, qualified fish biologists who have authorization from CDFW will be on

site to capture and relocate fish from areas to be dewatered. During dewatering, water will be incrementally diverted from the cofferdam, with diversion progressively increasing over a four-hour period in the following increments: 50%, 75%, 90%, and 100%. Incremental reduction in flow allows fish that elude initial capture to move to deeper habitats where they can be captured and relocated before affected stream segments are completely dewatered. The biologists will relocate fish to suitable habitat outside of the construction area. The methods of removal and relocation of fish captured during the dewatering of the construction areas will be implemented in close coordination with CDFW.

De-Watering Activities – Water Quality: To prevent the potential discharge of turbid water into the receiving waters that may result from temporary de-watering activities, water removed from the dewatered areas will be filtered and/or treated in a manner to ensure conformance with the water quality requirements of the approved 401 permit, issued by the CVRWQCB, prior to being discharged into drainage conveyance systems and/or receiving waters. Utilizing areas, within the State's ROW, for infiltration and dust control will be investigated in accordance with applicable permits and waivers and may involve CVRWQCB coordination.

Limit Vegetation Removal: Vegetation removal shall be limited to the absolute minimum amount required for construction. Woody vegetation will be trimmed in lieu of complete removal wherever feasible.

Restrict Timing of Woody Vegetation Removal: It is recommended that the removal of any woody vegetation (trees and shrubs) required for the project is completed between August 16th and February 28th prior to project construction, outside of the predicted nesting season for raptors and migratory birds in this area. Vegetation removal outside this time period may not proceed until a survey by a qualified biologist determines no migratory bird nests are present or in use (see below).

Nesting Bird Avoidance: If woody vegetation removal, structures construction, grading, or other project-related improvements are scheduled during the nesting season of protected raptors and migratory birds (March 1st to August 15th), a focused survey for active nests of such birds shall be conducted by a qualified biologist within 15 days prior to the beginning to project-related activities. If active nests are found, Caltrans shall consult with USFWS regarding appropriate action to comply with the Migratory Bird Treaty Act of 1918 and with CDFW to comply with provisions of the Fish and Game Code of California. If a lapse in project related work of 15 days or longer occurs, another survey and, if required, consultation with USFWS and CDFW will be required before the work can be reinitiated.

Compensation for Permanent Impacts to Waters of the United States: The USACE's 2008 Mitigation rule (33 CFR Part 332) establishes standards and criteria for the use of all types of compensatory measures, including on-site and off-site permittee-responsible mitigation, mitigation banks, and in-lieu fee mitigation to offset unavoidable impacts to waters of the United States authorized through the issuance of Department of the Army (DA) permits pursuant to section 404 of the Clean Water Act. When considering options for successfully providing the required compensatory mitigation, the district engineer shall consider the type and location options in the order presented: 1) Mitigation Bank Credits; 2) In-Lieu Fee Program Credits; 3) Permittee- Responsible Mitigation. Project permanent impacts to waters of the United States are limited to less than one-hundredth of an acre for all project sites combined and consist only of new culvert headwalls and segments of rock

slope protection each measuring 10 linear feet or less, and therefore no compensation for jurisdictional waters of the U.S. is currently proposed.

Hazardous Waste

Regulatory Setting

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

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

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

Affected Environment

An Amended Initial Site Assessment was prepared in August 2016. The assessment discovered thermoplastic and/or paint striping, aerially deposited lead (ADL), and Naturally Occurring Asbestos (NOA), within the project limits.

Environmental Consequences

Two minor hazardous waste/material issues, thermoplastic and/or paint striping removal (paint/striping) ADL, have been identified for the entire proposed project limits. One minor issue, NOA, has been identified for two locations, location 16 and 33.

Avoidance and Minimization Measures

To address these issues, the following Caltrans Standard Special Provision (SSP) and Non-Standard Special Provision (NSSP) will be edited and included in the Plans, Specifications, and Estimates (PS&E) and ready to list (RTL) bid packages available to contractors:

- SSP 84-9.03C - non hazardous paint/striping removal
- SSP SSP 7 - 1.02K(6)U(iii) - AOL
- NSSP 14-11.10 - NOA

At locations 16 and 33, every effort should be made to reuse excess soil within the project limits as disposal of NOA, if present, can cost from \$90 to \$120 dollars a ton to dispose of off-site. The project may be constructed without any other NSSP's, SSP's, or restrictions from Caltrans' Office of Environmental Engineering - South.

Water Quality

Regulatory Setting

State Requirements: Porter-Cologne Water Quality Control Act

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

SWRCB and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions and then set criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

State Water Resources Control Board and Regional Water Quality Control Boards

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

National Pollutant Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins,

curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water.” The SWRCB has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 Permit (Permit) covers, and is specific to, all properties, facilities, and activities within State's right of way (ROW). The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans’ MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012 and became effective on July 1, 2013. The permit has three basic requirements:

1. For projects within the State's ROW that fit specific criteria (described in the Construction General Permit Section), Caltrans must comply with the requirements of the Construction General Permit;
2. Caltrans must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. Caltrans storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

Using Caltrans’ online Water Quality Planning Tool, project work appears to be located within Lake County’s MS4 NPDES Phase II Permitted area, which consists of three (3) public agencies (Lake County, City of Clearlake, and the City of Lakeport) that are required to adhere to the State Board’s NPDES Phase II Permit. Therefore, during construction, the Contractor will be required to comply with regional and jurisdictional MS4 permit requirements, including Caltrans’ MS4 Permit.

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

Construction General Permit

The Construction General Permit (CGP) Order No. 2009-009-DWQ, adopted on September 2, 2009, became effective on July 1, 2010. The CGP regulates storm water discharges from construction sites that result in a land disturbance of one acre or greater, and/or are smaller sites that are part of a larger common plan of development. By law, all storm water discharges associated with construction activities where clearing, grading, and excavation results in a soil disturbance of at least one acre must comply with the provisions of the CGP. Construction activities disturbing less than one acre of soil are subject to the CGP if there is the potential for water quality impairment, as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution

prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP.

The 2009 CGP separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and before construction and after construction aquatic biological assessments during specified seasonal windows. For all projects subject to the CGP, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Program (WPCP) is necessary for projects with Disturbed Soil Area (DSA) less than one acre.

The completed and approved Caltrans Storm Water Data Report provides details and analyses of project parameters and conclusions in support of the recommendation that a WPCP is applicable to describe proposed storm water BMPs and pollution control measures for the project.

Section 401 Permitting

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

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

Affected Environment

A Water Quality Assessment was prepared in February 2016.

