Champlin Slough Bridge Replacement

TEHAMA COUNTY, CA
02–TEH–99–PM 9.0/9.3
EA 02-1H510
EFIS 0216000148

Initial Study with Proposed Negative Declaration



Prepared by the
State of California, Department of Transportation

February 28, 2020

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General Information about This Document

What's in this document:
The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of the proposed Champlin Slough bridge replacement on State Route 99 in Tehama County. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures.

What you should do:

- Please read this Initial Study.
- You are invited to review the environmental document and technical studies. A printed copy of the document and technical studies can be found during business hours (Monday–Friday, 8:00 a.m. to 4:30 p.m.) at the Caltrans District Office located at 1657 Riverside Drive in Redding or at the following locations:
    - Tehama County Library at 7881 State Highway 99E in Los Molinos
    - Tehama County Library at 740 3rd Street in Corning
- We welcome your comments. If you have any information or concerns regarding the project, please send your written comments to Caltrans by the deadline. Submit comments via regular mail to:

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

- You may also submit comments via email to: wesley.stroud@dot.ca.gov.
- Be sure to send comments by the deadline: May 2, 2020.

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Wesley Stroud, North Region Office of Environmental Management, 1657 Riverside Drive, Redding, CA 96001; (530) 225-3510 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

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Champlin Slough Bridge Replacement

Initial Study with Proposed Negative Declaration

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

STATE OF CALIFORNIA
Department of Transportation

Approved By: _____ Date: 2/28/20

Wesley Stroud, Office Chief
North Region Office of Environmental Management
California Department of Transportation
(530) 225-3510

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PROPOSED NEGATIVE DECLARATION

Pursuant to: Division 13, Public Resources Code

Project Description

The California Department of Transportation (Caltrans), using state and federal funds, proposes to replace the Champlin Slough Bridge (08-0006) on SR 99 in Tehama County at PM 9.1 (the project limits extend from PM 9.0 to 9.3).

Determination

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

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

- No mitigation measures would be required (only avoidance/minimization measures would be implemented).
- The proposed project would have no effect on agriculture and forestry, cultural resources, Tribal cultural resources, energy, land use and planning, mineral resources, recreation, hazards and hazardous materials, and wildfire.
- With implementation of the proposed avoidance/minimization measures, the proposed project would have less than significant impacts on biology, hydrology and water quality, air quality, greenhouse gas emissions, noise, geology and soils, aesthetics, public services, transportation, and utilities and service systems.
- Individual impacts would not have a cumulatively significant impact on the environment.

Approved By: _____ Date: _____

Wesley Stroud, Office Chief
North Region Office of Environmental Management
California Department of Transportation
(530) 225-3510

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List of Abbreviated Terms

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

SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SLR	Sea-level rise
SO_2	Sulfur dioxide
SO_x	Sulfur oxides
SR	State Route
TCAPCD	Tehama County Air Pollution Control District
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental protection Agency
VOCs	Volatile organic compounds
VMT	Vehicle miles traveled

Chapter 1. Proposed Project

Project Title

Champlin Slough Bridge Replacement

Lead Agency Name and Address

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

Contact Person and Phone Number

Wesley Stroud
Caltrans Office Chief
Phone: (530) 225-3510
Email: wesley.stroud@dot.ca.gov

Project Location

The proposed project is located on State Route (SR) 99 Tehama County from post mile (PM) 9.0 to 9.3. The project is approximately 2.6 miles south of Los Molinos. The project is located in the Rio De Los Molinos land grant on the United States Geological Survey's Vina 7.5-minute quadrangle. A project location map showing work locations and associated post miles is provided in Figure 1. An aerial photograph of the project area is shown in Figure 2.

Purpose and Need

The California Department of Transportation (Caltrans), using state and federal funds, proposes to replace the Champlin Slough Bridge (08-0006) on SR 99 in Tehama County at PM 9.1 (the project limits extend from PM 9.0 to 9.3). The purpose of the project is to remediate ongoing scour issues so that the structure meets current highway design standards and allows for the safe passage of vehicles, pedestrians, and goods along the SR 99 corridor. The project is needed because the Champlin Slough bridge is a modified 100-year-old structure that has ongoing scour. If not addressed, the scour critical issues will affect the structural integrity of the bridge and ultimately the safety of the traveling public.

Project Description (Build Alternative)

The proposed work includes replacing the existing 64-foot-long by 42-foot-wide three-span bridge over Champlin Slough with an approximately 85-foot-long by 44-foot-wide precast clear-span bridge. Other work would include reconstructing the roadway approaches to match the new bridge profile, placing new Midwest Guardrail System guard railing along both approaches to the new bridge, placing rock slope protection (RSP) at the bridge abutments, and striping the roadway. These improvements would bring the bridge to current design standards and would construct standard transitions to and from the new bridge.

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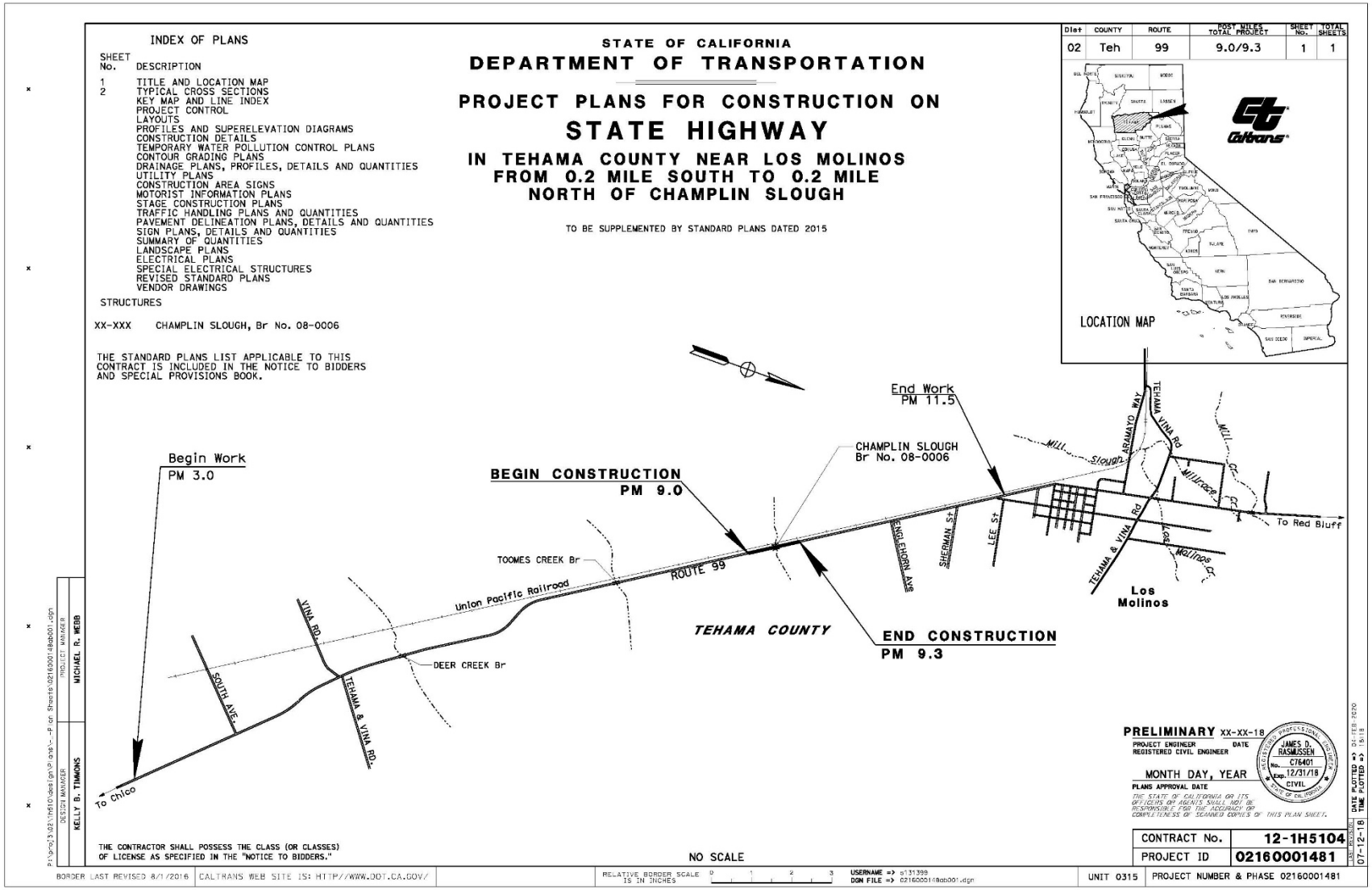


Figure 1 Project Location Map

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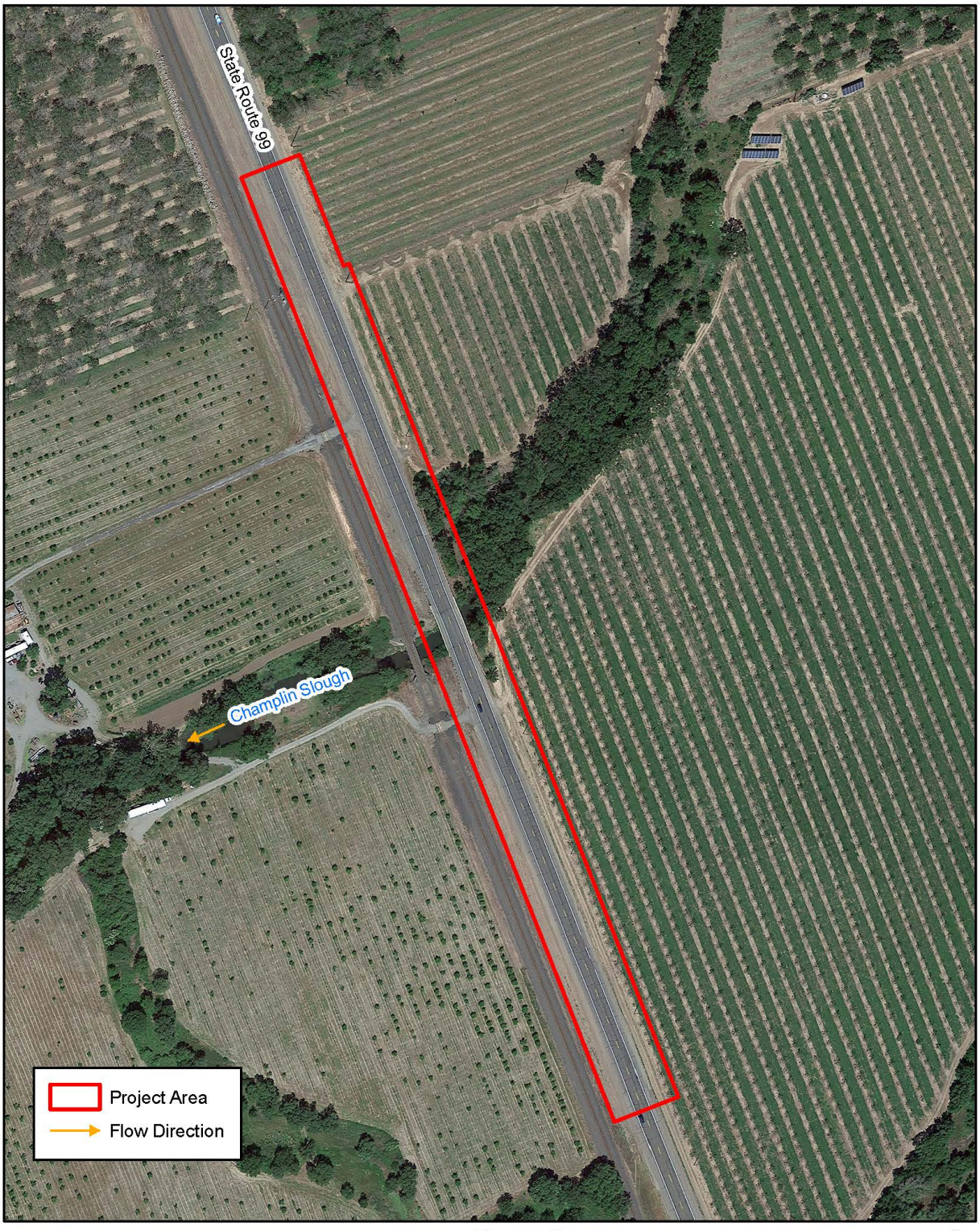


Figure 2
Project Area

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Construction Access

Construction access would be provided along the east side of the roadway by grading the soil to allow construction equipment to access under the bridge and to construct a temporary ±20-foot-wide crossing over Champlin Slough just upstream of the existing bridge. In-channel work areas would be dewatered and K-railing would be placed into the channel to divert water around the in-channel work areas. Steel plates would be placed on top of K-railing to facilitate equipment and material movement across the slough during construction. The water diversion and temporary crossing would be removed after construction is completed.