Project Setting

The following two main watercourses drain Lake County (County): Cache Creek (which is the outlet of Clear Lake), and Putah Creek. Both of these follow uniquely different drainage courses and eventually flow to the Sacramento River. At the extreme north of the County, Lake Pillsbury and the Van Arsdale Reservoir dam the Eel River and provide water and power to Ukiah in Mendocino County.

The primary receiving water nearest to the project locations is Clear Lake. This water body is the largest natural freshwater lake within California, located at an elevation of 1,326 feet, and has an area exceeding 43,000 acres. The geology of Clear Lake is described as chaotic, being based on Franciscan Assemblage hills. Numerous small faults are present in the south end of the lake as well as many old volcanoes, the most prominent being Mount Konocti.

Hydrology and Water Quality

The proposed project site is located within the Sacramento River Basin. This basin covers approximately 27,210 square miles and includes the entire area drained by the Sacramento River, including all watersheds tributary to the Sacramento River north of the Cosumnes River watershed. The basin also includes the closed basin of Goose Lake and the drainage sub basins of Cache and Putah creeks. The principal streams are the Sacramento River and its larger tributaries, the Pit, Feather, Yuba, Bear, and American rivers to the east, and Cottonwood, Stony, Cache, and Putah creeks to the west. Major reservoirs and lakes include Shasta, Oroville, Folsom, Clear Lake, and Lake Berryessa.

The following are the nearest principal (or major) receiving waters that could potentially, and immediately be affected by a discharge from the project: Clear Lake, Thurston Lake, Cache Creek, Harley Gulch, and Putah Creek. Several other smaller creeks and streams exist within the project limits, and most likely convey drainage runoff to these larger systems. The table below summarizes the TMDLs and beneficial uses for the major water bodies previously identified:

TMDLs

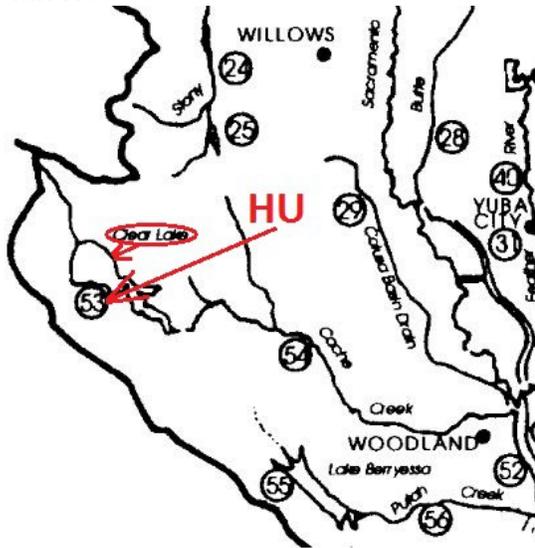
Major Receiving Waters¹	TMDLs Pollutant²	Sources Identified	Treatment BMPs Recommended³
Clear Lake	Mercury, Nutrients	Resource Extraction, Agriculture, Erosion/Siltation, Grazing-Related Sources, Urban Runoff/Storm Sewers	See Footnote
Cache Creek	Boron, Unknown Toxicity, Mercury	Resource Extraction, Sources Unknown	See Footnote
Harley Gulch	Mercury	Source Unknown	See Footnote
Putah Creek	None	N/A	None

1. These are the major receiving waters nearest to the range of project PMs given. Smaller drainage systems (manmade or natural) that were not identified (more than likely) convey stormwater to these receiving waters. Larger systems downstream, using the tributary rule, were excluded from this analysis.
2. Refer to Caltrans' TMDLs Implementation Plan (1/1/15) for specifics regarding TMDLs and priority reaches identified for District 1.
3. The project does not involve the addition of new impervious area, so treatment BMPs would typically not be considered. However, because (some of) the major receiving waters identified (in column 1) are listed in Caltrans' storm water programmatic documents, as potential Compliance Unit attainment (or priority) reaches, further evaluation and coordination between Storm Water Design functional unit staff and NPDES staff is recommended. Moreover, additional coordination between Caltrans' NPDES/Stormwater staff and the RWQCB may be necessary to address potential TMDL related concerns and ensure NPDES Permit compliance (during and post construction).

Surface Water Quality Objectives/Standards and Beneficial Uses

Narrative and numeric water quality objectives (WQOs) for all surface waters, within the Central Valley Region, are established for a variety of constituents and can be found in Section III-2.0 of the Basin Plan corresponding to the receiving waters previously mentioned. From a regional and project vicinity perspective (using the RWQCB Basin Plan for reference and guidance) the only identifier corresponding to nearest applicable hydraulic unit number (HU) is number 53 (and to some extent 54) as shown in the figure below:

Basin Plan HU



Per Table II-1 of the Basin Plan, the following beneficial uses were designated for water bodies having hydrologic sub-areas (or HU's) near the project PMs:

SURFACE WATER BODIES (1)	HYDRO UNIT NUMBER	AGRI-CULTURE		INDUSTRY			RECREATION		FRESHWATER HABITAT (2)		MIGRATION		SPAWNING		WILD	NAV	
		MUN	AGR	PROC	IND	POW	REC-1	REC-2	WARM	COLD	MIGR	SPWN					
		MUNICIPAL AND DOMESTIC SUPPLY	IRRIGATION	STOCK WATERING	PROCESS	SERVICE SUPPLY	POWER	CONTACT	CANOING (1) AND RAFTING	OTHER NONCONTACT	WARM	COLD	WARM (3)	COLD (4)			WARM (3)
53 54	CACHE CREEK CLEAR LAKE (a) CLEAR LAKE TO YOLO BYPASS (d)	513.52 511/513	m m	m m	m m	m m	m m	m m	m m	m p	p			m m	m m	m m	

LEGEND NOTE:
 E = EXISTING BENEFICIAL USES P = POTENTIAL BENEFICIAL USES
 L = EXISTING LIMITED BENEFICIAL USE HU = HYDRO UNIT NUMBER

Groundwater Quality Objectives/Standards and Beneficial Uses

The existing beneficial uses of the underlying groundwater within the Central Valley Region includes municipal supply, agricultural supply, industrial service supply, and Native American culture. Moreover, as described in the Basin Plan, groundwater within the Central Valley Region is subject to narrative and quantitative WQOs for bacteria, chemical constituents, radioactivity, tastes and odors. With that understanding, impacts to groundwater are not anticipated to occur as a result of the proposed project.

Disturbed Soil Area (DSA)

Per information provided by the Project Engineer, the estimated amount of DSA is approximately 0.8 acres.

Environmental Consequences

Runoff from the individual project locations may directly discharge into a body of water and construction activities associated with the proposed improvements may have the potential to affect receiving water quality through the release and transport of pollutants such as sediment, soil stabilizers, oil, grease, trash, and debris. Moreover, any type of soil disturbance would expose soil to erosion from wind and water that could result in sedimentation to receiving surface waters (through direct or indirect transfer). This project will involve work and operations in drainage flow-lines, and because of this, the risk and threat to water quality may be considered higher than that of other types of roadway/highway rehabilitation projects. However, the proper selection, application, and implementation of best management practices (BMPs) is anticipated, including regular site inspections (by the Contractor) in order to assess the adequacy and effectiveness of temporary BMPs placed. Under those circumstances, water quality impacts to the receiving waters identified can be significantly reduced.

This project is a drainage rehabilitation project, and as such, no new impervious area is anticipated. Therefore, the consideration of hydromodification (channel modification or channelization) mitigation measures is unnecessary.

Avoidance and Minimization Measures

In order to prevent potential impacts to receiving waters as a result of construction activities and/or operations related to this project, temporary and permanent measures would be implemented in accordance with applicable storm water regulations and standards. Short-term temporary measures would focus on implementing construction BMPs, aimed at reducing erosion and subsequent sediment transport. Long-term permanent measures would consider factors such as permanent stabilization of disturbed soil and natural storm water quality treatment. These regulations and applicable measures are listed below.

- Anticipated temporary sediment and erosion control measures for the project should include, and not be limited to, the following:
 - Fiber rolls and/or silt fences;
 - Gravel bag berm;
 - Rolled erosion-control product (e.g., netting);
 - Designated construction entrance/exit;
 - Re-establishment of vegetation or other stabilization measures (hydroseeding, mulch) on disturbed soil areas and newly constructed slopes; and
 - Wind erosion control.
- The project should incorporate pollution prevention and design measures consistent with the program set forth in the Caltrans' Storm Water Management Plan (SWMP) in order to meet regulatory and Caltrans' water quality objectives.
- The project should comply with Caltrans' 2015 Standard Specifications for Water Pollution Control. The project should implement storm water and water pollution control training, routine BMP inspections, spill prevention and control, materials and waste management, and non-storm water management.

- Due to the project’s anticipated total disturbed soil of less than 1 acre, a Water Pollution Control Program (WPCP) should be prepared and implemented in accordance with Caltrans’ Storm Water Quality Handbook to address all construction-related activities, equipment, and materials that have the potential to impact water quality. The WPCP identifies the sources of pollutants that may affect the quality of storm water; includes temporary BMPs to control sedimentation, erosion, and potential chemical pollutants; provides for materials management, non-storm water BMPs, and includes routine inspections guidance and corrective measures.
- All construction site BMPs are anticipated to follow the latest and most current edition of the Caltrans’ Storm Water Quality Handbook: Construction Site Best Management Practices Manual to control and minimize the impacts of construction- related activities, materials, and pollutants in the watershed.
- Dewatering may be required, but specifics relating to this activity have not yet been determined. Each RWQCB has unique permitting requirements and may have specific WDRs to regulate dewatering. NPDES and Storm Water staff may need to coordinate with RWQCB staff prior to the start of construction, to discuss and determine how to permit this activity. With consideration of the project schedule, dewatering permit approval (by the RWQCB) can take 30 days or more (depending on staff workload and other variables).

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels. Research from such establishments as the Intergovernmental Panel on Climate Change (IPCC) are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light duty trucks, other trucks, buses, and motorcycles make up the largest source (second to electricity generation) of GHG emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

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

Regulatory Setting

State

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

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

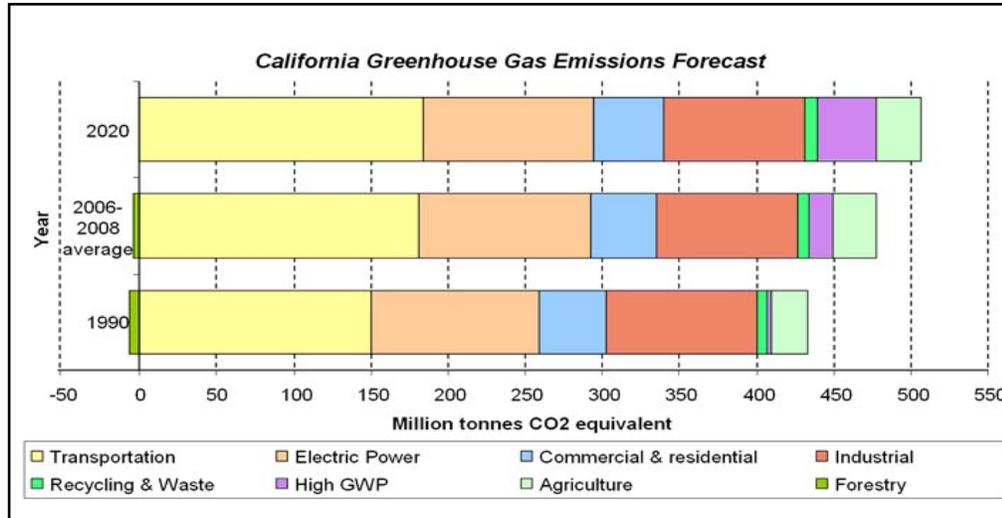
Project Analysis

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its *incremental* change in emissions when combined with the contributions of all other sources of GHG.¹ In assessing cumulative impacts, it must be determined if a project’s incremental effect is “cumulatively considerable” (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

¹ This approach is supported by the AEP: *Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

California Greenhouse Gas Forecast



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

Caltrans and its parent agency, California State Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.²

The operation of this project would result in low-to-no potential for an increase in GHG emissions. The culverts included have been in a steadily deteriorating condition, requiring rehabilitation or replacement to prevent further damage to the culverts and surrounding roadbed. Drainage ditches have also been reported to have insufficient capacity and therefore require rehabilitation. Without a permanent solution to this, constant maintenance would be required to prevent the road bed from collapsing as well as regular work within the watershed and potentially causing contamination downstream. This extra maintenance would produce more GHG than the proposed project would produce in construction. As discussed below, construction emissions will be unavoidable, but there will likely be long-term GHG benefits associated with reduced culvert maintenance due to the sustained damage for which this project is meant to repair.

Construction Emissions

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

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

CEQA Conclusion

Although construction emissions are unavoidable and are expected to be minimal, the proposed project will not increase capacity and is not expected to result in additional operational CO₂ emissions. However, it is Caltrans determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation," refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)³.