Removal of Existing Bridge

Removal of the existing bridge would begin at one abutment and continue across the channel to the other abutment. A backhoe- or excavator-mounted breaker would be used to remove the deck, followed by removal of girders, columns, piers, and footings (each footing is approximately 45 feet long and 6 feet wide). The cut-off depth for removal of the bridge columns and piers would be specified in the final structure design and specifications. The abutments of the existing bridge would be removed as the last step in the removal process. In case of foundation disturbance, the existing material would be restored to a condition at least equal to an undisturbed condition.

Construction of New Bridge

The new bridge would be approximately 85 feet long, 44 feet wide, and would require no in-water piers. The proposed bridge would be built using precast box beam girders to accelerate construction and reduce the duration of the road closure. The new abutments would be placed approximately 10 lineal feet behind the existing abutments. The new piles at the abutments would be H-piles driven into the ground at the new abutments. Installation of the new bridge would consist of setting precast post-tensioned box-girders on the new abutments and then casting a deck overlay. The girders would be placed using a crane set upon the existing roadway, which would require timber or steel buildups on the roadway to distribute the load on the outriggers to an allowable bearing pressure. Once the girders are set in place, the bridge barriers would be constructed and the deck overlay would be formed and poured. All formwork or work platforms would be attached to the girders. A telescoping forklift or small crane would be used to place and remove the materials. A catchment system would utilized to prevent debris from falling into Champlin Slough during construction. Upon construction of the new bridge, approximately 250 cubic yards of RSP would be placed at the new abutments to reduce risk of scour.

Ground Disturbance

The proposed work includes grading and excavation, which would disturb approximately 0.35 acres of ground surface. Construction of the temporary construction access corridor would require the excavation of approximately 250 cubic yards of soil, which would be used onsite to build access ramps to the temporary stream crossing and to build an access ramp under the bridge. Removal of the existing bridge foundation would require the excavation of approximately 300 cubic yards of concrete and approximately 200 cubic yards of RSP around the abutments. Approximately 155 cubic yards of clean rock or other approved channel bed material would be used to backfill the holes in the streambed created by removal of the two existing piers/footings.

Road Closures/Detours

Minor construction work would be completed using one-way reversing traffic control (T-13) and shoulder closures for short durations, as needed. Other work would require complete closure of SR 99 between South Avenue and Los Molinos for approximately 7 weeks. Northbound and

southbound traffic on SR 99 would be detoured onto Interstate 5 to bypass the work area while SR 99 is temporarily closed. Traffic would move between SR 99 and Interstate 5 using South Avenue. SR 99 would be closed to the traveling public north of the project area at Sherwood Avenue and south of the project area at South Avenue (only local residents would be allowed past the closures to access their homes).

Schedule

The proposed work is scheduled to begin in 2022 and would require one construction season to complete. A site plan is provided in Appendix A.

Disposal/Borrow Sites

No borrow or disposal sites would be utilized. Excess construction debris would become property of the contractor.

Staging/Stockpiling

Staging/stockpiling of materials and equipment would occur along SR 99 within the project limits.

Right-of-Way

Most of the proposed work would be conducted within Caltrans' existing right-of-way. A temporary construction easement would be required for work occurring outside Caltrans' right-of-way on property owned by the railroad (Southern Transportation Company). No right-of-way would be permanently acquired. No work would occur on federal lands.

Utilities

Various utilities are present within the project area. These include overhead electrical lines mounted on utility poles, underground telephone cables, and underground fiber optic cables. The proposed work would require the temporary relocation of underground telephone cables located east of the existing bridge.

Project Alternatives

There are two proposed alternatives, one "build" and one "no build". The build alternative would replace the three-span, 64-foot-long Champlin Slough Bridge with an 85-foot-long single-span structure. Rock slope protection will be placed at the abutment slopes, guardrail will be replaced at the bridge approaches and departures, and the roadway will be reconstructed for 100 to 150 feet at each end to conform to the new bridge profile. Traffic will be detoured to/from Interstate 5 on South Avenue, allowing a full highway closure to facilitate construction and eliminate the need for a temporary bridge across the slough. Eliminating the temporary bridge reduces project costs, reduces utility impacts, reduces the amount time traffic will be impacted, and avoids sensitive biological resources (elderberry bushes) adjacent to the project.

Route 99 will be closed between South Avenue and Los Molinos, with limited access for residents in closer proximity to the construction site. Bridge construction will be accelerated to reduce closure time using precast box girders and longer work shifts. Abutment piles, bridge rails, guardrail, and roadway approach reconstruction will be completed under standard lane closures, which will further reduce the duration of the full road closure and detour. Closure of SR 99 is expected for up to 35 working days, or approximately seven weeks. The total number of project working days is 80.

The no build alternative would do nothing to improve the facility. This option is not preferred because it does not meet the purpose and need of the project.

Permits and Approvals Needed

Work in Champlin Slough would require permits from the California Department of Fish and Wildlife, Army Corps of Engineers, and the Central Valley Regional Water Quality Control Board (CVRWQCB). In addition, a Notice of Intent would need to be filed with the State Water Resources Control Board to obtain coverage under the NPDES General Construction Permit (the permit regulates the discharge of storm water runoff from construction sites). A temporary construction easement would be required for work occurring outside Caltrans' right-of-way on property owned by the railroad. Permits required for the project are summarized in Table 1.

Table 1 Permit and Approvals

Agency/Landowner	Permit Type
CDFW	Streambed Alteration Agreement
CVRWQCB	Clean Water Act Section 401 Water Quality Certification
State Water Resources Control Board	A Notice of Intent would be filed to obtain coverage under the NPDES General Construction Permit. Because less than one acre of ground disturbance would occur, a Water Pollution Control Plan (WPCP) would need to be prepared in accordance with Caltrans standard specifications for water pollution control (California Department of Transportation 2018).
US Army Corps of Engineers	Nationwide Permit 14 (linear transportation projects)
Southern Pacific Transportation Company	Temporary Construction Easement

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 3 for additional information.

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

DETERMINATION:

On the basis of this initial evaluation:

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

Chapter 2. CEQA Environmental Checklist

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

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

See Section 3.1: Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a) Land is classified as Prime Farmland if it is irrigated and protected from flooding or not frequently flooded during the growing season. Farmland of local importance is present on both sides of SR 99 (California Department of Conservation 2020a). However, the project would not 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. Therefore, there would be no impact.

b) Although no properties within the project limits are enrolled in a Williamson Act contract, several adjacent properties are enrolled in Williamson Act contracts (California Department of Conservation 2020b). However, these adjacent properties enrolled under the Williamson Act would not be impacted by construction activities. Therefore, the would be no impact.

c) No forest land or timberland is present within the project limits. As such, the project would not 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)). Therefore, there would be no impact.

d) No forest land is present within the project limits. The project would not result in the loss of forest land or convert forest land to non-forest use. Therefore, there would be no impact.

e) The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. Therefore, there would be no impact.

Given the above findings, the proposed project would have no impact on agriculture and forest resources.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard?	☐	☐	☐	☒
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

See Section 3.2: Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☐	☒	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

See Section 3.3: Biological Resources

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

a - c) The cultural resources study included literature and records review of the proposed project area; visits to and/or contacts with a number of repositories, agencies, organizations, and Native American representatives; and an archaeological field survey of the project area. The purpose of these efforts was to identify and evaluate any cultural resources that may exist within the project area and to assess any effects that the proposed project might have related to the cultural resources (e.g., historical resources, prehistoric archaeological resources, historical archaeological resources, built environment resources, and traditional cultural properties).

No archaeological resources were noted within the project area (California Department of Transportation 2020a). The existing bridge is a historic resource, but it is not eligible for listing. The Native American Heritage Commission was contacted to review the sacred lands file; no sacred lands were found within the project limits. Native American Tribes contacted from the Heritage Commissions list provided did not have any concerns about the project.

It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work shall stop in the area until a qualified archaeologist can evaluate the nature and significance of the find, in accordance with Caltrans Standard Specification 14-2.03.

No indicators of human remains were observed within the project limits. If human remains are identified during construction, they would be treated in accordance with the requirements of California Health and Safety Code section 7050.5 and Public Resources Code section 5097.98. If, pursuant to §7050.5(c) of the California Health and Safety Code, the county coroner/medical examiner determines that the human remains are or may be of Native American origin, then the discovery shall be treated in accordance with the provisions of §5097.98 (a)-(d) of the California Public Resources Code. Caltrans shall ensure that, to the extent permitted by applicable law and regulation, the views of the Tribes and the Most Likely Descendent(s) are taken into consideration when decisions are made about the sensitive and dignified treatment and disposition of the Native American human remains and associated burial items. It is the intent of Caltrans that human remains would not be unnecessarily disturbed and would not be disinterred unless absolutely necessary to protect them from damage or destruction.

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

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

a) Once constructed, the project may contribute to roadway improvement that would improve the fuel economy of vehicles. Construction-related energy consumption would be temporary and is unlikely to increase direct energy consumption through increased fuel usage. Therefore, the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

b) The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, there would be no impact.

Given the above findings, the proposed project would have no impact on energy resources.

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

See Section 3.4: Geology and Soils

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

See Section 3.5: Greenhouse Gas Emissions

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

a-b) The proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, nor would it create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Grindings associated with removal of yellow and white traffic striping would be removed and disposed of in accordance with Caltrans SSP 36-4. Any treated wood sign posts that would be removed would be disposed of in accordance with Caltrans SSP 14-11.14. A site investigation for aerially deposited lead and asbestos would be conducted to determine whether hazardous soils/asbestos are present and what actions, if any, would be required. Therefore, there would be no impact.

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

d) No Cortese sites (sites which are known to contain hazardous wastes or substances) have been identified within the project area (California Department of Transportation 2020b). Therefore, there would be no impact.

e) The project is not located not located within two miles of a public airport (the nearest airport is Corning Airport, approximately five miles to the west). Airport operations at the Corning Airport would not expose construction workers at the project site to a safety hazard or excessive noise. Therefore, there would be no impact.

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

g) The proposed project does not expose people or structures to additional risk of loss, injury, or death as a result of wildfire by using the existing highway. Therefore, there would be no impact.

Given the above findings, the proposed project would have no impact on hazards and hazardous materials.

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

See Section 3.6: Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING: Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a) The proposed project is located in a rural part of Tehama County. The proposed project is within the *Tehama County General Plan Update 2009–2029*'s South I-5 Planning Area (PMC, 2009). Land use in the project vicinity is primarily agricultural. Zoning adjacent to the project is designated as Valley Floor Agriculture, and consists primarily of tree crop orchards. The communities nearest to the project area are Vina to the south, which is classified as a Rural Service Center, and Los Molinos to the north, which is classified as a Town Center. Construction of the project would not physically divide an established community. Therefore, there would be no impact.

b) The proposed project would not affect existing and/or future land uses nor would the project cause a significant environmental impact due to a conflict with any applicable land use plan, policy, and/or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be no impact.

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

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

a-b) No mineral resources occur within the project limits nor would any be affected by the proposed project. Therefore, there would be no impact.

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

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

See Section 3.7: Noise

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

a) The proposed project would not induce population growth, either directly or indirectly. Therefore, there would be no impact.

b) The proposed project would not displace any existing housing or people, necessitating the construction of replacement housing elsewhere. Therefore, there would be no impact.

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

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

See Section 3.8: Public Services

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

a-b) The proposed project would not increase the use of existing parks or other recreational facilities. In addition, the proposed project does not include recreational facilities or require the construction and/or expansion of recreational facilities. Traffic detoured onto South Avenue is not expected to result in an increase in recreational use at Woodson Bridge State Park, which is located along South Avenue at the Sacramento River. Therefore, there would be no impact.