Greenhouse Gas Mitigation

AB 32 Compliance

Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement Executive Orders S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year.

The following measures will be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

1. Landscaping reduces surface warming, and through photosynthesis, decreases CO₂. The project proposes planting in the slopes and drainage improvements. Caltrans has committed to replace all removed trees and vegetation based on replacement recommendations provided by the Caltrans landscape architect. These trees will help offset any potential CO₂ emissions increase. Based on a formula from the Canadian Tree Foundation⁴, it is anticipated that the planted trees will offset between 7-10 tons of CO₂ per year. Please refer to the avoidance and minimization measures in the aesthetic section of this document.
2. According to Caltrans' Standard Specifications, the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district.
3. Compliance with Title 13, California Code of Regulations §2449(d)(3)—Adopted by the Air Resources Board on June 15, 2008, this regulation would restrict idling of construction vehicles to no longer than 5 consecutive minutes. The Contractor must comply with this regulation in order to reduce harmful emissions from diesel-powered construction vehicles.
4. To the extent that it is feasible for the project, the use of reclaimed water may be used to reduce GHG emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

³ http://climatechange.transportation.org/ghg_mitigation/

⁴ Canadian Tree Foundation at http://www.tcf-fca.ca/publications/pdf/english_reduceco2.pdf. For rural areas the formula is: # of trees/360 x survival rate = tons of carbon/year removed for each of 80 years.

Adaptation Strategies

“Adaptation strategies” refer to how Caltrans and others can plan for the effects of climate change on the state’s transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the states infrastructure due to projected sea level rise.

All projects that have filed a Notice of Preparation as of the date of [EO S-13-08](#), and/or are programmed for construction funding from 2008 through 2013, or are routine maintenance projects may, but are not required to, consider these planning guidelines. The proposed project is outside the coastal zone and direct impacts to transportation facilities due to projected sea level rise are not expected.

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

Construction Impacts

Discussion of construction impacts associated with air quality, noise, and transportation are discussed below.

Air Quality

An Air Quality Analysis Memorandum was prepared in December 2015.

This project is exempt from all air quality conformity analysis requirements per Table 2 of 40 Code of Federal Regulations (CFR) §93.126, subsection “Safety-hazard elimination program”. The project does not change traffic volumes, speeds or composition and does not change the roadway alignment. Therefore, no impact is anticipated on air quality in the area and no further air quality analysis is required.

The proposed project may result in the generation of short-term construction-related air emissions, including fugitive dust and exhaust emissions from construction equipment. Fugitive dust, sometimes referred to as windblown dust or PM₁₀, would be the primary short-term construction impact, which may be generated during excavation, grading and hauling activities. However, both fugitive dust and construction equipment exhaust emissions would be temporary and transitory in nature.

Avoidance and Minimization Measures

Caltrans Standard Specifications, a required part of all construction contracts, should effectively reduce and control emission impacts during construction. The provisions of Section 14-9.02, Air Pollution Control, and Section 14-9.03 Dust Control require the contractor to comply with all pertinent rules, regulations, ordinances, and statutes of the local air district.

Noise

A Noise Analysis Memorandum was prepared in December 2015.

Under Title 23, Part 772, Code of Federal Regulations, section 772.7, “projects are categorized as Type I, Type II, or Type III projects. FHWA defines a Type I project as a proposed Federal or Federal-aid highway project for the construction of a highway on a new location, the physical alteration of an existing highway where there is either a substantial horizontal or substantial vertical alteration, or other activities discussed in Section 3 below in the definition of a Type I project. A Type II project involves construction of noise abatement on an existing highway with no changes to highway capacity or alignment. A Type III project is a project that does not meet the classifications of a Type I or Type II project. Type III projects do not require a noise analysis.”

This project is considered a Type III project and it is exempt from traffic noise impact analysis under Title 23, Part 772 of the Code of Federal Regulations (23 CFR 772). No operational noise impacts are anticipated.

Avoidance and Minimization Measures

During construction, however, noise may be generated from the contractors’ equipment and vehicles. Noise generated during construction could be contained. Caltrans Standard Specifications, a required part of all construction, Section 14-8.02A, Noise Control specified as follows:

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

Transportation

Significant traffic impacts are not anticipated provided that the following Traffic Management Plan (TMP) measures are incorporated:

Avoidance and Minimization Measures

Caltrans prepared a TMP in April 2015. The plan includes the following measures:

- Any emergency service agency whose ability to respond to incidents will be affected by any lane closure must be notified prior to that closure.
- Work must be coordinated with the local busing system (including school buses and public systems) to minimize impact on their bus schedules.
- The Resident Engineer (RE) must provide information to residents and businesses before and

during project work that may represent a negative impact on commerce and travel surrounding the zone of construction.

- One lane closure is permitted within the project limits.
- The W11-1 vehicular traffic sign (bicycle symbol) and the W16-1 supplemental plaque (SHARE THE ROAD) must be placed prior to the construction zone.
- Work that occurs within 6 feet of the edge of traveled way on a 2-lane facility must require a shoulder closure.
- Work that requires a lane and/or shoulder closure on a freeway or expressway must be in conformance with the Caltrans Standard Plan T-10, "TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS."
- During culvert placement, when reversing traffic control is in effect, the road may be closed and public traffic stopped for periods not to exceed 10 minutes. After each closure, all accumulated traffic must be allowed to pass through the work zone before another closure is made.
- Work that requires a ramp closure must be in conformance with the Caltrans Standard Plan T-14, "TRAFFIC CONTROL SYSTEM FOR RAMP CLOSURE."
- A minimum of one Portable Changeable Message Sign in advance of the construction site must be required to notify the public of the closures related to this project.
- Access to businesses, side roads and residences must be maintained at all times. When work or traffic queues extend through an intersection, additional traffic control will be required at the intersection.
- Bicyclists must be accommodated through the work zone. Signage must be used to alert vehicles of the possible presence of bicyclists. During reversing traffic control, bicyclists must be instructed to join the vehicle queue. During lane reduction traffic control, bicyclists must be provided space adjacent to the open traffic lane to traverse through the work zone.
- Construction Zone Enhanced Enforcement Program (COZEEP) is recommended for this project based on risk factors associated with this project and the COZEEP Guidelines (CA DOT Construction Manual Section 2-215C). The associated risk factors include: workers exposed to traffic, night construction activities, speed management, and significant truck volumes.
- The contractor must prepare a contingency plan for reopening closures to public traffic. The Contractor must submit the contingency plan for a given operation to the Engineer within one working day of the Engineer's request. Contingencies for unanticipated delays, emergencies, etc. must be coordinated between the RE and the Contractor.

Following these TMP measures will minimize traffic impacts during construction.

Public Participation

On September 29, 2016, Caltrans released the draft Initial Study (IS) for the Lake 20/29 Culvert Rehabilitation Project for public review and comment. The public review period ended on October 31, 2016. Caltrans sent a notice of availability of the draft IS to various public agencies, elected officials, Native American tribes, and organizations. The notice of availability was also sent to adjacent property owners. A copy of the draft IS was sent to the Lakeport, Middletown, Redbud, and Upper Lake Public Libraries. The notice appeared in the Lake County Record-Bee on September 30, 2016.

Caltrans received a comment email from the California Department of Fish and Wildlife on Oct. 28, 2016, and a comment letter from the Central Valley Regional Water Quality Control Board on Oct. 24, 2016. Copies of the comments, with Caltrans responses, follows.

Comment Email from the California Department of Fish and Wildlife

Torres, Juan@Wildlife

Sent: Friday, October 28, 2016 1:57 PM

To: Schinke, Kendall@DOT

Subject: Lake County 20/29 Culvert Rehabilitation Project (Project) [State Clearinghouse No. 2016092062]

The California Department of Fish and Wildlife (Department) appreciates the opportunity to comment on the Initial Study with Proposed Mitigated Negative Declaration (IS/MND) for the Lake County 20/29 Culvert Rehabilitation Project (Project) [State Clearinghouse No. 2016092062]. The Department is responding to the IS/MND as a Trustee Agency for fish and wildlife resources (California Fish and Game Code Sections 711.7 and 1802, and the California Environmental Quality Act [CEQA] Guidelines Section 15386), and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines Section 15381), such as the issuance of a Lake or Streambed Alteration (LSA) Agreement (California Fish and Game Code Sections 1600 et seq.) and/or a California Endangered Species Act (CESA) Permit for Incidental Take of Endangered, Threatened, and/or Candidate species (California Fish and Game Code Sections 2080 and 2080.1).

The Department has the following comments:

- 1. The IS/MND establishes that Caltrans will obtain an Incidental Take Permit (ITP) prior to starting construction. No specific mitigation is proposed to fully mitigate the impacts to Clear Lake Hitch. At a minimum we recommend that a range of potential mitigation alternatives is included in the IS/MND. These mitigation measures may include habitat enhancement, small fish barrier removals, or similar. The Department recommends that Caltrans coordinate with the Department, the potential mitigation options prior to the submittal of the ITP application. 1
- 2. Please note that any of the temporary impacts to the Department Jurisdictional areas will need to be restored. 2
- 3. The Department recommends that a more detailed map is included in the IS/MND. It is difficult to find the locations with the map provided in the CEQA document. 3

If you should have any questions pertaining to these comments, please contact me at (916) 358-2951 or Juan.Torres@wildlife.ca.gov

Sincerely,

Juan Lopez Torres
Senior Environmental Scientist (Specialist)



North Central Region
Habitat Conservation Program
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Comment Letter from the Central Valley Regional Water Quality Control Board



Central Valley Regional Water Quality Control Board

Governor's Office of Planning & Research

24 October 2016

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OCT 26 2016

STATE CLEARINGHOUSE

Ken Lastufka
Department of Transportation, District 3
2379 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833

CERTIFIED MAIL
91 7199 9991 7035 8421 5395

COMMENTS TO REQUEST FOR REVIEW FOR THE DRAFT INITIAL STUDY WITH THE PROPOSED MITIGATION NEGATIVE DECLARATION, LAKE 20/29 CULVERT REHABILITATION PROJECT, SCH# 2016092062, LAKE COUNTY

Pursuant to the State Clearinghouse's 16 September 2016 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Draft Initial Study with the Proposed Mitigated Negative Declaration* for the Lake 20/29 Culvert Rehabilitation Project, located in Lake County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases,

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KARL E. LONGLEY ScD, P.E., CHAIR | PAMELA C. CREEDON P.E., BCEE, EXECUTIVE OFFICER

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the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues.

For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/.

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Policy is available on page IV-15.01 at:
http://www.waterboards.ca.gov/centralvalleywater_issues/basin_plans/sacsjr.pdf

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In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan

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(SWPPP).

For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml.

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits¹

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

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For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/.

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.

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For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml.

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACOE). If a Section 404 permit is required by the USACOE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water

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¹ Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements.

If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACOE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACOE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications.

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Waste Discharge Requirements – Discharges to Waters of the State

If USACOE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation.

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For more information on the Water Quality Certification and WDR processes, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/help/business_help/permit2.shtml.

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Risk General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Risk Waiver) R5-2013-0145. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

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For more information regarding the Low Risk General Order and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Risk Waiver and the application process, visit the Central Valley Water Board website at:

http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2013-0145_res.pdf

Regulatory Compliance for Commercially Irrigated Agriculture

If the property will be used for commercial irrigated agricultural, the discharger will be required to obtain regulatory coverage under the Irrigated Lands Regulatory Program. There are two options to comply:

1. **Obtain Coverage Under a Coalition Group.** Join the local Coalition Group that supports land owners with the implementation of the Irrigated Lands Regulatory Program. The Coalition Group conducts water quality monitoring and reporting to the Central Valley Water Board on behalf of its growers. The Coalition Groups charge an annual membership fee, which varies by Coalition Group. To find the Coalition Group in your area, visit the Central Valley Water Board's website at: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_land/app_approval/index.shtml; or contact water board staff at (916) 464-4611 or via email at IrrLands@waterboards.ca.gov.
2. **Obtain Coverage Under the General Waste Discharge Requirements for Individual Growers, General Order R5-2013-0100.** Dischargers not participating in a third-party group (Coalition) are regulated individually. Depending on the specific site conditions, growers may be required to monitor runoff from their property, install monitoring wells, and submit a notice of intent, farm plan, and other action plans regarding their actions to comply with their General Order. Yearly costs would include State administrative fees (for example, annual fees for farm sizes from 10-100 acres are currently \$1,084 + \$6.70/Acre); the cost to prepare annual monitoring reports; and water quality monitoring costs. To enroll as an Individual Discharger under the Irrigated Lands Regulatory Program, call the Central Valley Water Board phone line at (916) 464-4611 or e-mail board staff at IrrLands@waterboards.ca.gov.