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

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

See Section 3.9: Transportation

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

a-b) Assembly Bill (AB) 52 (Chapter 532, California Statutes of 2014) establishes a formal consultation process for California tribes as part of the CEQA review process and equates significant impacts on "tribal cultural resources" with significant environmental impacts (Public Resources Code 21084.2). Caltrans contacted the following tribes to inform them of the project and request their participation: Greenville Rancheria, Redding Rancheria, Paskenta Band of Nomlaki, and Estom Yumeka Maidu Tribe of the Enterprise Rancheria. Currently, there are no tribal cultural resources that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, or determined to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1 within the project area.

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

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

See Section 3.10: Utilities and Service Systems

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

a) The proposed project does not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, there would be no impact.

b) The proposed project does not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, there would be no impact.

c) The proposed project does not require the installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary ongoing impacts to the environment. Therefore, there would be no impact.

d) The proposed project does not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, there would be no impact.

Given the above findings, the proposed project would have no impact with regard to wildfire risk.

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

a) Once built, the project would result in no operational impacts that would degrade the quality of the environment. However, during construction, the proposed project has the potential to temporarily degrade the quality of the environment as a result of impacts to various resources (e.g., biological, hydrology and water quality, air quality, greenhouse gas emissions, geology and soils, and aesthetics). These impacts would be minor and would not reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. The project would increase habitat for fish by removing the existing bridge that has concrete piers within the wetted channel and replacing the structure with a new clear-span bridge. With implementation of avoidance/minimization measures, these impacts have been reduced to levels that are less than significant.

b) The proposed project would result in impacts that are individually limited, but not cumulatively considerable. Therefore, there would be no impact.

c) Once built, the proposed project would result in no operational impacts to the human environment. However, during construction, the proposed project would result in impacts to the human environment. These impacts include temporary disruption to transportation, public services, and utilities and service systems, and construction-related noise. With implementation of avoidance, minimization, and/or mitigation measures, these impacts have been reduced to levels that are less than significant.

Chapter 3. Discussion of Environmental Impacts

3.1 Aesthetics

Affected Environment
The proposed project is located in a rural part of Tehama County. SR 99 within the project area is not designated as a scenic highway (California Department of Transportation 2011). Within the project area, the most notable scenic resources are riparian vegetation along Champlin Slough and orchards along the roadside.

Environmental Consequences
The proposed work would require the removal of 4 valley oak trees to the north of the bridge, 2 valley oak trees to the south of the bridge, and clearing of invasive Himalayan blackberry beneath these trees. Removal of these oak trees and Himalayan blackberry would have a negligible impact on the visual character of the project area because other mature oak trees (directly east of these trees) would be visible from the roadway.

Avoidance/Minimization Measures
No avoidance/minimization measures are warranted.

CEQA Conclusion
The proposed project would not have a substantial adverse effect on any scenic vistas, would not substantially damage scenic resources within a state scenic highway, and would not create a new source of substantial light or glare which would adversely affect day and/or nighttime views in the area. Because the project would only negligibly degrade the existing visual character of the site and its surroundings, the project would have a less than significant impact on aesthetics.

3.2 Air Quality

Regulatory Setting
The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality while the California Clean Air Act (CCAA) is its companion state law. These laws, and related regulations by the United States Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and state ambient air quality standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM)—which is broken down for regulatory purposes into particles of 10 micrometers or smaller (PM10) and particles of 2.5 micrometers and smaller (PM2.5)—and sulfur dioxide (SO_2). In addition, national and state standards exist for lead (Pb), and state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at levels that protect public health with a margin of safety, and are subject to periodic

review and revision. Both state and federal regulatory schemes also cover toxic air contaminants (air toxics); some criteria pollutants are also air toxics or may include certain air toxics in their general definition. Federal air quality standards and regulations provide the basic scheme for project-level air quality analysis under the National Environmental Policy Act (NEPA). In addition to this environmental analysis, a parallel "Conformity" requirement under the FCAA also applies.

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

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

Regional conformity is concerned with how well the regional transportation system supports plans for attaining the NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM10 and PM2.5), and in some areas (although not in California), sulfur dioxide (SO_2). California has nonattainment or maintenance areas for all of these transportation-related "criteria pollutants" except SO_2, and also has a nonattainment area for lead (Pb); however, lead is not currently required by the FCAA to be covered in transportation conformity analysis. Regional conformity is based on emission analysis of Regional Transportation Plans (RTPs) and Federal Transportation Improvement Programs (FTIPs) that include all transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

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

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

required for projects located in CO and PM nonattainment or maintenance areas to examine localized air quality impacts.

Affected Environment

The project is located in a rural part of Tehama County in northern California. The climate in the project vicinity is characterized by hot summers and wet winters with occasional snowfall. The average annual precipitation recorded at Orland between 1903 and 2016 is 19.95 inches (Western Regional Climate Center 2020). Wind direction and strength varies seasonally in the project vicinity. In spring, prevailing winds are generally from the northwest. In winter, Pacific storms moving westward across northern California bring strong winds from the south to the area. Inversion layers, which are common in winter, occur when a layer of warm air overlies a layer of dense cold air and prevents atmospheric mixing. If the trapped cold air contains large quantities of pollutants, air quality can be substantially impaired.

The project is located in the Sacramento Valley Air Basin and is within the jurisdiction of the Tehama County Air Pollution Control District (TCAPCD) and ARB. The TCAPCD is the primary agency responsible for preparing the Air Quality Management Plan in cooperation with local governments and the private sector. The Air Quality Management Plan provides the framework for meeting state and federal ambient air quality standards.

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

Table 2 State and Federal Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State[1] Standard	Federal[2] Standard	Principal Health and Atmospheric Effects	Typical Sources	State Project Area Attainment Status	Federal Project Area Attainment Status
Ozone (O_3)[3]	1 hour	0.09 ppm[4]	---	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_x) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.	Non-Attainment	---
	8 hours	0.070 ppm	0.070 ppm (4^{th} highest in 3 years)			Non-Attainment	Unclassified/ Attainment

Carbon Monoxide (CO)[5]	1 hour	20 ppm	35 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Unclassified	Unclassified/ Attainment
	8 hours	9.0 ppm	9 ppm			Unclassified	Unclassified/ Attainment
	8 hours (Lake Tahoe)	6 ppm	---			Unclassified	---
Respirable Particulate Matter (PM10)[6]	24 hours	50 µg/m^3 [7]	150 µg/m^3 (expected number of days above standard < or equal to 1)	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic & other aerosol and solid compounds are part of PM10.	Dust- and fume-producing industrial and agricultural operations; combustion smoke & vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road dust; natural sources.	Non-Attainment	Unclassified
	Annual	20 µg/m^3	--- [7]			Non-Attainment	---
Fine Particulate Matter (PM2.5)[8]	24 hours	---	35 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM2.5 size range. Many toxic & other aerosol and solid compounds are part of PM2.5.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO_x, sulfur oxides (SO_x), ammonia, and ROG.	---	
	Annual	12 µg/m^3	12.0 µg/m^3			Unclassified	Unclassified/ Attainment
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	0.100 ppm[9]	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NO_x" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.	Attainment	Unclassified/ Attainment
	Annual	0.030 ppm	0.053 ppm			Attainment	Unclassified/ Attainment
Sulfur Dioxide (SO_2)[10]	1 hour	0.25 ppm	0.075 ppm (99th percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from	Attainment	Unclassified/ Attainment
	3 hours	---	0.5 ppm[11]			---	Unclassified/ Attainment
	24 hours	0.04 ppm	0.14 ppm (for certain areas)			Attainment	Unclassified/ Attainment

	Annual	---	0.030 ppm (for certain areas)		heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	---	Unclassified/ Attainment
Lead (Pb)[12]	Monthly	1.5 µg/m^3	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from older gasoline use may exist in soils along major roads.	Attainment	---
	Calendar Quarter	---	1.5 µg/m^3 (for certain areas)			---	Unclassified/ Attainment
	Rolling 3-month average	---	0.15 µg/m^3 [13]			---	Unclassified/ Attainment
Sulfates	24 hours	25 µg/m^3	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Attainment	N/A
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea. Strong odor.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Unclassified	N/A
Visibility Reducing Particles (VRP)[14]	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70%	---	Reduces visibility. Produces haze. NOTE: not directly related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas. However, some issues and measurement methods are similar.	See particulate matter above. May be related more to aerosols than to solid particles.	Unclassified	N/A
Vinyl Chloride[12]	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Not indicated on the California ARB website	N/A

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] Federal standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the

expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S.EPA for further clarification and current national policies.

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

[4] ppm = parts per million

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

[6] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m^3 to 12 µg/m^3. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[7] µg/m^3 = micrograms per cubic meter

[8] The 65 µg/m^3 PM2.5 (24-hr) NAAQS was not revoked when the 35 µg/m^3 NAAQS was promulgated in 2006. The 15 µg/m^3 annual PM2.5 standard was not revoked when the 12 µg/m^3 standard was promulgated in 2012. Therefore, for areas designated nonattainment or nonattainment/maintenance for the 1997 and or 2006 PM2.5 NAAQS, conformity requirements still apply until the NAAQS are fully revoked.

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

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

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

[12] The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM10 and, in larger proportion, PM2.5. Both the ARB and U.S. EPA have identified lead and various organic compounds that are precursors to ozone and PM2.5 as toxic air contaminants. There are no exposure criteria for adverse health effect due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

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

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

In air quality studies, sensitive receptors are hospitals, schools, homes, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. No sensitive receptors are present within the project area. However, two residences are located within a ¼-mile radius of the project area.

Environmental Consequences

The Air Quality Analysis Report prepared for the project concluded that because the project is not a capacity-increasing project, no long-term impacts on air quality resulting from operation of the project would occur (California Department of Transportation 2020c). However, during construction, short-term degradation of air quality may occur due to the release of particulate

emissions (airborne dust) generated by excavation, grading, hauling, and other construction-related activities. Emissions from construction equipment also are expected and would include carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOCs), directly-emitted particulate matter (PM10 and PM2.5), and toxic air contaminants such as diesel exhaust particulate matter. Ozone is a regional pollutant that is derived from NO_x and VOCs in the presence of sunlight and heat.

Site preparation and roadway construction typically involves clearing, cut-and-fill activities, grading, removing or improving existing roadways, building bridges, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site. These activities could temporarily generate enough PM10, PM2.5, and small amounts of CO, SO_2, NO_x, and VOCs to be of concern. Sources of fugitive dust would include disturbed soils at the construction site, and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site could deposit mud on local streets, which could be an added source of airborne dust after it dries. PM10 emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM10 emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

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

In addition to dust-related PM10 emissions, heavy-duty trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, VOCs and some soot particulate (PM10 and PM2.5) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

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

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

Avoidance/Minimization Measures
As described in the Air Quality Analysis Report (California Department of Transportation 2020c), the construction contractor shall comply with Section 10-5 "Dust Control", Section 14-9 "Air Quality", and Section 18 "Dust Palliatives" in the *2018 Caltrans Standard Specifications* (California Department of Transportation 2018). Compliance with these standard specifications

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

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

CEQA Conclusion
Once built, the project would not conflict with or obstruct implementation of an applicable air quality management plan, result in a cumulatively considerable net increase of any criteria pollutant for which the project is in nonattainment, expose sensitive receptors to substantial pollutant concentrations, or result in other emissions (such as those leading to odors) that could adversely affect a substantial number of people. During construction, the project could result in short-term elevated levels of dust, criteria pollutants, and odors. However, with implementation of avoidance/minimization measures for dust and pollutant control during construction and rapid dissipation of any odors, the project would have a less than significant impact on air quality.

3.3 Biological Resources

Biological resources-related literature and record searches addressing the project area included review of numerous databases, lists, and maps, as well as visits to and/or contacts with relevant agencies (California Department of Transportation 2020d). Biological field surveys were conducted in 2020 to evaluate the existing environment, gather information on the presence of special-status species, and determine project level impacts with regard to biological resources. Results and findings based on the above literature searches, surveys, and analyses are presented below.

Habitats and Natural Communities of Concern
Habitats within the project area include riverine habitat (Champlin Slough) and valley oak riparian forest along Champlin Slough. The remainder of the project area consists of paved surfaces (e.g., roadway and shoulders). Riverine and riparian habitats are considered habitats of special concern and regulated under federal and state laws. A description of the onsite aquatic and riparian habitats is provided below, along with estimated impacts to the habitat, and identification of avoidance/minimization measures and compensatory mitigation that may be warranted. No wetlands or natural communities of concern are present within the project area.