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Low or Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Dewatering and Other Low Threat Discharges to Surface Waters* (Low Threat General Order) or the General Order for *Limited Threat Discharges of Treated/Untreated Groundwater from Cleanup Sites, Wastewater from Superchlorination Projects, and Other Limited Threat Wastewaters to Surface Water* (Limited Threat General Order). A complete application must be submitted to the Central Valley Water Board to obtain coverage under these General NPDES permits.

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For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0074.pdf

For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2013-0073.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of the waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit.

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For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/centralvalley/help/business_help/permit3.shtml

If you have questions regarding these comments, please contact me at (916) 464-4644 or Stephanie.Tadlock@waterboards.ca.gov.



Stephanie Tadlock
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

Response to Comments

1. The following text has been incorporated into the environmental document under “Environmental Consequences-Special Status Wildlife Species-Avoidance and Minimization Measures”:

Fully Mitigate Impacts to Clear Lake Hitch – The California Endangered Species Act allows CDFW to issue an incidental take permit for a species listed as candidate, threatened, or endangered only if specific criteria are met. The impacts of the authorized take must be minimized and fully mitigated; the measures required to minimize and fully mitigate the impacts of the authorized take should be roughly proportional in extent to the impact of the taking on the species, maintain the applicant’s objectives to the greatest extent possible, and may be successfully implemented by the applicant. Caltrans shall coordinate with the CDFW potential mitigation options, including, but not limited to habitat enhancement, fish barrier removal, or other options prior to submittal of the Incidental Take Permit application.

2. Caltrans will restore all temporarily impacted waters of the United States and waters of the state of California to pre-project conditions subsequent to construction activities.
3. A more detailed map showing the locations of the culverts has been added to the environmental document.
4. Comment noted. If applicable the project shall comply with the requirements of Basin Plan.
5. Comment noted. This information was included in the environmental document under the water quality section.
6. Comment noted. It is anticipated that the project will disturb less than 1 acre of soil.
7. The following text was added to the water quality section:

Per Caltrans’ MS4 Permit requirements and the PPDG, the overall scope and anticipated work described for the project suggests that treatment BMPs are not required to be considered. However, Clear Lake is listed as having the following (USEPA Approved) pollutant impairments (TMDLs per the Section 303(d) List of the Clean Water): Mercury and Nutrients (specifically Phosphorus). With this in consideration, segments of Routes 20, 29, and 53 have been identified in Caltrans’ Prioritized Reach List (9/10/15) and are associated with the TMDLs mentioned previously. Accordingly and in order to address potential water quality and NPDES permit compliance concerns (related to the TMDLs identified), proposed construction processes, and the unique and varying locations associated with the project, coordination between District Coordinators and RWQCB Staff may be necessary and conducted prior to the start of project construction.

8. Comment noted. The project will comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ.
9. As noted in the draft environmental document, a Clean Water Act Section 404 permit from the USACE will be required. Caltrans will obtain this permit prior to project construction.
10. Comment noted. As noted in the draft environmental document, a Central Valley Regional Water Quality Control Board (CVRWQCB) Section 401 Permit will be required. Caltrans will obtain this permit prior to project construction.
11. The following measures were included in the draft environmental document:

WQ-7: The project will require a federal Clean Water Act Section 404 permit and therefore the project will require a Water Quality Certification prior to the initiation of project activities.

BIO 1: All waters within the project boundaries qualify as “federal waters”. The project will require a Water Quality Certification (rather than a “Waste Discharge Requirements” permit) prior to the initiation of project activities.

12. Comment noted. This information was included in the water quality Avoidance and Minimization section of the environmental document.
13. Comment noted. The project replaces highway culverts and are not used for commercial irrigated agriculture.
14. Comment noted. This information was included in the water quality Avoidance and Minimization section of the environmental document.
15. Comment noted. The project is covered under the Caltrans (Department) Statewide NPDES Storm Water Permit (Permit) Order 2012-0011-DWQ (State Water Resources Control Board [SWRCB] effective July 1, 2013).

References

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Wetland Training Institute, Inc. 1995. *Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual*.

List of Preparers

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

Sean Cross, Transportation Engineer; Contribution: Water Quality Assessment Report

Joan Fine, Associate Environmental Planner, Architecture History; Contribution: Cultural Resources Study

Mark Melani, Associate Environmental Planner (Hazardous Waste/Materials); Contribution: Amended Initial Site Assessment (AISA)

Rich Olson, Associate Environmental Planner, Archaeology; Contribution: Cultural Resources Study

Ken Lastufka, Associate Environmental Planner; Contribution: Environmental document preparation.

Jason Lee, Transportation Engineer; Contribution: Air Quality and Noise Assessment

Jason Meigs, Associate Environmental Planner, Natural Resources; Contribution: Natural Environment Study (NES)

Kendall Schinke, Senior Environmental Planner; Contribution: Environmental document review.

Jennifer White, Associate Landscape Architect; Contribution: Visual Impact Assessment (VIA)

ATTACHMENT 1: CNDDDB SPECIES LIST



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Clearlake Highlands (3812286) OR Clearlake Oaks (3912216) OR Cow Mountain (3912321) OR Kelseyville (3812287) OR Lakeport (3912218) OR Lucerne (3912217) OR Upper Lake (3912228) OR Wilbur Springs (3912214))

Table with 7 columns: Species, Element Code, Federal Status, State Status, Global Rank, State Rank, Rare Plant Rank/CDFW SSC or FP. Rows include species like Accipiter cooperii, Agelaius tricolor, Amsinckia lunaris, etc.



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Castilleja rubicundula var. rubicundula pink creamsacs	PDSCR0D482	None	None	G5T2	S2	1B.2
Centromadia parryi ssp. parryi pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
Clear Lake Drainage Cyprinid/Catostomid Stream Clear Lake Drainage Cyprinid/Catostomid Stream	CARA2530CA	None	None	GNR	SNR	
Clear Lake Drainage Resident Trout Stream Clear Lake Drainage Resident Trout Stream	CARA2520CA	None	None	GNR	SNR	
Clear Lake Drainage Seasonal Lakefish Spawning Stream Clear Lake Drainage Seasonal Lakefish Spawning Stream	CARA2550CA	None	None	GNR	SNR	
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Coccyzus americanus occidentalis western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	G3G4	S2	SSC
Cryptantha dissita serpentine cryptantha	PDBOR0A0H2	None	None	G2	S2	1B.2
Cryptantha excavata deep-scarred cryptantha	PDBOR0A0W0	None	None	G1	S1	1B.3
Dubiraphia brunnescens brownish dubiraphian riffle beetle	IICOL5A010	None	None	G1	S1	
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriastrum brandegeeeae Brandegee's eriastrum	PDPLM03020	None	None	G1Q	S1	1B.1
Erigeron greenei Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
Eryngium constancei Loch Lomond button-celery	PDAP10Z0W0	Endangered	Endangered	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Fritillaria pluriflora adobe-lily	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Gratiola heterosepala Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
Great Valley Mixed Riparian Forest Great Valley Mixed Riparian Forest	CTT61420CA	None	None	G2	S2.2	



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Grimmia torenii</i> Toren's grimmia	NBMUS32330	None	None	G2	S2	1B.3
<i>Harmonia hallii</i> Hall's harmonia	PDAST650A0	None	None	G2	S2	1B.2
<i>Hedychridium milleri</i> Borax Lake cuckoo wasp	IIHYM68020	None	None	G1?	S1?	
<i>Hesperolinon adenophyllum</i> glandular western flax	PDLIN01010	None	None	G3	S3	1B.2
<i>Hesperolinon bicarpellatum</i> two-carpellate western flax	PDLIN01020	None	None	G3	S3	1B.2
<i>Hesperolinon drymarioides</i> drymaria-like western flax	PDLIN01090	None	None	G2	S2	1B.2
<i>Horkelia bolanderi</i> Bolander's horkelia	PDROS0W010	None	None	G1	S1	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Imperata brevifolia</i> California satintail	PMPOA3D020	None	None	G3	S3	2B.1
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Lasthenia burkei</i> Burke's goldfields	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
<i>Lavinia exilicauda chi</i> Clear Lake hitch	AFCJB19011	None	Threatened	G4T1	S1	
<i>Layia septentrionalis</i> Colusa layia	PDAST5N0F0	None	None	G2	S2	1B.2
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Limnanthes floccosa ssp. floccosa</i> woolly meadowfoam	PDLIM02043	None	None	G4T4	S3	4.2
<i>Lupinus antoninus</i> Anthony Peak lupine	PDFAB2B0C0	None	None	G2	S2	1B.3
<i>Lupinus milo-bakeri</i> Milo Baker's lupine	PDFAB2B4E0	None	Threatened	G1Q	S1	1B.1
<i>Lupinus sericatus</i> Cobb Mountain lupine	PDFAB2B3J0	None	None	G2	S2	1B.2
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<i>Navarretia leucocephala ssp. pauciflora</i> few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
<i>Navarretia leucocephala ssp. plieantha</i> many-flowered navarretia	PDPLM0C0E5	Endangered	Endangered	G4T1	S1	1B.2



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Northern Basalt Flow Vernal Pool Northern Basalt Flow Vernal Pool	CTT44131CA	None	None	G3	S2.2	
Northern Volcanic Ash Vernal Pool Northern Volcanic Ash Vernal Pool	CTT44133CA	None	None	G1	S1.1	
Ochthebius recticulus Wilbur Springs minute moss beetle	IICOL5S030	None	None	G1	S1	
Orcuttia tenuis slender Orcutt grass	PMPOA4G050	Threatened	Endangered	G2	S2	1B.1
Pandion haliaetus osprey	ABNKC01010	None	None	G5	S4	WL
Paracoenia calida Wilbur Springs shore fly	IIDIP13010	None	None	G1	S1	
Pekania pennanti fisher - West Coast DPS	AMAJF01021	Proposed Threatened	Candidate Threatened	G5T2T3Q	S2S3	SSC
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Plagiobothrys lithocaryus Mayacamas popcornflower	PDBOR0V0P0	None	None	GH	SH	1A
Potamogeton zosteriformis eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
Progne subis purple martin	ABPAU01010	None	None	G5	S3	SSC
Puccinellia simplex California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
Pyrgulopsis ventricosa Clear Lake pyrg	IMGASJ0F40	None	None	G1	S1	
Rana boylei foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
Saldula usingeri Wilbur Springs shorebug	IIHEM07010	None	None	G1	S1	
Sedella leiocarpa Lake County stonecrop	PDCRA0F020	Endangered	Endangered	G1	S1	1B.1
Streptanthus glandulosus ssp. hoffmanii Hoffman's bristly jewelflower	PDBRA2G0J4	None	None	G4T2	S2	1B.3
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Tracyina rostrata beaked tracyina	PDAST9D010	None	None	G1	S1	1B.2
Trichostema ruygtii Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Wildflower Field</i> Wildflower Field	CTT42300CA	None	None	G2	S2.2	

Record Count: 83

ATTACHMENT 2: USFWS SPECIES LIST

01-42780 LAK 20& 29 Culverts 07JUL2016

IPaC Trust Resources Report

Generated July 07, 2016 10:52 AM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.