Riverine Habitat

Riverine habitat within the project area is limited to Champlin Slough. Champlin Slough, an intermittent seasonal stream, is tributary to Toomes Creek approximately 1.25 miles downstream of the project area. Toomes Creek is tributary to the Sacramento River approximately 0.25 miles downstream. Within the project area, Champlin Slough's channel is relatively narrow (approximately 25 feet wide) and has steep banks. Water depth is shallow. The substrate consists predominantly of boulder, cobble, gravel, and fines. In summer, agricultural runoff from nearby orchards drains into Champlin Slough allowing standing water to persist beneath the bridge. Champlin Slough provides habitat for fish, turtles, amphibians, and a variety of aquatic invertebrates.

The proposed work would temporarily disturb approximately 0.069 acres of streambed and would restore 0.012 acres of streambed. Work would include removal of 200 cubic yards of existing RSP around abutments and placement of 250 cubic yards of RSP around new abutments (the existing RSP to be removed, which occupies 0.04 acres of streambed within the ordinary high water mark of Champlin Slough, would be replaced in-kind with new RSP). Approximately 155 cubic yards of clean rock or other approved channel bed material would be used to backfill holes in the streambed created by removal of the two existing piers/footings. Removal of the existing piers/footings in the wetted channel and replacement with a clear-span bridge would restore 0.012 acres of streambed. Implementation of the following avoidance and minimization measures would minimize potential impacts on water quality and the aquatic environment:

- Work in Champlin Slough shall be limited to the period between June 1 and October 15, or as otherwise specified in resource-agency permits. Upon completion of work, the contractor shall restore temporarily disturbed streambed to near pre-construction conditions.

- Potential direct and indirect effects on water quality and the aquatic environment shall be avoided by implementing standard construction best management practices for erosion control and spill prevention.

Riparian Habitat

Riparian habitat within the project area is limited to along the banks of Champlin Slough. A mature valley oak riparian forest is present upstream of the Champlin Slough bridge. The riparian woodland has a well-developed canopy layer composed predominantly of mature valley oaks. A dense shrub layer is present and consists predominantly of non-native Himalayan blackberry. The ground cover includes various species of annual grasses and forbs. The valley oak riparian forest also includes willows and three elderberries along the north stream bank. Downstream of Champlin Slough bridge, between Champlin Slough bridge and the railroad bridge (a distance of approximately 50 feet), Himalayan blackberry and slough sedge occur along both banks of the stream.

The proposed work would require the removal of 4 valley oak trees to the north of the bridge, 2 valley oak trees to the south of the bridge, and removal of associated invasive Himalayan blackberry beneath the trees. This would result in approximately 0.02 acres of temporary impacts to the valley oak riparian forest along Champlin Slough. Given the presence of Himalayan blackberry throughout the onsite valley oak riparian forest, any replanting effort onsite would likely to fail because the Himalayan blackberry would crowd-out the native plantings. As such, no mitigation is proposed to offset the temporary loss of valley oak riparian

forest habitat. Implementation of the following measure would minimize impacts to the riparian habitat along Champlin Slough:

- Upon completion of work, the contractor shall restore the topography of temporarily disturbed riparian areas to near preconstruction conditions and stabilize soils with appropriate erosion control methods.

Wetlands
No state or federally protected wetlands are present within the project area. Therefore, there would be no impact to wetlands.

Permits
Waters and riparian habitat identified within the project area are protected by state laws and regulations and Sections 401 and 404 of the federal Clean Water Act. Work within the bed and bank of Champlin Slough would require a Nationwide Permit 14 from the Army Corps of Engineers, Water Quality Certification from the CVRWQCB, and a Streambed Alteration Agreement from the California Department of Fish and Wildlife. Impacts to riparian vegetation would be addressed in the Streambed Alteration Agreement. In addition, a Notice of Intent would need to be filed with the State Water Resources Control Board to obtain coverage under the NPDES General Construction Permit.

Special-Status Plant Species
No special-status plant species were observed within and/or adjacent to the project area during the field survey nor are any special-status plant species expected to be present. Therefore, there would be no impact to special-status plant species.

Special-Status Animal Species
Although no special-status animal species were observed within and/or adjacent to the project area during the field survey, the following special-status animal species have the potential to occur within and/or adjacent to the project area: western pond turtle (state Species of Concern), valley elderberry longhorn beetle (federal Threatened), Central Valley steelhead DPS (federal Threatened), Central Valley spring-run Chinook salmon ESU (federal and state Threatened), Central Valley winter-run Chinook salmon ESU (federal and state Endangered), and western mastiff bat (state Species of Concern). The following discussion addresses special-status animal potentially present within and/or adjacent to the project area, as determined by the literature review and completion of field surveys, and includes a detailed description of the species' life history and habitat requirements, an evaluation of the potential for the species to be affected by the proposed work, and identification of avoidance/minimization measures that may be warranted.

WESTERN POND TURTLE
Western pond turtles associate with permanent or nearly permanent water in a wide variety of habitat types, including lakes, ponds, rivers, streams, and irrigation ditches. The species is reported from near sea level to 4,690 feet in elevation. Individuals are active all year where climate is warm; elsewhere, individuals may hibernate in response to the onset of winter conditions. Western pond turtles require basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Egg laying occurs from March to August. Along large, slow-moving streams, eggs are deposited in nests constructed in sandy banks. Along foothill streams, females may climb hillsides, sometimes moving up to 325 feet to find a suitable nest site. Nests must have a relatively high internal humidity for eggs to develop and hatch properly.

Champlin Slough provides potentially suitable habitat for the western pond turtle. Although no western pond turtles were observed during the field survey, western pond turtles could be directly affected if present during in-channel work and harmed by construction equipment. Potential indirect effects on western pond turtles could occur if sediments or pollutants were to enter drainages and degrade habitat for the species. With implementation of the following avoidance/minimization measure, project implementation would have no direct or indirect effects on western pond turtles:

- Potential direct effects on western pond turtles shall be avoided by having a contractor-supplied biologist conduct a pre-construction survey of in-water work areas each day that in-water work would occur until a water diversion is established. If present, turtles shall be relocated to suitable habitat outside of work areas.

- Potential indirect effects on turtles shall be avoided by implementing standard construction best management practices for erosion control and spill prevention.

VALLEY ELDERBERRY LONGHORN BEETLE

The valley elderberry longhorn beetle (VELB) is a reclusive beetle that inhabits blue elderberries within California's Central Valley. Suitable habitat for the VELB consists of blue elderberries with stems greater than one inch in diameter at ground level. The VELB has four life history stages (egg, larva, pupa, and adult) and each stage requires blue elderberry plants for resource functions (breeding, feeding, sheltering, and migration). After mating, the female deposits eggs in cracks or crevices of the bark of elderberry plants. Eggs hatch within a few days and soft-bodied larvae emerge. The larvae soon bore into the center of stems. Once in the stem, the larvae will create a characteristic feeding gallery in the pith at the center of the stem. The larvae develop within the stem for 1 to 2 years, before emerging as adult beetles.

Three elderberry shrubs are present within the valley oak riparian forest upstream of the Champlin Slough bridge along the north bank of the stream. Because the elderberries have stems that are greater than one-inch in diameter at ground level, they may provide potentially suitable habitat for the VELB. The proposed work would not directly impact the elderberry shrubs, but would occur in close proximity to the shrubs. Implementation of the following avoidance measure would ensure that the elderberry shrubs, which may provide habitat for the federally listed VELB, are not impacted by the proposed work:

- To ensure that no elderberry shrubs are impacted by the proposed work, elderberry shrubs shall be delineated on the project plans as an environmentally sensitive area (ESA) and temporary construction fencing shall be installed at least 10 feet from their driplines. During construction, the contractor shall inspect the ESA fencing daily to ensure that the fencing is functioning properly and repair as needed.

SALMONIDS

Central Valley Spring-Run Chinook Salmon ESU

Adult spring-run leave the ocean to begin their upstream migration in late-January to early February. Spring-run adults generally enter rivers as sexually immature fish and must hold in deep, freshwater pools with cold water for up to several months before spawning. Spawning normally occurs between mid-August and early October. Adults spawn in clean, loose gravel, in swift, relatively shallow riffles, or along the margins of deeper river reaches where suitable water

temperatures, depths, and velocities favor red construction and oxygenation of incubating eggs. Spring-run spawn and rear in the clear, cool water. Fry emergence occurs from November through March and seek streamside habitats containing beneficial aspects such as riparian vegetation and associated structures that provide invertebrates for food, predator avoidance cover, and slower water velocities for resting. Juveniles may reside in freshwater for 12 to 16 months, but some migrate downstream to the ocean as young-of-the-year in the winter or spring months within 8 months of hatching. Most downstream migration occurs at night. Juveniles enter the ocean where they will reside for several years before returning as adults to freshwater rivers and streams to spawn.

Central Valley Winter-Run Chinook Salmon ESU

Adult winter-run begin spawning migrations from December through July. Adults are sexually immature when upstream migration begins, and they must hold for several months in suitable habitat prior to spawning. Spawning occurs between late-April and mid-August. Adults spawn in clean, loose gravel, in swift, shallow riffles, or along the margins of deeper river reaches where suitable water temperatures, depths, and velocities favor red construction and oxygenation of incubating eggs. Fry emerge from mid-June through mid-October and seek streamside habitats containing beneficial aspects such as riparian vegetation and associated structures that provide invertebrates for food, predator avoidance cover, and slower water velocities for resting. Downstream migration of juveniles may begin after almost 1 year in the river. Most of the downstream migration activity occur at night. Juveniles enter the ocean where they will reside for several years before returning as adults to freshwater rivers and streams to spawn.

Central Valley Steelhead DPS

Steelhead are the anadromous form of rainbow trout. In the Sacramento River basin, steelhead enter freshwater from August to April. They hold in the main-stem Sacramento River until flows are high enough in its tributaries to enter for spawning. Steelhead adults typically spawn from December to April, with peak spawning from January to March, in small streams and tributaries where cool, well-oxygenated water is available year-round. Juvenile steelhead generally migrate to the ocean in spring and early summer at 1 to 3 years of age. Juvenile steelhead will reside in the ocean for several years before returning as adults to freshwater rivers and streams to spawn.

Although not observed during the field survey, the onsite reach of Champlin Slough provides potentially suitable rearing habitat for Central Valley spring-run Chinook salmon, Central Valley winter-run Chinook salmon, and Central Valley steelhead during winter and spring when water temperatures are suitable for salmonids. By June 1, water temperatures in Champlin Slough are expected to exceed 25 °C (77 °F), which is lethal to salmonids. The presence of warm water during the summer months would preclude the presence of salmonids. Therefore, there would be no direct impacts on salmonids. Implementation of the following avoidance/minimization measures would ensure that salmonids would not be directly or indirectly affected by the proposed work:

- Work in Champlin Slough shall be limited to the period between June 1 and October 15, or as otherwise specified in resource-agency permits. Upon completion of work, the contractor shall restore temporarily disturbed streambed to near pre-construction conditions.

- Potential indirect effects on salmonids shall be avoided by implementing standard construction best management practices for erosion control and spill prevention.

WESTERN MASTIFF BAT

The western mastiff bat occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Western mastiff bats roost in crevices in cliff faces, high buildings, trees, and tunnels.

Although no bats were observed during the field survey, bat guano and urine stains were observed on the underside of the Champlin Slough bridge. The bridge was inspected for cracks and crevices, but none were found. The bridge appears to be utilized for night roosting only. Trees within the valley oak riparian forest may also provide suitable roosting habitat for the western mastiff bat. To avoid potential direct impacts to roosting bats in trees, the following measure shall be implemented:

- Within one hour prior to the removal of trees, the contractor shall strike the trunk of each tree to be removed with a large sledge hammer 10 times to awaken any roosting bats that may be present and cause them to leave the tree. The contractor shall repeat this procedure after 15 minutes.

Tree removal may result in the loss of a small amount of potential roosting habitat for bats. However, given the vast extent of suitable roosting habitat in the vicinity, bats would not be indirectly affected by the loss of potential roosting habitat.

Critical Habitat

Critical habitat has been designated within the project area for one federally listed species: western yellow-billed cuckoo. However, no western yellow-billed cuckoos were observed during the field survey and no suitable physical or biological features of designated critical habitat for the species is present within and/or adjacent to the project area. Therefore, the project would not impact designated critical habitat designated for the western yellow-billed cuckoo.

Essential Fish Habitat

The NMFS species list for the project quadrangle identifies essential fish habitat (EFH) for Chinook salmon. Review of the NMFS EFH mapper confirmed that the project area is within a watershed designated as EFH for salmon. Within the ESL, Champlin Slough is the only drainage that provides EFH for Chinook salmon. The in-channel work would temporarily impact 0.069 acres of EFH for Chinook salmon and would restore 0.012 acres of EFH, which may be utilized by juvenile Chinook salmon for rearing.

Nesting Migratory Birds

A variety of migratory bird species could potentially nest in vegetation within and/or adjacent to the project area. If present, nesting birds could be directly and indirectly affected by the proposed work. Potential direct effects on nesting birds could include mortality resulting from destruction of nests during vegetation removal. Potential indirect effects on nesting birds could include disruption of feeding patterns or nest abandonment due to construction related noise. With implementation of the following measure, vegetation removal and construction activities would have no direct or indirect effects on nesting birds.

- To avoid disturbing nesting birds, tree and shrub removal shall be restricted to the period between October 1 and January 31. If this is not practicable, a contractor-supplied

biologist shall conduct a preconstruction survey for nesting birds within 3 days prior to removing trees and shrubs. If an active nest is discovered, the resident engineer shall be notified immediately and all work within 100 feet of the nest shall cease. Work within the buffer zone may proceed only after a contractor-supplied biologist has determined that the nest is no longer active.

- Prior to construction, bird exclusionary material shall be installed on the Champlin Slough bridge outside the nesting season (October 1 through January 31) to prevent birds from nesting on the structure.

Invasive Species

Based on review of the list of invasive plant species maintained by the Cal-IPC (2020), the following plant species observed within and adjacent to the project area during field surveys are invasive in California: black mustard and Himalayan blackberry. According to the California Department of Food and Agriculture (2020), neither of these species is designated as a noxious weed. Noxious weeds are considered widespread in California and subject to regulations to stop their spread. Implementation of the following avoidance/minimization measures would prevent the introduction/spread of invasive and/or noxious weed species and reduce any impacts on native plant communities to levels less than significant.

- In accordance with Caltrans' non-standard specification 14-6.05, prior to beginning work, the contractor shall prepare an invasive species control plan that identifies measures to be implemented to prevent the introduction and/or spread of invasive species (e.g., noxious weeds). The invasive species control plan shall be subject to approval by Caltrans environmental staff and implemented prior to beginning work.

Wildlife Corridors and Nursery Sites

The proposed project would not interfere with the movement of any native resident or migratory fish or wildlife species (a water diversion would be installed to allow aquatic organisms to move freely around the in-channel work area) or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Rather, the project would substantially improve the movement of fish by removing the existing bridge that has two piers within the wetted channel and replacing the bridge with a clear-span bridge. The project would have a net benefit for fish because 0.012 acres of streambed would be restored. Therefore, there would be no adverse impact.

Local Policies and Ordinances

The *Tehama County General Plan Update 2009–2029* (Green Dot 2009) includes various policies related to the protection of biological resources (e.g., streams, rivers, oak woodlands, wetlands, and native plants and animals) within the County. Because only a small amount of riparian habitat would be removed to accommodate the proposed improvements and avoidance/ minimization measures for habitat protection, species protection (including nesting migratory birds and roosting bats), and invasive species control would be implemented to ensure consistency with the *Tehama County General Plan Update 2009–2029* (Green Dot 2009), impacts would be less than significant.

Habitat Conservation Plans and Natural Community Conservation Plans

The United States Fish and Wildlife Service has not approved any habitat conservation plans in Tehama County (United States Fish and Wildlife Service 2020). No natural community conservation plans have been designated in Tehama County (California Department of Fish and

Wildlife 2020). Given the above findings, there would be no impact on habitat conservation plans or natural community conservation plans.

CEQA CONCLUSION

With implementation of the avoidance/minimization measures for habitat protection, species protection (including nesting migratory birds), and invasive species control, the proposed project would have a less than significant impact on biological resources.

3.4 Geology and Soils

Affected Environment

The proposed project is located within the northern portion of the Central Valley, which is generally characterized relatively flat topography. Landslides are uncommon on the valley flood. Review of aerial photographs found no evidence of large landslides within or adjacent to the project limits. Given that that the topography within the project area is relatively level and there is no history of highway repairs due to landslides or subsidence within the project area, the soils are presumed to be relatively stable. The underlying geology in the project area consists of sedimentary rocks (California Department of Conservation 2020c). The proposed project is not located in an area that has a known active earthquake fault, as delineated on the most recent Alquist-Priolo earthquake fault zoning map (California Department of Conservation 2020d). The project location is subject to moderate seismic ground shaking from earthquakes (California Department of Conservation 2020e). The project area is not in an area characterized by seismic-related ground failure and/or liquefaction (California Department of Conservation 2020f).

Two soils type are present within the project area: Los Robles clay loam, 0 to 3 percent slopes; and Los Robles clay loam, moderately deep, 0 to 3 percent slopes (Natural Resources Conservation Service 2020). Both soils types have a slight potential for erosion.

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

Environmental Consequences

Although the new bridge could be subjected to moderate seismic ground shaking in the event of a strong earthquake, any such limitations can be overcome through proper planning, design, and/or construction. The proposed work includes grading and excavation, which would disturb approximately 0.35 acres of ground surface. Construction of the temporary construction access corridor would require the excavation of approximately 250 cubic yards of soil, which would be used onsite to build access ramps to the temporary stream crossing and to build an access ramp under the bridge. Removal of the existing bridge foundation would require the excavation of approximately 300 cubic yards of concrete and approximately 200 cubic yards of RSP around the abutments. Approximately 155 cubic yards of clean rock or other approved channel bed material would be used to backfill the holes in the streambed created by removal of the two existing piers/footings. These activities have the potential to cause soil erosion and may result in the loss of a very small amount of soil.

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

- The new bridge shall be designed in accordance with current seismic safety standards.
- Standard construction best management practices for erosion control and spill prevention shall be implemented.

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

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

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

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

REGULATORY SETTING

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

Federal

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

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

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea-level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

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

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

State

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

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990

levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

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

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

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

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

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

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[2] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

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

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

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

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

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

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

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

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

ENVIRONMENTAL SETTING

The proposed project is in a rural area, with a primarily natural resources-based agricultural and tourism economy. SR 99 is the main transportation route to and through the area for both passenger and commercial vehicles. The nearest alternate route is Interstate 5, which is located approximately 6.4 miles to the west. Traffic counts are moderate. Railroad tracks running parallel to SR 99 right-of-way carry several passenger and freight trains each day. The Tehama County Transportation Commission is the state-designated Regional Transportation Planning Agency for Tehama County and guides transportation development within the County. The *Tehama County General Plan Update 2009–2029* (PMC 2009) addresses GHGs in the project area.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is

responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

National GHG Inventory

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

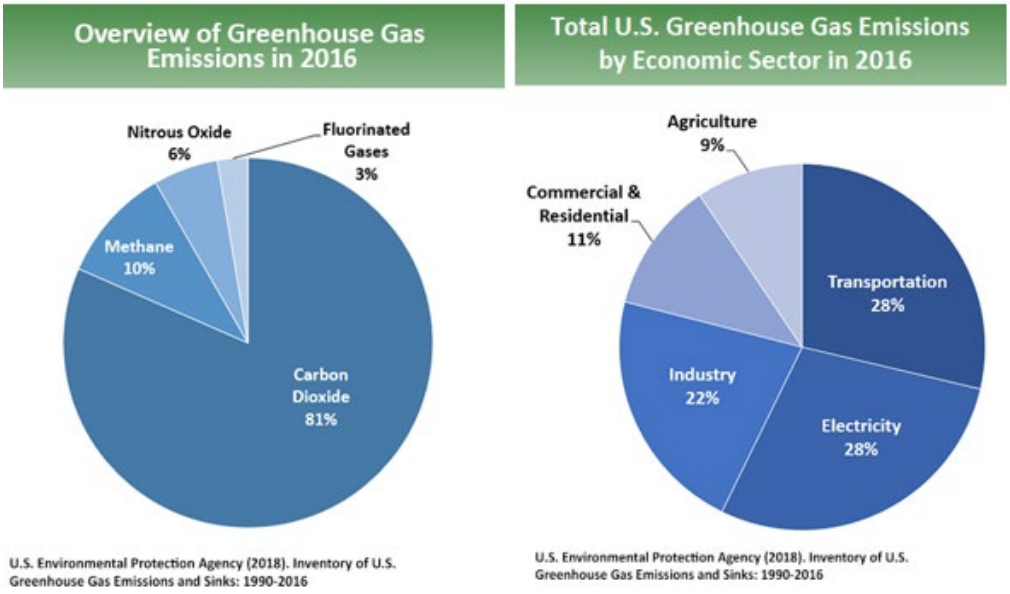


Figure 3 U.S. 2016 Greenhouse Gas Emissions

State GHG Inventory

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

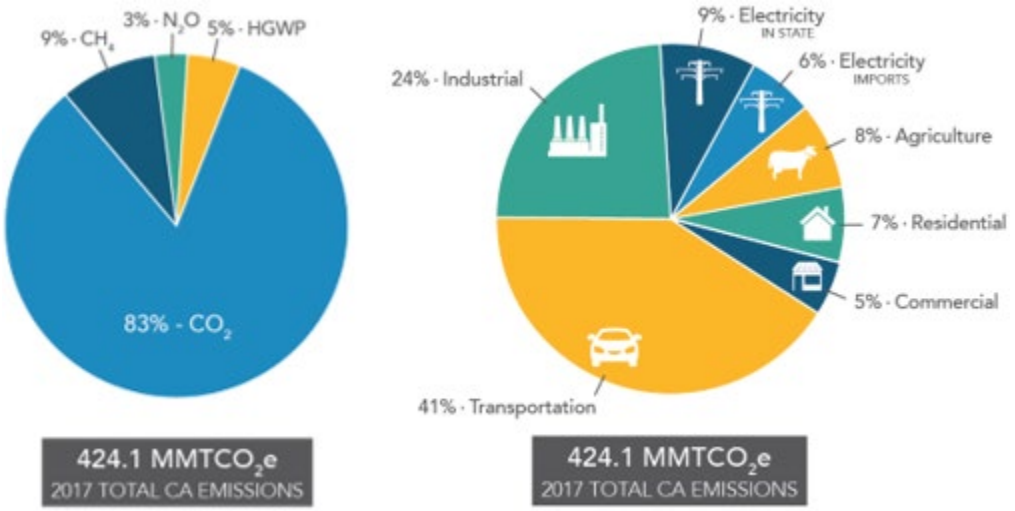


Figure 4 California 2017 Greenhouse Gas Emissions

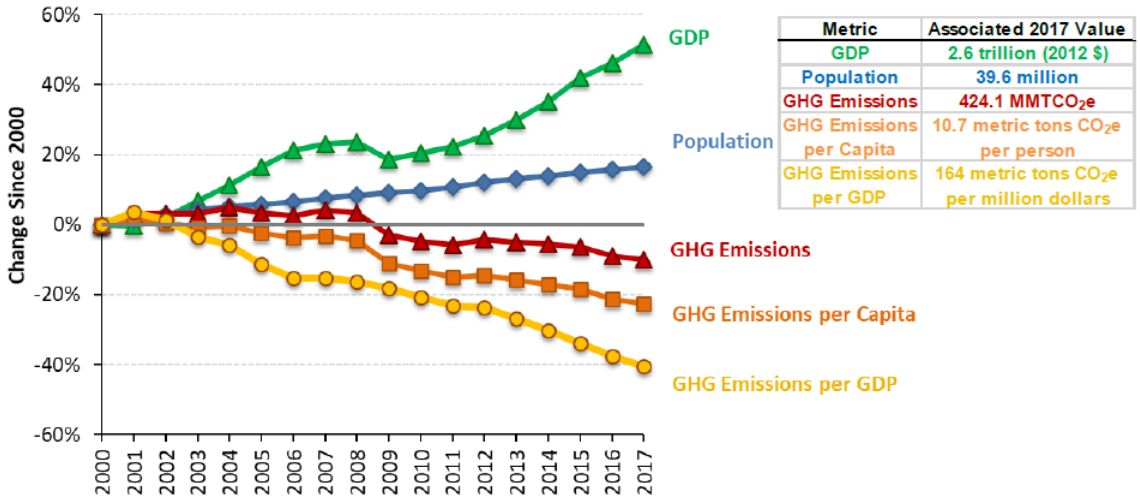


Figure 5 Change in California GDP, Population, and GHG Emissions since 2000 (*Source*: ARB 2019b)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans
ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The project site is located in Tehama County, which is not within the jurisdiction of an MPO.