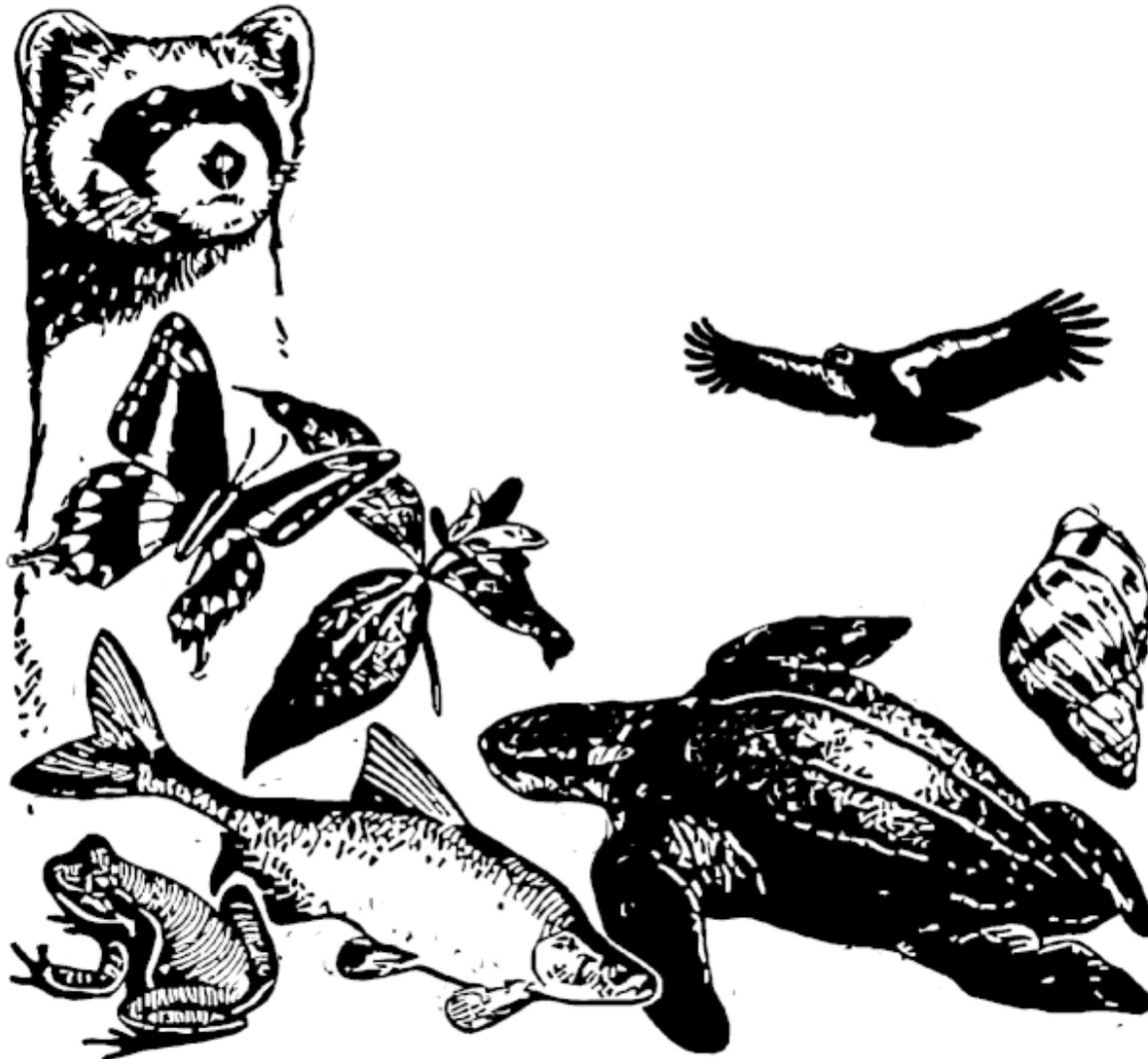


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U.S. Fish & Wildlife Service

IPaC Trust Resources Report



NAME

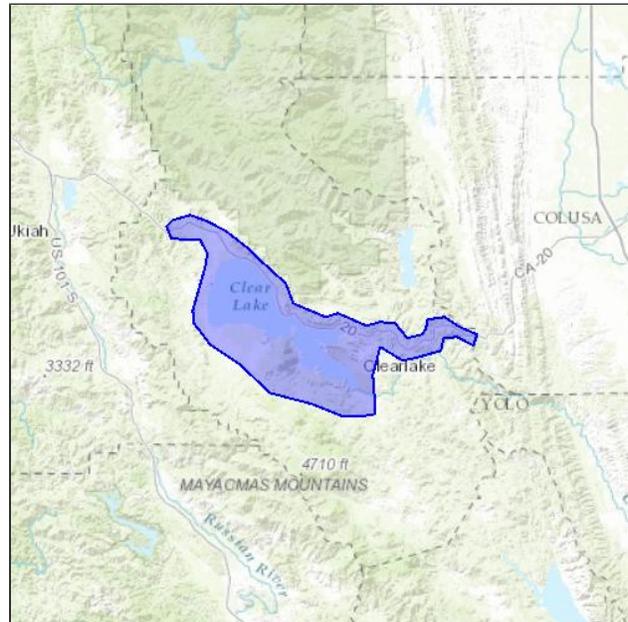
01-42780 LAK 20& 29 Culverts
07JUL2016

LOCATION

Colusa and Lake counties, California

IPAC LINK

<https://ecos.fws.gov/ipac/project/DAA5Q-XOGR5-GE5EV-2AFM4-G2FBYI>



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Sacramento Fish And Wildlife Office

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Amphibians

California Red-legged Frog *Rana draytonii* Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=D02D

Birds

Northern Spotted Owl *Strix occidentalis caurina* Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B08B

Yellow-billed Cuckoo *Coccyzus americanus* Threatened

CRITICAL HABITAT

There is **proposed** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B06R

Crustaceans

California Freshwater Shrimp *Syncaris pacifica* Endangered

CRITICAL HABITAT

No **critical habitat** has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=K01W

Conservancy Fairy Shrimp *Branchinecta conservatio* Endangered

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=K03D

Fishes

Delta Smelt *Hypomesus transpacificus* Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E070

Steelhead *Oncorhynchus (=Salmo) mykiss* Threatened

CRITICAL HABITAT

There is **final** critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=E08D

Flowering Plants

Burke's Goldfields *Lasthenia burkei* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q1XU

Few-flowered Navarretia *Navarretia leucocephala* ssp. *pauciflora* (=N. *pauciflora*) Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q19A

Lake County Stonecrop *Parvisedum leiocarpum* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q1C2

Loch Lomond Coyote Thistle *Eryngium constancei* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q29S

Many-flowered Navarretia *Navarretia leucocephala* ssp. *plieantha* Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q19B

Slender Orcutt Grass *Orcuttia tenuis* Threatened

CRITICAL HABITAT

There is final critical habitat designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=Q1AZ

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B008	
Bell's Sparrow <i>Amphispiza belli</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0HE	
Burrowing Owl <i>Athene cunicularia</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0NC	
Flammulated Owl <i>Otus flammeolus</i>	Bird of conservation concern
Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?sPCODE=B0DK	

Fox Sparrow <i>Passerella iliaca</i> Season: Wintering	Bird of conservation concern
Least Bittern <i>Ixobrychus exilis</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092	
Lewis's Woodpecker <i>Melanerpes lewis</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ	Bird of conservation concern
Loggerhead Shrike <i>Lanius ludovicianus</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY	Bird of conservation concern
Long-billed Curlew <i>Numenius americanus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06S	Bird of conservation concern
Nuttall's Woodpecker <i>Picoides nuttallii</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HT	Bird of conservation concern
Oak Titmouse <i>Baeolophus inornatus</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MJ	Bird of conservation concern
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU	Bird of conservation concern
Rufous-crowned Sparrow <i>Aimophila ruficeps</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0MX	Bird of conservation concern
Short-eared Owl <i>Asio flammeus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD	Bird of conservation concern
Swainson's Hawk <i>Buteo swainsoni</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B070	Bird of conservation concern
Tricolored Blackbird <i>Agelaius tricolor</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06P	Bird of conservation concern

Western Grebe *aechnophorus occidentalis*

Season: Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0EA

Bird of conservation concern

Yellow-billed Magpie *Pica nuttalli*

Season: Year-round

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?scode=B0N8

Bird of conservation concern

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.