The proposed project is within the jurisdiction of the Tehama County Transportation Commission, which is the state-designated Regional Transportation Planning Agency (RTPA) for Tehama County and guides transportation development within the County. The *2019 Tehama County Regional Transportation Plan* (Green Dot Transportation Solutions 2019) identifies goals for GHG reduction within the County.

Although Tehama County is not located in an MPO and therefore not subject to the guidelines regarding GHG emissions and air quality conformity analysis, the policies and actions identified in the *2019 Tehama County Regional Transportation Plan* will improve air quality and community health. Specifically, the Plan identifies the following strategies as a way to reduce GHG emissions:

- Reducing vehicle miles traveled (VMT)
- Encouraging the use of public transportation services
- Providing multimodal options for transportation

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

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

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions
The purpose of the proposed project is to replace an existing bridge. This would not increase the vehicle capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of

travel lanes on SR 99, no increase in vehicle miles traveled (VMT) would occur as result of project implementation. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions
Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

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

The proposed project would not increase capacity and would not change travel demands or traffic patterns. Therefore, the project would not result in an increase in operational GHG. However, GHG emissions would occur during construction. Estimates of various GHG including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and hydroflourocarbons (HFCs) were made for each year of construction using Cal-CET2018 (version 1.2). As shown in Table 3, the primary GHG released during construction is CO_2.

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

Construction Year	CO_2	CH_4	N_2O	HFCs
2022	101	<1	<1	<1

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

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

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

GREENHOUSE GAS REDUCTION STRATEGIES

Statewide Efforts

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

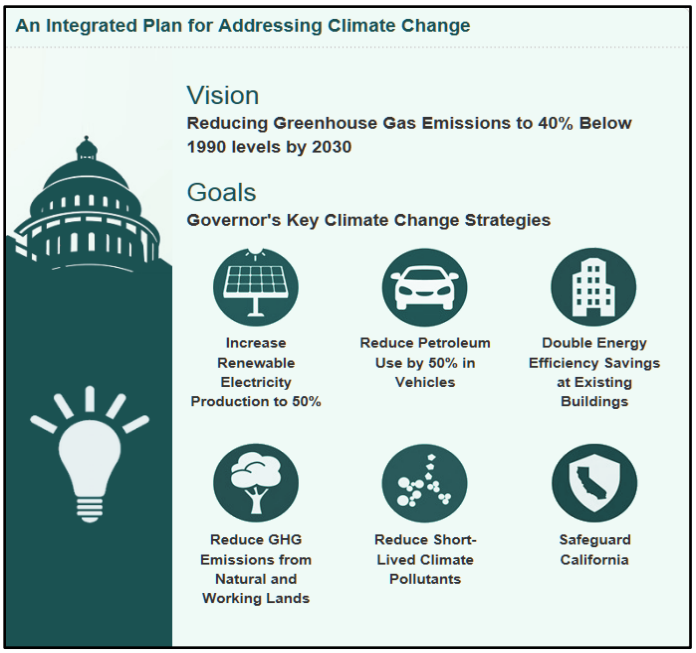


Figure 6 California Climate Strategy

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

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

Caltrans Activities

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

CALIFORNIA TRANSPORTATION PLAN (CTP 2040)

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

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

CALTRANS STRATEGIC MANAGEMENT PLAN

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

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

FUNDING AND TECHNICAL ASSISTANCE PROGRAMS

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

CALTRANS POLICY DIRECTIVES AND OTHER INITIATIVES

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

Project-Level GHG Reduction Strategies
The following measures shall be implemented to reduce GHG emissions and potential climate change impacts:

- The construction contractor shall comply with the *2018 Caltrans Standard Specifications* in Section 14-9. Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality, including the Tehama County Air Pollution Control District regulations and local ordinances.

- Compliance with Title 13 of the California Code of Regulations, which includes idling restrictions on construction vehicles and equipment to no more than 5 minutes.

- Compliance with Caltrans Standard Specifications 7-1.02A and 7-1.02C "Emissions Reduction."

- Utilize a traffic management plan to minimize vehicle delays.

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

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

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

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

The U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions" (U.S. DOT 2011).

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

State Efforts

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

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

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

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

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

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

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

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

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

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

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

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

Caltrans Adaptation Efforts

CALTRANS VULNERABILITY ASSESSMENTS

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

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.

- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.

- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

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

Project Adaptation Analysis

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

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

WILDFIRE
The project area is not within an area that is designated as “Very High”, “High”, or “Moderate” for wildfire hazard (Calfire 2020). Further, the proposed project would not result in a substantial increase in short-term or operational emissions of greenhouse gases that would cause climate change, which could exacerbate the hazard of wildfire.

3.6 Hydrology and Water Quality

Affected Environment
The project area is located within the Sacramento River watershed. This watershed is a part of the Sacramento Hydrologic Basin Planning Area, which is managed by the Central Valley Regional Water Quality Control Board. Champlin Slough is a seasonal drainage that flows through the project area and is tributary to Toomes Creek, approximately 1.2 miles downstream. Toomes Creek is tributary to the Sacramento River, approximately 0.4 miles downstream. The Sacramento River discharges flow into the Pacific Ocean, over 100 miles downriver. No lakes are present within or adjacent to the project area.

In summer, agricultural runoff from nearby orchards drains into Champlin Slough allowing standing water to persist beneath the bridge. This water is expected to be warm and have low levels of dissolved oxygen.

Environmental Consequences
Construction activities that may impact hydrology and water quality include dewatering the in-channel work area, diverting water around the in-channel work area, removal of the existing bridge (including piers and abutments), construction of a new bridge on new abutments, and replacement of the roadway’s structural section. This work, which includes in-channel work and earthwork, has the potential to degrade water quality onsite and offsite due to erosion and

siltation. Replacement of the structural section of the roadway and construction of the new bridge would not increase the amount of impervious surfaces within the project area; no stormwater treatment BMPs would be required. Post-construction stormwater flows would not exceed pre-construction stormwater flows and would not increase the amount of pollutants in surface runoff above existing levels.

The Floodplain Evaluation Report Summary (California Department of Transportation 2020e) determined that the proposed project is located within a mapped 100-year flood hazard area. However, the project would only minimally alter surface elevations within the mapped 100-year floodplain and would not result in a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).

Avoidance/Minimization Measures
The following measures identified in the Water Quality Assessment Report (California Department of Transportation 2019) shall be implemented to avoid/minimize impacts to water quality during construction:

- All construction site BMPs shall follow the most current edition of the *Construction Site Best Management Practices (BMPs) Manual* (California Department of Transportation 2017). For this project, these are likely to include erosion and sediment control BMPs such as ground cover, fiber rolls, gravel bag check dams and other listed methods.

- Prior to any ground-disturbing activities, the contractor shall prepare a Water Pollution Control Plan (WPCP) that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. These measures shall be implemented during construction to minimize impacts on water quality and the aquatic environment.

- Environmentally sensitive areas (ESAs) shall be designated and clearly delineated with high-visibility fence on the contract plans during the design phase to avoid potential discharges and unauthorized disturbance to riparian habitat.

In addition to the above measures, the following measure identified in the Natural Environment Study (California Department of Transportation 2020d) shall be implemented to avoid/minimize impacts to water quality during construction:

- Work in Champlin Slough shall be limited to the period between June 1 and October 15, or as otherwise specified in resource-agency permits. Upon completion of work, the contractor shall restore temporarily disturbed streambed to pre-construction conditions.

CEQA Conclusion
The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Specifically, the project would not deplete groundwater supplies or interfere with groundwater recharge such that the project may impeded sustainable groundwater management of the basin. As described above, work would include dewatering the in-channel work area, installation of a temporary water diversion, and performing earthwork. There is a potential for limited erosion/siltation to occur during construction, which could temporarily degrade surface water quality. However, the proposed project would not substantially alter the existing drainage pattern of the site or area, including

through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff such that it would result in flooding onsite/offsite; impede or redirect flows; create or contribute stormwater runoff which would exceed the capacity of existing or planned stormwater drainage systems; or provide substantial additional sources of polluted runoff. The proposed project would not risk release of pollutants due to inundation by flood, tsunami (California Department of Conservation 2020g), or seiche. With implementation of measures to control erosion and siltation, the proposed project would have a less than significant impact on hydrology and water quality.

3.7 Noise

Affected Environment
SR 99 within the project area is subject to moderate level of noise disturbance on a daily basis due to vehicle traffic. In noise/vibration studies, sensitive receptors are hospitals, schools, homes, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants are more susceptible to the adverse effects of exposure to noise and vibration. No sensitive receptors are present within the project area. However, two residences are located within a ¼-mile radius of the project area.

Environmental Consequences
The proposed project would not increase capacity or involve the introduction of permanent noise-producing activities. However, temporary noise impacts would occur from the use of stationary and mobile construction equipment and vehicles during construction. Construction vehicles and equipment could include excavators, cranes, compressors, generators, haul trucks, pavers, and material loaders. Project construction noise levels would fluctuate depending on the construction phase, equipment type, and quantity and duration of use. Peak noise levels during construction would likely result from the use of excavators to break up concrete and place materials into haul trucks. Noise levels associated with these activities could be up to 90 decibels and could affect nearby sensitive receptors.

The proposed project would not result in a permanent increase in ground-borne vibrations. However, sensitive receptors near construction activities may periodically notice ground-borne vibrations.

Avoidance/Minimization Measures
Although the proposed project may periodically expose sensitive receptors to noise and vibration levels during construction that exceed established standards, noise and vibration impacts shall be minimized through:

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

CEQA Conclusion
The proposed project is not located within two miles of an airport and is not within an airport land use plan. With implementation of measures to minimize noise and vibration during

construction, the proposed project would have a less than significant impact with regard to noise/vibration.

3.8 Public Services

Affected Environment
State Route 99 within the project area is a public highway utilized by various public transportation service providers. Public transportation service providers that operate within the project area include the Los Molinos Unified School District, which provides buses to transport students to and from schools. Emergency service providers that operate within the project area include Calfire, Tehama County Fire Department, California Highway Patrol, Tehama County Sheriff Department, and ambulances that transport patients to local hospitals. These emergency service providers are vital to the safety of local communities and residents living in unincorporated areas; their effectiveness is often measured in the time required to respond to an emergency.

Environmental Consequences
Once built, the project would result in no operational impacts on public services. The project work scope includes the use of one-way reversing traffic control when partial closure of SR 99 is required and a detour (South Avenue) would be utilized when full closure of SR 99 is required to minimize potential impacts on public services. When partial closure of SR 99 is required and one-way reversing traffic control is utilized, travel time through the project area is expected to be delayed by only a few minutes (emergency service providers would not be subject to traffic controls). When full closure of SR 99 is required, the travel time to leave and return to SR 99 using the South Avenue detour is expected to be between 15 and 20 minutes. Early coordination with the Los Molinos Unified School District would minimize potential impacts on the transportation of students to and from schools and early coordination with local emergency service providers would minimize emergency response times.

Avoidance/Minimization Measures
To minimize potential delays to response time for emergency services and travel time for public transportation services, the following measures shall be implemented:

- Implement public outreach efforts described in Section 3.9.

CEQA Conclusion
With a work scope that includes one-way traffic control when partial closure of SR 99 is required and the temporary use of a detour when full closure of SR 99 is required, and with implementation of the avoidance/minimization measures, the proposed project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for police and fire protection, schools, parks, or other public facilities. Construction of the project would have a less than significant impact on response time for emergency services and travel time for public transportation services.

3.9 Transportation

Affected Environment
The proposed project is not a capacity-increasing project and is consistent with transportation goals in the *Tehama County General Plan Update 2009–2029* (PMC 2009) and the *2019 Tehama County Regional Transportation Plan* (Green Dot Transportation Solutions 2019). State Route 99 leaves Interstate 5 near Wheeler Ridge in Kern County and continues north along the eastern margin of the Central Valley, connecting with Interstate 5 at Red Bluff in Tehama County. In the project vicinity, SR 99 is an important connector road for local residents. Within the project area, SR 99 consists of two 12-foot-wide paved lanes, 8-foot-wide paved shoulders, has a posted speed limit of 65 miles per hour, and has a carrying capacity of 900 vehicles per hour. The affected environment includes several Vina businesses (e.g., Lassen Steakhouse and New Clairvaux Winery/Abbey of Clairvaux Retreat.

Environmental Consequences
Once built, the project would result in no operational impacts on the traveling public. The project work scope includes the use of one-way reversing traffic control when partial closure of SR 99 is required and a detour (South Avenue) would be utilized when full closure of SR 99 is required to minimize potential impacts on traffic circulation. When partial closure of SR 99 is required and one-way reversing traffic control is utilized, travel time through the project area is expected to be delayed by only a few minutes (as described previously under Public Services, emergency service providers would not be subject to traffic controls). When full closure of SR 99 is required, the travel time to leave and return to SR 99 using the South Avenue detour is expected to be between 15 and 20 minutes.

The full closure of SR 99 would temporarily impact traffic circulation patterns, disrupt the transportation of students to and from local schools, and result in a negligible impact on emergency access to/from existing facilities. South Avenue is a two-lane conventional roadway with 12-foot-wide paved lanes, 8-foot-wide paved shoulders, has a posted speed limit of 55 miles per hour, and has a carrying capacity of 900 vehicles per hour. The additional traffic detoured onto South Avenue would likely impact local traffic attempting to enter/exit driveways and roads. However, the duration of these impacts would be short-term and are not considered substantial. Vina businesses, which can be accessed from SR 99 and from South Avenue via Rowles Road, are not expected to be substantially impacted by partial or full closure of SR 99. Early coordination with the Los Molinos Unified School District, local emergency service providers, and adjacent homeowners/landowners would minimize potential short-term impacts on traffic circulation and emergency access.

Avoidance, Minimization, and/or Mitigation Measures
As part of the traffic management studies, a Traffic Management Plan (TMP) was prepared for the proposed project (California Department of Transportation 2020f). The TMP identified various traffic/transportation impacts that would occur during construction of the project. In addition, the TMP identified measures to be implemented during construction to minimize traffic/transportation impacts. The following measures shall be implemented to minimize potential impacts on traffic and transportation/pedestrian and bicycle facilities:

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

- Hold a public meeting to inform the public about the proposed project (a public meeting for the project was held on October 2, 2019, at the Tehama County Veterans Memorial in Los Molinos).

- Notify adjacent homeowners/landowners about the proposed project.

- Coordinate with the California Highway Patrol, Tehama County Sheriff, and local hospitals to ensure that emergency response personnel are aware of the proposed project.

- Coordinate with the Los Molinos Unified School District to ensure that the proposed project will have minimal disruption on transporting students to and from schools (it is anticipated that full closure of SR 99 would have the least disruption on transporting students to and from local schools if the full closure occurs from mid-June through mid-August). As part of this coordination, Caltrans would also evaluate the feasibility of providing funding to the school district to hire an additional bus driver and chartering a bus to transport students to and from school during construction.

- Implement a public information campaign (e.g., news releases and worker safety media campaign).

Vehicle Traffic

- Detours: When full closure of SR 99 is required, northbound and southbound traffic on SR 99 would be detoured onto Interstate 5 to bypass the work area. Traffic would move between SR 99 and Interstate 5 using South Avenue.

- Lane Closures: Standard Plan Lane Closures and Standard Plan T13 lane closures would be required for pre- and post-stage construction operations. Require work to be performed under double or continuous shifts and/or include an incentive/disincentive in the contract to minimize the duration of full closure of SR 99.

- Motorist Information: A portable changeable message sign shall be placed before the first traffic control sign for each approach and portable vehicle speed feedback signs shall be utilized to reduce vehicle speed as motorists approach the construction area.

Bicyclists

When under one-way reversing traffic control, bicyclists would be subject to stop and delay or may travel past the work zone using the open lane (the same lane that vehicle traffic would use).

Pedestrians

When under one-way reversing traffic control, pedestrians can use the opposing paved shoulder to travel through the work zone.

Maintain Access to Local Residences and Businesses

Stage work to maintain access to local residences and businesses at all times. Install temporary portable changeable signs informing the traveling public that Vina business are open during construction and can be accessed from the South Avenue detour.

CEQA Conclusion

Once built, the proposed project would not result in inadequate emergency access, substantially increase hazards due to a geometric design feature or incompatible uses, conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b), or conflict with a program, plan, ordinance, or policy addressing the circulation system (including transit, roadway, bicycle and pedestrian facilities). During construction, the project would temporarily impact emergency access and traffic circulation. With a work scope that includes the use of one-way traffic control when partial closure of SR 99 is required and the use of a temporary detour when full closure of SR 99 is required, and with implementation of the proposed avoidance/minimization measures, construction of the project would have a less than significant impact on emergency access and traffic circulation.

3.10 Utilities and Service Systems

Affected Environment

Various utilities are present within the project area. These include overhead electrical lines mounted on utility poles, underground telephone cables, and underground fiber optic cables. In addition, solid waste collection service providers transit through the project area as part of solid waste collection.

Environmental Consequences

Construction of the project would not disrupt solid waste collection services nor result in any planned loss of telephone services. Construction of the project would require the relocation of underground telephone cables located east of the existing bridge. The earthwork associated with the relocation of underground telephone cables (as well as other construction-related activities) has the potential to impact water quality and the aquatic environment.

Avoidance/Minimization Measures

The following measure identified in the Water Quality Assessment Report (California Department of Transportation 2019) shall be implemented to avoid/minimize impacts to water quality and the aquatic environment:

- Prior to any ground-disturbing activities, the contractor shall prepare a Water Pollution Control Plan that identifies measures to be implemented for erosion control, spill prevention, and construction waste containment. These measures shall be implemented during construction to minimize impacts on water quality and the aquatic environment.

CEQA Conclusion

The proposed project does not require a water supply or a wastewater treatment provider to service the project. Once built, the project would not be a source of waste material. The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. As such, the proposed project would comply with federal, state, and local statutes and regulations related to solid waste. With implementation of standard BMPs for erosion control and spill

prevention during utilities work, the proposed project would have a less than significant impact on utilities and service systems.

Chapter 4. List of Preparers

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

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Contribution: Document oversight

Darrin Doyle, Environmental Planner
Contribution: Document writer

Eric L. Rulison, Biologist
Contribution: Natural Environment Study

Erick Wulf, Archaeologist
Contribution: Cultural Resource Report

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

Logan Moore, Landscape Associate
Contribution: Visual Impact Assessment Report

Eric Orr, Project Manager
Contribution: Project management

Javed Iqbal, Engineer
Contribution: Project design

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

Saeid Zandian, Transportation Engineer
Contribution: Air Quality/Greenhouse Gas Analysis

Miguel Villicana, NPDES Coordinator
Contribution: Water Quality Assessment Report

Chuck Lees, Hydraulic Engineer
Contribution: Floodplain Evaluation Report Summary

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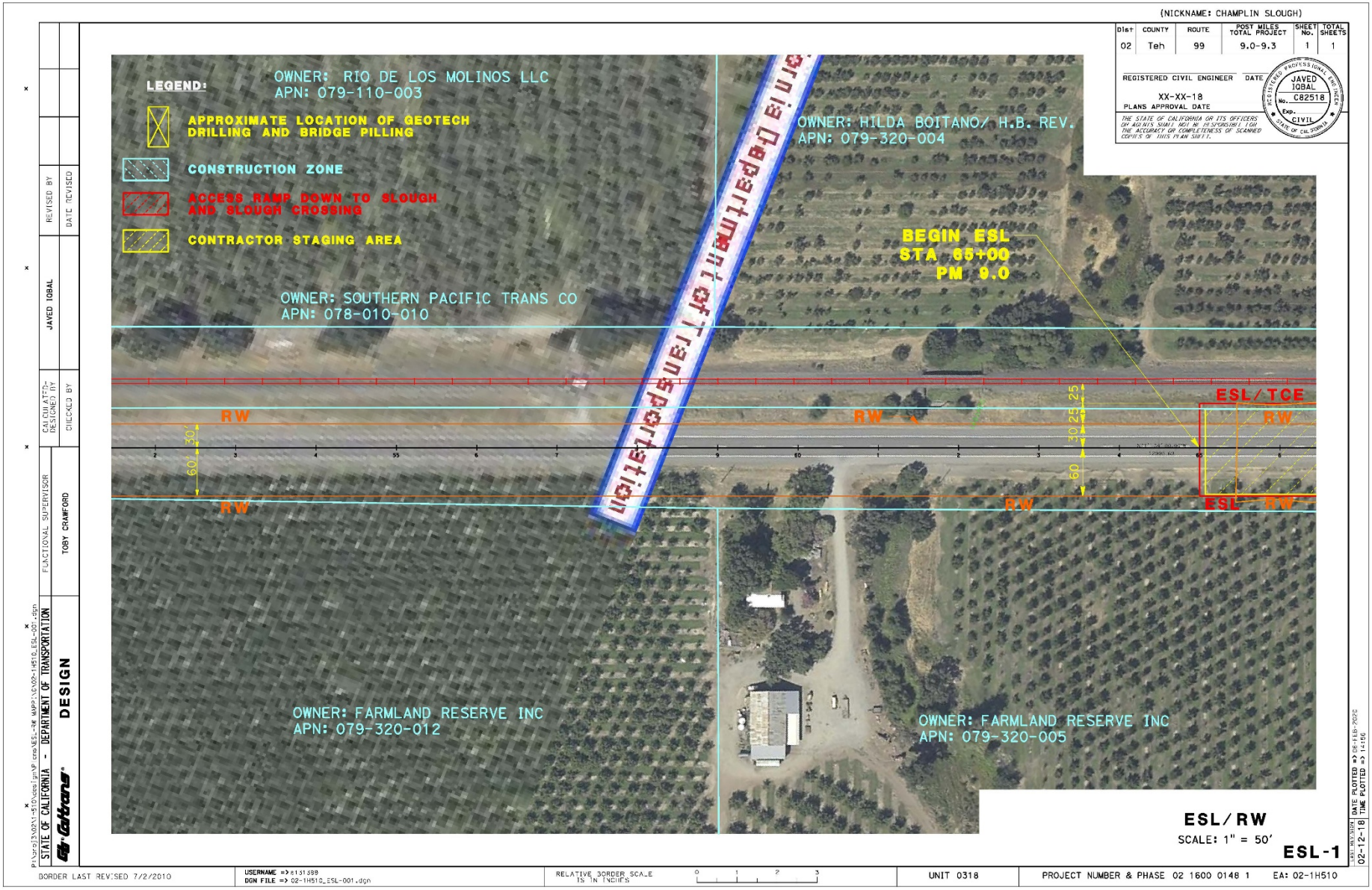
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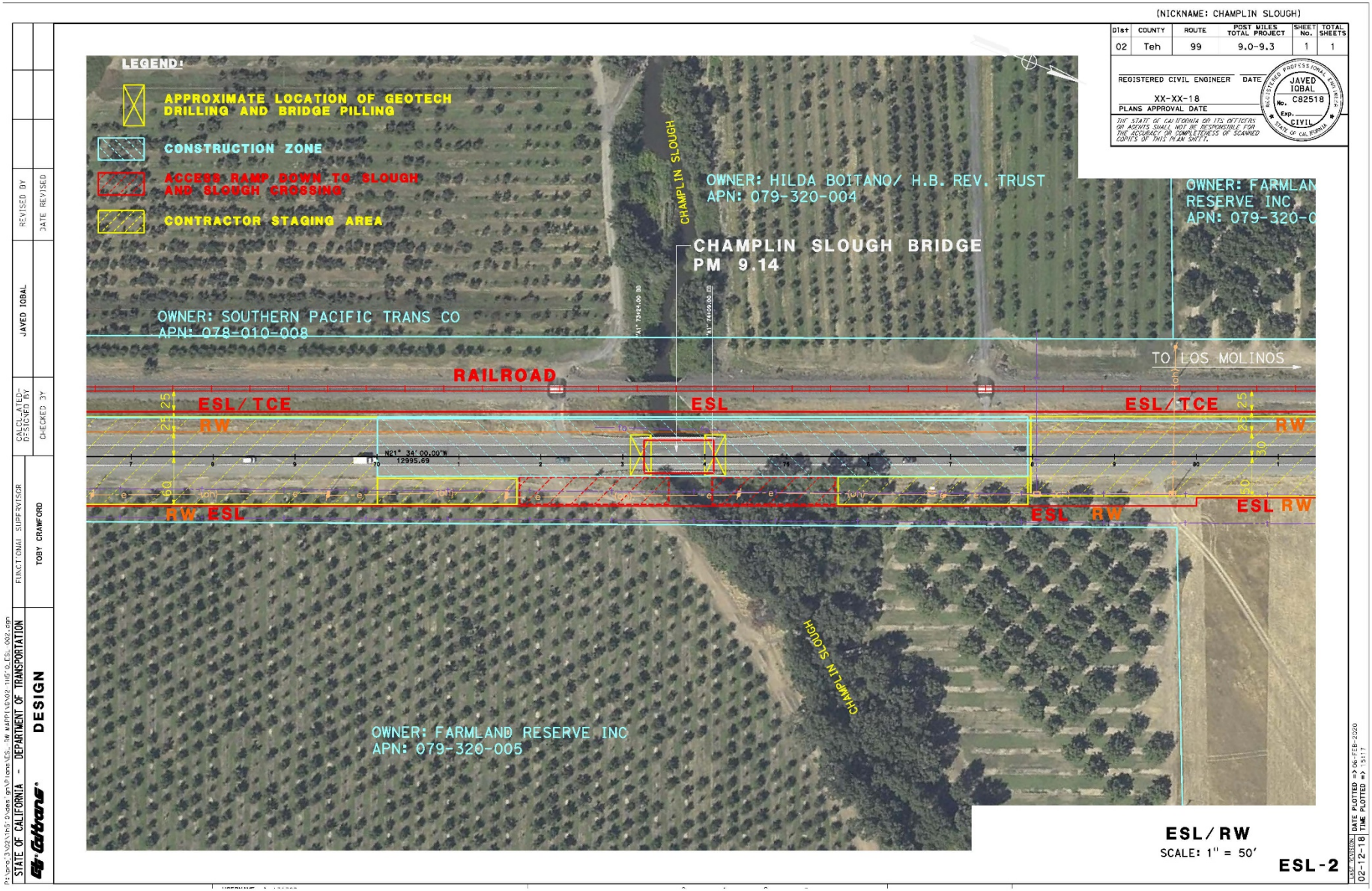
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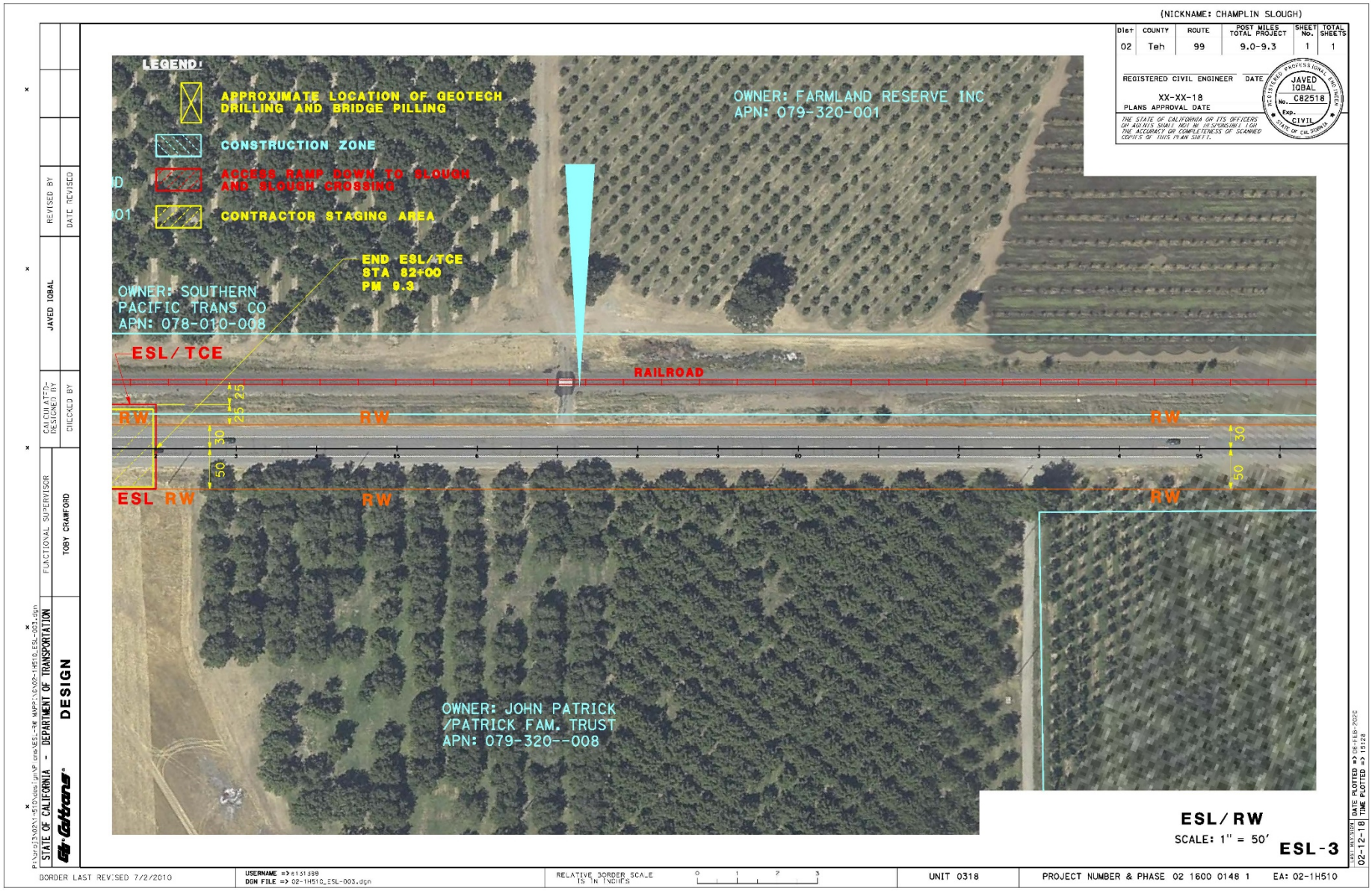
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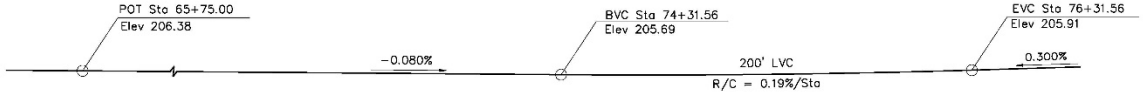
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Appendix A Site Plan

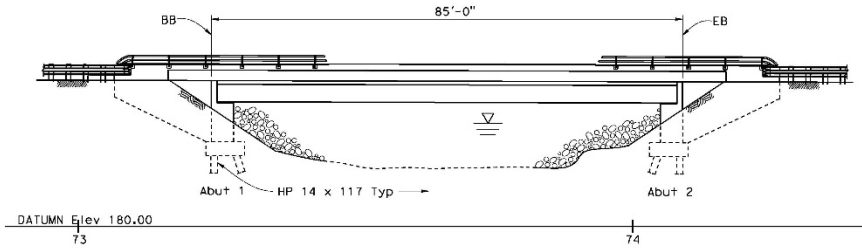

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ACCESS RAMP DOWN TO SLOUGH AND SLOUGH CROSSING
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APN: 079-110-003
OWNER: HILDA BOITANO/ H.B. REV.
APN: 079-320-004
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APN: 079-320-005
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CALCULATED/ DESIGNED BY
CHECKED BY
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XX-XX-18
PLANS APPROVAL DATE
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CONSTRUCTION ZONE
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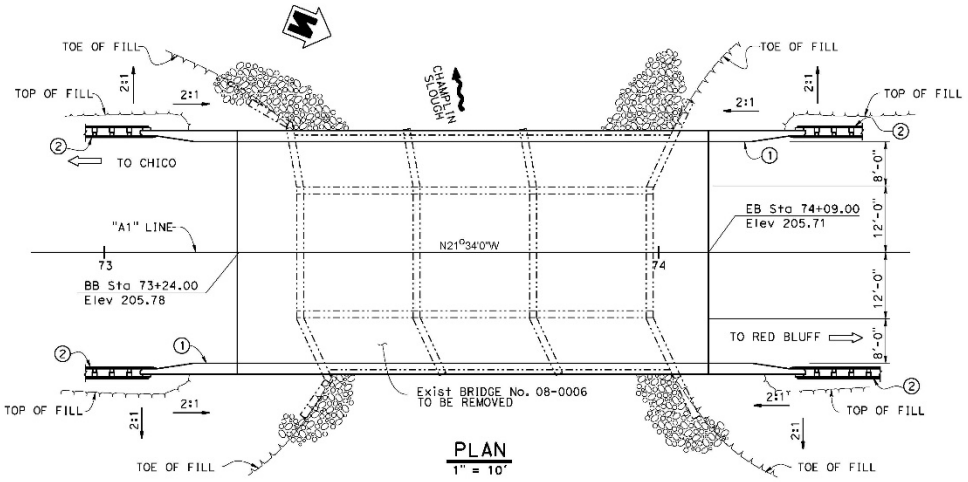

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ELEVATION
1" = 10'



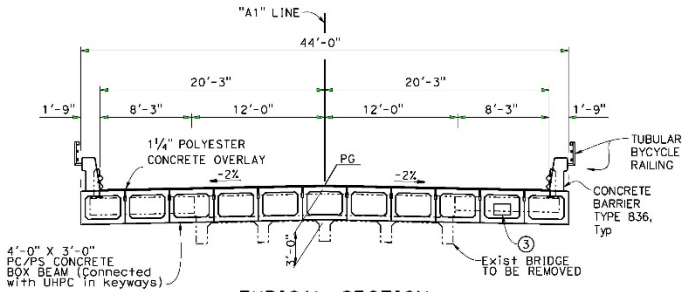
PLAN
1" = 10'

TRAFFIC NOTES

VEHICULAR TRAFFIC:
1. - New alignment. No traffic at the site.
2. X Traffic will be detoured away from the site.
3. - Traffic will be carried on the structure.
   Stage construction - will - will not be required.
4. - Traffic will pass under the structure on
   - (Name of St or Hwy)
   A. - No falsework allowed over traffic.
   B. - Falsework opening(s) required:

	Temp Vertical Clearance	Width of Traffic Opening
- Bound	-	-
- Bound	-	-
- Two-Way	-	-

   C. - Temporary traffic lane reduction needed for footing excavation.



TYPICAL SECTION
1" = 5'-0"

LEGEND:
Existing structure
Approximate high water elevation

NOTES:
① Point "CHAMPLIN SLOUGH BRIDGE
BRIDGE No. "
Year Constructed
② MGS, see ROADWAY PLANS
③ Future utility opening
UHPC = Ultra High Performance Concrete

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Teh	99	9.14	????	####

X
REGISTERED CIVIL ENGINEER — DATE

MM/DD/YYYY
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Henry Fang — No. C56541 — Exp. 6-30-21 — CIVIL — STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

DESIGN	BY S. Talukder	CHECKED H. Fang	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE			
DETAILS	BY Y. Feng	CHECKED H. Feng	LAYOUT	BY S. Talukder	CHECKED X		
QUANTITIES	BY X	CHECKED X	SPECIFICATIONS	BY X	PLANS AND SPECS COMPARED X		

X
BRANCH CHIEF

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN
DESIGN BRANCH 2

BRIDGE NO. XX-XXXX
POST MILE 9.14

CHAMPLIN SLOUGH BRIDGE (REPLACE)
GENERAL PLAN

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REVISION 9/11/2019)

DATE PLOTTED => 10/16/2019 TIME PLOTTED => 0124124
FILE => ...\GP_101819\08-0006-g-gp01.dgn NAME => "01GP01"
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3577
PROJECT NUMBER & PHASE: 02160001481
CONTRACT No.: 02-1H5104

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES				SHEET	OF
10-18				X	X